

# Liftcrane Luffing Jib Capacities

**Luffing Jib No. 135 on Boom No. 76**  
**178,000 lb Crane Counterweight**  
**70,500 lb Carbody Counterweight**  
**360 Degree Rating**

**14000**  
**SERIES 3**



**LIFTING CAPACITIES:** Lifting capacities for various boom lengths, boom angles, luffing jib lengths, and luffing jib operating radii are for freely suspended loads and do not exceed 75% of a static tipping load. Capacities based on structural competence are denoted by an asterisk (\*).

**Luffing Jib Backward Stability:** Capacities indicated by (b) require 2,825 lb minimum weight suspended beneath luffing jib point. Capacities indicated by (c) require 7,000 lb minimum weight suspended beneath luffing jib point. Capacities indicated by (d) require 12,000 lb minimum weight suspended beneath luffing jib point. **Caution: Do not luff into areas indicated by (b), (c) or (d) without required minimum weights.** Luffing jib will not luff down and luffing hoist wire rope may overhaul luffing jib and cause luffing hoist to go slack causing wire rope damage or failure.

Lower boom point must be completely removed from 193.6 ft boom length. When equipped with boom catwalks, refer to the appropriate raising table for any additional restrictions.

Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc. beneath boom and luffing jib point sheaves is considered part of luffing jib load. Boom and luffing jib are not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

**OPERATING CONDITIONS:** Machine to operate on a firm uniformly supporting surface with gantry up and bearing turntable level within a tolerance of 1/2 in. in 10 ft and properly supported. During operation, boom must be maintained at one of the selected angles shown in chart. Refer to luffing jib assembly **No. A18387**, Wire Rope Specification chart **No. 8811-A**, Luffing Jib Raising Procedure chart **No. 8799-A**, Wind Conditions chart **No. 8790-A**, and Counterweight Arrangement chart **No. 9461-A**. Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, travel, wind conditions, as well as adverse operating conditions and physical machine depreciation. Refer to Operator's Manual for operating guidelines.

**MACHINE TRAVEL:** Machine to travel on a firm, level and uniformly supporting surface with boom and luffing jib within angle range shown in capacity chart. Refer to Maximum Allowable Travel Specification chart **No. 8809-A**.



**OPERATING RADIUS:** Operating radius is horizontal distance from axis of rotation to center of vertical hoist line or load block.



**BOOM ANGLE:** Boom angle in degrees ( $^{\circ}$ ) is angle between horizontal and centerline of boom butt and inserts.



**LUFFING JIB ANGLE:** Luffing jib angle in degrees ( $^{\circ}$ ) is angle between horizontal and centerline of luffing jib butt and inserts, and is an indication of operating radius. In all cases, operating radius shall govern capacity.



**LUFFING JIB POINT ELEVATION:** Luffing jib point elevation is vertical distance from ground level to centerline of luffing jib point shaft.

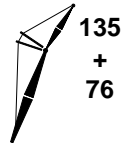
**MACHINE EQUIPMENT:** Machine equipped with 27 ft 2 in. crawlers, 48 in. treads, 10 ft 3 in. retractable gantry, 27 ft live mast, 20 part boom hoist reeving, boom support straps, 8 part luffing jib hoist reeving, two 1-1/2 in. luffing jib pendants and backstays, 178,000 lb crane counterweight, and two 26,500 lb carbody counterweights and four 4,375 lb carbody counterweights.

Consult chart **No. 9510-A** for lifting off lower boom point with luffing jib attached.

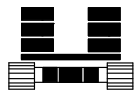
### Boom Catwalks Deduct

Deduct 200 lb from capacities when boom catwalks are attached.

## Explanation of Symbols



Luffing Jib No. 135  
+  
Boom No. 76



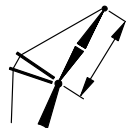
Crane Counterweight  
+  
Carbody Counterweight



360 Degree Rating



Boom Length



Luffing Jib Length

REFERENCE ONLY!

## Explanation of Symbols (continued)



Boom Angle  
(see page 1)



Operating Radius  
(see page 1)



Luffing Jib Angle  
(see page 1)



Luffing Jib Point Elevation  
(see page 1)

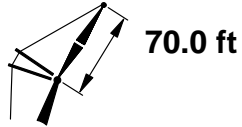
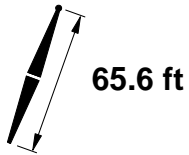
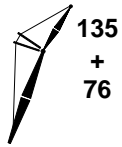


Lifting Capacities  
(see page 1)

REFERENCE ONLY!

# 14000 S-3

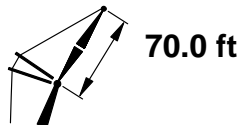
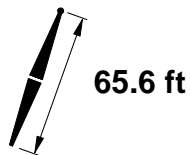
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
28	74.8	141.0	118,600*d							28
30	73.1	140.4	117,900*c							30
32	71.4	139.7	115,100*c							32
34	69.7	139.0	112,400*c							34
36	67.9	138.3	109,900*c							36
38	66.1	137.4	107,600*b	70.2	138.7	113,600*c				38
40	64.3	136.5	105,300*b	68.4	137.9	111,100*c				40
45	59.7	133.8	100,200*b	63.9	135.7	105,400*b	67.0	136.6	109,300*c	45
50	54.8	130.6	95,700*b	59.3	133.0	100,400*b	62.4	134.3	103,900*b	50
55	49.7	126.7	91,800*	54.4	129.7	95,900*	57.7	131.4	99,100*b	55
60	44.0	122.1	84,200*	49.2	125.8	92,100*	52.7	127.9	94,900*	60
65	37.8	116.3	75,500*	43.5	121.0	83,500*	47.4	123.7	86,100	65
70	30.5	108.9	68,100*	37.2	115.1	74,900*	41.5	118.6	78,500	70
75	21.1	98.6	57,800*	29.8	107.6	67,700*	34.9	112.3	72,100	75
80				20.0	96.8	59,500*	27.0	104.0	65,600*	80
85							15.7	91.1	56,700*	85
90										90
95										95
100										100

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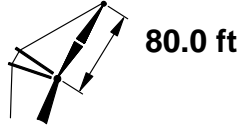
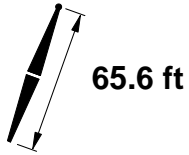
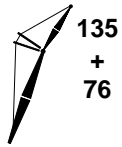
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
28										28
30										30
32										32
34										34
36										36
38										38
40										40
45										45
50										50
55	62.9	133.1	103,400 <sup>b</sup>							55
60	58.2	130.3	92,700 <sup>b</sup>							60
65	53.3	126.9	83,900							65
70	48.0	122.8	76,500	53.7	125.3	74,500				70
75	42.2	117.8	70,200	48.4	121.3	68,400				75
80	35.7	111.6	64,900	42.7	116.3	63,100				80
85	27.9	103.6	60,200	36.3	110.3	58,600	48.7	119.1	61,500	85
90	17.3	91.6	56,000	28.6	102.4	54,600	43.0	114.2	57,000	90
95				18.3	90.9	51,000	36.6	108.2	53,100	95
100							29.0	100.4	49,700	100
							18.9	89.2	46,500	

# 14000 S-3

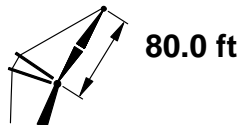
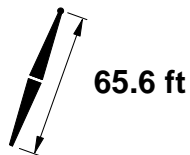
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
32	73.8	150.2	107,000*c							32
34	72.3	149.6	104,600*c							34
36	70.8	148.9	102,300*c							36
38	69.3	148.2	100,100*b							38
40	67.7	147.4	98,000*b							40
45	63.8	145.2	93,100*b	67.4	146.7	98,000*b				45
50	59.7	142.5	88,600*	63.4	144.4	93,200*b	66.1	145.4	96,500*b	50
55	55.5	139.3	84,700*	59.4	141.7	88,900*	62.1	142.9	92,000*b	55
60	51.0	135.6	81,000*	55.1	138.5	84,900*	58.0	140.1	87,900*	60
65	46.3	131.2	75,700*	50.6	134.7	81,300*	53.7	136.7	83,900*	65
70	41.1	125.9	68,400*	45.8	130.2	75,100*	49.1	132.7	78,300	70
75	35.3	119.6	62,300*	40.6	124.9	67,900*	44.2	128.0	71,900	75
80	28.5	111.5	56,900*	34.7	118.4	61,900*	38.8	122.3	65,900*	80
85	19.7	100.4	48,900*	27.8	110.1	56,600*	32.6	115.3	60,200*	85
90				18.7	98.5	50,500*	25.2	106.3	55,100*	90
95							14.7	92.5	48,400*	95
100										100
105										105
110										110

# 14000 S-3

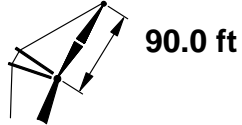
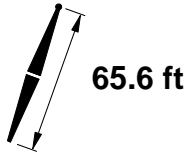
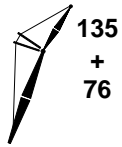
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
32									32	
34									34	
36									36	
38									38	
40									40	
45									45	
50									50	
55									55	
60	62.6	141.8	92,300*b						60	
65	58.5	139.0	83,600						65	
70	54.2	135.6	76,200						70	
75	49.6	131.7	70,000	54.5	134.0	68,100			75	
80	44.7	127.1	64,600	50.0	130.1	62,800			80	
85	39.4	121.5	60,000	45.1	125.6	58,300	50.2	128.0	56,700	85
90	33.3	114.7	55,900	39.8	120.1	54,300	45.3	123.4	52,800	90
95	26.1	106.0	52,200	33.8	113.4	50,800	40.1	118.0	49,400	95
100	16.1	93.0	48,900	26.7	104.9	47,600	34.1	111.4	46,300	100
105				17.1	92.5	44,800	27.1	102.9	43,600	105
110							17.7	90.8	41,100	110

# 14000 S-3

ASME B30.5

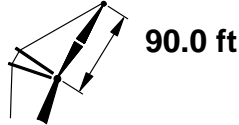
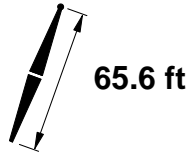
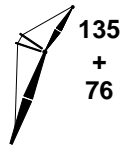


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
34	74.3	160.0	91,500*c						34	
36	73.0	159.5	89,700*c						36	
38	71.7	158.8	87,800*c						38	
40	70.3	158.1	86,000*b						40	
45	66.9	156.2	81,800*b	70.0	157.4	86,000*b			45	
50	63.4	153.9	78,000*b	66.6	155.4	81,800*b			50	
55	59.8	151.2	74,400*	63.1	153.1	78,100*b	65.5	154.1	80,700*b	55
60	56.0	148.0	71,200*	59.4	150.3	74,600*	61.9	151.6	77,100*	60
65	52.1	144.4	68,300*	55.7	147.2	71,500*	58.2	148.7	73,800*	65
70	47.9	140.2	65,600*	51.7	143.5	68,600*	54.4	145.4	70,800*	70
75	43.5	135.3	62,900*	47.5	139.2	65,900*	50.4	141.5	68,000*	75
80	38.6	129.6	57,600*	43.1	134.3	62,600*	46.1	137.1	65,400*	80
85	33.2	122.7	53,000*	38.2	128.4	57,300*	41.5	131.9	60,800*	85
90	26.8	114.0	48,900*	32.7	121.4	52,700*	36.5	125.7	55,800*	90
95	18.6	102.0	42,300*	26.2	112.5	48,600*	30.7	118.2	51,400*	95
100				17.6	100.1	43,800*	23.7	108.4	47,500*	100
105							13.8	93.7	42,200*	105
110										110
115										115
120										120



# 14000 S-3

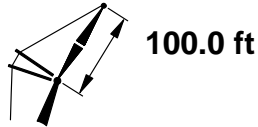
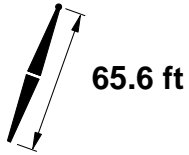
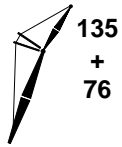
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
34									34	
36									36	
38									38	
40									40	
45									45	
50									50	
55									55	
60									60	
65	62.3	150.5	77,400*						65	
70	58.6	147.6	74,300*						70	
75	54.8	144.4	69,800						75	
80	50.8	140.6	64,500	55.1	142.7	62,600			80	
85	46.6	136.2	59,800	51.2	139.0	58,100			85	
90	42.0	131.1	55,700	46.9	134.6	54,200	51.3	136.8	52,600	90
95	37.0	125.0	52,100	42.4	129.6	50,700	47.1	132.5	49,200	95
100	31.4	117.6	48,900	37.5	123.6	47,500	42.6	127.4	46,200	100
105	24.6	108.2	46,000	31.9	116.4	44,700	37.7	121.5	43,500	105
110	15.2	94.4	43,400	25.2	107.2	42,200	32.1	114.3	41,000	110
115				16.2	93.9	39,800	25.5	105.3	38,700	115
120							16.6	92.3	36,700	120

# 14000 S-3

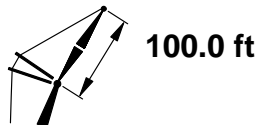
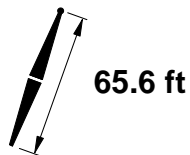
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
36	74.7	169.9	84,100*c							36
38	73.6	169.3	82,300*c							38
40	72.4	168.7	80,600*b							40
45	69.3	167.0	76,500*b							45
50	66.2	164.9	72,800*b	69.0	166.2	76,500*b				50
55	63.1	162.5	69,300*	65.9	164.2	72,800*				55
60	59.8	159.8	66,100*	62.8	161.8	69,400*	64.9	162.8	71,700*	60
65	56.4	156.7	63,200*	59.5	159.0	66,200*	61.7	160.3	68,500*	65
70	52.9	153.2	60,400*	56.1	155.8	63,300*	58.4	157.4	65,500*	70
75	49.2	149.1	57,900*	52.6	152.3	60,600*	55.0	154.1	62,700*	75
80	45.3	144.5	55,600*	48.9	148.2	58,100*	51.4	150.4	60,000*	80
85	41.1	139.2	53,000*	45.0	143.5	55,800*	47.6	146.1	57,600*	85
90	36.6	133.0	49,000*	40.7	138.1	52,700*	43.6	141.2	55,400*	90
95	31.4	125.6	45,400*	36.1	131.8	48,700*	39.3	135.5	51,400*	95
100	25.4	116.3	42,200*	30.9	124.3	45,200*	34.5	128.9	47,600*	100
105	17.6	103.6	36,700*	24.8	114.8	42,000*	29.1	120.8	44,200*	105
110				16.7	101.6	38,100*	22.5	110.5	41,100*	110
115							13.1	94.9	36,800*	115
120										120
125										125
130										130

# 14000 S-3

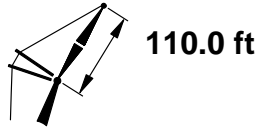
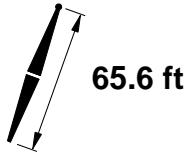
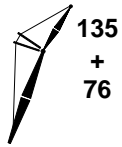
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
36									36	
38									38	
40									40	
45									45	
50									50	
55									55	
60									60	
65									65	
70	62.1	159.1	68,700*						70	
75	58.8	156.3	65,800*						75	
80	55.4	153.1	63,100*						80	
85	51.8	149.4	59,500	55.6	151.4	57,800			85	
90	48.1	145.2	55,500	52.1	147.8	53,800			90	
95	44.1	140.3	51,900	48.4	143.6	50,400	52.2	145.6	48,900	95
100	39.8	134.8	48,700	44.4	138.8	47,200	48.5	141.4	45,800	100
105	35.1	128.2	45,800	40.1	133.3	44,400	44.6	136.7	43,100	105
110	29.7	120.4	43,200	35.5	126.9	41,900	40.3	131.2	40,700	110
115	23.3	110.3	40,800	30.2	119.1	39,600	35.7	124.8	38,500	115
120	14.4	95.7	38,600*	23.9	109.3	37,500	30.4	117.1	36,400	120
125				15.3	95.3	35,600	24.2	107.5	34,500	125
130							15.8	93.7	32,800	130

# 14000 S-3

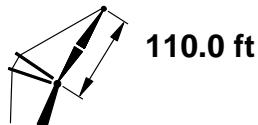
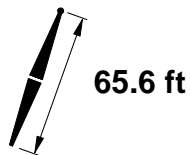
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
40	74.0	179.1	75,500* <b>b</b>						40	
45	71.3	177.6	72,300* <b>b</b>						45	
50	68.5	175.7	69,200*						50	
55	65.7	173.6	66,400*	68.2	175.0	69,200*			55	
60	62.8	171.2	63,600*	65.4	172.9	66,400*	67.3	173.7	60	
65	59.8	168.5	60,900*	62.5	170.4	63,700*	64.5	171.5	65	
70	56.7	165.4	58,300*	59.5	167.7	61,000*	61.6	168.9	70	
75	53.6	161.9	55,900*	56.5	164.5	58,400*	58.6	166.1	75	
80	50.3	158.0	53,700*	53.3	161.0	56,000*	55.4	162.8	80	
85	46.8	153.6	51,600*	50.0	157.1	53,800*	52.2	159.2	85	
90	43.1	148.6	49,000*	46.5	152.6	51,800*	48.8	155.0	90	
95	39.1	142.8	45,500*	42.8	147.5	48,800*	45.3	150.4	95	
100	34.8	136.2	42,400*	38.8	141.7	45,300*	41.5	145.1	100	
105	29.9	128.3	39,500*	34.4	135.0	42,200*	37.4	139.0	105	
110	24.2	118.5	36,100*	29.5	126.9	39,400*	32.9	131.9	110	
115	16.8	105.1	30,300*	23.6	116.9	36,800*	27.7	123.4	115	
120				15.9	103.0	31,600*	21.4	112.4	120	
125							12.5	96.0	125	
130									130	
135									135	
140									140	

# 14000 S-3

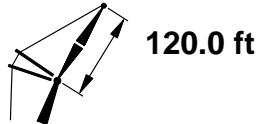
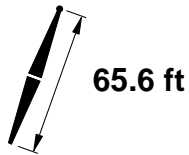
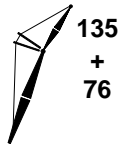
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75	61.9	167.8	63,100*							75
80	58.9	165.0	60,400*							80
85	55.8	161.8	58,000*							85
90	52.6	158.1	55,400	56.0	160.1	53,800				90
95	49.2	154.1	51,800	52.8	156.5	50,300				95
100	45.7	149.5	48,600	49.5	152.5	47,200	53.0	154.3	45,800	100
105	41.9	144.3	45,800	46.0	148.0	44,400	49.6	150.3	43,100	105
110	37.9	138.3	43,200	42.2	142.8	41,900	46.1	145.8	40,700	110
115	33.4	131.3	40,800	38.2	136.9	39,600	42.4	140.7	38,400	115
120	28.3	122.9	38,700	33.8	130.0	37,500	38.4	134.8	36,400	120
125	22.2	112.3	36,400*	28.7	121.8	35,600	34.0	128.0	34,600	125
130	13.8	96.9	33,800*	22.7	111.4	33,900	29.0	119.8	32,900	130
135				14.6	96.6	32,200	23.0	109.5	31,300	135
140							15.0	95.1	29,800	140

# 14000 S-3

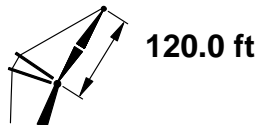
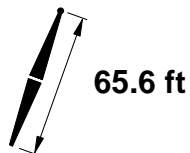
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
45	72.9	188.1	67,000* <sup>b</sup>						45	
50	70.4	186.4	64,000*						50	
55	67.8	184.5	61,300*	70.1	185.7	64,000*			55	
60	65.2	182.3	58,700*	67.6	183.8	61,200*			60	
65	62.6	179.9	56,200*	65.0	181.6	58,700*	66.7	182.5	60,400*	
70	59.8	177.1	53,900*	62.3	179.1	56,300*	64.1	180.2	57,900*	
75	57.0	174.1	51,600*	59.6	176.3	54,000*	61.4	177.6	55,600*	
80	54.1	170.6	49,500*	56.8	173.2	51,700*	58.7	174.7	53,300*	
85	51.1	166.8	47,400*	53.9	169.8	49,600*	55.8	171.5	51,100*	
90	48.0	162.6	45,500*	50.8	165.9	47,500*	52.9	167.9	49,000*	
95	44.7	157.8	43,600*	47.7	161.6	45,500*	49.8	163.9	47,000*	
100	41.2	152.4	41,900*	44.4	156.8	43,700*	46.6	159.5	45,000*	
105	37.4	146.3	39,400*	40.9	151.3	42,000*	43.3	154.5	43,200*	
110	33.3	139.2	36,900*	37.1	145.1	39,300*	39.7	148.8	41,200*	
115	28.6	130.9	34,600*	32.9	138.0	36,800*	35.8	142.3	38,500*	
120	23.2	120.6	31,600*	28.2	129.5	34,500*	31.4	134.8	36,000*	
125	16.1	106.6	26,700*	22.6	119.0	32,400*	26.5	125.8	33,800*	
130				15.3	104.4	27,800*	20.5	114.3	31,700*	
135							12.0	97.1	27,100*	
140									140	
145									145	
150									150	

# 14000 S-3

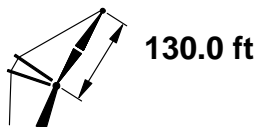
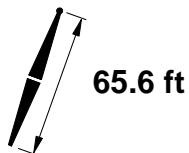
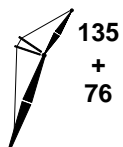
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80	61.7	176.5	55,600*							80
85	59.0	173.6	53,400*							85
90	56.2	170.4	51,400*							90
95	53.2	166.9	49,300*	56.4	168.8	50,000				95
100	50.2	163.0	47,200*	53.5	165.3	46,900				100
105	47.0	158.5	45,300*	50.4	161.4	44,100				105
110	43.6	153.6	42,900	47.3	157.0	41,600	50.6	159.2	40,300	110
115	40.1	148.0	40,600	43.9	152.1	39,300	47.4	154.8	38,100	115
120	36.2	141.6	38,400	40.4	146.6	37,300	44.1	150.0	36,100	120
125	31.9	134.2	36,400*	36.5	140.3	35,400	40.5	144.5	34,300	125
130	27.1	125.4	34,100*	32.3	133.0	33,600	36.7	138.2	32,600	130
135	21.2	114.3	32,000*	27.5	124.3	32,000	32.5	130.9	31,000	135
140	13.2	98.1	30,000*	21.8	113.4	30,500	27.7	122.3	29,600	140
145				14.0	97.9	29,100	22.0	111.5	28,200	145
150							14.4	96.3	26,900	150

# 14000 S-3

ASME B30.5

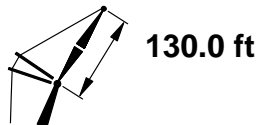
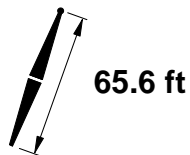


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	74.2	198.5	52,900* <sup>b</sup>							45
50	71.9	197.0	51,700*							50
55	69.6	195.2	50,600*							55
60	67.2	193.3	49,500*	69.4	194.5	50,700*				60
65	64.8	191.0	48,100*	67.0	192.5	49,700*				65
70	62.4	188.6	46,200*	64.6	190.3	48,100*	66.2	191.2	49,400*	70
75	59.8	185.8	44,300*	62.1	187.8	46,100*	63.8	188.9	47,500*	75
80	57.3	182.7	42,400*	59.6	185.0	44,200*	61.3	186.3	45,600*	80
85	54.6	179.4	40,700*	57.0	181.9	42,400*	58.8	183.4	43,700*	85
90	51.8	175.6	39,000*	54.4	178.5	40,700*	56.2	180.2	41,900*	90
95	49.0	171.5	37,500*	51.6	174.7	39,100*	53.5	176.7	40,300*	95
100	46.0	166.9	36,000*	48.7	170.5	37,500*	50.7	172.8	38,700*	100
105	42.8	161.8	34,700*	45.7	165.9	36,100*	47.8	168.5	37,100*	105
110	39.5	156.1	33,300*	42.6	160.7	34,700*	44.7	163.7	35,700*	110
115	35.9	149.6	32,100*	39.2	155.0	33,400*	41.5	158.3	34,400*	115
120	31.9	142.2	31,000*	35.6	148.4	32,200*	38.0	152.3	33,100*	120
125	27.5	133.4	30,000*	31.6	140.9	31,100*	34.3	145.5	31,900*	125
130	22.3	122.6	28,000*	27.1	132.0	30,100*	30.2	137.5	30,800*	130
135	15.4	108.0	23,700*	21.7	120.9	28,900*	25.4	128.1	29,800*	135
140				14.7	105.7	24,800*	19.7	116.0	28,400*	140
145							11.5	98.1	24,300*	145
150										150
155										155
160										160



# 14000 S-3

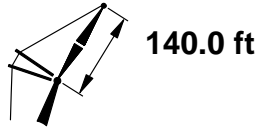
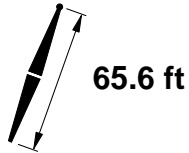
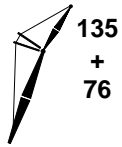
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85	61.6	185.1	45,600*							85
90	59.1	182.3	43,800*							90
95	56.5	179.1	42,100*							95
100	53.8	175.6	40,400*	56.7	177.5	42,000*				100
105	51.0	171.8	38,900*	54.0	174.0	40,400*				105
110	48.1	167.5	37,300*	51.2	170.2	38,800*				110
115	45.1	162.8	35,900*	48.3	166.0	37,400*	51.3	168.0	37,900	115
120	41.8	157.5	34,500*	45.3	161.3	36,000*	48.5	163.8	35,900	120
125	38.4	151.6	33,300*	42.1	156.0	34,600*	45.4	159.1	34,000	125
130	34.7	144.8	32,200*	38.7	150.2	33,400	42.3	153.9	32,400	130
135	30.6	137.0	31,000*	35.0	143.5	31,800	38.9	148.1	30,800	135
140	26.0	127.8	30,000*	31.0	135.8	30,300	35.2	141.4	29,400	140
145	20.4	116.1	28,600*	26.4	126.7	29,000	31.2	133.8	28,000	145
150	12.7	99.2	26,900*	20.9	115.3	27,700	26.6	124.7	26,800	150
155				13.4	99.1	26,500	21.2	113.4	25,600	155
160							13.8	97.6	24,500	160

# 14000 S-3

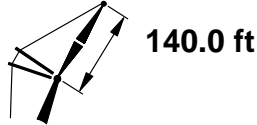
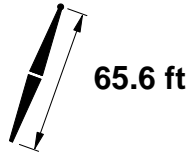
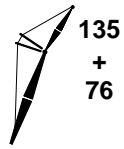
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
50	73.3	207.5	48,500*						50	
55	71.1	205.9	47,500*						55	
60	68.9	204.0	46,400*	70.9	205.1	47,500*			60	
65	66.7	202.0	44,400*	68.7	203.3	46,200*			65	
70	64.5	199.7	42,400*	66.5	201.3	44,300*			70	
75	62.2	197.2	40,600*	64.3	199.0	42,400*	65.8	199.9	43,600*	75
80	59.9	194.5	38,800*	62.0	196.4	40,600*	63.5	197.5	41,800*	80
85	57.5	191.4	37,100*	59.6	193.6	38,800*	61.2	194.9	40,000*	85
90	55.0	188.1	35,600*	57.2	190.6	37,200*	58.9	192.0	38,300*	90
95	52.5	184.4	34,000*	54.8	187.2	35,600*	56.4	188.9	36,700*	95
100	49.8	180.4	32,600*	52.2	183.5	34,100*	54.0	185.4	35,100*	100
105	47.1	175.9	31,200*	49.6	179.4	32,600*	51.4	181.6	33,600*	105
110	44.2	171.0	29,900*	46.8	175.0	31,300*	48.7	177.4	32,200*	110
115	41.2	165.6	28,700*	44.0	170.0	30,000*	45.9	172.8	30,900*	115
120	38.0	159.6	27,500*	40.9	164.6	28,700*	43.0	167.7	29,600*	120
125	34.5	152.8	26,400*	37.7	158.5	27,500*	39.9	162.0	28,400*	125
130	30.8	145.0	25,400*	34.2	151.6	26,500*	36.6	155.7	27,200*	130
135	26.5	135.8	24,500*	30.4	143.7	25,400*	33.0	148.5	26,200*	135
140	21.4	124.5	23,700*	26.1	134.3	24,500*	29.1	140.2	25,200*	140
145	14.9	109.3	21,000*	20.9	122.8	23,700*	24.5	130.3	24,300*	145
150				14.1	107.0	22,000*	19.0	117.7	23,500*	150
155							11.1	99.1	21,500*	155
160										160
165										165
170										170

# 14000 S-3

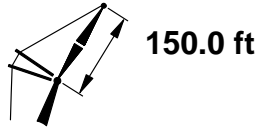
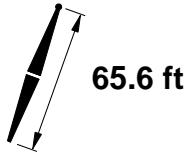
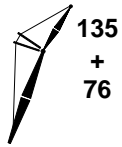
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	61.5	193.8	40,000*							90
95	59.1	190.9	38,400*							95
100	56.7	187.8	36,800*							100
105	54.2	184.4	35,300*	56.9	186.2	36,700*				105
110	51.7	180.6	33,800*	54.4	182.8	35,200*				110
115	49.0	176.4	32,400*	51.9	179.0	33,800*				115
120	46.2	171.9	31,100*	49.2	174.9	32,500*	52.0	176.8	33,600*	120
125	43.3	166.8	29,800*	46.5	170.4	31,100*	49.3	172.7	32,300*	125
130	40.3	161.3	28,600*	43.6	165.4	29,900*	46.6	168.2	31,100*	130
135	37.0	155.0	27,500*	40.5	159.8	28,700*	43.7	163.2	29,900*	135
140	33.4	147.9	26,400*	37.3	153.6	27,600*	40.6	157.7	28,700*	140
145	29.5	139.7	25,400*	33.7	146.6	26,500*	37.4	151.5	27,600*	145
150	25.0	130.0	24,500*	29.8	138.5	25,500*	33.9	144.5	26,500	150
155	19.7	117.9	23,700*	25.4	129.0	24,600*	30.0	136.5	25,300	155
160	12.2	100.3	23,100*	20.1	117.1	23,800*	25.6	127.1	24,200	160
165				12.9	100.2	23,200*	20.4	115.3	23,200	165
170							13.3	98.8	22,200	170

# 14000 S-3

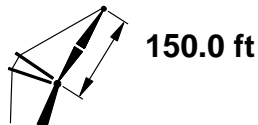
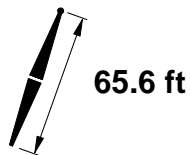
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
50	74.4	217.9	45,400*						50	
55	72.4	216.4	44,400*						55	
60	70.4	214.7	42,900*						60	
65	68.4	212.8	41,000*	70.2	214.0	42,800*			65	
70	66.3	210.7	39,200*	68.2	212.1	40,900*			70	
75	64.2	208.4	37,400*	66.1	210.0	39,200*	67.5	210.8	40,200*	
80	62.0	205.9	35,800*	64.0	207.7	37,400*	65.4	208.6	38,500*	
85	59.9	203.1	34,200*	61.9	205.1	35,800*	63.3	206.2	36,900*	
90	57.6	200.1	32,600*	59.7	202.3	34,200*	61.1	203.6	35,300*	
95	55.3	196.8	31,100*	57.4	199.2	32,600*	58.9	200.7	33,700*	
100	53.0	193.2	29,800*	55.1	195.9	31,200*	56.7	197.6	32,200*	
105	50.5	189.2	28,400*	52.8	192.3	29,700*	54.4	194.1	30,700*	
110	48.0	184.9	27,200*	50.3	188.3	28,500*	52.0	190.4	29,400*	
115	45.4	180.2	25,900*	47.8	183.9	27,100*	49.5	186.3	28,000*	
120	42.7	175.0	24,800*	45.2	179.2	25,900*	47.0	181.8	26,800*	
125	39.8	169.3	23,700*	42.4	174.0	24,800*	44.3	176.9	25,600*	
130	36.7	163.0	22,700*	39.5	168.2	23,700*	41.5	171.6	24,500*	
135	33.3	155.8	21,700*	36.4	161.8	22,700*	38.5	165.6	23,400*	
140	29.7	147.7	20,800*	33.0	154.6	21,700*	35.3	158.9	22,400*	
145	25.6	138.1	19,900*	29.3	146.3	20,800*	31.9	151.4	21,500*	
150	20.7	126.4	19,200*	25.2	136.6	20,000*	28.0	142.7	20,600*	
155	14.4	110.6	18,600*	20.2	124.6	19,300*	23.7	132.4	19,700*	
160				13.6	108.2	18,600*	18.3	119.4	19,000*	
165							10.7	100.1	18,600*	
170									170	
175									175	
180									180	

# 14000 S-3

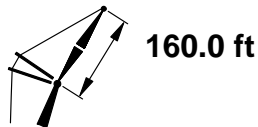
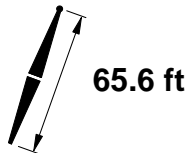
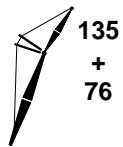
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	61.4	202.5	35,300*							95
100	59.2	199.6	33,800*							100
105	56.9	196.5	32,300*							105
110	54.6	193.1	30,900*	57.1	194.8	32,200*				110
115	52.2	189.4	29,600*	54.8	191.5	30,900*				115
120	49.8	185.3	28,200*	52.4	187.8	29,500*				120
125	47.2	180.9	27,000*	50.0	183.8	28,300*	52.5	185.6	29,400*	125
130	44.6	176.1	25,800*	47.4	179.4	27,000*	50.1	181.6	28,200*	130
135	41.8	170.7	24,600*	44.8	174.6	25,800*	47.6	177.2	26,900*	135
140	38.8	164.8	23,600*	42.0	169.3	24,700*	44.9	172.4	25,800*	140
145	35.7	158.3	22,600*	39.1	163.4	23,700*	42.1	167.1	24,700*	145
150	32.3	150.9	21,600*	35.9	156.9	22,700*	39.2	161.3	23,700*	150
155	28.5	142.3	20,800*	32.5	149.6	21,800*	36.1	154.8	22,700*	155
160	24.2	132.2	19,900*	28.8	141.1	20,800*	32.7	147.5	21,700*	160
165	19.0	119.6	19,200*	24.5	131.2	20,000*	29.0	139.2	20,900*	165
170	11.8	101.4	18,600*	19.4	118.8	19,300*	24.7	129.3	20,000*	170
175				12.5	101.3	18,700*	19.7	117.0	19,300*	175
180							12.9	99.9	18,800*	180

# 14000 S-3

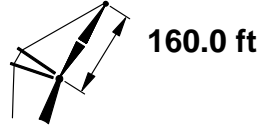
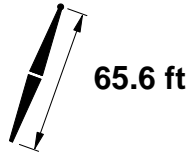
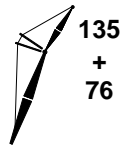
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	73.6	226.8	41,200*						55	
60	71.7	225.3	39,300*						60	
65	69.8	223.5	37,500*						65	
70	67.9	221.6	35,900*	69.6	222.8	37,500*			70	
75	65.9	219.5	34,200*	67.7	220.9	35,700*			75	
80	63.9	217.1	32,600*	65.7	218.7	34,100*	67.1	219.6	35,200*	
85	61.9	214.6	31,000*	63.8	216.3	32,500*	65.1	217.3	33,500*	
90	59.9	211.8	29,500*	61.7	213.8	30,900*	63.1	214.9	32,000*	
95	57.8	208.7	28,100*	59.7	211.0	29,500*	61.1	212.3	30,500*	
100	55.6	205.5	26,700*	57.6	207.9	28,100*	59.0	209.4	29,000*	
105	53.4	201.9	25,400*	55.4	204.6	26,700*	56.9	206.2	27,700*	
110	51.2	198.0	24,200*	53.2	201.0	25,400*	54.7	202.8	26,300*	
115	48.8	193.8	23,000*	51.0	197.1	24,100*	52.5	199.2	25,100*	
120	46.4	189.3	21,900*	48.6	192.9	23,000*	50.2	195.2	23,800*	
125	43.9	184.3	20,800*	46.2	188.3	21,800*	47.8	190.8	22,700*	
130	41.2	178.9	19,800*	43.7	183.3	20,800*	45.4	186.1	21,600*	
135	38.4	172.9	18,800*	41.0	177.8	19,800*	42.8	180.9	20,500*	
140	35.5	166.2	17,900*	38.2	171.7	18,800*	40.1	175.3	19,500*	
145	32.3	158.8	17,000*	35.2	165.0	17,900*	37.2	169.0	18,600*	
150	28.7	150.3	16,200*	31.9	157.5	17,000*	34.2	162.1	17,700*	
155	24.7	140.3	15,400*	28.4	148.9	16,300*	30.8	154.2	16,800*	
160	20.0	128.2	14,800*	24.4	138.8	15,500*	27.1	145.2	16,000*	
165	13.9	111.8	14,100*	19.6	126.4	14,800*	22.9	134.5	15,200*	
170				13.2	109.4	14,000*	17.7	121.0	14,700*	
175							10.4	101.0	13,800*	
180									180	
185									185	
190									190	

# 14000 S-3

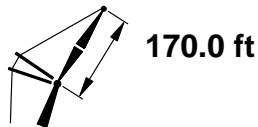
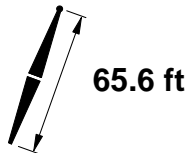
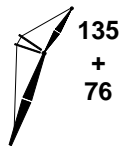
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
55									55	
60									60	
65									65	
70									70	
75									75	
80									80	
85									85	
90									90	
95									95	
100	61.3	211.1	30,500*						100	
105	59.2	208.3	29,100*						105	
110	57.1	205.2	27,800*						110	
115	55.0	201.8	26,500*	57.3	203.5	27,700*			115	
120	52.8	198.1	25,200*	55.1	200.2	26,400*			120	
125	50.5	194.2	24,000*	52.9	196.5	25,200*			125	
130	48.1	189.9	22,800*	50.7	192.6	24,000*			130	
135	45.7	185.2	21,700*	48.3	188.3	22,900*	50.8	190.4	23,900*	135
140	43.1	180.1	20,700*	45.9	183.7	21,800*	48.4	186.2	22,800*	140
145	40.4	174.5	19,600*	43.3	178.6	20,700*	46.0	181.5	21,700*	145
150	37.6	168.3	18,700*	40.6	173.0	19,700*	43.4	176.5	20,700*	150
155	34.5	161.4	17,800*	37.8	166.9	18,800*	40.7	170.9	19,700*	155
160	31.2	153.7	16,900*	34.8	160.1	17,900*	37.9	164.8	18,800*	160
165	27.6	144.8	16,100*	31.5	152.4	17,100*	34.9	158.0	17,900*	165
170	23.4	134.3	15,400*	27.9	143.7	16,200*	31.6	150.4	17,000*	170
175	18.4	121.2	14,700*	23.8	133.3	15,500*	28.0	141.7	16,300*	175
180	11.4	102.4	13,900*	18.8	120.5	14,800*	23.9	131.4	15,500*	180
185				12.1	102.4	14,000*	19.1	118.7	14,900*	185
190							12.5	101.0	14,100*	190

# 14000 S-3

ASME B30.5

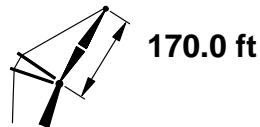
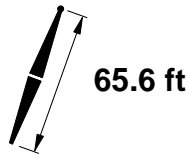
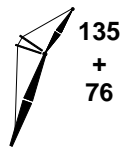


	87°			83°			80°			
	ft	ft	lb	ft	lb	ft	lb	ft		
55	74.5	237.2	38,000*						55	
60	72.8	235.8	36,300*						60	
65	71.0	234.1	34,700*						65	
70	69.2	232.3	33,100*	70.9	233.4	34,500*			70	
75	67.4	230.3	31,400*	69.1	231.6	32,900*			75	
80	65.6	228.2	30,000*	67.2	229.6	31,300*			80	
85	63.7	225.8	28,500*	65.4	227.4	29,900*	66.7	228.3	30,800*	85
90	61.8	223.2	27,000*	63.5	225.0	28,400*	64.8	226.0	29,400*	90
95	59.9	220.4	25,600*	61.6	222.4	27,000*	62.9	223.6	27,900*	95
100	57.9	217.4	24,400*	59.7	219.6	25,600*	61.0	220.9	26,600*	100
105	55.9	214.2	23,100*	57.7	216.6	24,300*	59.1	218.0	25,200*	105
110	53.8	210.6	21,900*	55.7	213.3	23,100*	57.1	214.9	24,000*	110
115	51.7	206.8	20,800*	53.7	209.8	21,900*	55.1	211.6	22,700*	115
120	49.5	202.7	19,700*	51.5	205.9	20,700*	53.0	207.9	21,600*	120
125	47.3	198.3	18,700*	49.3	201.8	19,600*	50.8	204.0	20,400*	125
130	45.0	193.5	17,700*	47.1	197.3	18,600*	48.6	199.8	19,300*	130
135	42.5	188.3	16,700*	44.7	192.5	17,600*	46.3	195.2	18,300*	135
140	40.0	182.6	15,800*	42.3	187.2	16,700*	44.0	190.2	17,400*	140
145	37.3	176.3	15,000*	39.7	181.5	15,800*	41.5	184.8	16,500*	145
150	34.4	169.4	14,200*	37.0	175.1	15,000*	38.9	178.9	15,500*	150
155	31.3	161.6	13,400*	34.1	168.1	14,200*	36.1	172.3	14,700*	155
160	27.8	152.8	12,500*	31.0	160.3	13,400*	33.1	165.1	14,000*	160
165	24.0	142.5	11,700*	27.5	151.4	12,400*	29.9	156.9	13,100*	165
170	19.4	129.9	10,800*	23.6	140.9	11,600*	26.3	147.6	12,200*	170
175	13.5	113.0	10,100*	19.0	128.1	10,800*	22.2	136.5	11,300*	175
180				12.8	110.5	10,000*	17.2	122.5	10,600*	180
185							10.1	101.9	9,800*	185
190										190
195										195
200										200



# 14000 S-3

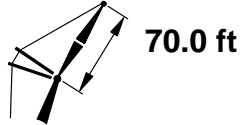
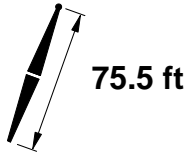
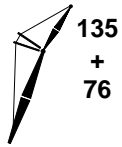
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	61.2	219.8	26,600*							110
115	59.3	216.9	25,300*							115
120	57.3	213.8	24,000*							120
125	55.3	210.5	22,800*	57.5	212.2	24,000*				125
	53.2	206.9	21,600*	55.4	208.9	22,800*				
130	51.1	203.0	20,600*	53.4	205.3	21,700*				130
135	48.9	198.8	19,500*	51.2	201.4	20,600*				135
140	46.6	194.3	18,500*	49.0	197.3	19,600*	51.3	199.2	20,500*	140
145	44.2	189.3	17,500*	46.8	192.7	18,500*	49.1	195.1	19,500*	145
150	41.7	184.0	16,600*	44.4	187.8	17,600*	46.9	190.6	18,500*	150
155	39.1	178.1	15,700*	41.9	182.5	16,700*	44.5	185.7	17,600*	155
160	36.4	171.6	14,900*	39.4	176.7	15,800*	42.1	180.4	16,700*	160
165	33.5	164.5	14,100*	36.6	170.3	15,000*	39.5	174.6	15,800*	165
170	30.3	156.4	13,300*	33.7	163.2	14,200*	36.7	168.2	14,900*	170
175	26.7	147.2	12,300*	30.5	155.2	13,300*	33.8	161.1	14,200*	175
180	22.7	136.4	11,500*	27.0	146.1	12,400*	30.7	153.2	13,400*	180
185	17.8	122.8	10,700*	23.0	135.4	11,500*	27.2	144.2	12,500*	185
190	11.1	103.4	9,900*	18.3	122.1	10,700*	23.2	133.5	11,600*	190
195				11.7	103.5	10,000*	18.5	120.4	10,800*	195
200							12.1	102.1	10,100*	200

# 14000 S-3

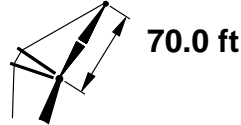
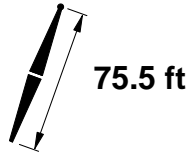
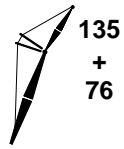
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
30	73.6	150.4	115,900*c						30	
32	71.9	149.7	115,200*c						32	
34	70.1	149.1	112,600*c						34	
36	68.4	148.3	110,100*c						36	
38	66.6	147.5	107,700*c						38	
40	64.8	146.6	105,500*b	69.5	148.2	112,100*c			40	
45	60.2	144.0	100,400*b	65.0	146.1	106,400*b			45	
50	55.3	140.8	95,900*b	60.4	143.5	101,300*b	64.0	144.8	105,400*b	
55	50.2	137.0	92,000*	55.6	140.4	96,800*b	59.4	142.1	100,500*b	
60	44.6	132.4	85,900*	50.5	136.6	92,800*	54.5	138.9	94,600b	
65	38.5	126.8	76,900*	44.9	132.0	86,600*	49.3	134.9	85,600	
70	31.3	119.6	69,300*	38.8	126.4	77,400*	43.6	130.2	78,100	
75	22.2	109.7	62,600*	31.7	119.4	69,800*	37.3	124.3	71,700	
80	4.3	88.4	44,200*	22.7	109.6	63,200*	29.9	116.8	66,200	
85				6.3	90.3	48,500*	20.2	106.1	61,400	
90									90	
95									95	
100									100	
105									105	

# 14000 S-3

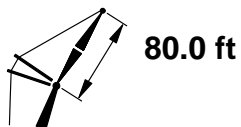
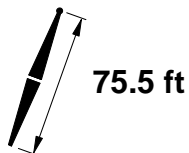
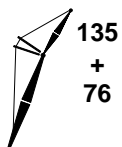
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
30										30
32										32
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60	60.7	141.3	91,700 <sup>b</sup>							60
65	55.9	138.2	83,000 <sup>b</sup>							65
70	50.7	134.5	75,700	57.0	136.9	73,300 <sup>b</sup>				70
75	45.2	130.0	69,500	52.0	133.3	67,300				75
80	39.1	124.5	64,200	46.6	129.0	62,200				80
85	32.1	117.5	59,500	40.7	123.8	57,700	47.7	127.2	55,900	85
90	23.3	108.0	55,500	33.9	117.2	53,800	41.9	122.2	52,100	90
95	8.1	90.2	51,700	25.7	108.5	50,200	35.4	116.0	48,700	95
100				13.5	94.4	47,100	27.5	107.8	45,600	100
105							16.6	95.5	42,900	105

# 14000 S-3

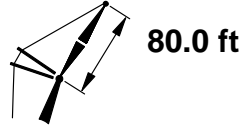
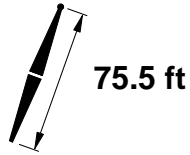
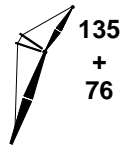
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
32	74.2	160.2	105,600*c						32	
34	72.7	159.6	104,600*c						34	
36	71.2	158.9	102,300*c						36	
38	69.7	158.2	100,100*c						38	
40	68.1	157.5	98,000*b						40	
45	64.2	155.3	93,100*b	68.3	156.9	98,800*b			45	
50	60.2	152.6	88,800*b	64.4	154.8	94,000*b	67.5	155.8	97,800*b	
55	55.9	149.5	84,900*	60.4	152.1	89,600*b	63.5	153.5	93,100*b	
60	51.5	145.8	81,400*	56.1	149.0	85,700*	59.4	150.8	89,000*b	
65	46.8	141.5	77,100*	51.7	145.4	82,000*	55.2	147.6	85,200*	
70	41.6	136.4	69,700*	47.0	141.1	77,700*	50.7	143.8	77,800	
75	35.9	130.1	63,300*	41.9	136.0	70,100*	45.9	139.4	71,500	
80	29.2	122.3	57,900*	36.2	129.8	63,700*	40.7	134.0	66,000	
85	20.8	111.6	52,900*	29.6	122.1	58,200*	34.8	127.6	61,200	
90	4.0	88.8	38,200*	21.2	111.6	53,400*	27.9	119.4	57,100	
95				5.9	90.9	41,900*	18.9	107.8	52,400*	
100									100	
105									105	
110									110	
115									115	

# 14000 S-3

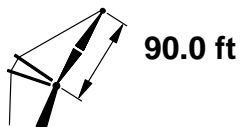
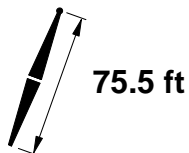
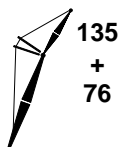
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
32										32
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65	60.6	150.0	82,700b							65
70	56.4	146.9	75,400							70
75	52.0	143.3	69,200	57.4	145.5	67,000				75
80	47.3	139.0	63,900	53.1	142.1	61,800				80
85	42.2	134.0	59,300	48.4	138.0	57,400				85
90	36.5	127.9	55,300	43.5	133.1	53,500	49.4	136.2	51,700	90
95	30.0	120.3	51,700	38.0	127.3	50,000	44.5	131.5	48,400	95
100	21.8	110.0	48,400	31.7	120.1	46,900	39.1	125.9	45,400	100
105	7.6	90.9	45,500	24.0	110.7	44,100	33.0	119.0	42,700	105
110				12.6	95.6	41,500	25.7	110.1	40,200	110
115							15.6	96.9	38,000	115

# 14000 S-3

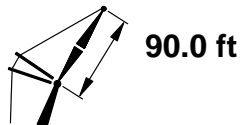
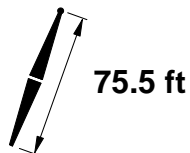
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
34	74.7	170.0	91,400*c							34
36	73.3	169.4	89,500*c							36
38	72.0	168.8	87,700*c							38
40	70.7	168.1	86,000*b							40
45	67.3	166.2	81,800*b	70.8	167.6	86,500*b				45
50	63.8	163.9	78,000*b	67.4	165.7	82,400*b				50
55	60.1	161.3	74,500*	63.9	163.4	78,700*b	66.6	164.5	81,700*b	55
60	56.4	158.2	71,300*	60.3	160.8	75,200*	63.1	162.2	78,100*b	60
65	52.5	154.6	68,500*	56.6	157.7	72,000*	59.5	159.5	74,800*	65
70	48.4	150.5	65,800*	52.7	154.2	69,200*	55.7	156.3	71,700*	70
75	43.9	145.7	63,400*	48.6	150.1	66,500*	51.8	152.6	68,900*	75
80	39.1	140.0	58,600*	44.2	145.3	64,100*	47.6	148.4	65,900	80
85	33.8	133.3	53,800*	39.4	139.7	59,000*	43.1	143.4	61,100	85
90	27.5	124.8	49,600*	34.1	133.0	54,200*	38.3	137.6	57,000	90
95	19.6	113.4	45,800*	27.9	124.7	49,900*	32.8	130.6	53,300*	95
100	3.8	89.1	33,500*	20.0	113.4	46,100*	26.3	121.8	49,200*	100
105				5.6	91.4	36,800*	17.8	109.4	45,400*	105
110										110
115										115
120										120
125										125

# 14000 S-3

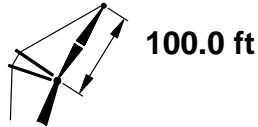
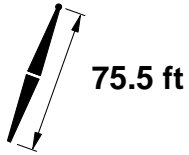
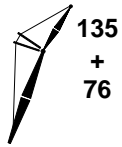
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70	60.5	158.6	75,200							70
75	56.8	155.6	69,000							75
80	52.9	152.1	63,700	57.7	154.2	61,600				80
85	48.8	148.0	59,100	53.9	150.8	57,200				85
90	44.4	143.3	55,100	49.8	146.9	53,300				90
95	39.7	137.7	51,600	45.5	142.3	49,800	50.6	145.0	48,200	95
100	34.4	131.1	48,400	40.9	137.0	46,800	46.4	140.6	45,200	100
105	28.2	122.9	45,500	35.7	130.7	44,000	41.8	135.4	42,500	105
110	20.5	111.8	42,900	29.8	122.9	41,500	36.8	129.3	40,100	110
115	7.2	91.5	40,500	22.6	112.7	39,200	31.1	121.9	37,900	115
120				11.9	96.6	37,100	24.2	112.4	35,900	120
125							14.7	98.2	34,000	125

# 14000 S-3

ASME B30.5

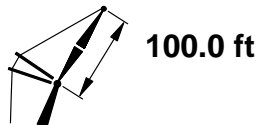
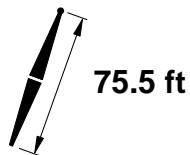


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
38	73.9	179.3	82,200*c						38	
40	72.7	178.7	80,500*b						40	
45	69.6	177.0	76,500*b						45	
50	66.5	175.0	72,900*b	69.8	176.4	77,000*b			50	
55	63.4	172.6	69,500*	66.7	174.4	73,400*b			55	
60	60.1	169.9	66,300*	63.5	172.1	70,000*	66.0	173.3	72,700*b	60
65	56.8	166.9	63,300*	60.3	169.5	66,900*	62.8	170.9	69,400*	65
70	53.3	163.4	60,600*	56.9	166.4	63,900*	59.6	168.1	66,400*	70
75	49.6	159.4	58,100*	53.4	162.9	61,200*	56.2	165.0	63,500*	75
80	45.7	154.8	55,800*	49.8	159.0	58,700*	52.6	161.4	60,900*	80
85	41.6	149.6	53,700*	45.9	154.4	56,400*	48.9	157.3	58,500*	85
90	37.1	143.5	49,800*	41.8	149.2	54,200*	45.0	152.6	56,100*	90
95	32.0	136.2	46,100*	37.3	143.2	50,000*	40.8	147.3	53,000*	95
100	26.1	127.2	42,800*	32.3	136.0	46,400*	36.2	141.0	49,300*	100
105	18.6	115.0	39,700*	26.4	127.1	43,000*	31.0	133.5	45,700*	105
110	3.6	89.4	29,400*	19.0	115.1	40,000*	24.9	124.1	42,400*	110
115				5.3	91.8	32,300*	16.9	111.0	39,400*	115
120										120
125										125
130										130
135										135



# 14000 S-3

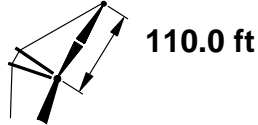
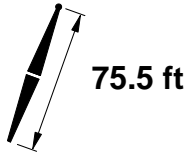
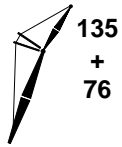
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75	60.5	167.3	67,100*							75
80	57.1	164.3	63,400							80
85	53.6	160.8	58,800	57.9	162.9	56,800				85
90	50.0	156.9	54,800	54.5	159.5	52,900				90
95	46.1	152.4	51,300	50.9	155.7	49,500				95
100	42.0	147.2	48,100	47.1	151.4	46,400	51.6	153.8	44,800	100
105	37.5	141.2	45,300	43.1	146.4	43,700	47.9	149.6	42,200	105
110	32.5	134.1	42,700	38.7	140.6	41,200	43.9	144.7	39,800	110
115	26.8	125.3	40,300	33.8	133.8	39,000	39.6	139.1	37,600	115
120	19.4	113.6	38,200	28.3	125.5	36,900	34.8	132.6	35,600	120
125	6.8	92.1	36,200	21.4	114.7	35,000	29.5	124.6	33,800	125
130				11.3	97.6	33,200	23.0	114.4	32,100	130
135							13.9	99.4	30,500	135

# 14000 S-3

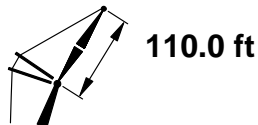
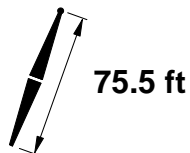
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
40	74.3	189.1	75,200* <b>b</b>						40	
45	71.6	187.6	72,100* <b>b</b>						45	
50	68.8	185.8	69,100* <b>b</b>						50	
55	66.0	183.7	66,300*	68.9	185.2	69,500* <b>b</b>			55	
60	63.1	181.3	63,600*	66.1	183.2	66,700*			60	
65	60.1	178.6	61,000*	63.2	180.8	64,100*	65.5	182.0	65	
70	57.1	175.5	58,500*	60.3	178.1	61,500*	62.6	179.5	70	
75	53.9	172.1	56,100*	57.2	175.1	59,000*	59.6	176.8	75	
80	50.6	168.2	53,900*	54.1	171.7	56,500*	56.5	173.7	80	
85	47.2	163.9	51,800*	50.8	167.8	54,300*	53.3	170.1	85	
90	43.5	158.9	49,800*	47.3	163.5	52,200*	50.0	166.2	90	
95	39.6	153.3	46,200*	43.7	158.6	50,100*	46.5	161.7	95	
100	35.3	146.7	43,000*	39.8	152.9	46,500*	42.8	156.7	100	
105	30.5	139.0	40,100*	35.5	146.5	43,200*	38.8	150.9	105	
110	24.9	129.5	37,500*	30.7	138.8	40,300*	34.5	144.2	110	
115	17.7	116.6	32,900*	25.2	129.4	37,700*	29.6	136.2	115	
120	3.4	89.7	24,500*	18.1	116.7	35,200*	23.8	126.2	120	
125				5.1	92.3	26,900*	16.1	112.4	125	
130									130	
135									135	
140									140	
145									145	

# 14000 S-3

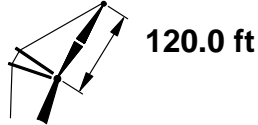
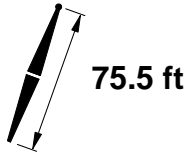
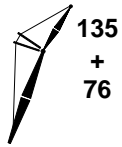
ASME B30.5



ft	75°			70°			65°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80	60.4	176.0	61,600*							80
85	57.4	172.9	58,800							85
90	54.2	169.5	54,800							90
95	51.0	165.7	51,200	55.0	168.2	49,400				95
100	47.5	161.4	48,100	51.8	164.5	46,400				100
105	43.9	156.5	45,200	48.4	160.3	43,700	52.4	162.6	42,100	105
110	40.0	151.0	42,700	44.8	155.6	41,200	49.1	158.5	39,700	110
115	35.7	144.5	40,400	41.0	150.2	38,900	45.5	153.9	37,600	115
120	31.0	136.9	38,200	36.8	144.0	36,900	41.8	148.7	35,600	120
125	25.5	127.6	36,300	32.2	136.7	35,000	37.7	142.6	33,800	125
130	18.5	115.2	34,500	26.9	127.9	33,300	33.2	135.6	32,100	130
135	6.5	92.7	31,300*	20.4	116.5	31,700	28.1	127.2	30,600	135
140				10.7	98.6	30,200	21.9	116.4	29,100	140
145							13.3	100.6	27,800	145

# 14000 S-3

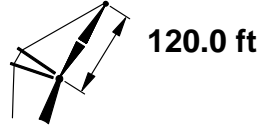
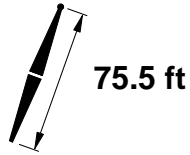
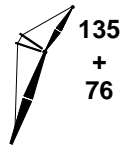
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
45	73.1	198.1	66,800* <b>b</b>						45	
50	70.6	196.4	64,000* <b>b</b>						50	
55	68.1	194.5	61,300*	70.7	195.9	64,200* <b>b</b>			55	
60	65.5	192.4	58,700*	68.2	194.0	61,600*			60	
65	62.8	190.0	56,200*	65.6	191.9	59,100*	67.6	192.9	60,900*	
70	60.1	187.3	53,900*	63.0	189.5	56,600*	65.0	190.7	58,500*	
75	57.3	184.2	51,700*	60.2	186.8	54,300*	62.4	188.2	56,200*	
80	54.4	180.8	49,600*	57.4	183.8	52,200*	59.6	185.4	53,900*	
85	51.4	177.1	47,600*	54.6	180.4	50,000*	56.8	182.3	51,800*	
90	48.3	172.8	45,700*	51.6	176.6	48,000*	53.9	178.9	49,700*	
95	45.0	168.1	43,800*	48.5	172.4	46,000*	50.9	175.0	47,600*	
100	41.6	162.8	42,100*	45.2	167.7	44,100*	47.8	170.7	45,700*	
105	37.8	156.8	40,000*	41.7	162.5	42,400*	44.4	165.9	43,900*	
110	33.7	149.8	37,500*	38.0	156.5	40,300*	40.9	160.5	42,200*	
115	29.2	141.7	35,100*	33.9	149.6	37,600*	37.1	154.3	39,700*	
120	23.8	131.6	32,900*	29.4	141.5	35,300*	33.0	147.2	37,200*	
125	16.9	118.1	29,000*	24.1	131.5	33,100*	28.3	138.8	34,800*	
130	3.3	90.0	21,600*	17.3	118.3	31,000*	22.7	128.3	32,700*	
135				4.8	92.7	23,900*	15.4	113.8	30,700*	
140									140	
145									145	
150									150	
155									155	

# 14000 S-3

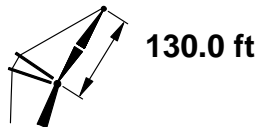
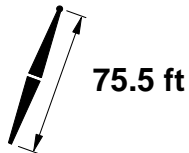
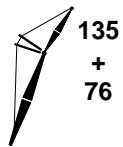
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
45									45	
50									50	
55									55	
60									60	
65									65	
70									70	
75									75	
80									80	
85	60.4	184.6	54,400*						85	
90	57.6	181.6	52,300*						90	
95	54.7	178.3	50,300*						95	
100	51.8	174.5	47,800	55.4	176.9	46,100			100	
105	48.6	170.4	44,900	52.5	173.3	43,300			105	
110	45.4	165.7	42,400	49.4	169.3	40,900			110	
115	41.9	160.5	40,100	46.2	164.7	38,600	50.0	167.4	37,200	115
120	38.2	154.5	38,000	42.8	159.6	36,600	46.9	163.0	35,200	120
125	34.2	147.7	36,000	39.1	153.9	34,700	43.5	158.0	33,400	125
130	29.6	139.6	34,300	35.2	147.3	33,000	39.9	152.4	31,800	130
135	24.4	129.8	32,600	30.8	139.6	31,400	36.0	146.0	30,300	135
140	17.7	116.8	31,100	25.8	130.3	30,000	31.7	138.5	28,800	140
145	6.2	93.2	27,800*	19.6	118.3	28,600	26.8	129.6	27,500	145
150				10.3	99.5	27,300	20.9	118.3	26,300	150
155							12.7	101.8	25,100	155

# 14000 S-3

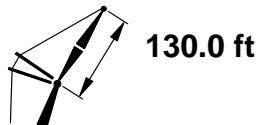
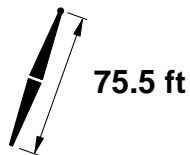
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	74.5	208.5	52,400* <b>b</b>							45
50	72.2	207.0	51,300* <b>b</b>							50
55	69.8	205.3	50,200*							55
60	67.5	203.3	49,200*	70.0	204.7	50,500*				60
65	65.1	201.1	48,200*	67.6	202.8	49,500*				65
70	62.6	198.7	46,200*	65.2	200.6	48,400*	67.1	201.6	49,200*	70
75	60.1	195.9	44,300*	62.7	198.2	46,500*	64.6	199.4	48,000*	75
80	57.5	192.9	42,500*	60.2	195.4	44,600*	62.2	196.9	46,100*	80
85	54.9	189.5	40,800*	57.6	192.4	42,800*	59.7	194.1	44,300*	85
90	52.1	185.8	39,200*	55.0	189.1	41,100*	57.1	191.0	42,500*	90
95	49.3	181.8	37,600*	52.3	185.4	39,400*	54.4	187.6	40,800*	95
100	46.3	177.2	36,200*	49.4	181.3	37,900*	51.6	183.8	39,200*	100
105	43.2	172.2	34,700*	46.5	176.8	36,400*	48.8	179.7	37,600*	105
110	39.9	166.5	33,500*	43.3	171.8	35,000*	45.8	175.1	36,200*	110
115	36.3	160.1	32,300*	40.0	166.2	33,700*	42.6	169.9	34,800*	115
120	32.4	152.8	31,100*	36.5	159.8	32,500*	39.2	164.1	33,600*	120
125	28.0	144.2	30,100*	32.6	152.6	31,400*	35.6	157.6	32,400*	125
130	22.8	133.7	29,200*	28.2	144.0	30,300*	31.6	150.1	31,200*	130
135	16.3	119.6	25,800*	23.1	133.6	29,400*	27.1	141.2	30,200*	135
140	3.1	90.3	19,300*	16.6	119.8	27,800*	21.8	130.2	29,200*	140
145				4.6	93.1	21,400*	14.8	115.1	27,500*	145
150										150
155										155
160										160
165										165

# 14000 S-3

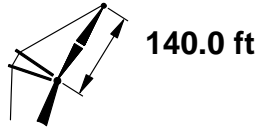
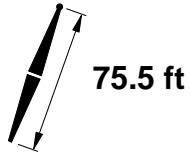
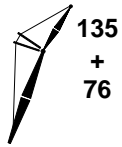
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85	62.9	196.0	46,300*							85
90	60.4	193.3	44,500*							90
95	57.8	190.3	42,900*							95
100	55.1	187.0	41,200*							100
105	52.4	183.3	39,700*	55.8	185.6	41,300*				105
110	49.6	179.3	38,100*	53.1	182.1	39,800*				110
115	46.6	174.8	36,700*	50.3	178.1	38,300*				115
120	43.5	169.8	35,300*	47.4	173.7	36,400	50.9	176.2	35,000	120
125	40.2	164.2	34,000*	44.3	168.9	34,500	48.0	172.0	33,200	125
130	36.7	157.9	32,800*	41.0	163.5	32,800	44.9	167.2	31,600	130
135	32.8	150.7	31,600*	37.5	157.3	31,200	41.7	161.9	30,000	135
140	28.5	142.2	30,600*	33.8	150.4	29,800	38.3	155.9	28,600	140
145	23.4	131.9	29,500	29.6	142.3	28,400	34.6	149.2	27,300	145
150	17.0	118.4	28,000*	24.7	132.5	27,200	30.5	141.3	26,100	150
155	6.0	93.8	25,100*	18.8	120.0	26,000	25.8	131.9	25,000	155
160				9.9	100.4	24,800	20.1	120.1	23,900	160
165							12.2	102.9	22,900	165

# 14000 S-3

ASME B30.5

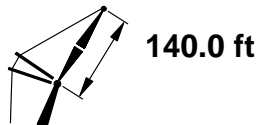
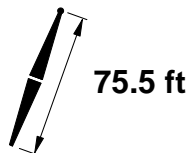


	87°			83°			80°			
	ft	ft	lb	ft	lb	ft	lb	ft		
50	73.5	217.4	48,100* <sup>b</sup>						50	
55	71.3	215.9	47,100*						55	
60	69.2	214.1	46,200*						60	
65	67.0	212.1	44,400*	69.3	213.5	46,400*			65	
70	64.7	209.8	42,500*	67.1	211.5	44,600*			70	
75	62.4	207.3	40,700*	64.8	209.3	42,700*	66.6	210.4	44,100*	75
80	60.1	204.6	39,000*	62.5	206.8	40,900*	64.3	208.1	42,300*	80
85	57.7	201.6	37,200*	60.2	204.1	39,200*	62.0	205.5	40,500*	85
90	55.3	198.3	35,700*	57.8	201.1	37,500*	59.7	202.8	38,800*	90
95	52.7	194.6	34,200*	55.4	197.8	35,900*	57.3	199.7	37,200*	95
100	50.1	190.6	32,700*	52.8	194.2	34,400*	54.8	196.3	35,700*	100
105	47.4	186.2	31,400*	50.2	190.2	33,000*	52.3	192.6	34,100*	105
110	44.5	181.4	30,100*	47.5	185.8	31,500*	49.6	188.6	32,800*	110
115	41.5	176.0	28,800*	44.7	181.0	30,300*	46.9	184.1	31,300*	115
120	38.3	170.1	27,700*	41.7	175.7	29,000*	44.0	179.2	30,000*	120
125	34.9	163.3	26,600*	38.5	169.8	27,800*	41.0	173.7	28,900*	125
130	31.2	155.7	25,500*	35.1	163.1	26,700*	37.8	167.6	27,700*	130
135	26.9	146.7	24,600*	31.3	155.4	25,700*	34.3	160.8	26,600*	135
140	22.0	135.7	23,800*	27.2	146.5	24,800*	30.5	152.9	25,600*	140
145	15.7	121.0	22,900*	22.3	135.6	23,900*	26.1	143.6	24,600*	145
150	3.0	90.6	17,100*	16.0	121.2	23,300*	21.0	132.1	23,800*	150
155				4.5	93.5	19,000*	14.3	116.4	23,200*	155
160										160
165										165
170										170
175										175



# 14000 S-3

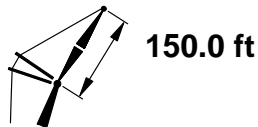
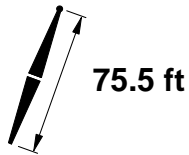
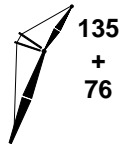
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	62.7	204.7	40,700*							90
95	60.3	201.9	39,200*							95
100	58.0	199.0	37,600*							100
105	55.5	195.7	36,000*							105
110	53.0	192.1	34,600*	56.1	194.3	36,200*				110
115	50.4	188.1	33,100*	53.6	190.8	34,700*				115
120	47.7	183.8	31,800*	51.0	186.9	33,300*				120
125	44.8	179.0	30,400*	48.3	182.7	32,000*	51.5	185.1	32,900	125
130	41.8	173.7	29,200*	45.5	178.0	30,700*	48.9	180.9	31,200	130
135	38.7	167.8	28,100*	42.6	172.9	29,500*	46.1	176.3	29,700	135
140	35.3	161.1	27,000*	39.5	167.1	28,300*	43.2	171.2	28,300	140
145	31.6	153.6	25,900*	36.1	160.7	27,300*	40.1	165.6	27,000	145
150	27.4	144.7	25,000*	32.5	153.3	26,200*	36.8	159.3	25,800	150
155	22.6	134.0	24,200*	28.5	144.8	25,300*	33.3	152.2	24,700	155
160	16.4	119.8	23,500*	23.8	134.7	24,400*	29.3	144.0	23,600	160
165	5.7	94.3	22,400*	18.1	121.6	23,600	24.8	134.2	22,600	165
170				9.5	101.2	22,600	19.4	121.9	21,700	170
175							11.7	103.9	20,800	175

# 14000 S-3

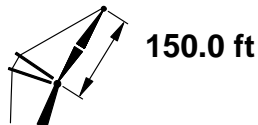
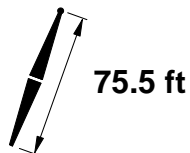
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
50	74.6	227.8	45,000* <sup>b</sup>						50	
55	72.6	226.4	44,100*						55	
60	70.6	224.7	42,800*						60	
65	68.6	222.9	41,000*	70.7	224.2	43,000*			65	
70	66.5	220.8	39,300*	68.7	222.3	41,100*			70	
75	64.4	218.5	37,500*	66.6	220.3	39,400*			75	
80	62.3	216.0	35,800*	64.5	218.0	37,700*	66.1	219.1	38,900*	80
85	60.1	213.2	34,300*	62.4	215.5	36,100*	64.0	216.8	37,300*	85
90	57.9	210.2	32,700*	60.2	212.8	34,400*	61.9	214.2	35,700*	90
95	55.6	207.0	31,300*	58.0	209.8	33,000*	59.7	211.4	34,200*	95
100	53.2	203.4	29,900*	55.7	206.5	31,400*	57.5	208.4	32,700*	100
105	50.8	199.5	28,600*	53.3	202.9	30,100*	55.2	205.0	31,200*	105
110	48.3	195.2	27,200*	50.9	199.0	28,700*	52.8	201.4	29,800*	110
115	45.7	190.5	26,100*	48.4	194.8	27,500*	50.4	197.4	28,500*	115
120	42.9	185.4	24,900*	45.8	190.1	26,200*	47.8	193.1	27,300*	120
125	40.1	179.8	23,800*	43.1	185.1	25,100*	45.2	188.4	26,000*	125
130	37.0	173.5	22,800*	40.2	179.4	24,000*	42.5	183.1	24,900*	130
135	33.7	166.4	21,800*	37.1	173.2	22,900*	39.5	177.4	23,800*	135
140	30.1	158.4	20,900*	33.9	166.2	22,000*	36.4	171.0	22,800*	140
145	26.0	149.0	20,000*	30.3	158.2	21,100*	33.1	163.8	21,800*	145
150	21.2	137.6	19,300*	26.2	148.9	20,200*	29.4	155.5	20,900*	150
155	15.1	122.4	18,700*	21.5	137.6	19,400*	25.2	145.9	20,100*	155
160	2.9	90.8	15,300*	15.5	122.6	18,800*	20.3	134.0	19,300*	160
165				4.3	93.9	17,100*	13.8	117.6	18,700*	165
170									170	
175									175	
180									180	
185									185	

# 14000 S-3

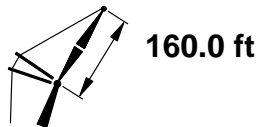
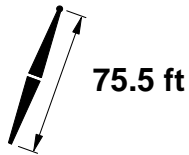
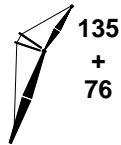
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	62.5	213.3	36,000*							95
100	60.3	210.6	34,400*							100
105	58.1	207.6	33,000*							105
110	55.8	204.4	31,600*							110
115	53.5	200.8	30,200*	56.4	203.0	31,700*				115
120	51.1	196.9	28,900*	54.0	199.5	30,400*				120
125	48.6	192.7	27,600*	51.7	195.8	29,100*				125
130	46.0	188.1	26,400*	49.2	191.6	27,900*	52.1	193.8	29,200*	130
135	43.2	183.0	25,300*	46.6	187.1	26,700*	49.7	189.8	27,900*	135
140	40.4	177.4	24,200*	43.9	182.1	25,500*	47.1	185.3	26,800*	140
145	37.3	171.2	23,100*	41.1	176.7	24,400*	44.5	180.5	25,700*	145
150	34.0	164.3	22,100*	38.1	170.6	23,400*	41.7	175.1	24,600*	150
155	30.5	156.3	21,200*	34.9	163.9	22,400*	38.7	169.2	23,500*	155
160	26.5	147.1	20,400*	31.4	156.2	21,500*	35.5	162.6	22,600*	160
165	21.8	135.9	19,600*	27.5	147.3	20,600*	32.1	155.1	21,700*	165
170	15.9	121.3	18,900*	23.0	136.7	19,800*	28.3	146.5	20,800*	170
175	5.5	94.8	18,500*	17.5	123.2	19,100*	24.0	136.3	20,000*	175
180				9.2	102.1	18,600*	18.7	123.5	19,200*	180
185							11.3	104.9	18,700*	185

# 14000 S-3

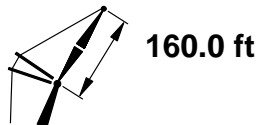
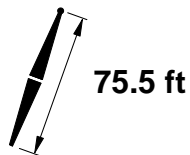
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	73.7	236.8	41,100*						55	
60	71.9	235.3	39,300*						60	
65	70.0	233.5	37,600*						65	
70	68.1	231.6	35,800*	70.1	233.0	37,700*			70	
75	66.1	229.5	34,200*	68.1	231.1	36,000*			75	
80	64.1	227.2	32,700*	66.2	229.0	34,400*	67.7	230.0	35,600*	
85	62.1	224.7	31,100*	64.2	226.7	32,800*	65.8	227.8	34,000*	
90	60.1	221.9	29,700*	62.2	224.2	31,300*	63.8	225.5	32,500*	
95	58.0	218.9	28,200*	60.2	221.4	29,800*	61.8	222.9	31,000*	
100	55.9	215.6	26,900*	58.1	218.4	28,400*	59.7	220.1	29,500*	
105	53.7	212.1	25,600*	56.0	215.2	27,000*	57.6	217.0	28,100*	
110	51.4	208.3	24,300*	53.8	211.7	25,700*	55.5	213.7	26,800*	
115	49.1	204.1	23,100*	51.5	207.9	24,500*	53.3	210.1	25,500*	
120	46.7	199.6	22,000*	49.2	203.7	23,300*	51.0	206.3	24,200*	
125	44.2	194.7	20,900*	46.8	199.2	22,100*	48.7	202.0	23,100*	
130	41.5	189.3	19,900*	44.3	194.3	21,100*	46.2	197.4	21,900*	
135	38.7	183.3	18,900*	41.6	188.9	20,000*	43.7	192.4	20,900*	
140	35.8	176.8	18,000*	38.9	183.0	19,100*	41.0	187.0	19,800*	
145	32.6	169.4	17,100*	35.9	176.5	18,200*	38.2	180.9	18,900*	
150	29.1	161.0	16,400*	32.8	169.2	17,300*	35.2	174.2	18,000*	
155	25.2	151.3	15,600*	29.3	160.8	16,400*	32.0	166.7	17,100*	
160	20.6	139.4	14,900*	25.4	151.2	15,700*	28.5	158.1	16,300*	
165	14.6	123.7	14,200*	20.8	139.4	15,000*	24.4	148.1	15,600*	
170	2.8	91.1	13,500*	15.0	123.9	14,300*	19.7	135.7	14,800*	
175				4.2	94.3	13,500*	13.3	118.8	14,100*	
180									180	
185									185	
190									190	
195									195	

# 14000 S-3

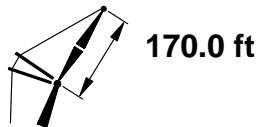
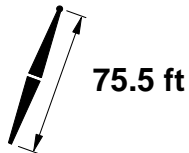
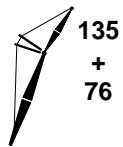
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100	62.3	222.0	31,200*							100
105	60.3	219.3	29,700*							105
110	58.2	216.3	28,400*							110
115	56.1	213.1	27,100*							115
120	53.9	209.6	25,800*	56.6	211.7	27,200*				120
125	51.6	205.8	24,600*	54.4	208.3	26,000*				125
130	49.3	201.6	23,400*	52.2	204.5	24,800*				130
135	46.9	197.1	22,300*	49.9	200.5	23,600*	52.7	202.6	24,800*	135
140	44.4	192.3	21,200*	47.5	196.1	22,500*	50.4	198.6	23,700*	140
145	41.8	186.9	20,200*	45.0	191.3	21,500*	48.0	194.3	22,600*	145
150	39.0	181.0	19,200*	42.4	186.1	20,400*	45.5	189.6	21,600*	150
155	36.1	174.5	18,300*	39.7	180.4	19,500*	43.0	184.5	20,600*	155
160	32.9	167.3	17,400*	36.8	174.0	18,500*	40.3	178.9	19,600*	160
165	29.5	159.0	16,600*	33.7	167.0	17,600*	37.4	172.7	18,700*	165
170	25.6	149.4	15,800*	30.4	159.0	16,800*	34.4	165.7	17,800*	170
175	21.1	137.8	15,100*	26.6	149.7	16,000*	31.1	158.0	17,000*	175
180	15.3	122.6	14,400*	22.3	138.7	15,300*	27.4	149.0	16,200*	180
185	5.4	95.3	13,600*	16.9	124.7	14,700*	23.2	138.4	15,500*	185
190				8.9	102.8	13,800*	18.1	125.2	14,800*	190
195							11.0	105.9	14,000*	195

# 14000 S-3

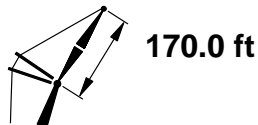
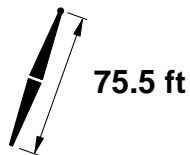
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	74.7	247.2	38,000*						55	
60	73.0	245.8	36,300*						60	
65	71.2	244.1	34,700*						65	
70	69.4	242.4	33,100*						70	
75	67.6	240.4	31,500*	69.5	241.8	33,100*			75	
80	65.8	238.2	30,000*	67.7	239.9	31,600*			80	
85	63.9	235.9	28,500*	65.8	237.7	30,100*	67.3	238.7	31,200*	85
90	62.0	233.3	27,100*	64.0	235.4	28,700*	65.4	236.5	29,800*	90
95	60.1	230.6	25,800*	62.1	232.8	27,300*	63.6	234.1	28,400*	95
100	58.1	227.6	24,500*	60.2	230.1	25,900*	61.7	231.5	27,000*	100
105	56.1	224.3	23,300*	58.2	227.1	24,600*	59.7	228.7	25,600*	105
110	54.1	220.8	22,000*	56.2	223.9	23,400*	57.8	225.7	24,400*	110
115	51.9	217.1	20,900*	54.2	220.4	22,200*	55.8	222.4	23,100*	115
120	49.8	213.0	19,800*	52.0	216.6	21,000*	53.7	218.9	21,900*	120
125	47.5	208.6	18,800*	49.9	212.6	19,900*	51.6	215.1	20,800*	125
130	45.2	203.8	17,800*	47.6	208.2	18,900*	49.4	210.9	19,700*	130
135	42.8	198.7	16,800*	45.3	203.5	17,900*	47.1	206.5	18,700*	135
140	40.2	193.0	15,900*	42.9	198.3	16,900*	44.8	201.6	17,700*	140
145	37.5	186.8	15,100*	40.3	192.7	16,000*	42.3	196.4	16,800*	145
150	34.7	179.9	14,300*	37.7	186.5	15,200*	39.8	190.6	15,900*	150
155	31.6	172.3	13,500*	34.8	179.7	14,300*	37.1	184.3	15,100*	155
160	28.2	163.6	12,600*	31.7	172.0	13,600*	34.2	177.3	14,300*	160
165	24.4	153.5	11,800*	28.4	163.4	12,700*	31.0	169.5	13,400*	165
170	19.9	141.2	10,900*	24.6	153.4	11,800*	27.6	160.6	12,500*	170
175	14.2	124.9	10,100*	20.2	141.2	11,000*	23.7	150.2	11,600*	175
180	2.7	91.3	9,600*	14.5	125.2	10,200*	19.1	137.4	10,800*	180
185				4.1	94.7	9,700*	12.9	120.0	10,100*	185
190										190
195										195
200										200
205										205

# 14000 S-3

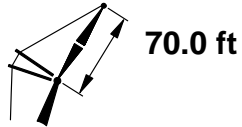
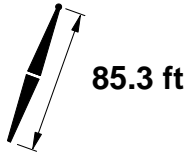
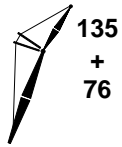
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	62.2	230.7	27,200*							105
110	60.3	227.9	25,900*							110
115	58.3	225.0	24,600*							115
120	56.3	221.7	23,400*							120
125	54.3	218.3	22,300*	56.8	220.4	23,600*				125
130	52.2	214.5	21,100*	54.8	217.0	22,500*				130
135	50.0	210.5	20,000*	52.7	213.3	21,300*				135
140	47.8	206.1	19,000*	50.5	209.3	20,200*				140
145	45.4	201.4	18,000*	48.3	205.1	19,200*	51.0	207.5	20,400*	145
150	43.0	196.3	17,100*	46.0	200.4	18,200*	48.8	203.3	19,300*	150
155	40.5	190.7	16,200*	43.6	195.4	17,300*	46.5	198.7	18,400*	155
160	37.8	184.5	15,300*	41.1	189.9	16,400*	44.1	193.7	17,400*	160
165	35.0	177.7	14,500*	38.5	183.9	15,600*	41.6	188.4	16,600*	165
170	31.9	170.2	13,700*	35.7	177.3	14,700*	39.0	182.5	15,700*	170
175	28.6	161.6	12,800*	32.7	169.9	13,900*	36.3	176.0	14,900*	175
180	24.8	151.7	11,900*	29.4	161.6	13,000*	33.3	168.8	14,100*	180
185	20.4	139.7	11,100*	25.8	152.1	12,100*	30.1	160.7	13,300*	185
190	14.9	124.0	10,300*	21.6	140.7	11,200*	26.6	151.4	12,300*	190
195	5.2	95.7	9,700*	16.4	126.1	10,500*	22.5	140.5	11,500*	195
200				8.6	103.6	9,800*	17.6	126.7	10,600*	200
205							10.7	106.8	9,900*	205

# 14000 S-3

ASME B30.5

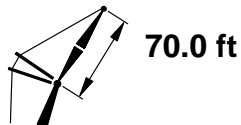
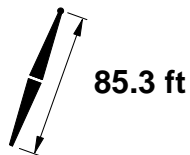


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
30	74.0	160.3	113,100*d						30	
32	72.3	159.7	113,100*c						32	
34	70.6	159.1	112,600*c						34	
36	68.8	158.3	110,200*c						36	
38	67.1	157.5	107,800*c						38	
40	65.3	156.6	105,600*b	70.5	158.4	113,000*c			40	
45	60.7	154.1	100,500*b	66.1	156.4	107,300*c			45	
50	55.9	151.0	96,100*b	61.5	153.9	102,100*b	65.6	155.3	106,800*b	50
55	50.8	147.3	92,200*	56.8	150.9	97,600*b	61.0	152.8	101,800*b	55
60	45.2	142.8	87,500*	51.7	147.3	93,600*	56.2	149.8	94,000b	60
65	39.1	137.2	78,500*	46.3	143.0	86,900	51.1	146.1	85,100	65
70	32.1	130.3	70,700*	40.3	137.7	79,200	45.6	141.6	77,600	70
75	23.3	120.7	64,000*	33.5	131.0	72,200*	39.6	136.2	71,200	75
80	8.2	103.0	48,600*	25.1	122.1	65,400*	32.6	129.3	65,800	80
85				12.4	107.4	55,200*	24.0	120.0	61,000	85
90							9.8	103.5	54,900*	90
95										95
100										100
105										105
110										110



# 14000 S-3

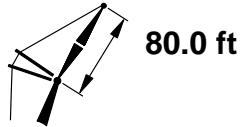
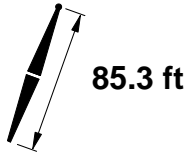
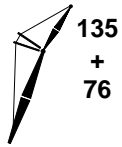
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
30									30	
32									32	
34									34	
36									36	
38									38	
40									40	
45									45	
50									50	
55									55	
60									60	
65	58.3	149.4	82,100 <sup>b</sup>						65	
70	53.4	146.0	74,900						70	
75	48.1	141.9	68,700	55.4	145.0	66,300 <sup>b</sup>			75	
80	42.3	136.9	63,500	50.3	141.2	61,200			80	
85	35.8	130.8	58,900	44.8	136.7	56,800	52.2	139.7	54,700	85
90	28.1	122.8	54,900	38.6	131.0	52,900	46.8	135.4	51,000	90
95	17.5	110.9	51,200	31.5	123.9	49,500	40.9	130.2	47,700	95
100				22.4	114.1	46,400	34.2	123.7	44,700	100
105				5.2	93.7	43,500	26.0	115.0	42,000	105
110							14.0	101.3	39,600	110

# 14000 S-3

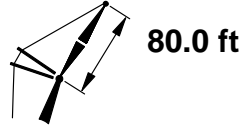
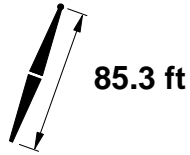
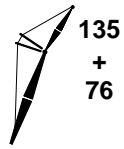
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
32	74.6	170.2	103,200*c							32
34	73.1	169.6	103,100*c							34
36	71.6	169.0	102,200*c							36
38	70.1	168.3	100,100*c							38
40	68.5	167.5	98,000*b							40
45	64.6	165.3	93,200*b	69.2	167.2	99,400*c				45
50	60.6	162.7	88,900*b	65.3	165.1	94,700*b				50
55	56.4	159.7	85,000*	61.3	162.6	90,300*b	64.9	164.0	94,300*b	55
60	52.0	156.1	81,500*	57.2	159.6	86,400*	60.8	161.5	90,100*b	60
65	47.3	151.8	78,300*	52.8	156.1	82,800*	56.7	158.4	84,800	65
70	42.2	146.8	71,100*	48.2	152.0	79,000	52.3	154.9	77,300	70
75	36.5	140.7	64,600*	43.1	147.1	72,500*	47.6	150.7	71,000	75
80	30.0	133.0	59,000*	37.6	141.2	65,800*	42.5	145.7	65,600	80
85	21.8	122.7	54,000*	31.3	133.9	60,100*	36.9	139.6	60,800	85
90	7.6	103.7	42,500*	23.5	124.3	55,000*	30.4	132.1	56,700	90
95				11.6	108.4	48,500*	22.4	122.1	53,000	95
100							9.2	104.4	48,400*	100
105										105
110										110
115										115
120										120

# 14000 S-3

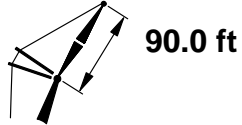
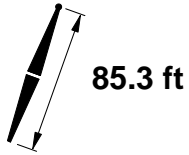
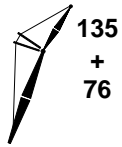
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
32										32
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65	62.7	160.9	81,700b							65
70	58.5	158.0	74,500							70
75	54.2	154.7	68,400							75
80	49.7	150.8	63,200	56.0	153.7	60,800				80
85	44.8	146.2	58,600	51.6	150.1	56,400				85
90	39.5	140.7	54,600	46.9	145.7	52,600				90
95	33.5	133.9	51,100	41.7	140.6	49,200	48.6	144.3	47,300	95
100	26.3	125.2	47,900	36.0	134.4	46,100	43.6	139.5	44,400	100
105	16.4	112.4	45,000	29.4	126.6	43,400	38.2	133.8	41,700	105
110				21.0	116.0	40,900	31.9	126.6	39,400	110
115				4.9	94.1	38,500	24.3	117.3	37,200	115
120							13.1	102.5	35,200	120

# 14000 S-3

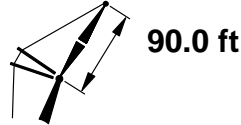
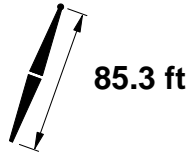
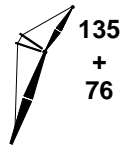
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
36	73.7	179.4	89,400*c							36
38	72.4	178.8	87,600*c							38
40	71.0	178.2	85,900*c							40
45	67.6	176.3	81,800*b							45
50	64.1	174.0	78,100*b	68.2	176.0	83,000*b				50
55	60.5	171.4	74,600*	64.8	173.8	79,200*b	67.8	174.9	82,500*b	55
60	56.8	168.4	71,500*	61.2	171.2	75,800*	64.3	172.7	79,000*b	60
65	52.9	164.8	68,600*	57.5	168.3	72,700*	60.8	170.1	75,700*	65
70	48.8	160.8	66,000*	53.6	164.8	69,700*	57.0	167.1	72,600*	70
75	44.4	156.0	63,600*	49.6	160.9	67,000*	53.2	163.6	69,700*	75
80	39.7	150.5	59,700*	45.2	156.3	64,600*	49.1	159.6	65,400	80
85	34.4	143.9	54,900*	40.6	150.9	60,800*	44.7	154.9	60,700	85
90	28.2	135.6	50,600*	35.4	144.5	55,800*	40.0	149.4	56,600	90
95	20.5	124.6	46,700*	29.5	136.6	51,400*	34.7	142.9	52,900	95
100	7.2	104.3	37,200*	22.1	126.3	47,500*	28.7	134.8	49,600	100
105				10.9	109.4	42,400*	21.1	124.0	46,700	105
110							8.7	105.2	42,500*	110
115										115
120										120
125										125
130										130

# 14000 S-3

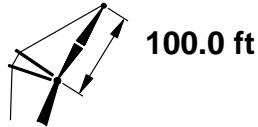
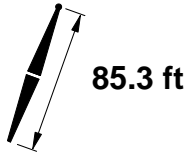
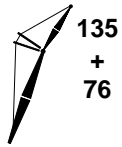
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70	62.4	169.5	74,300							70
75	58.7	166.7	68,200							75
80	54.9	163.4	63,000							80
85	50.9	159.7	58,500	56.5	162.4	56,200				85
90	46.7	155.3	54,500	52.6	158.8	52,400				90
95	42.1	150.2	50,900	48.4	154.7	49,000				95
100	37.1	144.1	47,800	44.0	149.9	46,000	50.0	153.2	44,200	100
105	31.5	136.8	45,000	39.2	144.3	43,300	45.7	148.7	41,600	105
110	24.7	127.4	42,400	33.9	137.6	40,800	41.0	143.4	39,200	110
115	15.4	113.8	40,100	27.7	129.2	38,600	35.9	137.1	37,100	115
120				19.7	117.8	36,500	30.0	129.4	35,100	120
125				4.6	94.6	34,500	22.9	119.4	33,300	125
130							12.4	103.6	31,600	130

# 14000 S-3

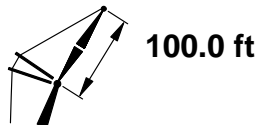
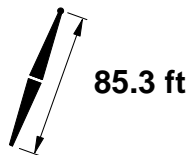
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
38	74.2	189.3	82,100*c							38
40	73.0	188.7	80,500*c							40
45	70.0	187.0	76,500*b							45
50	66.9	185.0	72,900*b	70.5	186.6	77,500*b				50
55	63.7	182.7	69,500*	67.4	184.7	73,900*b				55
60	60.5	180.1	66,400*	64.3	182.5	70,600*	67.1	183.7	73,500*b	60
65	57.1	177.0	63,500*	61.1	179.9	67,400*	63.9	181.4	70,300*	65
70	53.6	173.6	60,800*	57.7	176.9	64,500*	60.7	178.8	67,200*	70
75	50.0	169.6	58,300*	54.3	173.6	61,800*	57.3	175.8	64,400*	75
80	46.1	165.2	56,000*	50.7	169.7	59,300*	53.9	172.4	61,700*	80
85	42.0	160.0	53,900*	46.9	165.4	56,900*	50.2	168.5	59,200*	85
90	37.5	154.0	50,700*	42.8	160.3	54,800*	46.4	164.0	56,300	90
95	32.6	146.9	46,900*	38.4	154.5	51,500*	42.3	158.9	52,700	95
100	26.8	138.1	43,600*	33.5	147.6	47,700*	37.8	152.9	49,400	100
105	19.5	126.4	40,500*	27.9	139.2	44,300*	32.9	145.9	46,500	105
110	6.8	104.9	32,700*	21.0	128.2	41,100*	27.2	137.3	43,800	110
115				10.4	110.3	37,200*	20.0	125.8	40,900*	115
120							8.2	105.9	37,300*	120
125										125
130										130
135										135
140										140

# 14000 S-3

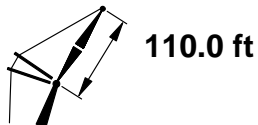
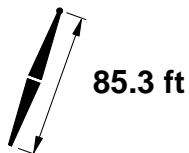
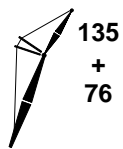
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75	62.1	178.2	67,900							75
80	58.8	175.4	62,600							80
85	55.4	172.1	58,100							85
90	51.9	168.5	54,100	56.8	171.1	52,000				90
95	48.1	164.3	50,600	53.3	167.6	48,600				95
100	44.2	159.5	47,500	49.7	163.6	45,600				100
105	39.9	153.9	44,700	45.8	159.1	42,900	51.0	162.1	41,200	105
110	35.2	147.4	42,200	41.7	153.8	40,500	47.2	157.7	38,800	110
115	29.8	139.5	39,900	37.1	147.8	38,300	43.2	152.8	36,700	115
120	23.4	129.6	37,700	32.1	140.5	36,200	38.8	147.0	34,800	120
125	14.6	115.1	35,800	26.2	131.6	34,400	34.0	140.3	33,000	125
130				18.7	119.5	32,700	28.5	132.0	31,300	130
135				4.3	94.9	31,000	21.7	121.3	29,800	135
140							11.7	104.7	28,400	140

# 14000 S-3

ASME B30.5

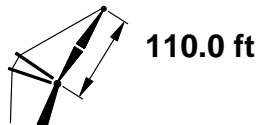
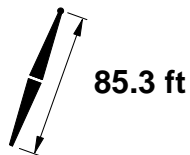


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
40	74.6	199.1	74,900 <sup>c</sup>						40	
45	71.8	197.6	71,900 <sup>b</sup>						45	
50	69.1	195.8	68,900 <sup>b</sup>						50	
55	66.3	193.7	66,200*	69.6	195.5	69,700 <sup>b</sup>			55	
60	63.4	191.4	63,600*	66.8	193.5	67,100*			60	
65	60.4	188.7	61,100*	63.9	191.2	64,400*	66.4	192.4	66,700*	65
70	57.4	185.7	58,600*	61.0	188.6	61,900*	63.6	190.1	64,200*	70
75	54.2	182.3	56,200*	58.0	185.6	59,400*	60.6	187.5	61,700*	75
80	51.0	178.5	54,000*	54.8	182.3	57,000*	57.6	184.5	59,300*	80
85	47.5	174.2	52,000*	51.6	178.5	54,700*	54.4	181.1	56,900*	85
90	43.9	169.3	50,000*	48.2	174.3	52,700*	51.2	177.3	54,700*	90
95	40.0	163.7	47,100*	44.6	169.6	50,800*	47.7	173.0	52,600	95
100	35.7	157.3	43,800*	40.7	164.1	47,800*	44.1	168.2	49,400	100
105	31.0	149.7	40,800*	36.5	157.9	44,400*	40.2	162.7	46,500	105
110	25.5	140.4	38,100*	31.9	150.5	41,400*	36.0	156.3	43,900	110
115	18.5	128.0	35,200*	26.6	141.6	38,700*	31.3	148.8	41,200*	115
120	6.5	105.5	27,200*	20.0	130.0	36,200*	25.9	139.6	38,400*	120
125				9.9	111.2	31,000*	19.1	127.5	35,900*	125
130							7.8	106.6	31,200*	130
135										135
140										140
145										145
150										150



# 14000 S-3

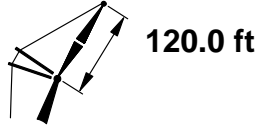
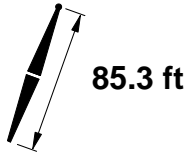
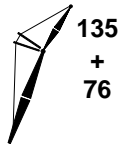
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80	61.9	186.9	62,500*							80
85	58.9	184.0	58,100							85
90	55.9	180.8	54,100							90
95	52.6	177.2	50,600	57.1	179.8	48,600				95
100	49.3	173.2	47,500	54.0	176.3	45,600				100
105	45.8	168.6	44,700	50.7	172.5	42,900				105
110	42.0	163.4	42,100	47.2	168.1	40,500	51.9	170.9	38,800	110
115	37.9	157.4	39,900	43.6	163.2	38,200	48.5	166.7	36,700	115
120	33.5	150.5	37,800	39.6	157.5	36,200	44.9	162.0	34,700	120
125	28.4	142.1	35,800	35.4	151.0	34,400	41.1	156.6	33,000	125
130	22.3	131.6	34,100	30.6	143.3	32,700	37.0	150.5	31,300	130
135	14.0	116.3	32,400	25.0	133.8	31,100	32.4	143.2	29,800	135
140				17.8	121.1	29,700	27.1	134.5	28,400	140
145				4.1	95.3	28,200	20.7	123.2	27,100	145
150							11.2	105.7	25,900	150

# 14000 S-3

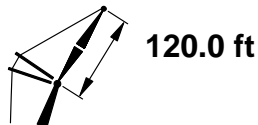
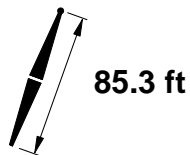
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
45	73.4	208.1	66,600* <b>b</b>						45	
50	70.9	206.4	63,800* <b>b</b>						50	
55	68.3	204.6	61,100*						55	
60	65.8	202.5	58,600*	68.8	204.3	61,800*			60	
65	63.1	200.1	56,200*	66.2	202.2	59,300*			65	
70	60.4	197.4	54,000*	63.6	199.9	57,000*	65.9	201.2	59,000*	70
75	57.6	194.4	51,800*	60.9	197.2	54,800*	63.3	198.8	56,700*	75
80	54.7	191.0	49,700*	58.1	194.3	52,600*	60.6	196.1	54,500*	80
85	51.8	187.3	47,800*	55.3	191.0	50,400*	57.8	193.1	52,400*	85
90	48.6	183.1	45,800*	52.3	187.3	48,400*	54.9	189.8	50,400*	90
95	45.4	178.5	44,000*	49.2	183.3	46,500*	51.9	186.1	48,300*	95
100	41.9	173.2	42,300*	46.0	178.7	44,600*	48.8	182.0	46,300*	100
105	38.2	167.3	40,700*	42.6	173.6	42,800*	45.6	177.3	44,500*	105
110	34.2	160.4	38,100*	38.9	167.8	41,200*	42.1	172.1	42,800*	110
115	29.7	152.4	35,700*	34.9	161.1	38,700*	38.5	166.2	41,100*	115
120	24.4	142.6	33,500*	30.5	153.3	36,200*	34.4	159.5	38,400*	120
125	17.7	129.6	31,000*	25.4	143.9	34,000*	30.0	151.5	36,000*	125
130	6.2	106.1	24,000*	19.1	131.7	31,900*	24.8	141.8	33,800*	130
135				9.4	112.1	27,500*	18.2	129.2	31,700*	135
140							7.5	107.3	27,700*	140
145										145
150										150
155										155
160										160

# 14000 S-3

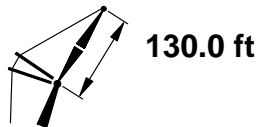
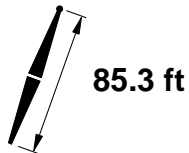
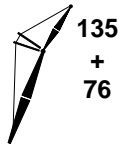
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85	61.8	195.5	55,200*							85
90	59.0	192.7	53,100*							90
95	56.2	189.5	50,300							95
100	53.3	186.0	47,100	57.4	188.4	45,200				100
105	50.2	182.0	44,400	54.5	185.1	42,500				105
110	47.1	177.6	41,800	51.5	181.3	40,100				110
115	43.7	172.7	39,600	48.4	177.1	37,900	52.6	179.7	36,300	115
120	40.1	167.1	37,500	45.1	172.4	35,900	49.5	175.6	34,400	120
125	36.3	160.8	35,600	41.6	167.1	34,100	46.3	171.1	32,600	125
130	32.0	153.4	33,800	37.9	161.1	32,400	42.9	166.0	31,000	130
135	27.2	144.6	32,200	33.8	154.1	30,800	39.3	160.3	29,500	135
140	21.4	133.5	30,700	29.2	146.0	29,400	35.3	153.7	28,100	140
145	13.4	117.5	29,300	23.9	136.0	28,100	31.0	146.1	26,800	145
150				17.1	122.6	26,800	25.9	136.8	25,600	150
155				4.0	95.7	25,600	19.8	125.0	24,500	155
160							10.7	106.6	23,400	160

# 14000 S-3

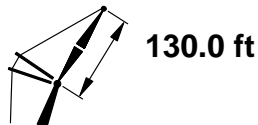
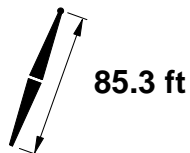
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	74.7	218.5	52,000* <b>b</b>							45
50	72.4	217.0	50,800* <b>b</b>							50
55	70.1	215.3	49,800*							55
60	67.7	213.3	48,800*	70.5	214.9	50,200*				60
65	65.3	211.2	47,900*	68.2	213.0	49,300*				65
70	62.9	208.7	46,200*	65.8	210.9	48,400*	67.9	212.0	49,100*	70
75	60.4	206.0	44,400*	63.3	208.5	46,800*	65.5	209.9	48,300*	75
80	57.8	203.0	42,600*	60.8	205.9	45,000*	63.0	207.5	46,600*	80
85	55.2	199.7	40,900*	58.3	202.9	43,100*	60.5	204.8	44,800*	85
90	52.4	196.1	39,300*	55.6	199.7	41,400*	58.0	201.8	43,000*	90
95	49.6	192.0	37,800*	52.9	196.1	39,800*	55.3	198.5	41,300*	95
100	46.6	187.5	36,300*	50.1	192.1	38,300*	52.6	194.9	39,700*	100
105	43.5	182.5	34,900*	47.2	187.7	36,800*	49.8	190.8	38,200*	105
110	40.2	177.0	33,600*	44.1	182.8	35,300*	46.8	186.4	36,700*	110
115	36.7	170.7	32,400*	40.8	177.4	34,000*	43.7	181.4	35,300*	115
120	32.8	163.5	31,300*	37.3	171.2	32,800*	40.4	175.9	34,000*	120
125	28.5	155.0	30,300*	33.5	164.2	31,600*	36.9	169.6	32,700*	125
130	23.4	144.7	29,300*	29.3	156.0	30,600*	33.0	162.5	31,700*	130
135	17.0	131.2	27,700*	24.4	146.1	29,700*	28.8	154.1	30,600*	135
140	6.0	106.6	21,500*	18.4	133.4	28,500*	23.8	144.0	29,700*	140
145				9.1	112.9	24,700*	17.5	130.7	28,400*	145
150							7.2	107.9	24,900*	150
155										155
160										160
165										165
170										170

# 14000 S-3

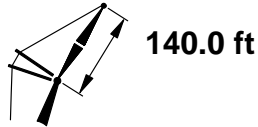
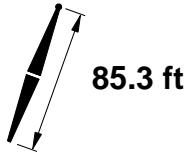
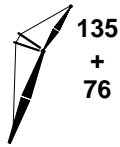
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	61.6	204.2	45,300*							90
95	59.1	201.4	43,600*							95
100	56.5	198.2	42,000*							100
105	53.8	194.7	40,400*	57.6	197.1	42,200*				105
110	51.0	190.9	38,800*	54.9	193.8	39,900				110
115	48.1	186.6	37,400*	52.2	190.1	37,700				115
120	45.1	181.9	36,000*	49.3	186.0	35,700				120
125	41.9	176.6	34,700*	46.4	181.5	33,900	50.4	184.5	32,400	125
130	38.5	170.7	33,400*	43.2	176.4	32,200	47.5	180.1	30,800	130
135	34.8	164.0	32,000	39.9	170.8	30,600	44.4	175.3	29,300	135
140	30.7	156.2	30,500	36.3	164.4	29,200	41.1	169.9	27,900	140
145	26.1	147.0	29,100	32.4	157.1	27,900	37.7	163.8	26,600	145
150	20.5	135.4	27,800	28.1	148.5	26,600	33.9	156.8	25,400	150
155	12.8	118.7	26,600	23.0	138.1	25,500	29.7	148.8	24,300	155
160				16.4	124.1	24,400	24.9	139.1	23,300	160
165				3.8	96.0	23,300	19.0	126.7	22,300	165
170							10.3	107.5	21,300	170

# 14000 S-3

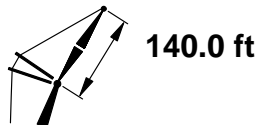
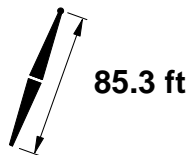
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
50	73.7	227.4	47,700* <sup>b</sup>						50	
55	71.6	225.9	46,700*						55	
60	69.4	224.1	45,800*						60	
65	67.2	222.1	44,400*	69.8	223.8	46,100*			65	
70	64.9	219.9	42,500*	67.6	221.8	44,800*			70	
75	62.7	217.4	40,700*	65.4	219.6	43,000*	67.3	220.8	44,500*	
80	60.3	214.7	39,000*	63.1	217.2	41,200*	65.1	218.6	42,700*	
85	58.0	211.7	37,400*	60.8	214.5	39,500*	62.8	216.1	41,000*	
90	55.5	208.4	35,800*	58.4	211.6	37,900*	60.5	213.4	39,300*	
95	53.0	204.8	34,300*	56.0	208.4	36,200*	58.1	210.5	37,700*	
100	50.4	200.9	32,900*	53.5	204.8	34,700*	55.7	207.2	36,100*	
105	47.7	196.5	31,500*	50.9	201.0	33,300*	53.1	203.6	34,700*	
110	44.8	191.8	30,100*	48.2	196.7	31,900*	50.5	199.7	33,200*	
115	41.9	186.5	29,000*	45.4	192.0	30,600*	47.8	195.4	31,800*	
120	38.7	180.6	27,800*	42.4	186.8	29,300*	45.0	190.6	30,500*	
125	35.3	173.9	26,700*	39.3	181.0	28,200*	42.0	185.4	29,300*	
130	31.6	166.3	25,600*	35.9	174.5	27,000*	38.9	179.5	28,100*	
135	27.4	157.5	24,700*	32.3	167.1	26,000*	35.5	172.9	27,000*	
140	22.6	146.8	23,900*	28.2	158.6	25,100*	31.8	165.4	26,000*	
145	16.4	132.6	23,200*	23.5	148.2	24,200*	27.7	156.6	25,000*	
150	5.8	107.1	19,100*	17.7	134.9	23,400*	22.9	146.1	24,100*	
155				8.7	113.7	22,000*	16.9	132.2	23,500*	
160							6.9	108.5	22,200*	
165									165	
170									170	
175									175	
180									180	

# 14000 S-3

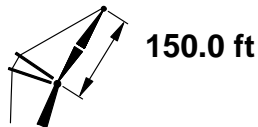
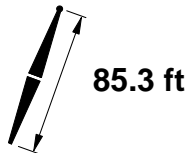
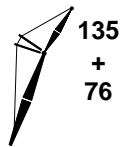
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	61.5	212.9	39,800*							95
100	59.2	210.0	38,300*							100
105	56.8	206.9	36,700*							105
110	54.3	203.5	35,300*	57.8	205.8	37,000*				110
115	51.7	199.7	33,800*	55.3	202.5	35,600*				115
120	49.1	195.5	32,500*	52.8	198.8	34,200*				120
125	46.3	191.0	31,200*	50.2	194.9	32,900*				125
130	43.4	186.0	29,900*	47.4	190.5	31,600*	51.1	193.3	30,400	130
135	40.3	180.4	28,700*	44.6	185.6	30,300	48.4	189.1	28,900	135
140	37.0	174.1	27,600*	41.6	180.3	28,900	45.6	184.4	27,600	140
145	33.5	167.1	26,500*	38.4	174.3	27,600	42.7	179.3	26,300	145
150	29.6	158.9	25,500*	35.0	167.6	26,300	39.6	173.5	25,100	150
155	25.1	149.2	24,600*	31.2	160.0	25,200	36.2	167.1	24,000	155
160	19.8	137.1	23,800*	27.0	151.0	24,100	32.6	159.8	23,000	160
165	12.4	119.8	23,200*	22.1	140.1	23,100	28.6	151.4	22,000	165
170				15.8	125.5	22,100	24.0	141.3	21,100	170
175				3.7	96.3	21,200	18.3	128.3	20,200	175
180							9.9	108.4	19,400	180

# 14000 S-3

ASME B30.5

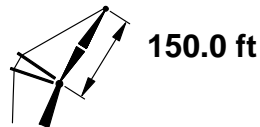
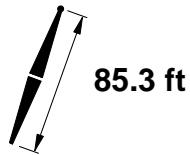
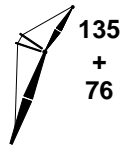


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
50	74.8	237.8	44,600*							50
55	72.8	236.4	43,700*							55
60	70.8	234.7	42,800*							60
65	68.8	232.9	41,000*							65
70	66.7	230.8	39,300*	69.2	232.6	41,400*				70
75	64.6	228.6	37,600*	67.1	230.6	39,600*				75
80	62.5	226.1	36,000*	65.0	228.3	38,000*	66.9	229.5	39,400*	80
85	60.3	223.4	34,400*	62.9	225.9	36,300*	64.8	227.3	37,700*	85
90	58.1	220.4	32,800*	60.7	223.2	34,800*	62.6	224.8	36,100*	90
95	55.8	217.1	31,300*	58.5	220.3	33,300*	60.5	222.1	34,600*	95
100	53.5	213.6	30,000*	56.2	217.1	31,800*	58.2	219.1	33,100*	100
105	51.1	209.7	28,700*	53.9	213.6	30,400*	56.0	215.9	31,700*	105
110	48.6	205.5	27,400*	51.5	209.8	29,100*	53.6	212.4	30,300*	110
115	46.0	200.9	26,200*	49.0	205.6	27,800*	51.2	208.5	28,900*	115
120	43.2	195.8	25,000*	46.4	201.1	26,500*	48.7	204.3	27,700*	120
125	40.4	190.2	23,900*	43.7	196.1	25,400*	46.1	199.7	26,400*	125
130	37.3	184.0	22,900*	40.9	190.6	24,200*	43.4	194.7	25,300*	130
135	34.0	177.0	21,900*	37.9	184.5	23,200*	40.6	189.1	24,200*	135
140	30.5	169.1	21,000*	34.7	177.7	22,200*	37.5	183.0	23,200*	140
145	26.5	159.9	20,200*	31.2	170.0	21,300*	34.3	176.0	22,200*	145
150	21.8	148.7	19,400*	27.2	161.0	20,500*	30.7	168.2	21,200*	150
155	15.9	134.0	18,700*	22.7	150.3	19,600*	26.7	159.1	20,400*	155
160	5.6	107.6	17,200*	17.1	136.5	19,000*	22.1	148.1	19,600*	160
165				8.4	114.4	18,500*	16.3	133.7	18,900*	165
170							6.7	109.1	18,600*	170
175										175
180										180
185										185
190										190



# 14000 S-3

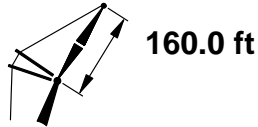
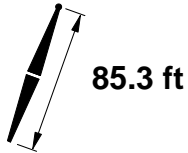
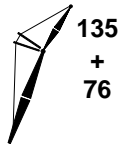
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100	61.4	221.5	35,100*							100
105	59.2	218.7	33,600*							105
110	57.0	215.6	32,200*							110
115	54.7	212.2	30,800*	57.9	214.4	32,500*				115
120	52.3	208.5	29,500*	55.6	211.2	31,200*				120
125	49.8	204.4	28,300*	53.3	207.6	29,900*				125
130	47.3	200.0	27,000*	50.8	203.7	28,700*				130
135	44.6	195.2	25,900*	48.3	199.4	27,500*	51.7	202.1	28,800	135
140	41.8	189.9	24,800*	45.7	194.8	26,300*	49.3	198.0	27,500	140
145	38.9	184.0	23,700*	43.0	189.7	25,200*	46.7	193.5	26,200	145
150	35.7	177.4	22,700*	40.1	184.0	24,100*	44.0	188.5	25,000	150
155	32.3	170.0	21,700*	37.1	177.8	23,100*	41.2	183.1	23,900	155
160	28.6	161.5	20,800*	33.8	170.7	22,100*	38.2	177.1	22,900	160
165	24.3	151.4	20,000*	30.2	162.7	21,200*	35.0	170.3	21,900	165
170	19.1	138.9	19,300*	26.1	153.3	20,400*	31.5	162.7	21,000	170
175	12.0	120.9	18,700*	21.3	142.0	19,700*	27.6	153.9	20,200	175
180				15.3	126.8	18,900*	23.2	143.3	19,400	180
185				3.5	96.6	18,700*	17.7	129.9	18,600	185
190							9.6	109.3	17,800	190

# 14000 S-3

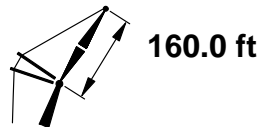
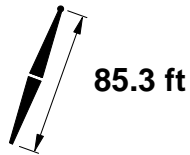
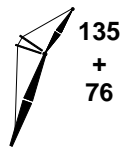
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	73.9	246.8	40,700*						55	
60	72.1	245.3	39,200*						60	
65	70.2	243.6	37,600*						65	
70	68.3	241.7	35,900*	70.5	243.2	37,900*			70	
75	66.3	239.6	34,300*	68.6	241.4	36,200*			75	
80	64.3	237.3	32,700*	66.7	239.3	34,600*			80	
85	62.3	234.8	31,200*	64.7	237.0	33,000*	66.4	238.3	34,400*	85
90	60.3	232.0	29,700*	62.7	234.6	31,600*	64.5	236.0	32,900*	90
95	58.2	229.1	28,300*	60.7	231.9	30,100*	62.5	233.5	31,400*	95
100	56.1	225.8	27,000*	58.6	228.9	28,700*	60.4	230.8	29,900*	100
105	53.9	222.3	25,700*	56.5	225.8	27,300*	58.3	227.8	28,500*	105
110	51.6	218.5	24,500*	54.3	222.3	26,000*	56.2	224.6	27,200*	110
115	49.3	214.4	23,300*	52.1	218.6	24,800*	54.0	221.1	25,900*	115
120	46.9	209.9	22,100*	49.8	214.5	23,500*	51.8	217.3	24,600*	120
125	44.4	205.0	21,000*	47.4	210.1	22,400*	49.5	213.2	23,500*	125
130	41.8	199.7	20,000*	44.9	205.3	21,300*	47.1	208.8	22,300*	130
135	39.0	193.8	19,000*	42.3	200.0	20,300*	44.6	203.9	21,300*	135
140	36.1	187.3	18,100*	39.6	194.3	19,300*	42.0	198.6	20,200*	140
145	32.9	180.0	17,200*	36.7	187.9	18,400*	39.2	192.7	19,200*	145
150	29.5	171.8	16,500*	33.5	180.8	17,500*	36.3	186.3	18,300*	150
155	25.6	162.2	15,700*	30.1	172.7	16,700*	33.1	179.1	17,400*	155
160	21.1	150.6	15,000*	26.4	163.4	15,900*	29.7	170.9	16,600*	160
165	15.4	135.4	14,300*	22.0	152.3	15,200*	25.9	161.4	15,800*	165
170	5.4	108.1	13,600*	16.6	137.9	14,500*	21.4	150.0	15,100*	170
175				8.2	115.1	13,700*	15.8	135.1	14,500*	175
180							6.5	109.7	13,600*	180
185										185
190										190
195										195
200										200

# 14000 S-3

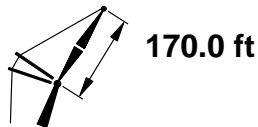
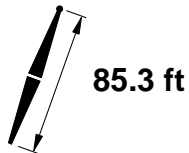
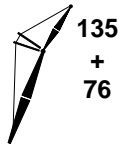
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	61.3	230.2	30,400*							105
110	59.3	227.3	29,000*							110
115	57.2	224.2	27,800*							115
120	55.0	220.9	26,400*							120
125	52.8	217.2	25,200*	55.9	219.9	26,800*				125
130	50.5	213.3	24,000*	53.7	216.3	25,600*				130
135	48.2	209.0	22,800*	51.5	212.5	24,400*				135
140	45.7	204.3	21,800*	49.1	208.4	23,300*	52.3	210.9	24,600*	140
145	43.1	199.2	20,700*	46.7	203.8	22,200*	50.0	206.9	23,500*	145
150	40.5	193.6	19,700*	44.2	198.9	21,100*	47.6	202.5	22,400*	150
155	37.6	187.4	18,800*	41.6	193.5	20,100*	45.1	197.7	21,400*	155
160	34.6	180.6	17,900*	38.8	187.6	19,200*	42.5	192.5	20,400*	160
165	31.3	172.9	17,100*	35.8	181.0	18,300*	39.8	186.8	19,500*	165
170	27.6	164.0	16,200*	32.7	173.7	17,400*	36.9	180.5	18,600*	170
175	23.5	153.6	15,500*	29.2	165.4	16,600*	33.8	173.4	17,700*	175
180	18.5	140.5	14,800*	25.3	155.6	15,900*	30.5	165.5	16,900*	180
185	11.6	121.9	14,000*	20.7	143.8	15,100*	26.7	156.3	16,100*	185
190				14.8	128.2	14,400*	22.4	145.4	15,400*	190
195				3.4	97.0	13,600*	17.1	131.4	14,800*	195
200							9.3	110.1	13,900*	200

# 14000 S-3

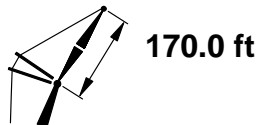
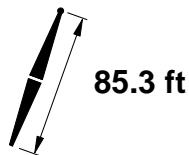
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	74.9	257.2	37,800*						55	
60	73.2	255.8	36,300*						60	
65	71.4	254.2	34,700*						65	
70	69.6	252.4	33,100*						70	
75	67.8	250.4	31,500*	69.9	252.0	33,400*			75	
80	66.0	248.3	30,100*	68.1	250.1	31,800*			80	
85	64.1	246.0	28,600*	66.3	248.0	30,400*	67.9	249.1	31,500*	
90	62.2	243.4	27,200*	64.4	245.7	28,900*	66.1	247.0	30,100*	
95	60.3	240.7	25,900*	62.6	243.2	27,500*	64.2	244.7	28,800*	
100	58.3	237.7	24,600*	60.6	240.5	26,200*	62.3	242.1	27,300*	
105	56.3	234.5	23,300*	58.7	237.6	24,900*	60.4	239.4	26,100*	
110	54.3	231.0	22,100*	56.7	234.4	23,700*	58.4	236.5	24,800*	
115	52.2	227.3	21,000*	54.6	231.0	22,500*	56.4	233.3	23,600*	
120	50.0	223.3	19,900*	52.6	227.3	21,300*	54.4	229.8	22,400*	
125	47.8	218.9	18,900*	50.4	223.4	20,200*	52.3	226.1	21,200*	
130	45.4	214.2	17,900*	48.2	219.1	19,100*	50.1	222.1	20,100*	
135	43.0	209.0	17,000*	45.9	214.4	18,100*	47.9	217.7	19,100*	
140	40.5	203.4	16,000*	43.5	209.3	17,200*	45.6	213.0	18,100*	
145	37.8	197.3	15,200*	41.0	203.8	16,300*	43.2	207.9	17,100*	
150	35.0	190.5	14,300*	38.3	197.8	15,400*	40.7	202.4	16,200*	
155	31.9	182.9	13,600*	35.5	191.1	14,600*	38.0	196.3	15,400*	
160	28.6	174.4	12,700*	32.5	183.7	13,800*	35.2	189.5	14,600*	
165	24.8	164.4	11,800*	29.2	175.4	13,000*	32.1	182.0	13,800*	
170	20.5	152.4	11,000*	25.6	165.7	12,000*	28.8	173.5	12,800*	
175	14.9	136.7	10,200*	21.3	154.2	11,200*	25.1	163.7	11,900*	
180	5.2	108.6	9,700*	16.1	139.4	10,400*	20.8	151.8	11,100*	
185				7.9	115.8	9,800*	15.3	136.5	10,300*	
190							6.3	110.3	9,700*	
195									195	
200									200	
205									205	
210									210	

# 14000 S-3

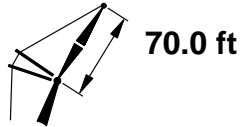
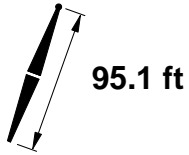
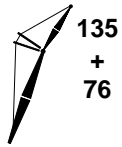
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	61.3	238.9	26,500*							110
115	59.3	236.0	25,300*							115
120	57.3	232.9	24,000*							120
125	55.3	229.6	22,800*							125
130	53.2	226.0	21,700*	56.1	228.5	23,200*				130
135	51.1	222.1	20,600*	54.1	225.1	22,000*				135
140	48.9	217.9	19,600*	52.0	221.3	21,000*				140
145	46.6	213.4	18,500*	49.8	217.2	19,900*	52.7	219.7	21,200*	145
150	44.3	208.4	17,600*	47.6	212.8	18,900*	50.6	215.7	20,100*	150
155	41.8	203.1	16,700*	45.2	208.1	17,900*	48.4	211.4	19,200*	155
160	39.2	197.2	15,800*	42.8	202.9	17,000*	46.1	206.8	18,200*	160
165	36.5	190.8	14,900*	40.3	197.3	16,100*	43.7	201.8	17,300*	165
170	33.5	183.6	14,200*	37.6	191.1	15,200*	41.2	196.3	16,400*	170
175	30.3	175.6	13,200*	34.7	184.2	14,500*	38.6	190.3	15,600*	175
180	26.8	166.4	12,300*	31.7	176.6	13,700*	35.8	183.7	14,700*	180
185	22.8	155.6	11,400*	28.3	167.9	12,800*	32.8	176.4	14,000*	185
190	17.9	142.1	10,700*	24.5	157.8	11,900*	29.5	168.1	13,100*	190
195	11.2	122.9	10,000*	20.0	145.6	11,000*	25.9	158.6	12,200*	195
200				14.3	129.4	10,200*	21.7	147.3	11,300*	200
205				3.3	97.2	9,700*	16.6	132.9	10,500*	205
210							9.0	110.9	9,900*	210

# 14000 S-3

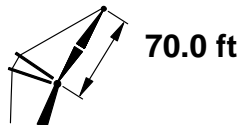
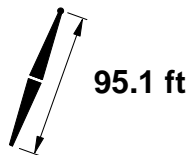
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
30	74.4	170.3	110,200*d							30
32	72.7	169.7	110,200*c							32
34	71.0	169.1	110,200*c							34
36	69.3	168.4	110,200*c							36
38	67.5	167.6	107,900*c							38
40	65.7	166.7	105,700*c							40
45	61.2	164.2	100,700*b	67.2	166.7	108,100*c				45
50	56.4	161.2	96,300*b	62.6	164.3	102,900*b	67.1	165.8	108,100*c	50
55	51.3	157.5	92,300*	57.9	161.5	98,400*b	62.6	163.4	103,100*b	55
60	45.8	153.1	88,600*	53.0	158.0	94,400*b	57.8	160.6	93,300b	60
65	39.8	147.7	79,500*	47.6	153.9	86,500	52.9	157.1	84,500b	65
70	32.9	140.9	72,000*	41.8	148.8	78,900	47.5	152.9	77,100	70
75	24.3	131.7	65,000*	35.2	142.5	72,500	41.7	147.9	70,800	75
80	10.7	115.9	49,800*	27.4	134.3	66,900	35.1	141.6	65,300	80
85				16.3	121.8	58,200*	27.2	133.3	60,600	85
90							16.1	120.7	56,400	90
95										95
100										100
105										105
110										110
115										115

# 14000 S-3

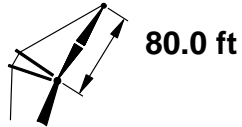
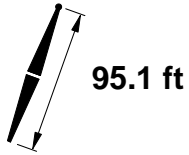
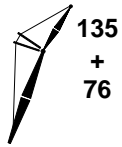
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
30										30
32										32
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65	60.8	160.4	81,100 <sup>b</sup>							65
70	55.9	157.3	73,900 <sup>b</sup>							70
75	50.8	153.6	67,900							75
80	45.3	149.1	62,700	53.8	153.1	60,100 <sup>b</sup>				80
85	39.3	143.6	58,200	48.5	149.1	55,800				85
90	32.3	136.7	54,200	42.8	144.2	52,000	51.3	147.9	49,800	90
95	23.5	127.2	50,700	36.4	138.2	48,600	45.9	143.5	46,500	95
100	8.7	109.8	47,400	28.8	130.3	45,600	39.8	138.1	43,600	100
105				18.6	118.9	42,800	32.9	131.3	41,100	105
110							24.4	122.2	38,700	110
115							10.8	106.4	36,500	115

# 14000 S-3

ASME B30.5

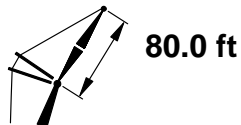
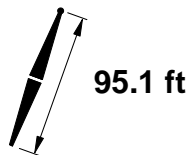


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
32	75.0	180.1	100,700*c						32	
34	73.5	179.6	100,700*c						34	
36	72.0	179.0	100,600*c						36	
38	70.5	178.3	99,900*c						38	
40	68.9	177.5	97,900*c						40	
45	65.0	175.4	93,200*b	70.1	177.4	100,000*c			45	
50	61.0	172.9	89,000*b	66.3	175.4	95,300*b			50	
55	56.8	169.8	85,100*	62.3	173.0	91,000*b	66.2	174.5	95,300*b	
60	52.4	166.3	81,700*	58.2	170.1	87,100*b	62.2	172.1	91,100*b	
65	47.8	162.1	78,500*	53.9	166.8	83,500*	58.1	169.2	84,200b	
70	42.7	157.2	71,900*	49.3	162.8	78,700	53.8	165.8	76,800	
75	37.1	151.2	65,600*	44.4	158.1	72,300	49.2	161.9	70,500	
80	30.7	143.7	60,200*	39.0	152.5	66,700	44.3	157.2	65,100	
85	22.8	133.8	55,600*	32.9	145.6	61,900*	38.9	151.5	60,400	
90	10.0	116.8	43,900*	25.6	136.7	57,000*	32.8	144.6	56,300	
95				15.3	123.2	51,100*	25.4	135.6	52,600	
100							15.0	122.0	49,300	
105									105	
110									110	
115									115	
120									120	
125									125	



# 14000 S-3

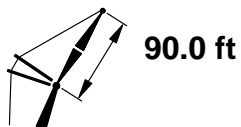
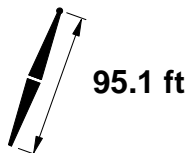
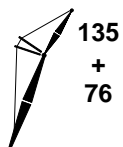
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
32									32	
34									34	
36									36	
38									38	
40									40	
45									45	
50									50	
55									55	
60									60	
65									65	
70	60.7	169.0	73,600 <sup>b</sup>						70	
75	56.5	166.0	67,600						75	
80	52.0	162.4	62,400						80	
85	47.4	158.1	57,900	54.6	161.8	55,400			85	
90	42.3	153.1	53,900	50.1	158.0	51,600			90	
95	36.6	147.0	50,400	45.2	153.4	48,300	52.5	156.7	46,100	95
100	30.1	139.4	47,300	39.9	148.0	45,300	47.8	152.5	43,300	100
105	21.9	129.2	44,500	34.0	141.3	42,600	42.7	147.6	40,700	105
110	8.1	110.6	41,900	26.9	132.8	40,200	37.2	141.6	38,400	110
115				17.4	120.5	37,900	30.8	134.2	36,300	115
120							22.8	124.3	34,300	120
125							10.1	107.3	32,500	125

# 14000 S-3

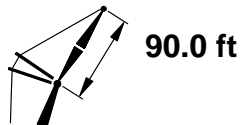
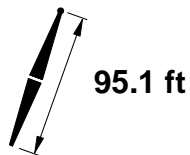
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
36	74.0	189.4	89,200*c							36
38	72.7	188.8	87,400*c							38
40	71.4	188.2	85,700*c							40
45	68.0	186.3	81,800*b							45
50	64.5	184.1	78,000*b	69.1	186.2	83,400*b				50
55	60.9	181.5	74,700*	65.6	184.1	79,700*b				55
60	57.2	178.5	71,500*	62.1	181.7	76,400*b	65.5	183.2	79,800*b	60
65	53.3	175.1	68,700*	58.4	178.8	73,200*	62.0	180.8	76,400*b	65
70	49.2	171.0	66,200*	54.6	175.5	70,300*	58.3	177.9	73,400*	70
75	44.9	166.4	63,800*	50.6	171.7	67,600*	54.5	174.6	70,300	75
80	40.2	160.9	60,700*	46.3	167.2	65,200*	50.5	170.7	64,900	80
85	34.9	154.4	56,000*	41.7	162.0	61,800	46.2	166.3	60,300	85
90	28.9	146.4	51,900*	36.7	155.9	57,400*	41.6	161.1	56,200	90
95	21.4	135.8	48,200*	31.0	148.5	53,100*	36.6	154.9	52,500	95
100	9.5	117.7	38,600*	24.1	138.9	49,400*	30.9	147.4	49,300	100
105				14.4	124.5	44,900*	23.9	137.8	46,400	105
110							14.2	123.3	43,700	110
115										115
120										120
125										125
130										130
135										135

# 14000 S-3

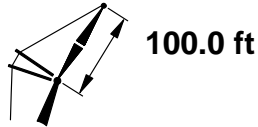
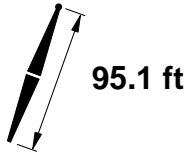
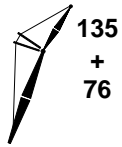
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75	60.6	177.7	67,300							75
80	56.9	174.7	62,200							80
85	53.0	171.2	57,700							85
90	48.9	167.1	53,800	55.2	170.5	51,400				90
95	44.5	162.4	50,300	51.2	166.8	48,100				95
100	39.7	156.8	47,200	47.0	162.5	45,100				100
105	34.5	150.2	44,400	42.5	157.4	42,400	49.3	161.4	40,500	105
110	28.4	142.0	41,900	37.6	151.5	40,000	44.9	156.8	38,200	110
115	20.7	131.1	39,600	32.0	144.3	37,800	40.2	151.3	36,100	115
120	7.6	111.3	37,400	25.3	135.1	35,800	35.0	144.8	34,200	120
125				16.4	122.0	34,000	29.0	136.8	32,400	125
130							21.5	126.2	30,800	130
135							9.6	108.2	29,300	135

# 14000 S-3

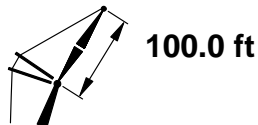
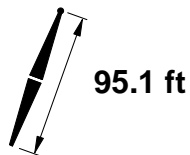
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
38	74.5	199.2	81,900*c						38	
40	73.3	198.7	80,300*c						40	
45	70.3	197.0	76,500*b						45	
50	67.2	195.1	72,800*b						50	
55	64.0	192.8	69,500*	68.2	195.0	74,400*b			55	
60	60.8	190.2	66,500*	65.1	192.8	71,100*b			60	
65	57.5	187.2	63,600*	61.9	190.3	67,900*	65.0	191.9	71,100*b	65
70	54.0	183.8	60,900*	58.6	187.5	65,000*	61.8	189.4	68,000*	70
75	50.4	179.9	58,500*	55.1	184.2	62,300*	58.5	186.6	65,200*	75
80	46.6	175.5	56,200*	51.6	180.5	59,800*	55.1	183.3	62,500*	80
85	42.5	170.4	54,100*	47.8	176.2	57,400*	51.5	179.5	60,000	85
90	38.0	164.5	51,600*	43.8	171.4	55,300*	47.7	175.3	55,900	90
95	33.1	157.5	48,000*	39.5	165.7	52,800*	43.7	170.4	52,300	95
100	27.4	148.9	44,800*	34.7	159.1	49,100*	39.4	164.8	49,000	100
105	20.3	137.6	41,800*	29.3	151.1	45,800*	34.7	158.2	46,100	105
110	9.0	118.5	34,500*	22.8	140.9	42,800*	29.2	150.1	43,500	110
115				13.7	125.8	39,900*	22.7	139.9	41,100	115
120							13.4	124.5	38,900	120
125										125
130										130
135										135
140										140
145										145

# 14000 S-3

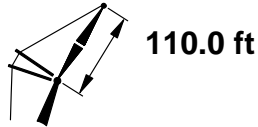
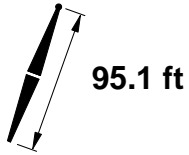
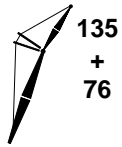
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
38									38	
40									40	
45									45	
50									50	
55									55	
60									60	
65									65	
70									70	
75									75	
80	60.5	186.4	61,800						80	
85	57.2	183.3	57,400						85	
90	53.7	179.9	53,400						90	
95	50.1	176.0	50,000	55.7	179.2	47,700			95	
100	46.2	171.5	46,900	52.2	175.6	44,700			100	
105	42.1	166.3	44,100	48.4	171.4	42,100			105	
110	37.6	160.4	41,600	44.5	166.7	39,700	50.4	170.3	37,800	110
115	32.6	153.3	39,300	40.2	161.2	37,500	46.6	165.9	35,700	115
120	26.9	144.5	37,200	35.6	154.8	35,500	42.5	160.8	33,900	120
125	19.6	132.9	35,300	30.3	147.1	33,700	38.0	154.9	32,100	125
130	7.2	111.9	33,500	24.0	137.3	32,000	33.1	147.9	30,500	130
135				15.5	123.4	30,400	27.4	139.3	29,000	135
140							20.4	128.1	27,600	140
145							9.1	109.0	26,300	145

# 14000 S-3

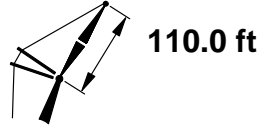
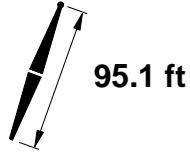
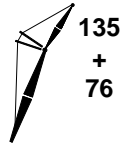
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
40	74.8	209.1	74,500 <sup>c</sup>						40	
45	72.1	207.6	71,500 <sup>b</sup>						45	
50	69.4	205.8	68,700 <sup>b</sup>						50	
55	66.6	203.8	66,100*	70.3	205.7	69,800 <sup>b</sup>			55	
60	63.7	201.5	63,500*	67.5	203.7	67,200*			60	
65	60.7	198.8	61,100*	64.6	201.5	64,700*	67.4	202.9	67,100*	65
70	57.7	195.9	58,700*	61.7	199.0	62,300*	64.6	200.6	64,700*	70
75	54.6	192.5	56,300*	58.7	196.1	59,900*	61.6	198.1	62,300*	75
80	51.3	188.7	54,100*	55.6	192.9	57,400*	58.6	195.2	60,000*	80
85	47.9	184.5	52,100*	52.4	189.3	55,200*	55.5	192.0	57,600*	85
90	44.3	179.7	50,200*	49.0	185.2	53,200*	52.3	188.3	55,400*	90
95	40.4	174.2	48,500*	45.5	180.5	51,200*	48.9	184.2	52,200	95
100	36.2	167.8	45,100*	41.7	175.3	49,400*	45.4	179.6	49,000	100
105	31.5	160.4	42,100*	37.6	169.2	46,300*	41.6	174.3	46,100	105
110	26.1	151.3	39,300*	33.1	162.2	43,100*	37.5	168.3	43,500	110
115	19.4	139.4	36,800*	27.9	153.7	40,300*	33.0	161.2	41,200	115
120	8.6	119.2	29,400*	21.7	142.9	37,700*	27.8	152.7	39,000	120
125				13.0	126.9	34,500*	21.6	141.8	37,000	125
130							12.8	125.7	35,200	130
135									135	
140									140	
145									145	
150									150	
155									155	

# 14000 S-3

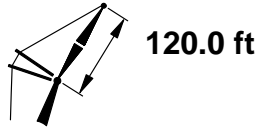
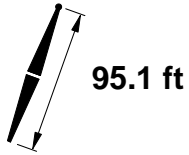
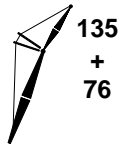
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85	60.5	195.0	57,300							85
90	57.4	192.0	53,400							90
95	54.3	188.6	49,900							95
100	51.0	184.8	46,800	56.1	187.9	44,700				100
105	47.6	180.5	44,100	52.9	184.4	42,000				105
110	43.9	175.6	41,600	49.6	180.3	39,700				110
115	40.1	170.1	39,300	46.1	175.8	37,500	51.3	179.1	35,700	115
120	35.8	163.7	37,300	42.3	170.7	35,500	47.9	174.9	33,800	120
125	31.1	156.1	35,400	38.3	164.8	33,700	44.3	170.1	32,100	125
130	25.6	146.8	33,600	33.9	157.9	32,000	40.4	164.6	30,500	130
135	18.7	134.5	32,000	28.9	149.7	30,500	36.2	158.3	29,000	135
140	6.9	112.5	30,400	22.9	139.4	29,100	31.5	150.8	27,700	140
145				14.8	124.7	27,700	26.1	141.7	26,400	145
150							19.4	129.8	25,200	150
155							8.6	109.8	24,100	155

# 14000 S-3

ASME B30.5

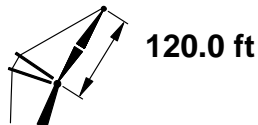
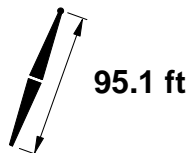


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
45	73.7	218.0	66,300* <b>b</b>						45	
50	71.2	216.4	63,500* <b>b</b>						50	
55	68.6	214.6	61,000*						55	
60	66.0	212.5	58,500*	69.4	214.5	62,000*			60	
65	63.4	210.2	56,200*	66.9	212.5	59,600*			65	
70	60.7	207.5	54,000*	64.2	210.2	57,200*	66.8	211.6	59,400*	70
75	57.9	204.5	51,900*	61.6	207.7	55,000*	64.2	209.3	57,200*	75
80	55.0	201.2	49,800*	58.8	204.8	52,900*	61.5	206.8	55,100*	80
85	52.1	197.5	47,900*	56.0	201.6	50,800*	58.7	203.9	52,900*	85
90	49.0	193.4	46,000*	53.0	198.0	48,900*	55.9	200.7	51,000*	90
95	45.7	188.8	44,200*	50.0	194.0	46,900*	53.0	197.1	49,000*	95
100	42.3	183.6	42,400*	46.8	189.6	45,000*	49.9	193.1	47,000*	100
105	38.6	177.8	40,900*	43.4	184.6	43,300*	46.7	188.7	45,100*	105
110	34.6	171.0	39,300*	39.8	179.0	41,600*	43.4	183.7	43,200*	110
115	30.1	163.1	36,800*	35.9	172.6	40,200*	39.8	178.0	40,900*	115
120	25.0	153.6	34,600*	31.6	165.1	37,700*	35.9	171.6	38,800*	120
125	18.5	141.0	32,500*	26.7	156.1	35,400*	31.6	164.1	36,800*	125
130	8.2	120.0	26,100*	20.8	144.8	33,200*	26.6	155.1	35,000*	130
135				12.5	128.0	30,600*	20.7	143.7	33,200*	135
140							12.3	126.8	31,200*	140
145										145
150										150
155										155
160										160
165										165



# 14000 S-3

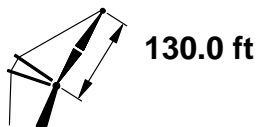
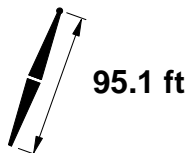
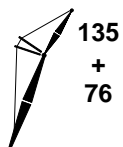
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	60.4	203.7	53,000							90
95	57.7	200.7	49,600							95
100	54.8	197.3	46,500							100
105	51.8	193.6	43,700	56.4	196.6	41,700				105
110	48.7	189.5	41,300	53.5	193.1	39,300				110
115	45.4	184.8	39,000	50.5	189.2	37,100				115
120	42.0	179.6	37,000	47.3	184.8	35,200	52.1	187.9	33,400	120
125	38.3	173.6	35,100	44.0	180.0	33,400	49.0	183.8	31,700	125
130	34.2	166.8	33,300	40.4	174.4	31,700	45.7	179.2	30,100	130
135	29.7	158.8	31,700	36.6	168.2	30,200	42.3	174.0	28,700	135
140	24.5	149.1	30,300	32.4	160.9	28,800	38.6	168.2	27,300	140
145	17.9	136.2	28,900	27.6	152.2	27,500	34.6	161.4	26,100	145
150	6.6	113.1	27,500	21.9	141.4	26,200	30.2	153.6	24,900	150
155				14.2	126.0	25,100	25.0	144.0	23,800	155
160							18.6	131.5	22,800	160
165							8.3	110.5	21,800	165

# 14000 S-3

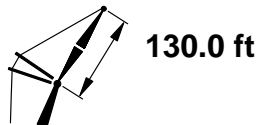
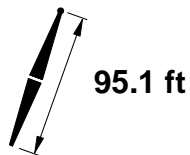
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	74.9	228.4	51,400* <sup>b</sup>							45
50	72.7	227.0	50,400* <sup>b</sup>							50
55	70.3	225.3	49,300*							55
60	68.0	223.4	48,400*							60
65	65.6	221.2	47,500*	68.7	223.3	49,000*				65
70	63.1	218.8	46,300*	66.3	221.2	48,100*				70
75	60.6	216.2	44,500*	63.9	218.9	47,100*	66.3	220.3	48,000*	75
80	58.1	213.2	42,700*	61.4	216.3	45,200*	63.9	218.0	47,000*	80
85	55.4	209.9	41,000*	58.9	213.4	43,500*	61.4	215.4	45,200*	85
90	52.7	206.3	39,400*	56.3	210.3	41,800*	58.8	212.5	43,500*	90
95	49.9	202.3	37,900*	53.6	206.8	40,200*	56.2	209.4	41,800*	95
100	46.9	197.9	36,400*	50.8	202.9	38,600*	53.5	205.8	40,200*	100
105	43.8	192.9	35,100*	47.9	198.6	37,100*	50.7	202.0	38,700*	105
110	40.6	187.4	33,700*	44.8	193.8	35,700*	47.8	197.7	37,200*	110
115	37.0	181.2	32,600*	41.6	188.5	34,400*	44.8	192.9	35,800*	115
120	33.2	174.1	31,500*	38.2	182.5	33,200*	41.6	187.5	34,500*	120
125	28.9	165.8	30,400*	34.5	175.7	32,000*	38.1	181.6	33,200*	125
130	24.0	155.7	29,500*	30.4	167.9	30,900*	34.4	174.7	32,100*	130
135	17.8	142.6	28,800*	25.7	158.5	29,900*	30.3	166.8	31,000*	135
140	7.9	120.7	23,400*	20.0	146.6	29,100*	25.6	157.4	30,000*	140
145				12.0	129.1	27,500*	19.9	145.5	29,200*	145
150							11.8	127.8	28,000*	150
155										155
160										160
165										165
170										170
175										175

# 14000 S-3

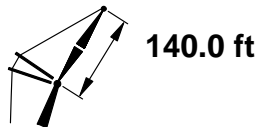
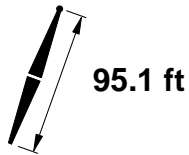
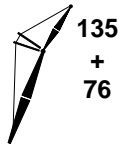
ASME B30.5



ft	75°			70°			65°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	62.9	215.0	45,900*							90
95	60.4	212.3	44,300*							95
100	57.8	209.4	42,700*							100
105	55.2	206.1	41,100*							105
110	52.5	202.4	39,600*	56.7	205.3	39,000				110
115	49.6	198.4	38,100*	54.0	201.8	36,900				115
120	46.7	193.9	36,700*	51.3	198.0	34,900				120
125	43.6	188.9	34,900	48.4	193.8	33,100	52.7	196.7	31,500	125
130	40.3	183.3	33,100	45.4	189.1	31,500	49.9	192.7	29,900	130
135	36.7	177.0	31,600	42.2	183.9	30,000	46.9	188.3	28,400	135
140	32.9	169.8	30,100	38.8	178.0	28,600	43.9	183.3	27,100	140
145	28.5	161.4	28,700	35.1	171.4	27,300	40.6	177.8	25,900	145
150	23.5	151.2	27,400	31.1	163.7	26,100	37.1	171.6	24,700	150
155	17.2	137.7	26,200	26.5	154.6	24,900	33.2	164.5	23,600	155
160	6.3	113.7	25,100	21.0	143.3	23,900	29.0	156.2	22,600	160
165				13.6	127.2	22,800	24.0	146.2	21,600	165
170							17.8	133.1	20,700	170
175							7.9	111.2	19,800	175

# 14000 S-3

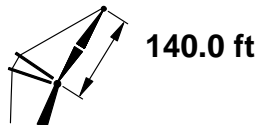
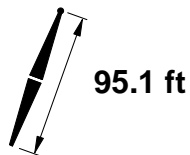
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50	73.9	237.4	47,200* <sup>b</sup>							50
55	71.8	235.9	46,300*							55
60	69.6	234.1	45,400*							60
65	67.4	232.1	44,400*	70.3	234.0	45,800*				65
70	65.2	229.9	42,500*	68.1	232.1	45,100*				70
75	62.9	227.5	40,800*	65.9	229.9	43,200*				75
80	60.6	224.8	39,100*	63.6	227.6	41,500*	65.9	229.0	43,100*	80
85	58.2	221.9	37,500*	61.3	225.0	39,800*	63.6	226.7	41,400*	85
90	55.8	218.6	35,900*	59.0	222.1	38,200*	61.3	224.1	39,800*	90
95	53.2	215.1	34,400*	56.6	219.0	36,600*	58.9	221.2	38,200*	95
100	50.7	211.1	33,000*	54.1	215.5	35,100*	56.5	218.0	36,600*	100
105	48.0	206.8	31,600*	51.5	211.7	33,700*	54.0	214.6	35,100*	105
110	45.1	202.1	30,300*	48.8	207.5	32,200*	51.4	210.8	33,700*	110
115	42.2	196.9	29,100*	46.0	202.9	30,900*	48.8	206.6	32,300*	115
120	39.0	191.0	27,900*	43.1	197.9	29,700*	46.0	202.0	31,000*	120
125	35.6	184.5	26,800*	40.1	192.2	28,500*	43.1	196.9	29,700*	125
130	32.0	177.0	25,800*	36.8	185.9	27,400*	40.0	191.3	28,500*	130
135	27.9	168.3	24,900*	33.2	178.8	26,300*	36.7	184.9	27,400*	135
140	23.1	157.8	24,000*	29.2	170.5	25,300*	33.1	177.8	26,300*	140
145	17.2	144.2	23,300*	24.7	160.7	24,400*	29.2	169.5	25,400*	145
150	7.6	121.4	20,800*	19.3	148.3	23,600*	24.6	159.6	24,500*	150
155				11.5	130.1	23,100*	19.1	147.2	23,700*	155
160							11.3	128.8	23,200*	160
165										165
170										170
175										175
180										180
185										185

# 14000 S-3

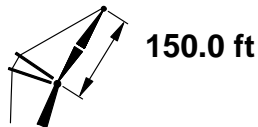
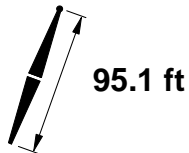
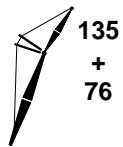
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	62.7	223.7	40,500*							95
100	60.4	221.0	38,900*							100
105	58.0	218.0	37,400*							105
110	55.6	214.8	36,000*							110
115	53.0	211.2	34,500*	57.0	214.0	36,400*				115
120	50.4	207.2	33,200*	54.5	210.6	34,600				120
125	47.7	202.9	31,800*	51.9	206.8	32,800				125
130	44.9	198.1	30,600*	49.3	202.7	31,200				130
135	41.9	192.8	29,300*	46.5	198.2	29,600	50.7	201.5	28,100	135
140	38.7	186.9	28,200*	43.6	193.2	28,200	48.0	197.2	26,700	140
145	35.3	180.3	27,100*	40.6	187.7	27,000	45.1	192.5	25,500	145
150	31.6	172.7	26,100*	37.3	181.5	25,700	42.2	187.3	24,400	150
155	27.5	163.9	25,100*	33.8	174.5	24,600	39.0	181.4	23,300	155
160	22.7	153.2	24,300*	29.9	166.4	23,600	35.7	174.9	22,300	160
165	16.5	139.2	23,600*	25.5	156.9	22,600	32.0	167.4	21,300	165
170	6.1	114.2	22,800	20.3	145.1	21,600	27.9	158.7	20,400	170
175				13.1	128.4	20,700	23.1	148.2	19,600	175
180							17.2	134.6	18,800	180
185							7.7	111.9	18,000	185

# 14000 S-3

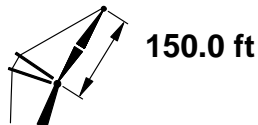
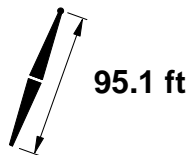
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	73.0	246.4	43,300*						55	
60	71.0	244.7	42,500*						60	
65	69.0	242.9	41,000*						65	
70	66.9	240.9	39,300*	69.7	242.8	41,600*			70	
75	64.8	238.7	37,600*	67.6	240.8	39,900*			75	
80	62.7	236.2	36,000*	65.5	238.7	38,300*	67.6	239.9	39,800*	
85	60.5	233.5	34,400*	63.4	236.3	36,600*	65.5	237.8	38,200*	
90	58.3	230.5	32,900*	61.2	233.6	35,100*	63.4	235.4	36,500*	
95	56.1	227.3	31,500*	59.0	230.8	33,500*	61.2	232.7	35,000*	
100	53.7	223.8	30,100*	56.8	227.6	32,100*	59.0	229.9	33,500*	
105	51.3	220.0	28,800*	54.5	224.2	30,700*	56.7	226.7	32,100*	
110	48.8	215.8	27,500*	52.1	220.5	29,400*	54.4	223.3	30,700*	
115	46.2	211.2	26,300*	49.6	216.4	28,100*	52.0	219.6	29,400*	
120	43.5	206.2	25,200*	47.1	212.0	26,800*	49.6	215.5	28,100*	
125	40.7	200.6	24,100*	44.4	207.1	25,700*	47.0	211.0	26,900*	
130	37.6	194.5	23,000*	41.6	201.7	24,500*	44.4	206.2	25,700*	
135	34.4	187.6	22,100*	38.6	195.8	23,500*	41.6	200.8	24,600*	
140	30.9	179.8	21,100*	35.5	189.2	22,500*	38.6	194.8	23,600*	
145	26.9	170.7	20,300*	32.0	181.7	21,600*	35.4	188.2	22,500*	
150	22.3	159.8	19,600*	28.2	173.1	20,600*	32.0	180.7	21,600*	
155	16.6	145.6	18,800*	23.9	162.8	19,900*	28.1	172.0	20,700*	
160	7.3	122.0	18,400*	18.6	150.0	19,200*	23.8	161.8	19,900*	
165				11.1	131.1	18,600*	18.5	148.8	19,200*	
170							11.0	129.8	18,600*	
175									175	
180									180	
185									185	
190									190	
195									195	

# 14000 S-3

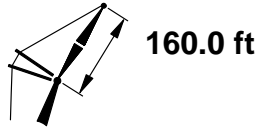
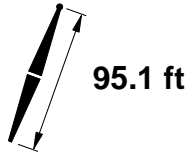
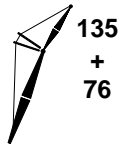
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
55									55	
60									60	
65									65	
70									70	
75									75	
80									80	
85									85	
90									90	
95									95	
100	62.5	232.4	35,700*						100	
105	60.4	229.7	34,300*						105	
110	58.1	226.7	32,900*						110	
115	55.9	223.4	31,500*						115	
120	53.5	219.9	30,200*	57.2	222.7	32,000*			120	
125	51.1	216.0	28,900*	54.9	219.3	30,700*			125	
130	48.6	211.8	27,700*	52.5	215.6	29,500*			130	
135	46.0	207.2	26,500*	50.0	211.6	28,300*			135	
140	43.3	202.1	25,300*	47.5	207.2	27,100*	51.3	210.4	26,600	
145	40.4	196.6	24,200*	44.9	202.4	25,900*	48.8	206.2	25,400	
150	37.4	190.4	23,200*	42.1	197.1	24,900*	46.2	201.6	24,300	
155	34.1	183.4	22,300*	39.1	191.3	23,800*	43.5	196.6	23,200	
160	30.5	175.5	21,300*	36.0	184.8	22,800*	40.7	191.0	22,200	
165	26.5	166.3	20,500*	32.6	177.5	21,900*	37.7	184.9	21,200	
170	21.9	155.2	19,700*	28.9	169.1	21,000*	34.4	178.0	20,400	
175	16.0	140.6	19,000*	24.6	159.2	20,100*	30.9	170.2	19,500	
180	5.9	114.7	18,600*	19.6	146.8	19,500*	26.9	161.2	18,700	
185				12.7	129.5	18,800*	22.3	150.3	18,000	
190							16.6	136.1	17,300	
195							7.4	112.6	16,600	

# 14000 S-3

ASME B30.5

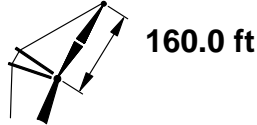
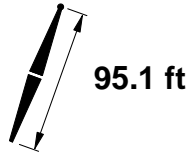
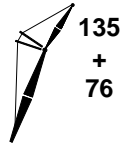


ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
55	74.1	256.8	40,300*							55
60	72.3	255.3	39,300*							60
65	70.4	253.6	37,500*							65
70	68.5	251.7	35,900*	71.0	253.4	38,100*				70
75	66.5	249.6	34,300*	69.1	251.6	36,400*				75
80	64.5	247.3	32,800*	67.1	249.6	34,900*				80
85	62.5	244.9	31,300*	65.2	247.4	33,400*	67.1	248.7	34,800*	85
90	60.5	242.1	29,800*	63.2	244.9	31,900*	65.1	246.5	33,200*	90
95	58.4	239.2	28,400*	61.2	242.3	30,300*	63.2	244.0	31,800*	95
100	56.3	236.0	27,100*	59.1	239.4	29,000*	61.1	241.4	30,400*	100
105	54.1	232.5	25,800*	57.0	236.3	27,600*	59.1	238.5	29,000*	105
110	51.9	228.8	24,500*	54.8	232.9	26,300*	57.0	235.4	27,600*	110
115	49.6	224.7	23,400*	52.6	229.3	25,100*	54.8	232.0	26,300*	115
120	47.2	220.2	22,300*	50.3	225.3	23,900*	52.6	228.3	25,100*	120
125	44.7	215.4	21,200*	48.0	221.0	22,700*	50.3	224.3	23,900*	125
130	42.1	210.1	20,100*	45.5	216.2	21,600*	47.9	220.0	22,700*	130
135	39.3	204.3	19,200*	42.9	211.1	20,600*	45.4	215.3	21,600*	135
140	36.4	197.8	18,200*	40.2	205.5	19,600*	42.9	210.1	20,600*	140
145	33.3	190.7	17,400*	37.4	199.2	18,600*	40.2	204.5	19,600*	145
150	29.9	182.5	16,600*	34.3	192.3	17,700*	37.3	198.3	18,700*	150
155	26.0	173.1	15,800*	31.0	184.5	16,900*	34.2	191.3	17,800*	155
160	21.6	161.8	15,100*	27.3	175.5	16,100*	30.9	183.5	16,900*	160
165	16.0	147.1	14,500*	23.1	164.9	15,300*	27.2	174.5	16,100*	165
170	7.1	122.6	13,700*	18.0	151.6	14,700*	23.0	163.9	15,400*	170
175				10.8	132.1	13,900*	17.9	150.4	14,800*	175
180							10.6	130.8	14,000*	180
185										185
190										190
195										195
200										200
205										205



# 14000 S-3

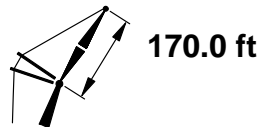
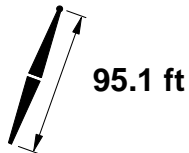
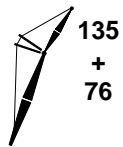
ASME B30.5



ft	75°			70°			65°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	62.4	241.1	31,000*							110
115	60.3	238.3	29,700*							115
120	58.3	235.4	28,400*							120
125	56.1	232.1	27,100*							125
130	53.9	228.6	25,800*	57.3	231.3	27,500*				130
135	51.7	224.8	24,600*	55.2	228.0	26,300*				135
140	49.4	220.7	23,500*	53.0	224.4	25,200*				140
145	47.0	216.2	22,300*	50.7	220.4	24,000*				145
150	44.5	211.4	21,300*	48.3	216.2	22,900*	51.9	219.2	24,400*	150
155	41.8	206.0	20,200*	45.9	211.5	21,900*	49.6	215.1	23,300*	155
160	39.1	200.2	19,300*	43.4	206.5	20,800*	47.2	210.6	22,300*	160
165	36.2	193.7	18,400*	40.7	200.9	19,900*	44.7	205.8	21,300*	165
170	33.0	186.4	17,500*	37.9	194.8	18,900*	42.1	200.5	20,300*	170
175	29.5	178.2	16,700*	34.8	188.0	18,000*	39.3	194.7	19,400*	175
180	25.7	168.6	15,900*	31.6	180.3	17,200*	36.4	188.3	18,400*	180
185	21.2	157.1	15,200*	27.9	171.6	16,400*	33.3	181.1	17,600*	185
190	15.5	142.0	14,500*	23.8	161.3	15,600*	29.9	172.9	16,800*	190
195	5.7	115.2	13,700*	18.9	148.5	14,900*	26.0	163.5	16,000*	195
200				12.3	130.6	14,200*	21.6	152.2	15,400*	200
205							16.1	137.5	14,600*	205
							7.2	113.2	13,800*	205

# 14000 S-3

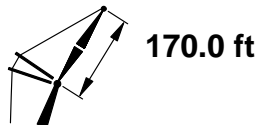
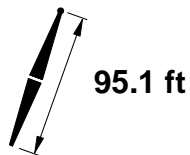
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60	73.3	265.7	36,200*							60
65	71.6	264.2	34,600*							65
70	69.8	262.4	33,100*							70
75	68.0	260.5	31,600*	70.4	262.2	33,600*				75
80	66.1	258.4	30,100*	68.6	260.4	32,100*				80
85	64.3	256.0	28,700*	66.7	258.3	30,600*				85
90	62.4	253.5	27,300*	64.9	256.1	29,200*	66.7	257.4	30,500*	90
95	60.5	250.8	26,000*	63.0	253.6	27,800*	64.8	255.2	29,100*	95
100	58.5	247.9	24,700*	61.1	251.0	26,500*	63.0	252.7	27,700*	100
105	56.5	244.7	23,400*	59.2	248.1	25,200*	61.1	250.1	26,400*	105
110	54.5	241.2	22,300*	57.2	245.0	23,900*	59.1	247.2	25,100*	110
115	52.4	237.5	21,100*	55.1	241.6	22,700*	57.1	244.1	23,900*	115
120	50.2	233.5	20,100*	53.1	238.0	21,600*	55.1	240.7	22,800*	120
125	48.0	229.2	19,000*	50.9	234.1	20,500*	53.0	237.1	21,600*	125
130	45.7	224.5	18,000*	48.7	229.9	19,400*	50.9	233.2	20,500*	130
135	43.3	219.4	17,000*	46.4	225.3	18,400*	48.7	229.0	19,400*	135
140	40.8	213.9	16,200*	44.1	220.4	17,400*	46.4	224.4	18,400*	140
145	38.1	207.8	15,300*	41.6	215.0	16,500*	44.0	219.4	17,400*	145
150	35.3	201.1	14,500*	39.0	209.1	15,700*	41.5	214.0	16,500*	150
155	32.3	193.6	13,700*	36.2	202.6	14,800*	38.9	208.1	15,700*	155
160	28.9	185.1	12,800*	33.3	195.4	14,100*	36.2	201.6	14,800*	160
165	25.2	175.4	11,900*	30.0	187.2	13,200*	33.2	194.4	14,100*	165
170	20.9	163.6	11,100*	26.5	177.9	12,200*	30.0	186.2	13,200*	170
175	15.6	148.5	10,300*	22.4	166.9	11,400*	26.4	176.9	12,200*	175
180	6.9	123.2	9,700*	17.5	153.1	10,600*	22.3	165.9	11,400*	180
185				10.5	133.0	9,900*	17.4	152.0	10,600*	185
190							10.3	131.7	9,900*	190
195										195
200										200
205										205
210										210
215										215

# 14000 S-3

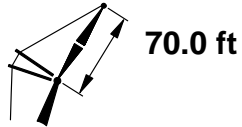
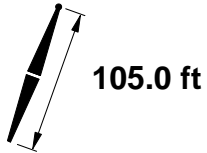
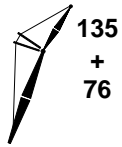
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	62.2	249.7	27,100*							110
115	60.3	247.0	25,800*							115
120	58.4	244.0	24,600*							120
125	56.4	240.8	23,400*							125
130	54.3	237.4	22,200*	57.5	240.0	23,900*				130
135	52.2	233.6	21,200*	55.5	236.7	22,800*				135
140	50.0	229.6	20,100*	53.4	233.1	21,700*				140
145	47.8	225.2	19,000*	51.3	229.3	20,600*				145
150	45.5	220.5	18,100*	49.1	225.1	19,600*	52.4	227.9	21,000*	150
155	43.1	215.4	17,200*	46.8	220.6	18,600*	50.2	223.9	20,000*	155
160	40.5	209.8	16,200*	44.5	215.7	17,600*	48.0	219.6	19,000*	160
165	37.9	203.7	15,400*	42.0	210.4	16,800*	45.7	214.9	18,100*	165
170	35.0	196.9	14,500*	39.4	204.6	15,900*	43.3	209.8	17,100*	170
175	32.0	189.3	13,800*	36.7	198.2	15,000*	40.8	204.3	16,300*	175
180	28.6	180.8	12,800*	33.8	191.1	14,300*	38.1	198.2	15,500*	180
185	24.9	170.9	11,900*	30.6	183.1	13,400*	35.3	191.5	14,700*	185
190	20.5	158.9	11,100*	27.1	174.0	12,500*	32.3	184.0	13,900*	190
195	15.0	143.3	10,300*	23.1	163.4	11,600*	29.0	175.6	12,900*	195
200	5.6	115.7	9,700*	18.4	150.2	10,800*	25.3	165.8	12,100*	200
205				11.9	131.7	10,100*	21.0	154.1	11,200*	205
210							15.6	138.9	10,400*	210
215							6.9	113.8	9,800*	215

# 14000 S-3

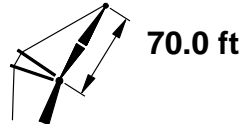
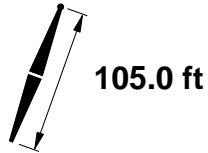
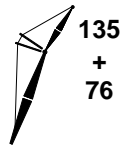
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
30	74.9	180.3	107,300*d						30	
32	73.2	179.7	107,300*d						32	
34	71.5	179.1	107,300*c						34	
36	69.7	178.4	107,300*c						36	
38	68.0	177.6	107,300*c						38	
40	66.2	176.8	105,600*c						40	
45	61.6	174.3	100,700*b	68.2	176.9	108,700*c			45	
50	56.9	171.3	96,300*b	63.7	174.7	103,600*b			50	
55	51.8	167.7	92,500*	59.1	172.0	98,600*b	64.1	174.0	102,200*b	
60	46.4	163.4	86,900*	54.2	168.7	91,400*b	59.5	171.3	92,600*b	
65	40.5	158.1	80,400*	49.0	164.7	85,000*	54.6	168.0	83,800*b	
70	33.7	151.5	72,700*	43.3	159.9	78,500	49.4	164.1	76,500	
75	25.4	142.7	66,300*	36.9	154.0	72,100	43.8	159.4	70,200	
80	12.8	128.2	52,200*	29.4	146.3	66,600	37.5	153.6	64,800	
85				19.5	135.3	61,700	30.1	146.1	60,200	
90							20.5	135.5	56,000	
95									95	
100									100	
105									105	
110									110	
115									115	
120									120	

# 14000 S-3

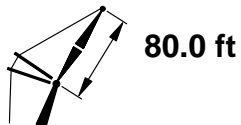
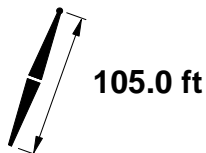
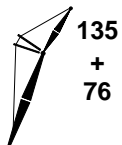
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
30										30
32										32
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70	58.4	168.5	73,000 <sup>b</sup>							70
75	53.5	165.1	67,100 <sup>b</sup>							75
80	48.2	161.0	61,900	57.1	164.7	59,100 <sup>b</sup>				80
85	42.4	156.1	57,500	52.1	161.1	54,800				85
90	36.0	149.9	53,600	46.7	156.8	51,100				90
95	28.3	142.0	50,100	40.8	151.6	47,800	50.4	156.1	45,500	95
100	17.8	130.2	46,900	34.1	145.1	44,800	44.9	151.6	42,700	100
105				25.9	136.4	42,100	38.8	146.0	40,100	105
110				13.8	122.6	39,600	31.6	138.9	37,800	110
115							22.7	129.2	35,700	115
120							6.2	109.7	33,700	120

# 14000 S-3

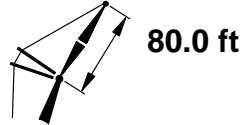
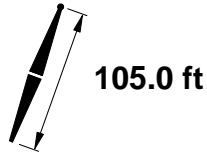
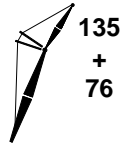
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
34	73.8	189.6	98,100*c							34
36	72.4	188.9	98,100*c							36
38	70.8	188.3	98,000*c							38
40	69.3	187.6	97,700*c							40
45	65.4	185.5	93,100*b							45
50	61.4	183.0	88,900*b	67.2	185.7	95,800*b				50
55	57.3	180.0	85,100*	63.3	183.4	91,500*b	67.6	184.9	96,100*b	55
60	52.9	176.5	81,700*	59.2	180.6	87,600*b	63.6	182.7	92,000*b	60
65	48.3	172.4	78,600*	54.9	177.4	83,500*	59.5	179.9	83,500*b	65
70	43.3	167.5	72,600*	50.4	173.6	78,000*	55.3	176.8	76,200	70
75	37.7	161.7	66,200*	45.6	169.1	71,900	50.8	173.0	69,900	75
80	31.4	154.4	60,800*	40.3	163.7	66,400	46.0	168.6	64,600	80
85	23.7	144.9	56,100*	34.4	157.2	61,600	40.8	163.3	59,900	85
90	12.0	129.3	45,900*	27.5	148.8	57,400	35.0	156.8	55,800	90
95				18.3	137.0	53,600	28.1	148.7	52,200	95
100							19.2	137.3	48,900	100
105										105
110										110
115										115
120										120
125										125
130										130

# 14000 S-3

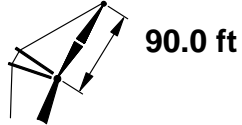
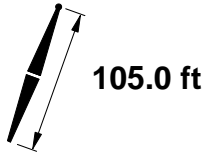
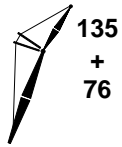
ASME B30.5



ft	75°			70°			65°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70	62.7	179.9	72,700b							70
75	58.6	177.1	66,700							75
80	54.3	173.8	61,600							80
85	49.8	169.9	57,200	57.5	173.3	54,400				85
90	44.9	165.3	53,300	53.2	169.9	50,700				90
95	39.6	159.8	49,800	48.5	165.8	47,400				95
100	33.6	153.1	46,700	43.6	161.0	44,500	51.7	165.0	42,300	100
105	26.4	144.4	43,900	38.1	155.2	41,800	47.0	160.7	39,800	105
110	16.6	131.7	41,400	31.8	148.0	39,400	41.9	155.6	37,500	110
115				24.2	138.6	37,300	36.2	149.4	35,400	115
120				12.9	123.7	35,200	29.6	141.6	33,500	120
125							21.2	131.1	31,800	125
130							5.8	110.2	30,100	130

# 14000 S-3

ASME B30.5

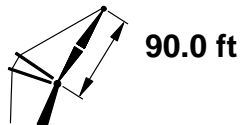
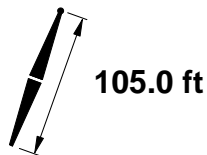


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
36	74.4	199.4	88,200*c						36	
38	73.0	198.8	87,100*c						38	
40	71.7	198.2	85,500*c						40	
45	68.3	196.3	81,600*b						45	
50	64.8	194.2	78,000*b	69.9	196.4	83,700*b			50	
55	61.3	191.6	74,700*	66.4	194.4	80,100*b			55	
60	57.6	188.7	71,600*	62.9	192.1	76,800*b	66.7	193.7	80,500*b	60
65	53.7	185.3	68,700*	59.3	189.3	73,600*	63.2	191.3	77,200*b	65
70	49.7	181.3	66,200*	55.5	186.1	70,800*	59.6	188.6	74,200*	70
75	45.3	176.7	63,900*	51.5	182.4	68,100*	55.8	185.4	69,800	75
80	40.7	171.4	61,200*	47.4	178.1	65,600*	51.9	181.8	64,400	80
85	35.5	165.0	56,400*	42.9	173.1	61,500	47.7	177.6	59,800	85
90	29.6	157.2	52,300*	37.9	167.3	57,300	43.3	172.7	55,700	90
95	22.3	146.9	48,600*	32.4	160.2	53,600	38.4	166.9	52,100	95
100	11.3	130.3	40,400*	25.9	151.2	50,200*	32.9	159.9	48,900	100
105				17.2	138.5	46,700*	26.5	151.1	46,000	105
110							18.1	138.9	43,400	110
115										115
120										120
125										125
130										130
135										135
140										140



# 14000 S-3

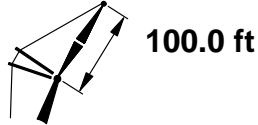
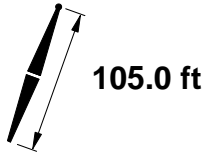
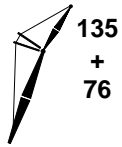
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75	62.4	188.6	66,500 <sup>b</sup>							75
80	58.8	185.8	61,400							80
85	55.0	182.5	57,000							85
90	51.0	178.7	53,100	57.8	182.0	50,500				90
95	46.8	174.4	49,600	53.9	178.6	47,200				95
100	42.2	169.3	46,600	49.9	174.7	44,300				100
105	37.2	163.3	43,800	45.6	170.2	41,600	52.7	173.7	39,500	105
110	31.6	156.0	41,300	41.0	164.9	39,300	48.5	169.6	37,300	110
115	24.9	146.7	39,100	35.8	158.5	37,100	44.1	164.9	35,200	115
120	15.7	133.1	37,000	30.0	150.8	35,200	39.4	159.3	33,400	120
125				22.8	140.7	33,300	34.0	152.5	31,700	125
130				12.2	124.8	31,600	27.8	144.2	30,100	130
135							20.0	132.9	28,600	135
140							5.5	110.7	27,100	140

# 14000 S-3

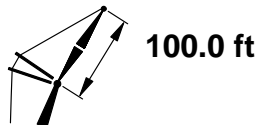
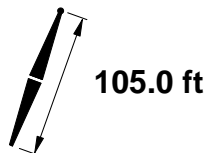
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
38	74.8	209.2	80,500*c							38
40	73.6	208.6	80,000*c							40
45	70.6	207.0	76,300*b							45
50	67.5	205.1	72,800*b							50
55	64.4	202.9	69,500*	68.9	205.2	74,700*b				55
60	61.1	200.3	66,500*	65.8	203.1	71,400*b				60
65	57.8	197.3	63,600*	62.6	200.7	68,400*	66.1	202.4	71,700*b	65
70	54.4	194.0	61,000*	59.4	198.0	65,500*	62.9	200.0	68,700*	70
75	50.8	190.2	58,600*	56.0	194.8	62,800*	59.6	197.3	65,900*	75
80	47.0	185.8	56,300*	52.4	191.2	60,200*	56.3	194.1	63,300*	80
85	42.9	180.8	54,300*	48.7	187.1	57,900*	52.7	190.6	59,500	85
90	38.5	175.0	52,000*	44.8	182.4	55,700*	49.0	186.5	55,400	90
95	33.6	168.1	48,300*	40.6	176.9	53,400	45.1	181.9	51,800	95
100	28.0	159.7	45,100*	35.9	170.6	49,900*	40.9	176.5	48,600	100
105	21.2	148.8	42,200*	30.7	163.0	46,500*	36.3	170.2	45,800	105
110	10.7	131.3	36,000*	24.5	153.4	43,500*	31.2	162.8	43,200	110
115				16.3	140.0	40,600*	25.1	153.4	40,800	115
120							17.2	140.5	38,600	120
125										125
130										130
135										135
140										140
145										145
150										150

# 14000 S-3

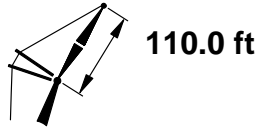
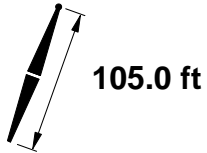
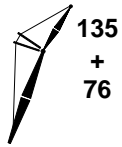
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80	62.2	197.3	61,000							80
85	58.9	194.4	56,600							85
90	55.5	191.2	52,700							90
95	51.9	187.5	49,300							95
100	48.2	183.4	46,200	54.6	187.4	43,900				100
105	44.2	178.6	43,500	51.0	183.6	41,300				105
110	40.0	173.0	41,000	47.2	179.2	38,900				110
115	35.3	166.5	38,800	43.1	174.2	36,800	49.8	178.5	34,800	115
120	29.9	158.7	36,700	38.8	168.5	34,800	45.9	174.0	33,000	120
125	23.6	148.8	34,800	33.9	161.7	33,100	41.8	168.8	31,300	125
130	14.9	134.5	33,100	28.4	153.4	31,400	37.3	162.7	29,700	130
135				21.6	142.7	29,900	32.2	155.5	28,300	135
140				11.5	125.9	28,400	26.4	146.6	26,900	140
145							18.9	134.6	25,700	145
150							5.2	111.2	24,400	150

# 14000 S-3

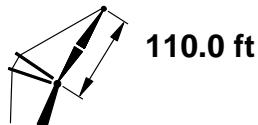
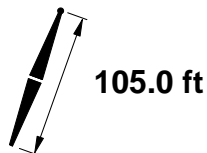
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
45	72.4	217.6	71,200* <b>b</b>						45	
50	69.7	215.8	68,400* <b>b</b>						50	
55	66.8	213.8	65,800*	70.9	215.9	69,800* <b>b</b>			55	
60	64.0	211.6	63,400*	68.1	214.0	67,300* <b>b</b>			60	
65	61.0	209.0	61,000*	65.3	211.9	64,900*			65	
70	58.0	206.0	58,700*	62.4	209.4	62,500*	65.5	211.1	65,000*	70
75	54.9	202.7	56,400*	59.4	206.6	60,300*	62.6	208.7	62,800*	75
80	51.6	199.0	54,300*	56.3	203.5	57,800*	59.7	205.9	60,600*	80
85	48.2	194.8	52,200*	53.2	199.9	55,600*	56.6	202.8	58,200*	85
90	44.7	190.0	50,300*	49.8	196.0	53,500*	53.4	199.3	55,400	90
95	40.8	184.6	48,600*	46.3	191.5	51,600*	50.1	195.4	51,800	95
100	36.6	178.4	45,500*	42.6	186.4	49,800*	46.6	190.9	48,600	100
105	32.0	171.0	42,500*	38.6	180.5	47,100	42.9	185.9	45,700	105
110	26.7	162.2	39,700*	34.2	173.8	43,900*	38.9	180.1	43,200	110
115	20.2	150.6	37,100*	29.3	165.7	41,000*	34.6	173.4	40,800	115
120	10.2	132.2	31,300*	23.4	155.6	38,300*	29.7	165.5	38,700	120
125				15.6	141.4	35,800*	23.9	155.6	36,700	125
130							16.3	141.9	34,900	130
135										135
140										140
145										145
150										150
155										155
160										160

# 14000 S-3

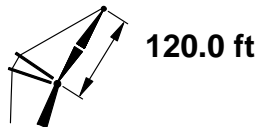
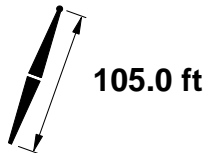
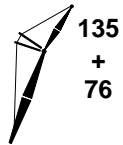
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
45									45	
50									50	
55									55	
60									60	
65									65	
70									70	
75									75	
80									80	
85	62.0	205.9	56,500						85	
90	59.0	203.1	52,600						90	
95	55.9	199.9	49,200						95	
100	52.7	196.3	46,200						100	
105	49.4	192.3	43,500	55.1	196.1	41,200			105	
110	45.8	187.7	41,000	51.8	192.4	38,900			110	
115	42.1	182.5	38,800	48.4	188.2	36,800			115	
120	38.0	176.6	36,700	44.9	183.5	34,800	50.8	187.4	32,900	120
125	33.6	169.6	34,900	41.0	178.1	33,000	47.3	183.0	31,300	125
130	28.5	161.3	33,200	36.9	171.9	31,400	43.7	178.1	29,700	130
135	22.5	150.8	31,600	32.3	164.7	29,900	39.7	172.5	28,300	135
140	14.2	135.7	30,100	27.0	155.9	28,500	35.5	166.0	27,000	140
145				20.6	144.5	27,200	30.7	158.3	25,700	145
150				11.0	126.9	25,900	25.1	148.9	24,600	150
155							18.0	136.2	23,500	155
160							4.9	111.6	22,400	160

# 14000 S-3

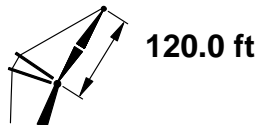
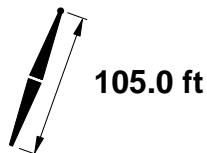
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	73.9	228.0	66,000* <b>b</b>							45
50	71.4	226.5	63,300* <b>b</b>							50
55	68.9	224.6	60,800*							55
60	66.3	222.6	58,400*	70.0	224.7	62,100* <b>b</b>				60
65	63.7	220.2	56,100*	67.5	222.8	59,800*				65
70	61.0	217.6	53,900*	64.9	220.6	57,500*	67.7	222.0	59,800*	70
75	58.2	214.7	51,800*	62.2	218.1	55,300*	65.1	219.8	57,600*	75
80	55.3	211.4	49,800*	59.5	215.3	53,200*	62.4	217.4	55,500*	80
85	52.4	207.8	48,000*	56.7	212.2	51,200*	59.7	214.6	53,400*	85
90	49.3	203.7	46,100*	53.7	208.7	49,300*	56.9	211.5	51,500*	90
95	46.1	199.1	44,300*	50.7	204.8	47,300*	54.0	208.1	49,500*	95
100	42.7	194.0	42,600*	47.6	200.5	45,500*	51.0	204.2	47,600*	100
105	39.0	188.2	41,000*	44.2	195.6	43,700*	47.8	199.9	45,400	105
110	35.0	181.6	39,600*	40.7	190.2	42,100*	44.5	195.1	42,900	110
115	30.6	173.8	37,100*	36.9	184.0	40,500*	41.0	189.7	40,500	115
120	25.6	164.5	34,900*	32.7	176.8	38,300*	37.2	183.6	38,400	120
125	19.3	152.4	32,700*	28.0	168.2	36,000*	33.1	176.5	36,500	125
130	9.8	133.1	27,800*	22.4	157.6	33,800*	28.4	168.1	34,700	130
135				14.9	142.7	31,700*	22.9	157.7	33,000	135
140							15.6	143.3	31,400	140
145										145
150										150
155										155
160										160
165										165
170										170

# 14000 S-3

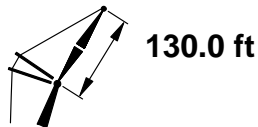
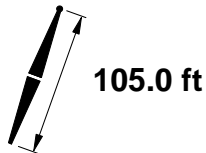
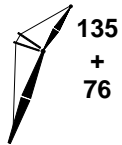
ASME B30.5



ft	75°			70°			65°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	61.8	214.6	52,300							90
95	59.1	211.8	48,900							95
100	56.3	208.6	45,800							100
105	53.3	205.1	43,100							105
110	50.3	201.1	40,700	55.5	204.8	38,500				110
115	47.1	196.7	38,400	52.5	201.1	36,400				115
120	43.8	191.8	36,400	49.5	197.1	34,500				120
125	40.2	186.3	34,600	46.3	192.6	32,700	51.6	196.2	30,900	125
130	36.3	179.9	32,900	42.9	187.5	31,100	48.5	192.0	29,300	130
135	32.1	172.6	31,300	39.2	181.7	29,600	45.2	187.3	27,900	135
140	27.3	163.8	29,800	35.3	175.2	28,200	41.7	182.0	26,600	140
145	21.5	152.8	28,500	30.9	167.5	26,900	38.0	176.0	25,400	145
150	13.6	136.9	27,200	25.9	158.2	25,700	33.9	169.1	24,200	150
155				19.7	146.3	24,600	29.4	161.0	23,200	155
160				10.5	127.8	23,500	24.0	151.1	22,200	160
165							17.3	137.8	21,200	165
170							4.7	112.1	20,300	170

# 14000 S-3

ASME B30.5

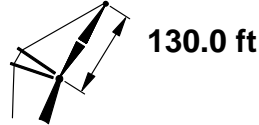
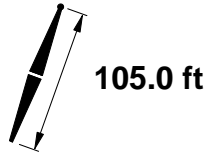
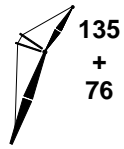


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
50	72.9	237.0	49,800* <sup>b</sup>							50
55	70.6	235.3	48,800*							55
60	68.2	233.4	47,900*							60
65	65.8	231.3	47,000*	69.3	233.5	48,600*				65
70	63.4	228.9	46,200*	66.9	231.5	47,800*				70
75	60.9	226.3	44,500*	64.5	229.3	47,000*	67.1	230.8	47,800*	75
80	58.3	223.4	42,800*	62.0	226.7	45,500*	64.7	228.5	47,100*	80
85	55.7	220.1	41,100*	59.5	223.9	43,800*	62.2	226.0	45,700*	85
90	53.0	216.5	39,500*	56.9	220.8	42,100*	59.7	223.3	43,900*	90
95	50.2	212.6	37,900*	54.2	217.4	40,500*	57.1	220.2	42,300*	95
100	47.2	208.2	36,500*	51.5	213.6	38,900*	54.5	216.8	40,700*	100
105	44.2	203.3	35,100*	48.6	209.4	37,500*	51.7	213.0	39,100*	105
110	40.9	197.8	33,900*	45.6	204.8	36,000*	48.8	208.9	37,700*	110
115	37.4	191.7	32,700*	42.4	199.6	34,700*	45.9	204.3	36,300*	115
120	33.6	184.7	31,600*	39.0	193.8	33,400*	42.7	199.1	34,900*	120
125	29.4	176.5	30,500*	35.4	187.2	32,300*	39.3	193.4	33,700*	125
130	24.5	166.7	29,600*	31.4	179.6	31,200*	35.7	186.9	32,500*	130
135	18.5	154.0	28,900*	26.9	170.7	30,200*	31.7	179.4	31,400*	135
140	9.4	133.9	24,900*	21.5	159.5	29,300*	27.3	170.5	30,400*	140
145				14.3	144.0	28,400*	22.0	159.6	29,600*	145
150							15.0	144.7	28,600	150
155										155
160										160
165										165
170										170
175										175
180										180



# 14000 S-3

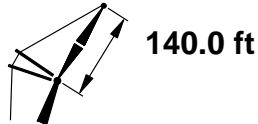
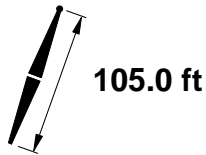
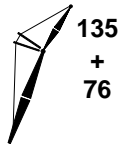
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	61.7	223.3	45,000*							95
100	59.2	220.4	43,400*							100
105	56.6	217.3	41,800*							105
110	53.9	213.8	40,300*							110
115	51.1	210.0	38,200	55.9	213.5	36,100				115
120	48.2	205.7	36,200	53.1	209.9	34,200				120
125	45.2	201.0	34,300	50.3	205.9	32,500				125
130	42.0	195.8	32,700	47.4	201.6	30,800	52.3	205.0	29,100	130
135	38.6	189.8	31,100	44.3	196.7	29,400	49.4	200.9	27,700	135
140	34.9	183.1	29,600	41.1	191.3	28,000	46.4	196.4	26,400	140
145	30.8	175.4	28,300	37.6	185.2	26,700	43.3	191.4	25,100	145
150	26.2	166.2	27,000	33.8	178.3	25,500	40.0	185.7	24,000	150
155	20.6	154.6	25,900	29.7	170.2	24,400	36.4	179.4	23,000	155
160	13.0	138.1	24,700	24.8	160.5	23,300	32.5	172.1	22,000	160
165				18.9	148.0	22,400	28.2	163.6	21,000	165
170				10.1	128.7	21,400	23.1	153.2	20,100	170
175							16.6	139.3	19,300	175
180							4.5	112.5	18,500	180

# 14000 S-3

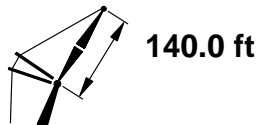
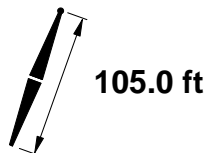
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
50	74.1	247.4	46,700* <sup>b</sup>							50
55	72.0	245.9	45,800*							55
60	69.8	244.1	45,000*							60
65	67.6	242.2	44,200*	70.8	244.2	45,400*				65
70	65.4	240.0	42,500*	68.7	242.3	44,700*				70
75	63.1	237.6	40,800*	66.4	240.2	43,500*				75
80	60.8	234.9	39,100*	64.2	237.9	41,700*	66.6	239.5	43,500*	80
85	58.5	232.0	37,500*	61.9	235.4	40,100*	64.4	237.2	41,800*	85
90	56.0	228.8	35,900*	59.5	232.6	38,500*	62.1	234.7	40,200*	90
95	53.5	225.3	34,500*	57.1	229.5	36,900*	59.7	231.9	38,600*	95
100	50.9	221.4	33,000*	54.7	226.1	35,400*	57.3	228.9	37,100*	100
105	48.2	217.1	31,700*	52.1	222.4	33,900*	54.9	225.5	35,600*	105
110	45.4	212.4	30,400*	49.5	218.3	32,600*	52.3	221.8	34,100*	110
115	42.5	207.3	29,200*	46.7	213.8	31,200*	49.7	217.8	32,700*	115
120	39.4	201.5	28,100*	43.8	208.9	30,000*	47.0	213.3	31,400*	120
125	36.0	195.0	27,000*	40.8	203.4	28,700*	44.1	208.4	30,200*	125
130	32.4	187.6	26,000*	37.6	197.3	27,600*	41.1	203.0	28,900*	130
135	28.3	179.1	25,000*	34.1	190.3	26,600*	37.8	196.9	27,800*	135
140	23.6	168.8	24,100*	30.2	182.4	25,600*	34.4	190.0	26,700*	140
145	17.9	155.6	23,400*	25.9	173.0	24,700*	30.6	182.2	25,700*	145
150	9.0	134.7	22,200*	20.7	161.4	23,900*	26.3	172.9	24,800*	150
155				13.8	145.2	23,200*	21.2	161.5	24,000*	155
160							14.5	146.0	23,300*	160
165										165
170										170
175										175
180										180
185										185
190										190

# 14000 S-3

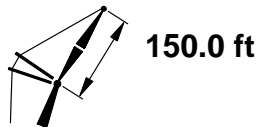
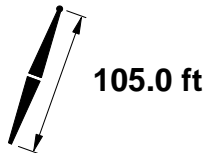
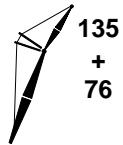
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	61.6	231.9	39,500*							105
110	59.2	229.1	38,100*							110
115	56.8	226.0	36,600*							115
120	54.3	222.5	35,200*							120
125	51.8	218.8	33,800*	56.2	222.1	33,800				125
130	49.1	214.6	32,500*	53.7	218.6	32,100				130
135	46.3	210.1	31,200*	51.1	214.8	30,500				135
140	43.4	205.1	29,900*	48.4	210.5	29,000	52.8	213.7	27,300	140
145	40.4	199.5	28,800*	45.6	205.9	27,600	50.2	209.8	26,000	145
150	37.1	193.3	27,700*	42.6	200.7	26,400	47.5	205.4	24,800	150
155	33.6	186.2	26,600*	39.5	195.0	25,200	44.7	200.6	23,600	155
160	29.7	178.1	25,600	36.2	188.6	24,100	41.7	195.2	22,600	160
165	25.2	168.5	24,500	32.6	181.2	23,000	38.5	189.3	21,600	165
170	19.9	156.4	23,400	28.6	172.8	22,100	35.1	182.6	20,700	170
175	12.6	139.2	22,500	23.9	162.6	21,100	31.3	175.0	19,800	175
180				18.2	149.6	20,300	27.1	166.0	19,000	180
185				9.7	129.6	19,400	22.2	155.2	18,200	185
190							16.0	140.7	17,500	190
							4.4	112.8	16,700	190

# 14000 S-3

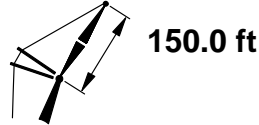
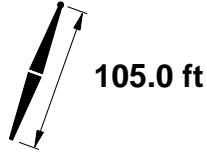
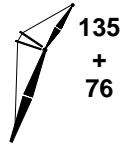
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	73.2	256.3	42,900*						55	
60	71.2	254.7	42,000*						60	
65	69.2	252.9	40,900*						65	
70	67.1	250.9	39,300*	70.1	253.0	41,700*			70	
75	65.1	248.7	37,600*	68.1	251.1	40,100*			75	
80	62.9	246.3	36,100*	66.0	249.0	38,500*			80	
85	60.8	243.6	34,500*	63.9	246.6	36,900*	66.2	248.2	38,500*	
90	58.6	240.7	33,000*	61.8	244.1	35,300*	64.1	245.9	36,900*	
95	56.3	237.5	31,600*	59.6	241.3	33,800*	61.9	243.4	35,500*	
100	54.0	234.0	30,300*	57.3	238.2	32,400*	59.8	240.6	34,000*	
105	51.6	230.2	28,900*	55.0	234.8	31,000*	57.5	237.5	32,600*	
110	49.1	226.0	27,600*	52.7	231.2	29,700*	55.2	234.2	31,200*	
115	46.5	221.5	26,500*	50.2	227.2	28,400*	52.9	230.6	29,800*	
120	43.8	216.5	25,300*	47.7	222.8	27,200*	50.4	226.6	28,600*	
125	41.0	211.1	24,200*	45.1	218.1	26,000*	47.9	222.3	27,300*	
130	38.0	205.0	23,100*	42.3	212.8	24,800*	45.3	217.6	26,200*	
135	34.7	198.2	22,200*	39.4	207.0	23,800*	42.5	212.4	25,000*	
140	31.2	190.5	21,300*	36.2	200.6	22,800*	39.6	206.6	23,900*	
145	27.3	181.6	20,400*	32.9	193.3	21,800*	36.5	200.2	22,900*	
150	22.8	170.9	19,600*	29.2	185.0	20,900*	33.2	193.1	22,000*	
155	17.2	157.2	19,000*	25.0	175.3	20,100*	29.5	184.8	21,000*	
160	8.7	135.5	18,500*	20.0	163.2	19,300*	25.4	175.2	20,200*	
165				13.3	146.4	18,700*	20.4	163.4	19,500*	
170							14.0	147.2	18,800*	
175									175	
180									180	
185									185	
190									190	
195									195	
200									200	

# 14000 S-3

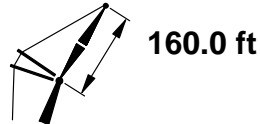
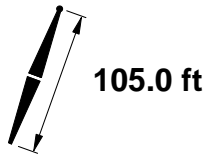
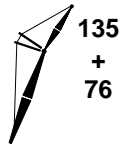
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	61.5	240.6	34,900*							105
110	59.3	237.7	33,500*							110
115	57.0	234.6	32,200*							115
120	54.7	231.3	30,800*							120
125	52.3	227.6	29,500*	56.4	230.8	31,400*				125
130	49.9	223.5	28,300*	54.1	227.4	30,300*				130
135	47.3	219.1	27,100*	51.7	223.6	28,900				135
140	44.7	214.3	25,900*	49.2	219.5	27,500				140
145	41.9	209.0	24,900*	46.6	214.9	26,300	50.9	218.6	24,700	145
150	39.0	203.1	23,800*	44.0	210.0	25,100	48.4	214.4	23,500	150
155	35.8	196.6	22,800*	41.1	204.5	24,000	45.8	209.7	22,500	155
160	32.4	189.2	21,800*	38.1	198.5	23,000	43.1	204.6	21,500	160
165	28.6	180.7	20,900*	34.9	191.8	22,000	40.2	199.0	20,600	165
170	24.4	170.7	20,100*	31.4	184.1	21,100	37.1	192.7	19,700	170
175	19.2	158.1	19,400*	27.6	175.3	20,200	33.8	185.7	18,900	175
180	12.1	140.3	18,800*	23.1	164.7	19,400	30.2	177.7	18,200	180
185				17.6	151.2	18,600	26.2	168.4	17,400	185
190				9.4	130.4	17,900	21.5	157.1	16,700	190
195							15.4	142.1	16,100	195
200							4.2	113.2	15,400	200

# 14000 S-3

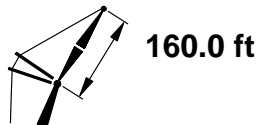
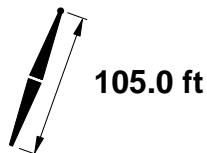
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55	74.3	266.8	39,900*							55
60	72.4	265.3	39,100*							60
65	70.6	263.6	37,500*							65
70	68.7	261.7	35,900*							70
75	66.7	259.7	34,300*	69.5	261.8	36,600*				75
80	64.8	257.4	32,800*	67.6	259.8	35,100*				80
85	62.8	255.0	31,300*	65.7	257.7	33,500*	67.8	259.1	35,100*	85
90	60.7	252.3	29,900*	63.7	255.3	32,100*	65.8	256.9	33,600*	90
95	58.6	249.3	28,500*	61.7	252.7	30,700*	63.8	254.6	32,200*	95
100	56.5	246.2	27,200*	59.6	249.9	29,200*	61.8	252.0	30,800*	100
105	54.4	242.7	25,900*	57.5	246.9	27,900*	59.8	249.2	29,400*	105
110	52.1	239.0	24,700*	55.4	243.5	26,600*	57.7	246.2	28,100*	110
115	49.8	234.9	23,500*	53.1	239.9	25,300*	55.5	242.9	26,700*	115
120	47.4	230.5	22,300*	50.9	236.0	24,100*	53.3	239.3	25,500*	120
125	44.9	225.7	21,300*	48.5	231.8	23,000*	51.1	235.4	24,300*	125
130	42.3	220.5	20,300*	46.1	227.2	21,900*	48.7	231.2	23,200*	130
135	39.6	214.7	19,300*	43.5	222.1	20,800*	46.3	226.7	22,000*	135
140	36.7	208.4	18,300*	40.9	216.6	19,800*	43.8	221.7	21,000*	140
145	33.6	201.3	17,500*	38.1	210.6	18,900*	41.1	216.2	20,000*	145
150	30.2	193.2	16,700*	35.1	203.8	18,000*	38.3	210.2	19,000*	150
155	26.4	184.0	15,900*	31.8	196.2	17,100*	35.3	203.5	18,100*	155
160	22.1	172.9	15,100*	28.2	187.6	16,300*	32.1	196.0	17,300*	160
165	16.7	158.7	14,600*	24.2	177.4	15,600*	28.5	187.4	16,400*	165
170	8.5	136.2	13,800*	19.3	164.9	14,900*	24.5	177.4	15,700*	170
175				12.9	147.6	14,200*	19.8	165.1	15,000*	175
180							13.5	148.4	14,300*	180
185										185
190										190
195										195
200										200
205										205
210										210

# 14000 S-3

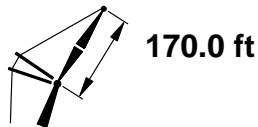
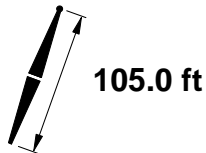
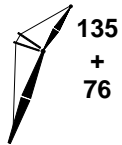
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	61.4	249.3	30,200*							110
115	59.3	246.4	28,900*							115
120	57.2	243.3	27,700*							120
125	55.1	240.0	26,400*							125
130	52.8	236.3	25,200*	56.6	239.5	27,100*				130
135	50.6	232.4	24,100*	54.5	236.1	25,900*				135
140	48.2	228.1	22,900*	52.2	232.4	24,700*				140
145	45.7	223.4	21,800*	49.9	228.3	23,600*				145
150	43.2	218.3	20,800*	47.6	223.9	22,500*	51.5	227.4	23,200	150
155	40.5	212.7	19,800*	45.1	219.2	21,500*	49.2	223.3	22,100	155
160	37.7	206.6	18,800*	42.5	214.0	20,500*	46.8	218.8	21,200	160
165	34.6	199.7	18,000*	39.8	208.2	19,600*	44.3	213.9	20,200	165
170	31.3	192.0	17,100*	36.9	201.9	18,700*	41.6	208.5	19,400	170
175	27.7	183.2	16,300*	33.8	194.8	17,800*	38.9	202.6	18,600	175
180	23.6	172.8	15,600*	30.4	186.9	17,000*	35.9	196.0	17,800	180
185	18.6	159.8	15,000*	26.7	177.7	16,200*	32.7	188.7	17,100	185
190	11.7	141.4	14,100*	22.4	166.7	15,400*	29.3	180.4	16,400	190
195				17.0	152.7	14,800*	25.4	170.7	15,800	195
200				9.1	131.2	14,000*	20.8	158.9	15,100	200
205							14.9	143.4	14,500	205
210							4.1	113.6	13,800*	210

# 14000 S-3

ASME B30.5

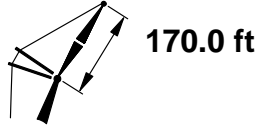
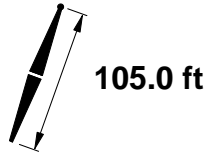
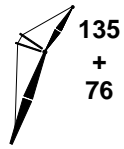


ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
60	73.5	275.7	36,100*							60
65	71.7	274.2	34,600*							65
70	70.0	272.4	33,100*							70
75	68.2	270.5	31,600*	70.8	272.4	33,700*				75
80	66.3	268.4	30,100*	69.0	270.6	32,300*				80
85	64.5	266.1	28,700*	67.2	268.6	30,800*				85
90	62.6	263.6	27,400*	65.3	266.4	29,400*	67.3	267.8	30,900*	90
95	60.7	260.9	26,100*	63.5	264.0	28,100*	65.5	265.7	29,500*	95
100	58.7	258.0	24,800*	61.6	261.4	26,800*	63.6	263.3	28,200*	100
105	56.7	254.8	23,600*	59.6	258.6	25,500*	61.7	260.7	26,800*	105
110	54.7	251.4	22,400*	57.7	255.5	24,200*	59.8	257.9	25,600*	110
115	52.6	247.8	21,300*	55.6	252.2	23,000*	57.8	254.9	24,300*	115
120	50.4	243.8	20,200*	53.6	248.7	21,800*	55.8	251.6	23,100*	120
125	48.2	239.5	19,100*	51.4	244.8	20,800*	53.7	248.1	22,000*	125
130	45.9	234.8	18,100*	49.3	240.7	19,700*	51.6	244.2	20,900*	130
135	43.5	229.8	17,200*	47.0	236.2	18,600*	49.4	240.1	19,800*	135
140	41.0	224.3	16,300*	44.6	231.4	17,700*	47.2	235.7	18,800*	140
145	38.4	218.3	15,400*	42.2	226.1	16,800*	44.8	230.8	17,800*	145
150	35.6	211.6	14,600*	39.6	220.3	15,900*	42.4	225.6	16,900*	150
155	32.6	204.2	13,800*	36.9	214.0	15,000*	39.8	219.9	16,000*	155
160	29.3	195.9	12,900*	34.0	206.9	14,200*	37.1	213.6	15,100*	160
165	25.6	186.3	12,000*	30.8	199.0	13,400*	34.2	206.6	14,300*	165
170	21.4	174.8	11,200*	27.4	190.1	12,500*	31.1	198.8	13,500*	170
175	16.2	160.1	10,400*	23.4	179.5	11,600*	27.7	189.9	12,600*	175
180	8.2	137.0	9,800*	18.8	166.6	10,800*	23.8	179.6	11,700*	180
185				12.5	148.7	10,100*	19.2	166.9	10,900*	185
190							13.1	149.6	10,100*	190
195										195
200										200
205										205
210										210
215										215
220										220



# 14000 S-3

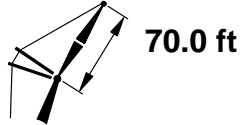
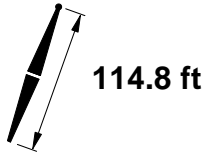
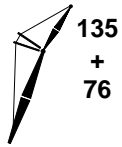
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115	61.3	257.9	26,400*							115
120	59.4	255.1	25,200*							120
125	57.4	252.0	24,000*							125
130	55.4	248.7	22,900*							130
135	53.3	245.1	21,700*	56.8	248.2	23,500*				135
140	51.1	241.2	20,600*	54.8	244.8	22,400*				140
145	48.9	237.0	19,600*	52.7	241.1	21,300*				145
150	46.7	232.5	18,600*	50.6	237.2	20,300*				150
155	44.3	227.6	17,600*	48.4	232.9	19,300*	52.0	236.2	20,800*	155
160	41.8	222.2	16,700*	46.1	228.3	18,300*	49.9	232.1	19,900*	160
165	39.2	216.4	15,800*	43.7	223.2	17,400*	47.6	227.8	18,900*	165
170	36.5	209.9	15,100*	41.2	217.8	16,500*	45.3	223.0	18,000*	170
175	33.6	202.8	14,200*	38.5	211.8	15,600*	42.9	217.8	17,000*	175
180	30.4	194.8	13,300*	35.7	205.2	14,900*	40.3	212.2	16,200*	180
185	26.9	185.6	12,400*	32.8	197.8	14,100*	37.7	206.0	15,400*	185
190	22.9	174.8	11,500*	29.5	189.6	13,100*	34.8	199.2	14,600*	190
195	18.0	161.4	10,800*	25.9	180.0	12,200*	31.7	191.6	13,800*	195
200	11.4	142.4	10,000*	21.7	168.7	11,400*	28.4	182.9	12,800*	200
205				16.5	154.2	10,600*	24.6	172.9	11,900*	205
210				8.8	132.0	9,900*	20.2	160.8	11,100*	210
215							14.5	144.7	10,300*	215
220							4.0	113.9	9,700*	220

# 14000 S-3

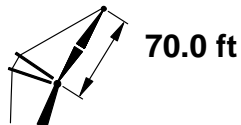
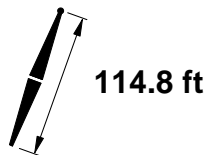
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
32	73.6	189.7	104,200*d							32
34	71.9	189.1	104,200*c							34
36	70.2	188.4	104,200*c							36
38	68.4	187.6	104,200*c							38
40	66.7	186.8	104,200*c							40
45	62.1	184.4	100,600*b	69.3	187.2	106,000*c				45
50	57.4	181.5	96,200*b	64.8	185.0	104,200*c				50
55	52.4	178.0	92,200*b	60.2	182.4	97,400*b	65.7	184.5	101,200*c	55
60	47.0	173.7	85,700*	55.4	179.3	90,300*b	61.1	182.0	91,900b	60
65	41.1	168.6	79,800*	50.2	175.5	83,900*	56.3	178.9	83,200b	65
70	34.4	162.1	73,400*	44.7	170.9	78,200	51.2	175.2	75,900	70
75	26.3	153.6	67,000*	38.5	165.3	71,800	45.8	170.8	69,700	75
80	14.6	140.2	54,500*	31.4	158.1	66,300	39.7	165.4	64,300	80
85				22.3	148.2	61,500	32.8	158.6	59,700	85
90				4.6	127.3	48,500*	24.2	149.4	55,600	90
95							10.4	133.3	51,900	95
100										100
105										105
110										110
115										115
120										120

# 14000 S-3

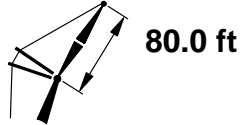
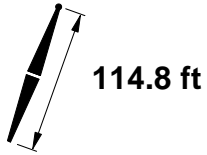
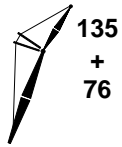
ASME B30.5



ft	75°			70°			65°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
32										32
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70	60.8	179.5	72,000 <sup>b</sup>							70
75	56.0	176.4	66,100 <sup>b</sup>							75
80	50.9	172.7	61,100							80
85	45.5	168.2	56,700	55.5	172.8	53,700 <sup>b</sup>				85
90	39.4	162.7	52,800	50.4	169.1	50,000				90
95	32.4	155.8	49,400	44.9	164.5	46,800				95
100	23.7	146.4	46,300	38.7	158.9	43,900	49.5	164.4	41,500	100
105	9.2	129.5	43,400	31.6	151.8	41,300	43.9	159.7	39,000	105
110				22.6	142.0	38,900	37.6	153.9	36,800	110
115				6.0	122.5	36,600	30.3	146.4	34,800	115
120							20.8	136.0	32,900	120

# 14000 S-3

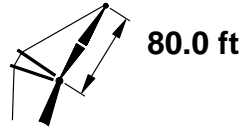
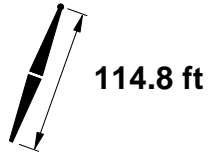
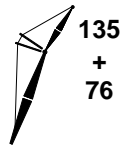
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
34	74.2	199.5	95,500*c						34	
36	72.7	198.9	95,500*c						36	
38	71.2	198.3	95,400*c						38	
40	69.7	197.6	95,400*c						40	
45	65.8	195.5	92,900*b						45	
50	61.9	193.1	88,800*b	68.2	195.9	96,100*c			50	
55	57.7	190.2	85,100*b	64.2	193.7	91,900*b			55	
60	53.4	186.7	81,700*	60.2	191.1	88,000*b	65.0	193.2	91,200*b	
65	48.8	182.7	78,500*	56.0	188.0	82,300*	61.0	190.6	82,800b	
70	43.8	177.9	73,400*	51.5	184.3	76,900*	56.8	187.6	75,600	
75	38.3	172.2	66,800*	46.8	180.0	71,600	52.4	184.0	69,400	
80	32.1	165.1	61,300*	41.7	174.9	66,100	47.7	179.8	64,100	
85	24.6	155.8	56,500*	35.9	168.6	61,300	42.6	174.9	59,500	
90	13.6	141.4	47,900*	29.3	160.8	57,100	37.1	168.9	55,400	
95				20.8	150.1	53,400	30.6	161.4	51,800	
100				4.3	127.7	43,000*	22.6	151.5	48,600	
105							9.7	134.2	45,600	
110									110	
115									115	
120									120	
125									125	
130									130	

# 14000 S-3

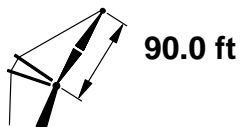
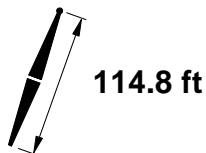
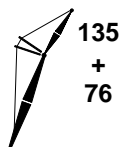
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
34									34	
36									36	
38									38	
40									40	
45									45	
50									50	
55									55	
60									60	
65									65	
70									70	
75	60.7	188.1	65,800 <sup>b</sup>						75	
80	56.5	185.1	60,700						80	
85	52.1	181.5	56,300						85	
90	47.4	177.2	52,500	56.1	181.5	49,600			90	
95	42.4	172.2	49,100	51.7	177.9	46,400			95	
100	36.7	166.2	46,100	47.0	173.6	43,500			100	
105	30.3	158.6	43,300	41.8	168.5	41,000	50.9	173.2	38,600	105
110	22.1	148.5	40,800	36.1	162.3	38,600	46.1	168.8	36,400	110
115	8.6	130.2	38,500	29.5	154.5	36,500	40.9	163.5	34,400	115
120				21.1	144.0	34,500	35.1	157.1	32,600	120
125				5.6	123.0	32,600	28.3	149.0	30,900	125
130							19.5	137.7	29,300	130

# 14000 S-3

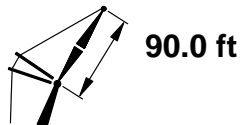
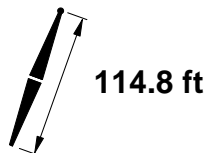
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
36	74.7	209.4	86,100*c						36	
38	73.4	208.8	85,900*c						38	
40	72.0	208.2	85,100*c						40	
45	68.7	206.4	81,400*b						45	
50	65.2	204.2	77,800*b	70.7	206.6	83,900*c			50	
55	61.6	201.7	74,600*b	67.3	204.7	80,400*b			55	
60	58.0	198.8	71,600*	63.8	202.4	77,100*b	67.9	204.1	81,000*b	60
65	54.1	195.5	68,800*	60.2	199.8	74,000*	64.4	201.9	77,800*b	65
70	50.1	191.6	66,300*	56.4	196.7	71,100*	60.8	199.3	74,800*	70
75	45.8	187.1	64,000*	52.5	193.1	68,500*	57.1	196.3	69,200	75
80	41.2	181.8	61,800*	48.4	189.0	65,900	53.3	192.8	63,900	80
85	36.1	175.5	56,900*	44.0	184.2	61,200	49.2	188.8	59,300	85
90	30.3	167.9	52,700*	39.2	178.5	57,000	44.8	184.1	55,200	90
95	23.2	157.9	49,000*	33.8	171.8	53,300	40.1	178.6	51,700	95
100	12.9	142.6	42,000*	27.6	163.4	50,000	34.9	172.1	48,500	100
105				19.6	151.9	47,100	28.8	164.1	45,600	105
110				4.1	128.0	38,100*	21.3	153.4	43,000	110
115							9.2	135.0	40,600	115
120										120
125										125
130										130
135										135
140										140

# 14000 S-3

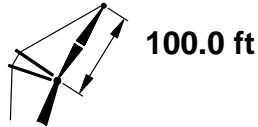
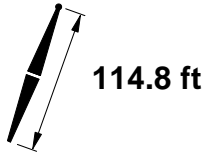
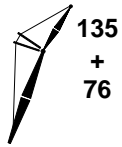
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85	60.7	196.8	60,500							85
90	56.9	193.7	56,100							90
95	53.0	190.2	52,300							95
100	49.0	186.2	48,900	56.6	190.2	46,200				100
	44.6	181.5	45,900	52.6	186.7	43,300				
105	39.8	176.0	43,200	48.5	182.5	40,700				105
110	34.6	169.4	40,700	44.1	177.8	38,400	52.0	182.0	36,200	110
115	28.5	161.2	38,500	39.3	172.2	36,300	47.8	177.8	34,200	115
120	20.9	150.3	36,400	34.0	165.5	34,400	43.4	172.9	32,400	120
125	8.1	131.0	34,500	27.8	157.1	32,600	38.5	167.1	30,700	125
130				19.9	145.8	31,000	33.1	160.2	29,200	130
135				5.3	123.4	29,400	26.7	151.5	27,800	135
140							18.3	139.4	26,400	140

# 14000 S-3

ASME B30.5

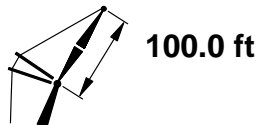
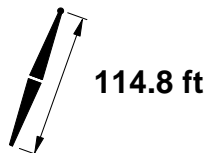


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
40	73.9	218.6	78,500 <sup>c</sup>							40
45	70.9	217.0	76,000 <sup>b</sup>							45
50	67.8	215.1	72,600 <sup>b</sup>							50
55	64.7	212.9	69,500 <sup>b</sup>	69.7	215.4	75,000 <sup>b</sup>				55
60	61.5	210.4	66,500 <sup>a</sup>	66.6	213.4	71,800 <sup>b</sup>				60
65	58.2	207.5	63,700 <sup>a</sup>	63.4	211.1	68,700 <sup>a</sup>	67.1	212.8	72,300 <sup>b</sup>	65
70	54.7	204.2	61,100 <sup>a</sup>	60.2	208.4	65,900 <sup>a</sup>	64.0	210.6	69,300 <sup>a</sup>	70
75	51.1	200.4	58,700 <sup>a</sup>	56.8	205.4	63,200 <sup>a</sup>	60.8	207.9	66,600 <sup>a</sup>	75
80	47.4	196.1	56,400 <sup>a</sup>	53.3	201.9	60,700 <sup>a</sup>	57.4	204.9	63,600	80
85	43.3	191.2	54,400 <sup>a</sup>	49.6	197.9	58,400 <sup>a</sup>	54.0	201.5	59,000	85
90	39.0	185.4	52,400 <sup>a</sup>	45.8	193.3	56,200 <sup>a</sup>	50.3	197.6	54,900	90
95	34.2	178.7	48,700 <sup>a</sup>	41.6	188.1	53,100	46.5	193.2	51,400	95
100	28.7	170.5	45,400 <sup>a</sup>	37.1	182.0	49,800	42.4	188.1	48,200	100
105	22.0	159.9	42,500 <sup>a</sup>	32.0	174.7	46,900	38.0	182.2	45,400	105
110	12.2	143.7	37,500 <sup>a</sup>	26.1	165.7	44,200 <sup>a</sup>	33.0	175.2	42,800	110
115				18.6	153.6	41,400 <sup>a</sup>	27.3	166.6	40,400	115
120				3.8	128.4	34,200 <sup>a</sup>	20.2	155.2	38,300	120
125							8.7	135.8	36,300	125
130										130
135										135
140										140
145										145
150										150



# 14000 S-3

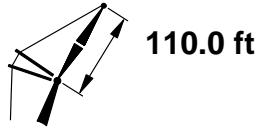
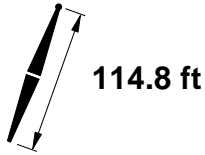
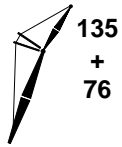
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
40									40	
45									45	
50									50	
55									55	
60									60	
65									65	
70									70	
75									75	
80									80	
85	60.6	205.4	55,700						85	
90	57.2	202.4	51,900						90	
95	53.8	199.0	48,500						95	
100	50.1	195.1	45,500	56.9	198.9	42,900			100	
105	46.3	190.6	42,800	53.4	195.4	40,400			105	
110	42.2	185.5	40,400	49.8	191.4	38,100			110	
115	37.7	179.5	38,200	45.9	186.9	36,000	52.8	190.8	33,800	115
120	32.7	172.4	36,200	41.7	181.7	34,100	49.1	186.7	32,000	120
125	27.0	163.7	34,300	37.2	175.6	32,300	45.2	182.1	30,300	125
130	19.8	152.1	32,600	32.2	168.4	30,700	41.0	176.8	28,800	130
135	7.7	131.6	30,900	26.3	159.5	29,200	36.5	170.5	27,400	135
140				18.9	147.5	27,800	31.3	163.1	26,100	140
145				5.0	123.9	26,400	25.3	153.8	24,900	145
150							17.4	141.0	23,700	150

# 14000 S-3

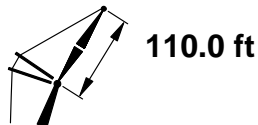
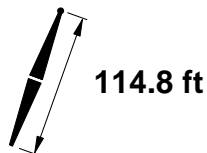
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	72.7	227.6	70,700* <b>b</b>							45
50	69.9	225.9	68,100* <b>b</b>							50
55	67.1	223.9	65,500* <b>b</b>							55
60	64.3	221.6	63,100*	68.8	224.2	67,300* <b>b</b>				60
65	61.4	219.1	60,900*	66.0	222.2	64,900*				65
70	58.3	216.2	58,700*	63.1	219.8	62,700*	66.5	221.6	65,300*	70
75	55.2	212.9	56,400*	60.1	217.1	60,500*	63.6	219.2	63,200*	75
80	52.0	209.2	54,300*	57.1	214.0	58,200*	60.7	216.6	61,000*	80
85	48.6	205.1	52,300*	53.9	210.6	56,000*	57.7	213.6	58,800*	85
90	45.0	200.4	50,400*	50.6	206.7	54,000*	54.5	210.3	54,900	90
95	41.2	195.0	48,700*	47.2	202.4	52,000*	51.3	206.5	51,300	95
100	37.1	188.9	45,900*	43.5	197.4	49,800	47.8	202.2	48,200	100
105	32.5	181.7	42,800*	39.6	191.8	46,900	44.2	197.4	45,300	105
110	27.3	173.0	39,900*	35.3	185.3	44,200	40.3	191.9	42,800	110
115	20.9	161.8	37,300*	30.5	177.5	41,700*	36.1	185.5	40,500	115
120	11.6	144.7	33,000*	24.9	168.0	39,000*	31.4	178.1	38,300	120
125				17.7	155.2	36,400*	26.0	168.9	36,400	125
130				3.7	128.7	29,900*	19.3	157.0	34,600	130
135							8.3	136.6	32,900	135
140										140
145										145
150										150
155										155
160										160

# 14000 S-3

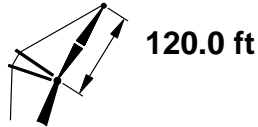
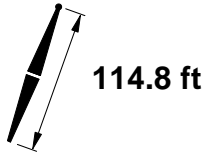
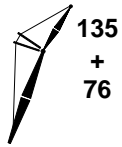
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	60.5	214.1	51,900							90
95	57.5	211.1	48,500							95
100	54.4	207.7	45,500							100
105	51.1	203.9	42,800	57.2	207.6	40,300				105
110	47.7	199.6	40,400	54.0	204.1	38,000				110
115	44.0	194.8	38,200	50.7	200.3	35,900				115
120	40.1	189.2	36,200	47.3	195.9	34,000				120
125	35.9	182.8	34,300	43.6	191.0	32,300	50.2	195.6	30,300	125
130	31.2	175.3	32,600	39.7	185.4	30,700	46.7	191.2	28,800	130
135	25.7	166.0	31,100	35.4	178.9	29,200	43.0	186.1	27,400	135
140	18.8	153.8	29,600	30.7	171.2	27,900	39.0	180.4	26,100	140
145	7.3	132.3	28,200	25.1	161.8	26,600	34.7	173.7	24,900	145
150				18.0	149.1	25,400	29.8	165.8	23,800	150
155				4.8	124.3	24,200	24.1	156.0	22,700	155
160							16.6	142.5	21,700	160

# 14000 S-3

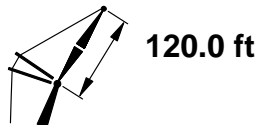
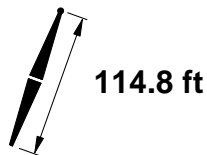
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	74.2	238.0	53,400* <b>b</b>							45
50	71.7	236.5	52,400* <b>b</b>							50
55	69.1	234.7	51,300*							55
60	66.6	232.6	50,300*	70.6	234.9	52,200* <b>b</b>				60
65	63.9	230.3	49,400*	68.1	233.0	51,300*				65
70	61.2	227.7	48,400*	65.5	230.9	50,400*				70
75	58.5	224.8	47,600*	62.8	228.5	49,600*	66.0	230.3	50,500*	75
80	55.6	221.6	46,300*	60.1	225.7	48,800*	63.3	227.9	49,800*	80
85	52.7	218.0	44,500*	57.3	222.7	47,700*	60.6	225.3	49,100*	85
90	49.6	214.0	42,800*	54.5	219.3	45,900*	57.9	222.3	48,200*	90
95	46.4	209.5	41,300*	51.5	215.5	44,100*	55.0	219.0	46,300*	95
100	43.0	204.4	39,700*	48.3	211.3	42,400*	52.0	215.3	44,500*	100
105	39.4	198.7	38,300*	45.1	206.6	40,900*	48.9	211.1	42,900*	105
110	35.5	192.2	37,100*	41.6	201.3	39,400*	45.7	206.5	41,300*	110
115	31.1	184.5	35,900*	37.8	195.3	38,100*	42.2	201.3	39,900*	115
120	26.1	175.4	34,900*	33.8	188.4	36,900*	38.6	195.5	38,100	120
125	20.0	163.6	33,200*	29.2	180.2	35,700*	34.5	188.7	36,100	125
130	11.1	145.7	29,500*	23.8	170.2	34,600*	30.1	180.8	34,400	130
135				17.0	156.7	32,400*	24.9	171.2	32,700	135
140				3.5	129.0	26,900*	18.4	158.6	31,200	140
145							8.0	137.3	29,700	145
150										150
155										155
160										160
165										165
170										170

# 14000 S-3

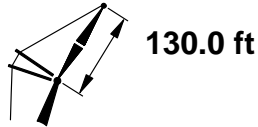
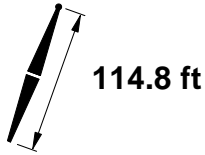
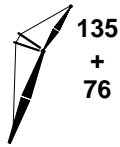
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
45									45	
50									50	
55									55	
60									60	
65									65	
70									70	
75									75	
80									80	
85									85	
90									90	
95	60.5	222.8	48,100						95	
100	57.7	219.8	45,100						100	
105	54.8	216.4	42,400						105	
110	51.9	212.7	40,000	57.4	216.2	37,600			110	
115	48.8	208.6	37,800	54.5	212.9	35,500			115	
120	45.5	203.9	35,800	51.6	209.1	33,700			120	
125	42.1	198.7	34,000	48.4	204.9	31,900			125	
130	38.4	192.8	32,300	45.2	200.2	30,300	51.1	204.4	28,400	130
135	34.3	186.0	30,800	41.7	194.9	28,900	47.9	200.2	27,000	135
140	29.8	178.0	29,300	38.0	188.9	27,500	44.6	195.4	25,700	140
145	24.6	168.3	28,000	33.9	182.0	26,300	41.1	190.0	24,500	145
150	18.0	155.5	26,700	29.3	173.9	25,100	37.3	183.9	23,400	150
155	7.0	132.9	25,500	24.0	164.0	24,000	33.2	176.8	22,400	155
160				17.2	150.7	22,900	28.5	168.4	21,400	160
165				4.6	124.7	21,900	23.0	158.1	20,500	165
170							15.9	143.9	19,600	170

# 14000 S-3

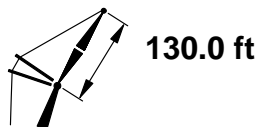
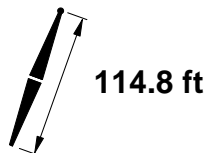
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50	73.1	246.9	49,300* <sup>b</sup>							50
55	70.8	245.3	48,300*							55
60	68.5	243.5	47,400*							60
65	66.1	241.4	46,600*	69.9	243.7	48,200*				65
70	63.6	239.0	45,800*	67.5	241.8	47,400*				70
75	61.1	236.4	44,500*	65.1	239.6	46,700*	67.9	241.2	47,400*	75
80	58.6	233.5	42,800*	62.6	237.1	45,700*	65.5	239.0	46,800*	80
85	56.0	230.3	41,100*	60.1	234.4	44,000*	63.1	236.6	46,000*	85
90	53.3	226.7	39,600*	57.5	231.4	42,400*	60.6	233.9	44,300*	90
95	50.5	222.8	38,100*	54.9	228.0	40,700*	58.0	231.0	42,700*	95
100	47.6	218.5	36,600*	52.2	224.3	39,200*	55.4	227.7	41,100*	100
105	44.5	213.6	35,300*	49.3	220.2	37,800*	52.7	224.0	39,600*	105
110	41.3	208.2	34,000*	46.3	215.7	36,400*	49.8	220.0	38,200*	110
115	37.8	202.2	32,800*	43.2	210.7	35,000*	46.9	215.6	36,700*	115
120	34.0	195.3	31,600*	39.9	205.0	33,700*	43.8	210.6	35,300*	120
125	29.9	187.3	30,600*	36.3	198.6	32,600*	40.5	205.1	34,100*	125
130	25.1	177.6	29,700*	32.4	191.3	31,500*	37.0	198.9	32,900*	130
135	19.2	165.4	28,900*	28.0	182.7	30,500*	33.2	191.8	31,800*	135
140	10.7	146.6	26,300*	22.9	172.2	29,600*	28.9	183.4	30,800*	140
145				16.3	158.2	28,800*	23.9	173.4	29,600	145
150				3.4	129.3	24,100*	17.7	160.2	28,300	150
155							7.6	138.0	27,000	155
160										160
165										165
170										170
175										175
180										180

# 14000 S-3

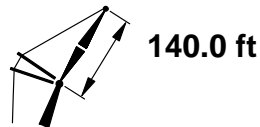
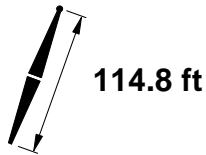
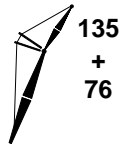
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	63.0	234.1	45,300*							95
100	60.5	231.4	44,000*							100
105	57.9	228.4	42,200							105
110	55.2	225.1	39,800							110
115	52.5	221.5	37,600	57.6	224.9	35,300				115
120	49.7	217.4	35,600	55.0	221.6	33,400				120
125	46.7	213.0	33,800	52.2	217.9	31,700				125
130	43.6	208.0	32,100	49.4	213.8	30,100				130
135	40.3	202.5	30,600	46.4	209.3	28,600	51.8	213.2	26,700	135
140	36.8	196.2	29,100	43.3	204.3	27,300	48.9	209.1	25,500	140
145	32.9	189.0	27,800	40.0	198.7	26,000	45.9	204.5	24,300	145
150	28.6	180.6	26,600	36.4	192.3	24,900	42.8	199.4	23,200	150
155	23.6	170.4	25,400	32.5	185.0	23,800	39.4	193.7	22,200	155
160	17.3	157.0	24,300	28.2	176.5	22,800	35.8	187.2	21,200	160
165	6.7	133.5	23,300	23.1	166.0	21,800	31.8	179.7	20,300	165
170				16.6	152.2	20,900	27.4	170.9	19,500	170
175				4.4	125.1	20,000	22.1	160.1	18,600	175
180							15.2	145.3	17,900	180

# 14000 S-3

ASME B30.5

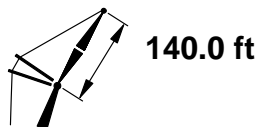
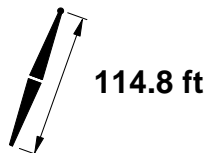


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
50	74.4	257.4	46,200* <sup>b</sup>							50
55	72.2	255.9	45,300*							55
60	70.1	254.1	44,500*							60
65	67.9	252.2	43,700*							65
70	65.6	250.1	42,500*	69.2	252.5	44,400*				70
75	63.4	247.7	40,800*	67.0	250.5	43,600*				75
80	61.1	245.1	39,200*	64.7	248.3	41,900*	67.4	249.9	43,600*	80
85	58.7	242.2	37,600*	62.4	245.8	40,300*	65.1	247.7	42,100*	85
90	56.3	239.0	36,100*	60.1	243.1	38,700*	62.9	245.3	40,500*	90
95	53.8	235.5	34,600*	57.7	240.0	37,200*	60.5	242.6	39,000*	95
100	51.2	231.6	33,100*	55.3	236.7	35,700*	58.2	239.6	37,500*	100
105	48.5	227.4	31,800*	52.7	233.1	34,200*	55.7	236.4	36,000*	105
110	45.7	222.8	30,600*	50.1	229.1	32,900*	53.2	232.8	34,600*	110
115	42.8	217.6	29,300*	47.4	224.7	31,500*	50.6	228.9	33,200*	115
120	39.7	211.9	28,200*	44.6	219.9	30,200*	47.9	224.6	31,900*	120
125	36.4	205.5	27,100*	41.6	214.5	29,100*	45.1	219.8	30,600*	125
130	32.8	198.3	26,100*	38.4	208.6	27,900*	42.1	214.6	29,400*	130
135	28.8	189.9	25,100*	34.9	201.9	26,800*	39.0	208.7	28,200*	135
140	24.2	179.8	24,300*	31.2	194.2	25,900*	35.6	202.2	27,200*	140
145	18.5	167.0	23,500*	27.0	185.2	24,900*	31.9	194.7	26,100*	145
150	10.3	147.6	23,000*	22.0	174.2	24,100*	27.8	186.0	25,200*	150
155				15.7	159.6	23,400*	23.0	175.4	24,300*	155
160				3.3	129.6	21,500*	17.1	161.7	23,600*	160
165							7.4	138.6	23,200*	165
170										170
175										175
180										180
185										185
190										190



# 14000 S-3

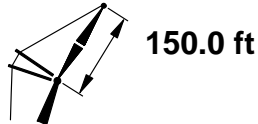
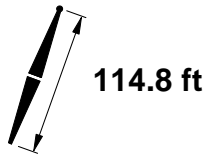
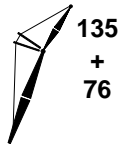
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100	62.8	242.8	40,100*							100
105	60.4	240.1	38,600*							105
110	58.0	237.1	37,200*							110
115	55.6	233.8	35,800*							115
120	53.1	230.2	34,500*	57.8	233.6	33,000				120
125	50.5	226.3	33,100*	55.3	230.3	31,300				125
130	47.8	222.0	31,800	52.8	226.7	29,700				130
135	44.9	217.2	30,200	50.2	222.7	28,300				135
140	42.0	211.9	28,800	47.5	218.3	26,900	52.4	222.0	25,100	140
145	38.8	206.0	27,500	44.6	213.5	25,700	49.8	218.0	23,900	145
150	35.4	199.4	26,300	41.7	208.2	24,500	47.0	213.5	22,800	150
155	31.7	191.9	25,100	38.5	202.2	23,400	44.2	208.6	21,800	155
160	27.6	183.1	24,100	35.1	195.5	22,400	41.1	203.2	20,800	160
165	22.8	172.5	23,000	31.3	187.9	21,500	37.9	197.2	19,900	165
170	16.7	158.5	22,100	27.1	178.9	20,600	34.5	190.3	19,100	170
175	6.5	134.1	21,100	22.2	168.0	19,700	30.7	182.5	18,300	175
180				15.9	153.6	18,900	26.4	173.3	17,600	180
185				4.3	125.5	18,100	21.3	162.0	16,800	185
190							14.7	146.6	16,100	190

# 14000 S-3

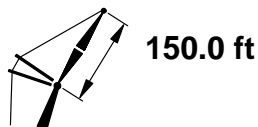
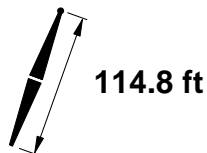
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	73.4	266.3	42,400*						55	
60	71.4	264.7	41,700*						60	
65	69.4	263.0	40,800*						65	
70	67.4	261.0	39,300*	70.6	263.2	41,400*			70	
75	65.3	258.8	37,600*	68.6	261.3	40,200*			75	
80	63.2	256.4	36,100*	66.5	259.3	38,700*			80	
85	61.0	253.7	34,500*	64.4	257.0	37,100*	66.9	258.7	38,800*	
90	58.8	250.8	33,100*	62.3	254.5	35,600*	64.8	256.4	37,300*	
95	56.5	247.7	31,600*	60.1	251.7	34,100*	62.7	253.9	35,800*	
100	54.2	244.2	30,300*	57.9	248.7	32,700*	60.5	251.2	34,400*	
105	51.8	240.4	29,000*	55.6	245.4	31,300*	58.3	248.3	33,000*	
110	49.3	236.3	27,700*	53.2	241.9	29,900*	56.0	245.1	31,600*	
115	46.8	231.8	26,600*	50.8	238.0	28,700*	53.7	241.5	30,200*	
120	44.1	226.9	25,400*	48.3	233.7	27,500*	51.3	237.7	29,000*	
125	41.3	221.5	24,300*	45.7	229.0	26,200*	48.8	233.5	27,800*	
130	38.3	215.5	23,300*	43.0	223.9	25,100*	46.2	228.9	26,500*	
135	35.1	208.8	22,300*	40.1	218.3	24,000*	43.5	223.9	25,400*	
140	31.6	201.2	21,400*	37.0	212.0	23,000*	40.6	218.4	24,300*	
145	27.8	192.4	20,500*	33.7	204.9	22,100*	37.6	212.2	23,300*	
150	23.3	181.9	19,700*	30.1	196.9	21,100*	34.4	205.3	22,300*	
155	17.9	168.6	19,100*	26.0	187.5	20,300*	30.8	197.5	21,400*	
160	10.0	148.4	18,600*	21.3	176.1	19,500*	26.8	188.4	20,500*	
165				15.2	160.9	18,900*	22.2	177.4	19,700*	
170				3.1	129.9	18,500*	16.5	163.2	19,100*	
175							7.1	139.2	18,600*	
180									180	
185									185	
190									190	
195									195	
200									200	

# 14000 S-3

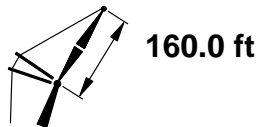
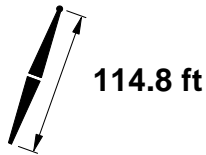
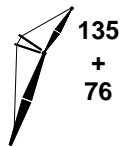
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	62.6	251.5	35,400*							110
115	60.4	248.7	34,100*							115
120	58.2	245.8	32,700*							120
125	55.9	242.5	31,400*							125
130	53.6	239.0	30,200*	57.9	242.3	31,200				130
135	51.1	235.1	28,900*	55.7	239.0	29,600				135
140	48.6	230.9	27,700*	53.3	235.4	28,200				140
145	46.1	226.3	26,500*	50.9	231.5	26,800				145
150	43.3	221.3	25,400*	48.4	227.3	25,600	52.9	230.8	23,800	150
155	40.5	215.7	24,300*	45.8	222.6	24,400	50.5	226.8	22,700	155
160	37.4	209.5	23,300*	43.1	217.5	23,400	48.0	222.5	21,700	160
165	34.2	202.6	22,300*	40.2	211.9	22,300	45.3	217.8	20,700	165
170	30.6	194.7	21,500*	37.1	205.6	21,400	42.6	212.6	19,900	170
175	26.6	185.5	20,600*	33.8	198.6	20,500	39.7	206.9	19,000	175
180	22.0	174.4	19,800*	30.2	190.6	19,700	36.6	200.5	18,200	180
185	16.1	159.9	19,100*	26.2	181.3	18,900	33.3	193.4	17,500	185
190	6.3	134.6	18,700*	21.5	170.0	18,100	29.6	185.2	16,800	190
195				15.4	155.0	17,400	25.5	175.6	16,100	195
200				4.1	125.9	16,700	20.6	163.8	15,500	200
							14.2	147.8	14,800	200

# 14000 S-3

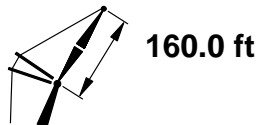
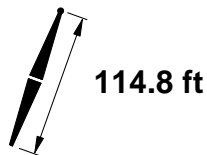
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
55	74.5	276.7	39,500*							55
60	72.6	275.3	38,700*							60
65	70.8	273.6	37,400*							65
70	68.8	271.8	35,800*							70
75	66.9	269.7	34,300*	70.0	272.0	36,800*				75
80	65.0	267.5	32,800*	68.1	270.1	35,300*				80
85	63.0	265.0	31,300*	66.1	268.0	33,800*				85
90	60.9	262.4	30,000*	64.2	265.7	32,300*	66.5	267.4	33,900*	90
95	58.9	259.5	28,600*	62.1	263.1	30,900*	64.5	265.1	32,500*	95
100	56.7	256.3	27,300*	60.1	260.4	29,600*	62.5	262.6	31,200*	100
105	54.6	252.9	26,000*	58.0	257.4	28,200*	60.5	259.9	29,800*	105
110	52.3	249.2	24,800*	55.9	254.1	26,900*	58.4	257.0	28,500*	110
115	50.1	245.2	23,600*	53.7	250.6	25,600*	56.3	253.7	27,200*	115
120	47.7	240.8	22,500*	51.4	246.8	24,400*	54.1	250.3	25,900*	120
125	45.2	236.1	21,400*	49.1	242.6	23,300*	51.8	246.5	24,700*	125
130	42.6	230.9	20,400*	46.7	238.1	22,100*	49.5	242.4	23,500*	130
135	39.9	225.2	19,400*	44.2	233.2	21,100*	47.1	238.0	22,500*	135
140	37.0	218.9	18,400*	41.5	227.8	20,100*	44.6	233.1	21,300*	140
145	33.9	211.9	17,600*	38.8	221.8	19,100*	42.0	227.8	20,300*	145
150	30.6	203.9	16,800*	35.8	215.3	18,200*	39.3	222.0	19,400*	150
155	26.9	194.8	16,000*	32.6	207.9	17,400*	36.4	215.5	18,500*	155
160	22.6	184.0	15,300*	29.1	199.6	16,500*	33.2	208.3	17,600*	160
165	17.3	170.2	14,700*	25.2	189.8	15,800*	29.8	200.2	16,700*	165
170	9.6	149.3	13,900*	20.6	178.0	15,100*	26.0	190.7	16,000*	170
175				14.7	162.2	14,400*	21.5	179.4	15,300*	175
180				3.0	130.2	13,700*	15.9	164.6	14,600*	180
185							6.9	139.9	13,900*	185
190										190
195										195
200										200
205										205
210										210

# 14000 S-3

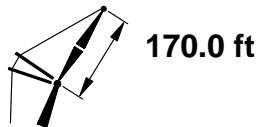
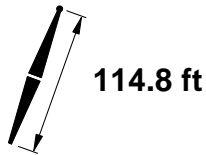
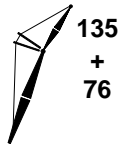
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	62.4	260.1	30,800*							110
115	60.4	257.4	29,500*							115
120	58.3	254.4	28,200*							120
125	56.2	251.2	27,000*							125
130	54.0	247.7	25,800*							130
135	51.7	243.9	24,600*	55.9	247.7	26,700*				135
140	49.4	239.8	23,500*	53.8	244.2	25,500*				140
145	47.0	235.3	22,400*	51.5	240.3	24,400*				145
150	44.5	230.5	21,300*	49.2	236.2	23,300*				150
155	41.9	225.2	20,300*	46.8	231.7	22,200*	51.1	235.7	21,300	155
160	39.1	219.3	19,400*	44.3	226.8	21,200*	48.8	231.5	20,400	160
165	36.2	212.8	18,500*	41.6	221.4	20,200*	46.4	226.9	19,500	165
170	33.1	205.6	17,600*	38.9	215.5	19,300*	43.8	221.9	18,700	170
175	29.6	197.4	16,700*	35.9	208.9	18,400*	41.2	216.4	17,900	175
180	25.8	187.8	16,000*	32.7	201.6	17,600*	38.4	210.4	17,100	180
185	21.3	176.3	15,300*	29.2	193.3	16,800*	35.4	203.8	16,400	185
190	15.6	161.3	14,600*	25.3	183.6	16,000*	32.2	196.3	15,800	190
195	6.1	135.2	13,900*	20.8	171.8	15,300*	28.6	187.8	15,100	195
200				14.9	156.3	14,600*	24.6	177.8	14,500	200
205				4.0	126.2	13,800*	19.9	165.6	14,000	205
210							13.7	149.1	13,400	210

# 14000 S-3

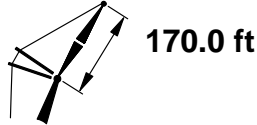
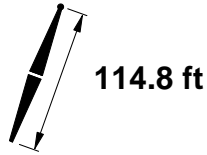
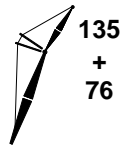
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
60	73.7	285.7	36,000*							60
65	71.9	284.2	34,500*							65
70	70.1	282.4	33,100*							70
75	68.3	280.5	31,600*							75
80	66.5	278.5	30,100*	69.4	280.8	32,400*				80
85	64.7	276.2	28,800*	67.6	278.9	31,000*				85
90	62.8	273.7	27,400*	65.8	276.7	29,600*	67.9	278.2	31,100*	90
95	60.9	271.0	26,100*	63.9	274.4	28,300*	66.1	276.1	29,800*	95
100	58.9	268.1	24,900*	62.0	271.8	27,000*	64.3	273.8	28,500*	100
105	56.9	265.0	23,700*	60.1	269.0	25,700*	62.4	271.3	27,200*	105
110	54.9	261.6	22,500*	58.1	266.0	24,500*	60.5	268.6	26,000*	110
115	52.8	258.0	21,300*	56.1	262.8	23,300*	58.5	265.6	24,700*	115
120	50.7	254.0	20,200*	54.1	259.3	22,100*	56.5	262.4	23,500*	120
125	48.5	249.8	19,200*	52.0	255.6	21,000*	54.5	259.0	22,400*	125
130	46.2	245.2	18,200*	49.8	251.5	19,900*	52.4	255.3	21,300*	130
135	43.8	240.2	17,300*	47.5	247.1	18,900*	50.2	251.3	20,200*	135
140	41.3	234.7	16,400*	45.2	242.3	17,900*	48.0	246.9	19,200*	140
145	38.7	228.7	15,500*	42.8	237.1	17,000*	45.7	242.2	18,200*	145
150	35.9	222.2	14,700*	40.2	231.5	16,100*	43.2	237.1	17,200*	150
155	32.9	214.9	14,000*	37.6	225.3	15,300*	40.7	231.6	16,300*	155
160	29.7	206.6	13,100*	34.7	218.4	14,500*	38.1	225.5	15,400*	160
165	26.0	197.2	12,100*	31.6	210.8	13,700*	35.2	218.8	14,600*	165
170	21.9	185.9	11,300*	28.2	202.1	12,700*	32.2	211.3	13,900*	170
175	16.8	171.7	10,500*	24.4	192.0	11,800*	28.9	202.8	12,900*	175
180	9.3	150.1	9,800*	20.0	179.8	11,000*	25.2	193.0	12,000*	180
185				14.2	163.5	10,300*	20.9	181.2	11,200*	185
190				3.0	130.4	9,600*	15.5	166.0	10,400*	190
195							6.7	140.5	9,700*	195
200										200
205										205
210										210
215										215
220										220

# 14000 S-3

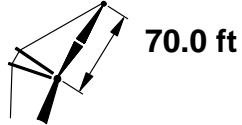
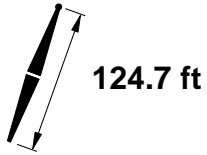
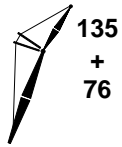
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115	62.3	268.8	26,900*							115
120	60.4	266.1	25,700*							120
125	58.4	263.1	24,500*							125
130	56.4	259.9	23,400*							130
135	54.3	256.4	22,300*							135
140	52.2	252.7	21,200*	56.2	256.4	23,100*				140
145	50.1	248.7	20,100*	54.1	252.9	22,000*				145
150	47.8	244.3	19,100*	52.0	249.1	21,000*				150
155	45.5	239.6	18,100*	49.9	245.1	20,000*				155
160	43.1	234.5	17,200*	47.6	240.7	19,000*	51.7	244.5	20,100	160
165	40.6	228.9	16,300*	45.3	235.9	18,100*	49.5	240.4	19,200	165
170	37.9	222.8	15,500*	42.9	230.8	17,100*	47.2	235.9	18,400	170
175	35.1	216.0	14,700*	40.3	225.1	16,300*	44.9	231.1	17,600	175
180	32.0	208.5	13,900*	37.6	218.9	15,400*	42.5	225.9	16,900	180
185	28.7	200.0	12,900*	34.8	212.1	14,600*	39.9	220.1	16,100*	185
190	25.0	190.1	12,000*	31.7	204.5	13,900*	37.2	213.9	15,300*	190
195	20.6	178.2	11,100*	28.4	195.8	12,800*	34.3	206.9	14,400*	195
200	15.1	162.7	10,400*	24.6	185.8	11,900*	31.2	199.1	13,700*	200
205	5.9	135.7	9,700*	20.1	173.6	11,100*	27.8	190.3	12,800*	205
210				14.5	157.6	10,300*	23.9	180.0	11,900*	210
215				3.9	126.6	9,700*	19.3	167.3	11,000*	215
220							13.3	150.2	10,300*	220

# 14000 S-3

ASME B30.5

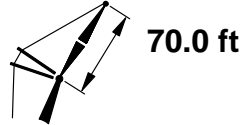
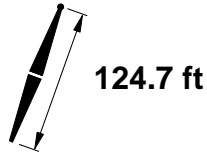
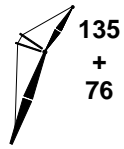


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
32	74.1	199.7	101,200*d						32	
34	72.3	199.1	101,200*c						34	
36	70.6	198.4	101,200*c						36	
38	68.9	197.7	101,200*c						38	
40	67.1	196.9	101,200*c						40	
45	62.6	194.5	100,300*b	70.3	197.4	102,600*c			45	
50	57.9	191.6	94,600*b	65.9	195.4	101,000*c			50	
55	52.9	188.2	87,800*b	61.3	192.9	93,400*b	67.2	194.9	97,600*c	
60	47.6	184.0	81,700*	56.6	189.9	86,700*b	62.7	192.6	90,500*b	
65	41.7	179.0	76,200*	51.5	186.2	80,600*b	58.0	189.7	82,500b	
70	35.2	172.7	71,200*	46.1	181.9	75,200*	53.0	186.3	75,200b	
75	27.3	164.4	66,700*	40.1	176.5	70,400*	47.7	182.1	69,100	
80	16.2	151.9	56,200*	33.2	169.8	65,900*	41.9	177.1	63,800	
85				24.7	160.8	61,200	35.3	170.8	59,200	
90				11.6	145.5	54,500*	27.4	162.6	55,100	
95							16.4	150.2	51,500	
100									100	
105									105	
110									110	
115									115	
120									120	
125									125	



# 14000 S-3

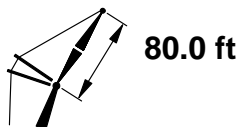
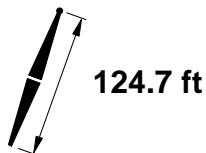
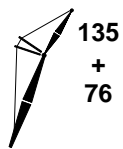
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
32									32	
34									34	
36									36	
38									38	
40									40	
45									45	
50									50	
55									55	
60									60	
65									65	
70									70	
75	58.5	187.5	65,200 <sup>b</sup>						75	
80	53.6	184.2	60,200 <sup>b</sup>						80	
85	48.3	180.1	55,900						85	
90	42.6	175.2	52,100	53.9	180.9	49,000 <sup>b</sup>			90	
95	36.1	169.1	48,700	48.7	176.9	45,800			95	
100	28.4	161.1	45,600	42.9	172.1	43,000			100	
105	18.0	149.5	42,900	36.5	166.0	40,400	48.6	172.6	37,900	105
110				29.0	158.3	38,100	42.9	167.7	35,700	110
115				18.8	147.0	36,000	36.5	161.7	33,800	115
120							28.9	153.9	32,000	120
125							18.8	142.6	30,300	125

# 14000 S-3

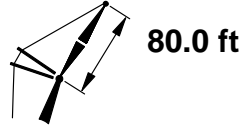
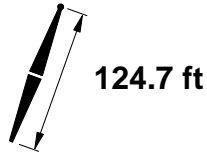
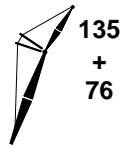
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
34	74.6	209.5	92,300*d						34	
36	73.1	208.9	92,200*c						36	
38	71.6	208.3	92,100*c						38	
40	70.1	207.6	92,100*c						40	
45	66.2	205.6	89,700*b						45	
50	62.3	203.2	85,900*b	69.1	206.2	93,400*c			50	
55	58.1	200.3	82,400*b	65.2	204.1	89,400*b			55	
60	53.8	196.9	79,200*	61.2	201.5	83,700*b	66.3	203.6	87,000*b	
65	49.2	193.0	74,100*	57.0	198.5	78,200*b	62.3	201.2	81,200*b	
70	44.3	188.3	69,600*	52.6	195.0	73,100*	58.2	198.4	74,900b	
75	38.9	182.6	65,400*	48.0	190.9	68,700*	53.9	195.0	68,800	
80	32.8	175.7	61,500*	42.9	185.9	64,500*	49.3	191.1	63,500	
85	25.5	166.8	57,400*	37.4	180.0	60,700*	44.4	186.4	58,900	
90	15.1	153.2	48,600*	31.0	172.7	56,800	39.0	180.8	54,900	
95				23.1	162.9	53,100	32.9	173.9	51,300	
100				10.8	146.5	47,500*	25.6	165.0	48,200	
105							15.4	151.6	45,200	
110									110	
115									115	
120									120	
125									125	
130									130	
135									135	

# 14000 S-3

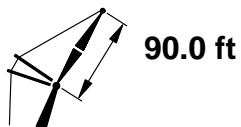
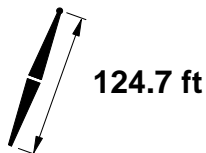
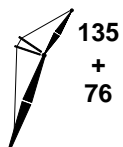
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75	62.8	199.0	64,800b							75
80	58.7	196.2	59,800b							80
85	54.4	192.9	55,500							85
90	49.9	189.0	51,700							90
95	45.0	184.4	48,400	54.7	189.7	45,400				95
100	39.7	178.9	45,400	50.2	185.8	42,600				100
105	33.7	172.2	42,700	45.3	181.3	40,100				105
110	26.6	163.6	40,200	40.0	175.8	37,800	50.1	181.4	35,300	110
115	16.9	151.0	38,000	34.1	169.2	35,700	45.3	176.9	33,400	115
120				27.1	160.8	33,800	40.0	171.5	31,600	120
125				17.6	148.6	32,000	34.1	164.8	30,000	125
130							27.0	156.4	28,500	130
135							17.6	144.2	27,000	135

# 14000 S-3

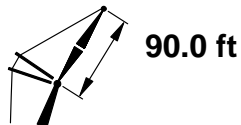
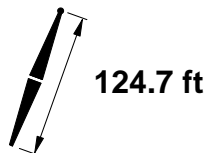
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
38	73.7	218.8	83,800*c							38
40	72.4	218.2	83,600*c							40
45	69.0	216.4	81,000*b							45
50	65.6	214.3	77,500*b							50
55	62.0	211.8	74,400*b	68.1	215.0	80,500*b				55
60	58.4	209.0	71,500*	64.6	212.8	77,300*b				60
65	54.5	205.7	68,700*	61.0	210.2	74,300*b	65.6	212.4	78,300*b	65
70	50.5	201.8	66,300*	57.3	207.2	71,500*	62.1	209.9	74,300*b	70
75	46.3	197.4	64,000*	53.5	203.8	67,600*	58.4	207.0	68,600	75
80	41.7	192.2	60,900*	49.4	199.8	63,700*	54.6	203.7	63,300	80
85	36.6	186.1	57,400*	45.1	195.2	60,100*	50.6	199.9	58,800	85
90	30.9	178.6	53,100*	40.4	189.7	56,700	46.3	195.5	54,800	90
95	24.0	169.0	49,300*	35.2	183.3	53,000	41.8	190.3	51,200	95
100	14.3	154.5	43,200*	29.2	175.3	49,800	36.7	184.2	48,000	100
105				21.8	164.9	46,800	31.0	176.7	45,200	105
110				10.2	147.4	42,400*	24.1	167.2	42,600	110
115							14.5	152.9	40,300	115
120										120
125										125
130										130
135										135
140										140
145										145

# 14000 S-3

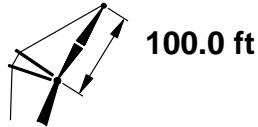
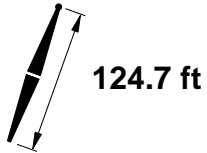
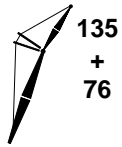
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80	62.5	207.7	59,600b							80
85	58.9	204.8	55,300							85
90	55.1	201.6	51,500							90
95	51.1	197.8	48,200							95
100	46.8	193.5	45,200	55.3	198.4	42,300				100
105	42.3	188.4	42,500	51.3	194.6	39,800				105
110	37.3	182.4	40,100	47.1	190.3	37,600				110
115	31.7	175.1	37,900	42.6	185.3	35,500	51.3	190.3	33,100	115
120	25.0	165.9	35,900	37.7	179.4	33,600	47.1	185.9	31,400	120
125	15.9	152.5	34,000	32.1	172.2	31,900	42.6	180.9	29,800	125
130				25.5	163.1	30,300	37.6	175.0	28,300	130
135				16.6	150.1	28,800	32.1	167.8	26,900	135
140							25.4	158.7	25,600	140
145							16.5	145.7	24,400	145

# 14000 S-3

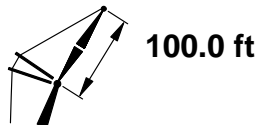
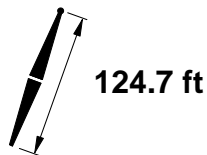
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
40	74.2	228.6	76,600*c						40	
45	71.2	227.0	75,700*b						45	
50	68.1	225.2	72,400*b						50	
55	65.0	223.0	69,300*b	70.4	225.7	75,000*b			55	
60	61.8	220.5	66,400*	67.3	223.7	71,900*b			60	
65	58.5	217.6	63,600*	64.2	221.5	69,000*b			65	
70	55.1	214.4	61,100*	60.9	218.9	66,300*	65.1	221.1	69,800*b	70
75	51.5	210.6	58,700*	57.6	215.9	63,600*	61.9	218.6	67,200*	75
80	47.8	206.4	56,500*	54.1	212.5	61,100*	58.6	215.7	63,000	80
85	43.8	201.5	54,500*	50.5	208.6	58,800*	55.2	212.4	58,400	85
90	39.4	195.9	52,600*	46.7	204.2	55,900*	51.6	208.7	54,400	90
95	34.7	189.3	49,000*	42.6	199.2	52,800	47.8	204.5	50,900	95
100	29.3	181.3	45,700*	38.2	193.3	49,500	43.8	199.6	47,800	100
105	22.7	171.0	42,800*	33.3	186.4	46,600	39.5	194.0	44,900	105
110	13.5	155.7	38,500*	27.7	177.9	44,000	34.8	187.4	42,400	110
115				20.7	166.7	41,500	29.4	179.4	40,100	115
120				9.7	148.3	38,000*	22.9	169.2	37,900	120
125							13.7	154.1	36,000	125
130										130
135										135
140										140
145										145
150										150
155										155

# 14000 S-3

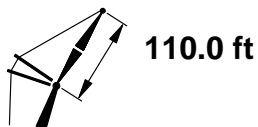
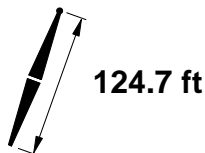
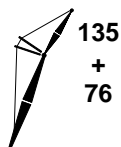
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85	62.3	216.3	54,900							85
90	59.0	213.5	51,100							90
95	55.6	210.3	47,800							95
100	52.0	206.6	44,800							100
105	48.3	202.5	42,200	55.8	207.1	39,400				105
110	44.3	197.7	39,800	52.2	203.4	37,200				110
115	40.0	192.2	37,600	48.5	199.3	35,100				115
120	35.4	185.7	35,600	44.6	194.5	33,300	52.2	199.1	31,000	120
125	30.1	177.9	33,800	40.3	189.1	31,500	48.5	194.9	29,400	125
130	23.7	168.0	32,100	35.7	182.7	30,000	44.5	190.2	27,900	130
135	15.1	153.8	30,500	30.4	175.0	28,500	40.3	184.7	26,500	135
140				24.2	165.3	27,200	35.6	178.3	25,300	140
145				15.8	151.5	25,900	30.4	170.6	24,100	145
150							24.1	160.9	23,000	150
155							15.7	147.1	21,900	155

# 14000 S-3

ASME B30.5

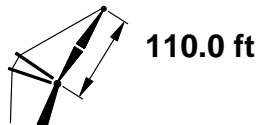
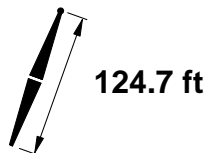


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	73.0	237.5	70,100*b							45
50	70.2	235.9	67,500*b							50
55	67.4	233.9	65,200*b							55
60	64.6	231.7	62,800*	69.5	234.5	67,100*b				60
65	61.7	229.2	60,700*	66.7	232.5	64,900*				65
70	58.7	226.3	58,500*	63.8	230.2	62,700*	67.5	232.0	65,300*b	70
75	55.6	223.1	56,400*	60.9	227.5	60,600*	64.6	229.8	63,300*	75
80	52.3	219.4	54,300*	57.8	224.6	58,500*	61.7	227.2	61,300*	80
85	49.0	215.3	52,300*	54.7	221.2	56,300*	58.7	224.4	58,400	85
90	45.4	210.7	50,500*	51.4	217.5	54,300*	55.6	221.1	54,400	90
95	41.6	205.4	48,800*	48.0	213.2	52,100*	52.4	217.5	50,900	95
100	37.5	199.4	46,400*	44.4	208.4	49,500	49.0	213.4	47,700	100
105	33.0	192.3	43,300*	40.6	203.0	46,600	45.5	208.8	44,900	105
110	27.9	183.8	40,400*	36.4	196.7	44,000	41.7	203.5	42,400	110
115	21.7	173.0	37,800*	31.7	189.3	41,600	37.6	197.5	40,100	115
120	12.9	156.9	34,200*	26.3	180.3	39,400	33.1	190.5	38,000	120
125				19.7	168.5	37,200*	28.0	182.0	36,000	125
130				9.2	149.1	33,700*	21.8	171.2	34,300	130
135							13.1	155.3	32,600	135
140										140
145										145
150										150
155										155
160										160
165										165



# 14000 S-3

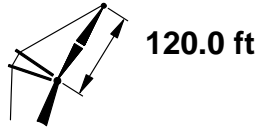
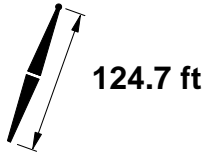
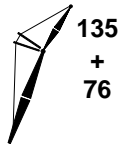
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	62.1	225.0	51,000							90
95	59.1	222.2	47,700							95
100	56.0	219.0	44,800							100
105	52.8	215.4	42,100							105
110	49.4	211.4	39,700	56.2	215.7	37,100				110
115	45.9	206.8	37,600	53.0	212.2	35,100				115
120	42.1	201.6	35,600	49.6	208.2	33,200				120
125	38.1	195.7	33,800	46.1	203.7	31,500	53.0	207.8	29,300	125
130	33.7	188.8	32,100	42.4	198.5	30,000	49.6	203.8	27,900	130
135	28.6	180.5	30,600	38.4	192.6	28,500	46.1	199.3	26,500	135
140	22.6	170.1	29,100	34.0	185.8	27,200	42.4	194.2	25,300	140
145	14.4	155.1	27,800	29.0	177.6	25,900	38.3	188.3	24,100	145
150				23.0	167.4	24,800	33.9	181.4	23,000	150
155				15.0	152.9	23,700	28.9	173.2	22,000	155
160							23.0	163.0	21,000	160
165							15.0	148.4	20,100	165

# 14000 S-3

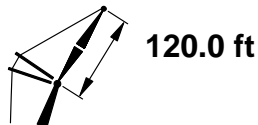
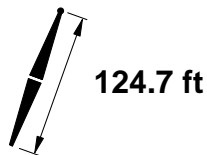
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	74.4	248.0	52,700* <b>b</b>							45
50	71.9	246.5	51,700* <b>b</b>							50
55	69.4	244.7	50,700* <b>b</b>							55
60	66.8	242.7	49,800*							60
65	64.2	240.4	48,800*	68.7	243.3	50,800*				65
70	61.5	237.8	48,000*	66.1	241.2	50,000*				70
75	58.8	235.0	47,100*	63.5	238.8	49,200*	66.9	240.7	50,100*	75
80	55.9	231.8	46,300*	60.8	236.2	48,400*	64.3	238.5	49,400*	80
85	53.0	228.2	44,600*	58.0	233.2	47,600*	61.6	235.9	48,700*	85
90	49.9	224.2	42,900*	55.2	229.9	46,200*	58.8	233.0	48,100*	90
95	46.7	219.8	41,400*	52.2	226.3	44,400*	56.0	229.8	46,800*	95
100	43.4	214.8	39,900*	49.1	222.2	42,800*	53.1	226.3	45,000*	100
105	39.8	209.1	38,400*	45.9	217.6	41,200*	50.0	222.3	43,400*	105
110	35.9	202.7	37,200*	42.4	212.4	39,800*	46.8	217.9	41,800*	110
115	31.6	195.2	36,000*	38.8	206.6	38,400*	43.4	212.9	39,800	115
120	26.7	186.2	35,000*	34.8	199.9	37,100*	39.8	207.3	37,700	120
125	20.7	174.8	33,600*	30.3	192.1	36,000*	36.0	200.8	35,800	125
130	12.3	158.0	30,500*	25.2	182.6	35,000*	31.7	193.4	34,000	130
135				18.8	170.2	33,100*	26.8	184.4	32,400	135
140				8.8	149.9	30,100*	20.9	173.1	30,900	140
145							12.5	156.4	29,400	145
150										150
155										155
160										160
165										165
170										170
175										175

# 14000 S-3

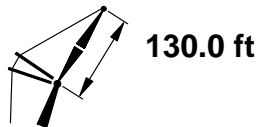
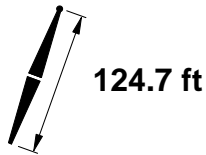
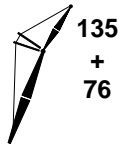
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	61.9	233.7	47,300							95
100	59.1	230.8	44,400							100
105	56.3	227.7	41,700							105
110	53.4	224.2	39,400							110
115	50.4	220.2	37,200	56.5	224.4	34,700				115
120	47.2	215.9	35,200	53.6	220.9	32,800				120
125	43.8	210.9	33,400	50.6	217.0	31,100				125
130	40.3	205.4	31,800	47.4	212.7	29,600				130
135	36.4	199.1	30,300	44.1	207.8	28,200	50.5	212.7	26,100	135
140	32.2	191.7	28,800	40.5	202.3	26,800	47.4	208.3	24,900	140
145	27.4	183.0	27,500	36.7	196.0	25,600	44.0	203.4	23,700	145
150	21.6	172.0	26,300	32.5	188.8	24,400	40.5	197.9	22,600	150
155	13.8	156.4	25,100	27.7	180.2	23,400	36.7	191.7	21,600	155
160				22.0	169.4	22,400	32.4	184.4	20,700	160
165				14.4	154.1	21,400	27.7	175.8	19,800	165
170							22.0	165.0	19,000	170
175							14.3	149.7	18,100	175

# 14000 S-3

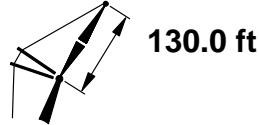
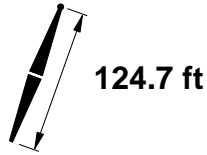
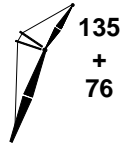
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
50	73.4	256.9	48,700* <b>b</b>							50
55	71.0	255.3	47,800* <b>b</b>							55
60	68.7	253.5	46,900*							60
65	66.3	251.4	46,100*	70.4	253.9	47,700*				65
70	63.9	249.1	45,300*	68.1	252.0	47,000*				70
75	61.4	246.5	44,400*	65.7	249.9	46,300*				75
80	58.9	243.6	42,800*	63.2	247.5	45,600*	66.4	249.5	46,300*	80
85	56.3	240.5	41,200*	60.7	244.9	44,200*	63.9	247.1	45,800*	85
90	53.6	236.9	39,600*	58.2	241.9	42,600*	61.5	244.6	44,700*	90
95	50.8	233.1	38,200*	55.5	238.6	41,000*	58.9	241.7	43,100*	95
100	47.9	228.8	36,700*	52.8	235.0	39,500*	56.3	238.5	41,500*	100
105	44.8	224.0	35,400*	50.0	231.0	38,000*	53.6	235.0	40,000*	105
110	41.6	218.7	34,100*	47.1	226.6	36,600*	50.8	231.1	38,500*	110
115	38.2	212.7	32,900*	44.0	221.7	35,300*	47.9	226.8	37,200*	115
120	34.4	205.9	31,800*	40.7	216.2	34,000*	44.9	222.1	35,800*	120
125	30.3	198.0	30,800*	37.2	210.0	32,900*	41.7	216.8	34,500*	125
130	25.6	188.6	29,800*	33.4	203.0	31,700*	38.2	210.8	33,300*	130
135	19.9	176.6	29,100*	29.1	194.7	30,800*	34.5	204.0	32,200	135
140	11.9	159.1	27,200*	24.2	184.7	29,800*	30.4	196.1	30,700	140
145				18.1	171.8	29,100*	25.7	186.8	29,300	145
150				8.5	150.6	26,900*	20.0	174.9	28,000	150
155							12.1	157.5	26,800	155
160										160
165										165
170										170
175										175
180										180
185										185

# 14000 S-3

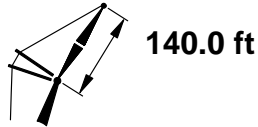
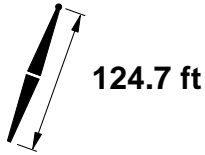
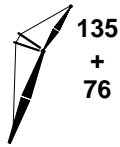
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	61.7	242.3	44,100							105
110	59.2	239.5	41,500							110
115	56.6	236.4	39,100							115
120	53.9	232.9	37,000							120
125	51.1	229.1	35,000	56.8	233.1	32,600				125
130	48.3	224.8	33,200	54.1	229.7	30,900				130
135	45.2	220.1	31,600	51.3	225.9	29,300				135
140	42.0	214.9	30,000	48.4	221.6	27,900				140
145	38.6	209.0	28,600	45.4	217.0	26,600	51.3	221.5	24,600	145
150	34.9	202.3	27,300	42.2	211.8	25,400	48.4	217.3	23,400	150
155	30.9	194.6	26,100	38.9	205.9	24,200	45.4	212.6	22,400	155
160	26.3	185.4	25,000	35.2	199.3	23,200	42.2	207.4	21,400	160
165	20.8	173.9	23,900	31.2	191.6	22,200	38.8	201.5	20,500	165
170	13.2	157.5	22,900	26.6	182.6	21,200	35.2	194.9	19,600	170
175				21.1	171.3	20,300	31.1	187.2	18,800	175
180				13.8	155.4	19,500	26.6	178.2	18,000	180
185							21.1	166.9	17,200	185
							13.8	150.9	16,500	185

# 14000 S-3

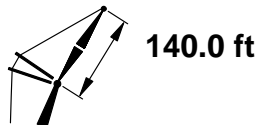
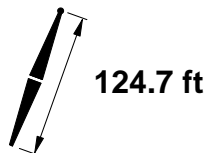
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
50	74.6	267.3	45,600* <b>b</b>						50	
55	72.4	265.9	44,800* <b>b</b>						55	
60	70.3	264.2	44,000*						60	
65	68.1	262.3	43,200*						65	
70	65.9	260.1	42,400*	69.7	262.8	43,900*			70	
75	63.6	257.8	40,800*	67.5	260.8	43,300*			75	
80	61.3	255.2	39,200*	65.3	258.6	42,100*			80	
85	58.9	252.3	37,600*	63.0	256.2	40,500*	65.9	258.2	42,500*	85
90	56.5	249.1	36,100*	60.7	253.5	38,900*	63.7	255.8	40,900*	90
95	54.0	245.7	34,700*	58.3	250.6	37,400*	61.3	253.2	39,400*	95
100	51.5	241.9	33,200*	55.9	247.3	35,900*	59.0	250.4	37,900*	100
105	48.8	237.7	32,000*	53.4	243.8	34,600*	56.6	247.2	36,400*	105
110	46.0	233.1	30,700*	50.8	239.9	33,200*	54.1	243.7	35,000*	110
115	43.1	228.0	29,400*	48.1	235.6	31,800*	51.5	240.0	33,700*	115
120	40.0	222.4	28,300*	45.2	230.9	30,500*	48.8	235.8	32,300*	120
125	36.7	216.1	27,200*	42.3	225.6	29,300*	46.1	231.2	31,000*	125
130	33.1	208.9	26,200*	39.2	219.8	28,200*	43.2	226.1	29,800*	130
135	29.2	200.6	25,200*	35.8	213.3	27,100*	40.1	220.5	28,700*	135
140	24.7	190.8	24,400*	32.1	205.9	26,100*	36.8	214.2	27,500*	140
145	19.2	178.4	23,600*	28.0	197.3	25,100*	33.2	207.0	26,500*	145
150	11.4	160.1	23,100*	23.3	186.8	24,300*	29.3	198.8	25,600*	150
155				17.4	173.4	23,600*	24.8	189.0	24,700*	155
160				8.2	151.4	23,100*	19.3	176.6	23,900*	160
165							11.6	158.5	23,300*	165
170									170	
175									175	
180									180	
185									185	
190									190	
195									195	

# 14000 S-3

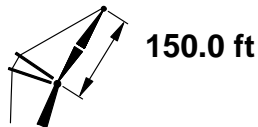
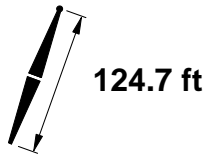
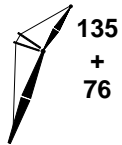
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	61.6	251.0	39,200*							105
110	59.3	248.2	37,800*							110
115	56.9	245.0	36,400*							115
120	54.4	241.6	34,600							120
125	51.8	237.9	32,900	57.0	241.8	30,500				125
130	49.2	233.7	31,200	54.5	238.4	28,900				130
135	46.4	229.2	29,700	52.0	234.7	27,500				135
140	43.5	224.2	28,300	49.3	230.6	26,200				140
145	40.4	218.6	27,000	46.6	226.0	25,000	52.0	230.3	23,000	145
150	37.2	212.4	25,800	43.7	221.1	23,900	49.3	226.2	22,000	150
155	33.6	205.4	24,700	40.6	215.5	22,800	46.6	221.7	21,000	155
160	29.7	197.3	23,600	37.4	209.4	21,800	43.7	216.7	20,100	160
165	25.3	187.7	22,600	33.9	202.4	20,900	40.6	211.2	19,200	165
170	20.0	175.7	21,700	30.0	194.4	20,000	37.4	205.0	18,400	170
175	12.7	158.7	20,800	25.6	184.9	19,200	33.9	198.0	17,600	175
180				20.4	173.1	18,400	30.0	190.0	16,900	180
185				13.3	156.6	17,600	25.6	180.5	16,200	185
190							20.3	168.7	15,500	190
195							13.3	152.1	14,900	195

# 14000 S-3

ASME B30.5

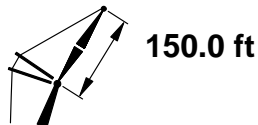
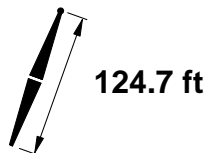


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
55	73.7	276.3	41,900* <sup>b</sup>							55
60	71.7	274.7	41,200*							60
65	69.6	273.0	40,500*							65
70	67.6	271.0	39,100*							70
75	65.5	268.9	37,600*	69.1	271.6	40,300*				75
80	63.4	266.5	36,100*	67.0	269.5	38,800*				80
85	61.2	263.8	34,600*	64.9	267.3	37,300*	67.6	269.1	39,000*	85
90	59.0	261.0	33,200*	62.8	264.9	35,800*	65.5	266.9	37,600*	90
95	56.8	257.8	31,700*	60.6	262.2	34,400*	63.4	264.5	36,200*	95
100	54.4	254.4	30,400*	58.4	259.2	32,900*	61.3	261.9	34,800*	100
105	52.1	250.7	29,100*	56.1	256.0	31,600*	59.1	259.0	33,400*	105
110	49.6	246.6	27,900*	53.8	252.5	30,300*	56.8	255.9	32,000*	110
115	47.0	242.1	26,700*	51.4	248.7	29,000*	54.5	252.5	30,700*	115
120	44.4	237.3	25,500*	48.9	244.5	27,700*	52.1	248.7	29,400*	120
125	41.6	231.9	24,500*	46.3	240.0	26,500*	49.6	244.7	28,100*	125
130	38.6	226.0	23,400*	43.6	235.0	25,400*	47.1	240.2	26,900*	130
135	35.4	219.3	22,400*	40.8	229.4	24,300*	44.4	235.4	25,800*	135
140	32.0	211.8	21,500*	37.8	223.3	23,300*	41.6	230.0	24,700*	140
145	28.2	203.2	20,700*	34.5	216.5	22,300*	38.7	224.1	23,700*	145
150	23.8	192.9	19,800*	31.0	208.7	21,400*	35.5	217.5	22,700*	150
155	18.5	180.0	19,100*	27.1	199.7	20,600*	32.1	210.0	21,800*	155
160	11.0	161.1	18,600*	22.5	188.9	19,800*	28.3	201.4	20,900*	160
165				16.8	174.9	19,100*	23.9	191.1	20,000*	165
170				7.9	152.1	18,700*	18.6	178.3	19,300*	170
175							11.2	159.5	18,800*	175
180										180
185										185
190										190
195										195
200										200
205										205



# 14000 S-3

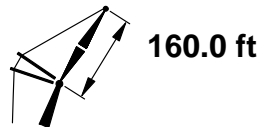
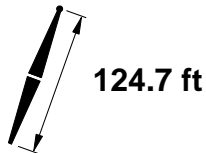
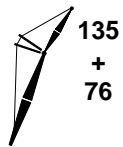
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	61.5	259.7	34,600*							110
115	59.3	256.8	33,300*							115
120	57.1	253.7	32,000*							120
125	54.8	250.3	30,700*							125
130	52.4	246.6	29,500*	57.2	250.5	28,800				130
135	49.9	242.6	28,300*	54.9	247.1	27,400				135
140	47.4	238.2	27,100*	52.5	243.4	26,100				140
145	44.7	233.4	26,000*	50.1	239.4	24,900				145
150	42.0	228.1	24,900*	47.6	235.0	23,800	52.5	239.1	21,900	150
155	39.0	222.2	23,900*	44.9	230.3	22,700	50.1	235.1	20,900	155
160	35.9	215.7	22,900*	42.1	225.0	21,700	47.5	230.7	20,000	160
165	32.5	208.3	22,000*	39.2	219.2	20,800	44.9	225.9	19,100	165
170	28.7	199.9	21,100*	36.1	212.7	19,900	42.1	220.6	18,300	170
175	24.4	189.9	20,300*	32.7	205.4	19,100	39.2	214.8	17,500	175
180	19.3	177.4	19,500*	29.0	197.0	18,300	36.1	208.3	16,800	180
185	12.3	159.8	19,000*	24.7	187.1	17,600	32.7	201.0	16,100	185
190				19.7	174.9	16,900	28.9	192.6	15,500	190
195				12.8	157.7	16,200	24.7	182.7	14,900	195
200							19.6	170.4	14,300	200
205							12.8	153.3	13,700	205

# 14000 S-3

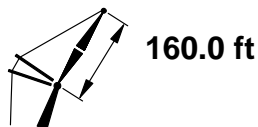
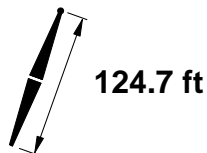
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
55	74.7	286.7	39,000* <sup>b</sup>							55
60	72.8	285.2	38,300*							60
65	71.0	283.6	37,300*							65
70	69.0	281.8	35,700*							70
75	67.1	279.8	34,300*	70.4	282.2	36,800*				75
80	65.2	277.6	32,800*	68.5	280.3	35,400*				80
85	63.2	275.1	31,400*	66.6	278.3	34,000*				85
90	61.1	272.5	30,000*	64.6	276.0	32,500*	67.2	277.8	34,200*	90
95	59.1	269.6	28,700*	62.6	273.5	31,100*	65.2	275.6	32,900*	95
100	57.0	266.5	27,400*	60.6	270.8	29,800*	63.2	273.2	31,500*	100
105	54.8	263.1	26,100*	58.5	267.9	28,400*	61.2	270.6	30,100*	105
110	52.6	259.4	24,900*	56.4	264.7	27,100*	59.1	267.7	28,900*	110
115	50.3	255.5	23,700*	54.2	261.2	25,900*	57.0	264.6	27,600*	115
120	47.9	251.1	22,600*	52.0	257.5	24,700*	54.8	261.2	26,300*	120
125	45.5	246.4	21,500*	49.7	253.4	23,500*	52.6	257.5	25,100*	125
130	42.9	241.3	20,500*	47.3	249.0	22,400*	50.3	253.5	24,000*	130
135	40.2	235.6	19,500*	44.8	244.2	21,400*	48.0	249.2	22,800*	135
140	37.3	229.4	18,600*	42.2	238.9	20,300*	45.5	244.5	21,700*	140
145	34.3	222.5	17,700*	39.4	233.1	19,400*	42.9	239.4	20,700*	145
150	30.9	214.6	16,900*	36.5	226.7	18,500*	40.2	233.7	19,700*	150
155	27.3	205.7	16,100*	33.4	219.5	17,600*	37.4	227.5	18,800*	155
160	23.1	195.0	15,400*	30.0	211.4	16,800*	34.3	220.6	17,900*	160
165	17.9	181.6	14,700*	26.2	202.1	16,000*	31.0	212.8	17,100*	165
170	10.7	162.0	14,000*	21.8	190.8	15,300*	27.3	203.8	16,200*	170
175				16.3	176.3	14,600*	23.1	193.2	15,600*	175
180				7.7	152.8	13,900*	18.0	179.9	14,900*	180
185							10.9	160.5	14,200*	185
190										190
195										195
200										200
205										205
210										210
215										215

# 14000 S-3

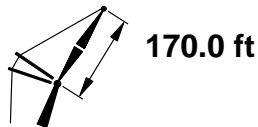
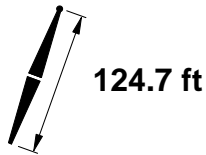
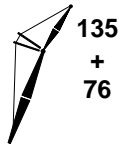
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115	61.4	268.3	30,000*							115
120	59.4	265.5	28,800*							120
125	57.3	262.4	27,600*							125
130	55.1	259.0	26,400*							130
135	52.9	255.4	25,200*	57.4	259.1	27,000				135
140	50.6	251.5	24,100*	55.2	255.8	25,700				140
145	48.2	247.2	23,000*	53.0	252.2	24,500				145
150	45.8	242.5	21,900*	50.7	248.3	23,400				150
155	43.2	237.4	20,900*	48.4	244.0	22,400				155
160	40.6	231.9	19,900*	46.0	239.4	21,400	50.7	243.9	19,600	160
165	37.7	225.7	19,000*	43.4	234.3	20,500	48.4	239.6	18,700	165
170	34.7	218.9	18,100*	40.7	228.8	19,600	45.9	235.0	17,900	170
175	31.4	211.2	17,200*	37.9	222.7	18,800	43.4	229.9	17,200	175
180	27.8	202.4	16,400*	34.9	215.9	18,000	40.7	224.4	16,400	180
185	23.7	192.0	15,700*	31.6	208.3	17,300	37.9	218.3	15,800	185
190	18.7	179.1	15,000*	28.0	199.5	16,500*	34.9	211.5	15,100	190
195	11.9	160.8	14,300*	23.9	189.3	15,800*	31.6	203.9	14,500	195
200				19.0	176.6	15,100*	28.0	195.1	13,900	200
205				12.4	158.8	14,400*	23.9	184.9	13,400	205
210							19.0	172.1	12,800	210
215							12.4	154.4	12,300	215

# 14000 S-3

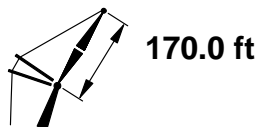
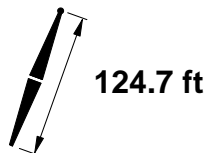
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
60	73.9	295.7	35,600*							60
65	72.1	294.1	34,400*							65
70	70.3	292.4	33,000*							70
75	68.5	290.6	31,500*							75
80	66.7	288.5	30,200*	69.8	291.0	32,600*				80
85	64.9	286.3	28,800*	68.0	289.1	31,200*				85
90	63.0	283.8	27,500*	66.2	287.0	29,800*				90
95	61.1	281.2	26,200*	64.4	284.7	28,500*	66.7	286.6	30,100*	95
100	59.1	278.3	24,900*	62.5	282.2	27,300*	64.9	284.3	28,800*	100
105	57.1	275.2	23,700*	60.6	279.5	26,000*	63.0	281.9	27,600*	105
110	55.1	271.8	22,500*	58.6	276.6	24,800*	61.1	279.2	26,300*	110
115	53.0	268.2	21,500*	56.6	273.4	23,500*	59.2	276.3	25,100*	115
120	50.9	264.3	20,400*	54.6	270.0	22,400*	57.2	273.2	23,900*	120
125	48.7	260.1	19,300*	52.5	266.3	21,300*	55.2	269.9	22,700*	125
130	46.4	255.5	18,400*	50.3	262.3	20,200*	53.1	266.3	21,600*	130
135	44.0	250.5	17,400*	48.1	258.0	19,100*	50.9	262.4	20,500*	135
140	41.6	245.1	16,500*	45.8	253.3	18,200*	48.7	258.1	19,500*	140
145	38.9	239.2	15,600*	43.4	248.2	17,300*	46.5	253.6	18,500*	145
150	36.2	232.7	14,800*	40.9	242.7	16,400*	44.1	248.6	17,500*	150
155	33.2	225.5	14,000*	38.2	236.6	15,500*	41.6	243.2	16,600*	155
160	30.0	217.4	13,200*	35.4	229.9	14,700*	39.0	237.3	15,800*	160
165	26.4	208.0	12,300*	32.4	222.5	13,900*	36.2	230.8	15,000*	165
170	22.4	197.0	11,400*	29.1	214.1	13,000*	33.3	223.6	14,200*	170
175	17.4	183.2	10,600*	25.4	204.4	12,100*	30.1	215.5	13,300*	175
180	10.4	162.9	9,900*	21.1	192.7	11,200*	26.5	206.2	12,400*	180
185				15.8	177.7	10,500*	22.4	195.2	11,500*	185
190				7.4	153.4	9,800*	17.5	181.5	10,700*	190
195							10.5	161.4	10,000*	195
200										200
205										205
210										210
215										215
220										220
225										225

# 14000 S-3

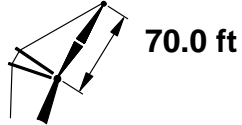
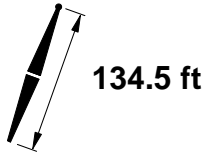
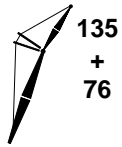
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120	61.3	277.0	26,200*							120
125	59.4	274.1	25,100*							125
130	57.4	271.1	23,900*							130
135	55.4	267.7	22,800*							135
140	53.3	264.2	21,700*	57.5	267.8	23,700*				140
145	51.2	260.3	20,700*	55.5	264.5	22,700*				145
150	49.0	256.1	19,700*	53.5	260.9	21,700*				150
155	46.7	251.6	18,700*	51.3	257.1	20,600*				155
160	44.4	246.7	17,700*	49.1	252.9	19,700*				160
165	41.9	241.3	16,800*	46.9	248.4	18,700*	51.3	252.7	18,500	165
170	39.3	235.5	16,000*	44.5	243.5	17,700*	49.1	248.6	17,700	170
175	36.6	229.1	15,100*	42.0	238.2	16,900*	46.9	244.0	16,900	175
180	33.6	222.0	14,300*	39.5	232.4	16,000*	44.5	239.2	16,200	180
185	30.4	214.0	13,500*	36.7	226.0	15,200*	42.0	233.8	15,500	185
190	26.9	204.8	12,500*	33.8	219.0	14,400*	39.5	228.0	14,900	190
195	22.9	194.1	11,600*	30.7	211.0	13,600*	36.7	221.7	14,300	195
200	18.1	180.7	10,800*	27.2	202.0	12,600*	33.8	214.6	13,700	200
205	11.5	161.8	10,100*	23.2	191.4	11,700*	30.6	206.7	13,100	205
210				18.5	178.2	10,900*	27.2	197.6	12,600*	210
215				12.1	159.9	10,200*	23.2	186.9	11,700*	215
220							18.4	173.8	10,900*	220
225							12.0	155.4	10,200*	225

# 14000 S-3

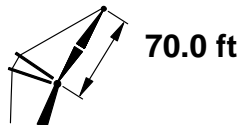
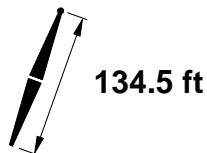
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
32	74.5	209.7	98,000*d						32	
34	72.8	209.1	98,000*d						34	
36	71.1	208.4	98,000*c						36	
38	69.3	207.7	98,000*c						38	
40	67.6	206.9	98,000*c						40	
45	63.1	204.6	98,000*b						45	
50	58.4	201.8	93,300*b	67.0	205.7	99,700*c			50	
55	53.4	198.4	86,600*b	62.5	203.3	92,300*b			55	
60	48.1	194.3	80,600*	57.7	200.4	85,700*b	64.2	203.1	89,300*c	
65	42.4	189.4	75,200*	52.7	196.9	79,600*b	59.6	200.4	81,700*b	
70	35.9	183.2	70,300*	47.4	192.8	74,300*	54.7	197.2	74,600*b	
75	28.2	175.2	65,800*	41.6	187.7	69,400*	49.5	193.3	68,500	
80	17.6	163.4	58,200*	35.0	181.3	65,000*	43.9	188.6	63,200	
85				27.0	173.0	60,900	37.6	182.8	58,700	
90				15.7	160.2	56,600	30.3	175.4	54,700	
95							20.8	165.0	51,100	
100									100	
105									105	
110									110	
115									115	
120									120	
125									125	
130									130	

# 14000 S-3

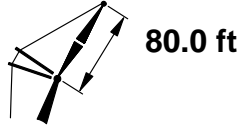
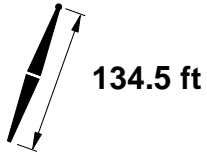
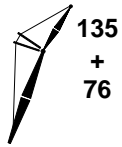
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
32										32
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75	60.9	198.5	64,200 <b>b</b>							75
80	56.1	195.5	59,300 <b>b</b>							80
85	51.0	191.8	55,000 <b>b</b>							85
90	45.6	187.3	51,200	57.2	192.5	47,800 <b>b</b>				90
95	39.5	181.9	47,900	52.2	188.9	44,700 <b>b</b>				95
100	32.5	175.0	44,900	46.8	184.7	41,900				100
105	23.9	165.7	42,200	40.9	179.5	39,500				105
110	9.6	149.0	39,700	34.2	173.0	37,200	47.7	180.7	34,600	110
115				26.1	164.4	35,100	41.9	175.7	32,700	115
120				14.1	150.7	33,200	35.3	169.4	30,900	120
125							27.5	161.2	29,300	125
130							16.5	148.8	27,800	130

# 14000 S-3

ASME B30.5

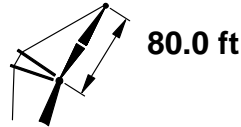
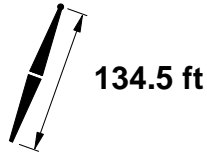
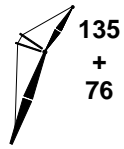


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
34	75.0	219.5	89,600*d						34	
36	73.5	218.9	89,500*c						36	
38	72.0	218.3	89,500*c						38	
40	70.5	217.6	89,400*c						40	
45	66.6	215.6	89,300*b						45	
50	62.7	213.3	85,600*b	70.0	216.4	90,500*c			50	
55	58.6	210.5	82,200*b	66.1	214.4	88,700*b			55	
60	54.3	207.1	78,200*	62.2	212.0	82,700*b	67.6	214.1	85,800*c	
65	49.7	203.2	73,200*	58.0	209.1	77,200*b	63.7	211.8	80,100*b	
70	44.9	198.6	68,600*	53.7	205.7	72,200*	59.6	209.1	74,200b	
75	39.5	193.1	64,500*	49.1	201.7	67,700*	55.4	205.9	68,100	
80	33.5	186.3	60,700*	44.2	197.0	63,600*	50.9	202.2	62,900	
85	26.3	177.7	57,100*	38.8	191.3	59,900*	46.1	197.8	58,400	
90	16.5	164.9	50,300*	32.6	184.4	56,400*	40.9	192.5	54,400	
95				25.2	175.3	52,800	35.1	186.1	50,900	
100				14.7	161.5	49,500	28.3	178.0	47,700	
105							19.5	166.7	44,900	
110									110	
115									115	
120									120	
125									125	
130									130	
135									135	
140									140	



# 14000 S-3

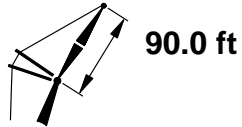
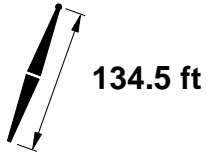
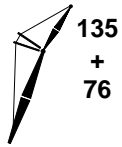
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80	60.8	207.2	58,800 <sup>b</sup>							80
85	56.6	204.1	54,600							85
90	52.2	200.6	50,900							90
95	47.5	196.3	47,600	57.6	201.2	44,300 <sup>b</sup>				95
100	42.5	191.3	44,600	53.2	197.7	41,500				100
105	36.9	185.3	42,000	48.6	193.7	39,100				105
110	30.4	177.8	39,600	43.7	188.8	36,800				110
115	22.3	167.7	37,400	38.2	183.1	34,800	49.4	189.6	32,300	115
120	9.0	149.9	35,300	32.0	176.0	33,000	44.4	185.0	30,500	120
125				24.4	166.6	31,200	39.1	179.4	29,000	125
130				13.2	151.9	29,600	33.0	172.5	27,500	130
135							25.7	163.6	26,100	135
140							15.4	150.2	24,800	140

# 14000 S-3

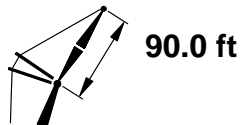
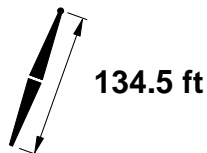
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
38	74.1	228.7	81,500*c						38	
40	72.7	228.1	81,400*c						40	
45	69.4	226.4	80,500*c						45	
50	65.9	224.4	77,200*b						50	
55	62.4	221.9	74,100*b	68.9	225.2	80,500*b			55	
60	58.7	219.1	71,300*	65.5	223.1	77,400*b			60	
65	54.9	215.9	68,600*	61.9	220.6	74,500*b	66.8	222.8	78,100*b	65
70	50.9	212.1	66,200*	58.2	217.7	70,800*	63.3	220.5	73,200*b	70
75	46.7	207.7	63,600*	54.4	214.4	66,700*	59.7	217.8	67,900	75
80	42.2	202.6	60,100*	50.4	210.6	62,800*	55.9	214.6	62,700	80
85	37.2	196.6	56,700*	46.1	206.1	59,200*	52.0	211.0	58,200	85
90	31.5	189.3	53,500*	41.5	200.9	55,900*	47.8	206.8	54,200	90
95	24.8	179.9	49,700*	36.5	194.7	52,800	43.4	201.9	50,700	95
100	15.5	166.3	44,700*	30.7	187.2	49,500	38.5	196.1	47,600	100
105				23.8	177.5	46,600	33.1	189.2	44,800	105
110				13.9	162.8	43,900	26.7	180.5	42,200	110
115							18.3	168.4	39,900	115
120									120	
125									125	
130									130	
135									135	
140									140	
145									145	
150									150	

# 14000 S-3

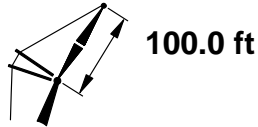
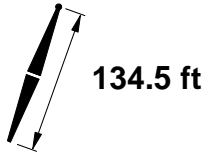
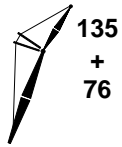
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85	60.7	215.8	54,400 <sup>b</sup>							85
90	57.0	212.8	50,600							90
95	53.1	209.3	47,400							95
100	49.0	205.3	44,400	57.9	209.8	41,300				100
105	44.7	200.6	41,800	54.0	206.4	38,800				105
110	39.9	195.1	39,400	50.0	202.5	36,600				110
115	34.7	188.5	37,300	45.7	198.0	34,600				115
120	28.6	180.4	35,300	41.0	192.7	32,800	50.6	198.5	30,300	120
125	21.0	169.6	33,500	35.9	186.4	31,100	46.4	194.1	28,700	125
130	8.5	150.6	31,700	30.1	178.7	29,500	41.8	188.9	27,300	130
135				22.9	168.7	28,100	36.8	182.8	26,000	135
140				12.5	153.0	26,700	31.0	175.4	24,700	140
145							24.2	165.8	23,600	145
150							14.6	151.6	22,400	150

# 14000 S-3

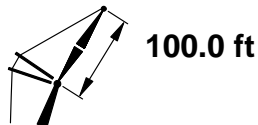
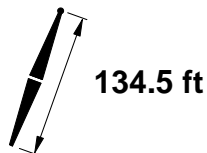
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
40	74.5	238.6	74,700*c							40
45	71.5	237.0	74,400*c							45
50	68.5	235.2	72,000*b							50
55	65.3	233.1	69,100*b							55
60	62.2	230.6	66,200*	68.1	234.0	72,100*b				60
65	58.9	227.8	63,500*	64.9	231.8	69,200*b				65
70	55.5	224.6	61,100*	61.7	229.3	66,500*	66.2	231.5	70,200*b	70
75	51.9	220.9	58,700*	58.4	226.4	63,800*	63.0	229.2	67,000*	75
80	48.2	216.7	56,600*	55.0	223.1	61,400*	59.7	226.4	62,400	80
85	44.2	211.9	54,600*	51.4	219.4	58,200*	56.3	223.3	57,900	85
90	39.9	206.3	52,700*	47.6	215.1	55,000*	52.8	219.7	53,900	90
95	35.2	199.8	49,400*	43.6	210.2	52,100*	49.1	215.7	50,400	95
100	29.9	192.0	46,000*	39.3	204.6	49,200	45.2	211.1	47,300	100
105	23.5	182.1	43,100*	34.5	197.9	46,300	41.0	205.7	44,500	105
110	14.7	167.6	39,800*	29.1	189.9	43,700	36.5	199.5	42,000	110
115				22.5	179.5	41,300	31.3	192.0	39,700	115
120				13.2	164.0	39,100	25.3	182.8	37,600	120
125							17.4	170.0	35,600	125
130										130
135										135
140										140
145										145
150										150
155										155
160										160

# 14000 S-3

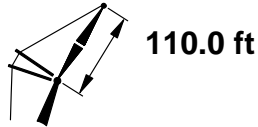
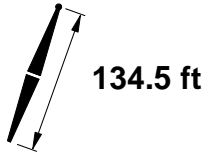
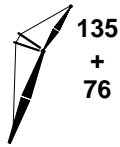
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	60.7	224.5	50,200							90
95	57.3	221.5	47,000							95
100	53.8	218.1	44,000							100
105	50.2	214.2	41,400							105
110	46.4	209.7	39,100	54.6	215.2	36,200				110
115	42.3	204.6	36,900	51.0	211.4	34,200				115
120	37.8	198.6	35,000	47.3	207.1	32,400				120
125	32.8	191.6	33,200	43.2	202.1	30,700	51.6	207.3	28,300	125
130	27.1	182.9	31,500	38.9	196.3	29,200	47.8	203.1	26,900	130
135	19.9	171.4	30,000	34.0	189.6	27,800	43.9	198.2	25,600	135
140	8.1	151.3	28,500	28.5	181.3	26,400	39.5	192.6	24,300	140
145				21.8	170.7	25,200	34.8	186.0	23,200	145
150				11.8	154.1	24,000	29.4	178.1	22,100	150
155							22.9	167.9	21,100	155
160							13.8	152.8	20,200	160

# 14000 S-3

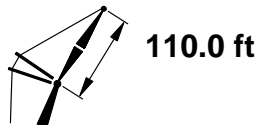
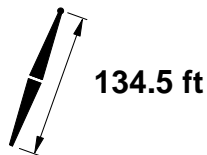
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	73.2	247.5	68,500*b							45
50	70.5	245.9	67,000*b							50
55	67.7	244.0	64,700*b							55
60	64.9	241.8	62,500*	70.1	244.7	66,900*b				60
65	62.0	239.3	60,400*	67.3	242.7	64,800*b				65
70	59.0	236.5	58,300*	64.5	240.5	62,600*				70
75	55.9	233.3	56,400*	61.6	238.0	60,600*	65.6	240.2	63,300*	75
80	52.7	229.7	54,300*	58.6	235.1	58,700*	62.7	237.8	61,400*	80
85	49.3	225.6	52,400*	55.5	231.8	56,600*	59.7	235.1	57,800	85
90	45.8	221.0	50,600*	52.2	228.2	54,000*	56.7	232.0	53,800	90
95	42.0	215.8	48,900*	48.9	224.1	51,300*	53.5	228.5	50,400	95
100	38.0	209.9	46,800*	45.3	219.4	48,700*	50.2	224.6	47,200	100
105	33.5	202.9	43,600*	41.5	214.1	46,300	46.7	220.1	44,500	105
110	28.5	194.6	40,700*	37.4	208.0	43,700	43.0	215.1	42,000	110
115	22.4	184.1	38,000*	32.9	200.9	41,300	39.1	209.4	39,700	115
120	14.0	168.9	34,900*	27.7	192.4	39,200	34.7	202.7	37,600	120
125				21.5	181.5	37,200	29.8	194.8	35,700	125
130				12.5	165.1	35,200*	24.1	184.9	33,900	130
135							16.6	171.5	32,300	135
140										140
145										145
150										150
155										155
160										160
165										165
170										170

# 14000 S-3

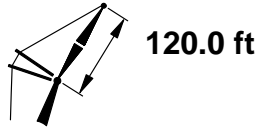
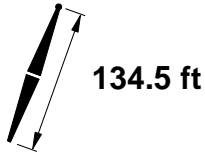
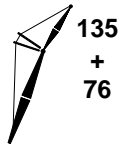
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
45									45	
50									50	
55									55	
60									60	
65									65	
70									70	
75									75	
80									80	
85									85	
90									90	
95	60.6	233.2	46,900						95	
100	57.6	230.2	44,000						100	
105	54.4	226.8	41,400						105	
110	51.1	223.0	39,000						110	
115	47.7	218.7	36,900	55.1	223.9	34,200			115	
120	44.1	213.9	35,000	51.9	220.2	32,300			120	
125	40.2	208.3	33,200	48.5	216.0	30,700			125	
130	36.0	202.0	31,500	44.9	211.3	29,200	52.4	216.1	26,800	130
135	31.3	194.4	30,000	41.1	205.9	27,800	49.0	212.0	25,500	135
140	25.8	185.3	28,600	37.0	199.8	26,400	45.5	207.4	24,300	140
145	19.0	173.1	27,300	32.4	192.6	25,200	41.7	202.1	23,200	145
150	7.7	152.0	26,000	27.2	183.8	24,100	37.6	196.1	22,100	150
155				20.7	172.5	23,000	33.1	189.1	21,200	155
160				11.3	155.1	22,000	28.0	180.6	20,200	160
165							21.8	169.8	19,400	165
170							13.2	154.0	18,500	170

# 14000 S-3

ASME B30.5

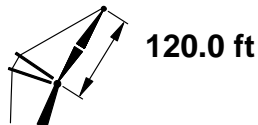
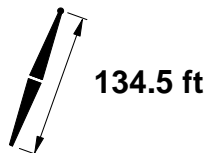


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	74.7	257.9	52,000*c							45
50	72.2	256.4	51,000*b							50
55	69.7	254.7	50,000*b							55
60	67.1	252.7	49,100*							60
65	64.5	250.5	48,300*	69.3	253.5	50,300*b				65
70	61.8	248.0	47,400*	66.8	251.5	49,500*				70
75	59.1	245.1	46,600*	64.1	249.2	48,700*	67.8	251.1	49,600*	75
80	56.2	241.9	45,800*	61.4	246.6	48,000*	65.2	249.0	48,900*	80
85	53.3	238.4	44,600*	58.7	243.7	47,300*	62.5	246.5	48,300*	85
90	50.3	234.5	43,000*	55.8	240.5	46,500*	59.8	243.7	47,700*	90
95	47.1	230.1	41,400*	52.9	236.9	44,700*	57.0	240.7	47,100*	95
100	43.7	225.1	39,900*	49.9	232.9	43,100*	54.1	237.2	45,500*	100
105	40.2	219.6	38,500*	46.7	228.5	41,600*	51.1	233.4	43,900*	105
110	36.3	213.2	37,200*	43.3	223.5	40,100*	47.9	229.1	41,600	110
115	32.1	205.9	36,100*	39.7	217.8	38,700*	44.6	224.3	39,400	115
120	27.2	197.1	35,000*	35.8	211.4	37,400*	41.1	219.0	37,300	120
125	21.4	186.0	33,700*	31.5	203.8	36,300*	37.3	212.8	35,400	125
130	13.4	170.1	31,100*	26.5	194.8	35,100	33.2	205.8	33,700	130
135				20.5	183.3	33,400	28.5	197.4	32,000	135
140				12.0	166.2	31,400*	23.0	187.0	30,500	140
145							15.9	172.9	29,100	145
150										150
155										155
160										160
165										165
170										170
175										175
180										180



# 14000 S-3

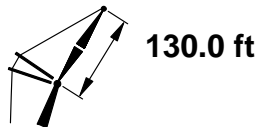
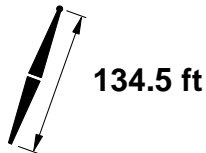
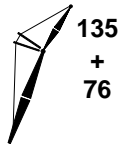
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100	60.5	241.8	43,600							100
105	57.8	238.8	41,000							105
110	54.9	235.5	38,700							110
115	51.9	231.8	36,500							115
120	48.8	227.7	34,600	55.6	232.6	31,900				120
125	45.6	223.0	32,800	52.6	229.0	30,300				125
130	42.1	217.8	31,200	49.5	224.9	28,800				130
135	38.4	211.9	29,700	46.3	220.4	27,400				135
140	34.4	205.1	28,300	42.9	215.3	26,100	50.0	220.9	23,900	140
145	29.9	197.2	27,000	39.3	209.6	24,900	46.8	216.5	22,800	145
150	24.7	187.5	25,800	35.4	203.0	23,800	43.5	211.5	21,800	150
155	18.2	174.8	24,700	31.0	195.4	22,700	39.9	205.9	20,800	155
160	7.4	152.7	23,500	26.0	186.2	21,700	36.0	199.4	19,900	160
165				19.8	174.3	20,800	31.7	192.0	19,000	165
170				10.8	156.1	19,900	26.8	183.0	18,200	170
175							20.9	171.7	17,400	175
180							12.6	155.1	16,700	180

# 14000 S-3

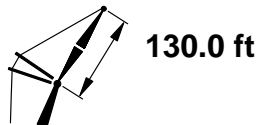
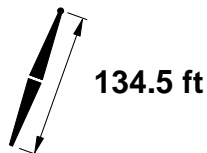
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
50	73.6	266.9	48,100* <b>b</b>							50
55	71.3	265.3	47,200* <b>b</b>							55
60	68.9	263.5	46,300*							60
65	66.6	261.5	45,500*	71.0	264.1	47,200* <b>b</b>				65
70	64.1	259.2	44,800*	68.6	262.3	46,500*				70
75	61.7	256.6	44,000*	66.2	260.2	45,800*				75
80	59.1	253.8	42,800*	63.8	257.9	45,200*	67.2	259.9	45,800*	80
85	56.5	250.6	41,200*	61.3	255.3	44,400*	64.8	257.7	45,300*	85
90	53.8	247.2	39,700*	58.8	252.4	42,800*	62.3	255.2	44,800*	90
95	51.1	243.3	38,200*	56.2	249.2	41,300*	59.8	252.4	43,500*	95
100	48.2	239.1	36,800*	53.5	245.7	39,700*	57.2	249.3	41,900*	100
105	45.1	234.3	35,500*	50.7	241.8	38,300*	54.5	245.9	40,400*	105
110	41.9	229.1	34,200*	47.8	237.5	36,900*	51.8	242.2	39,000*	110
115	38.5	223.2	33,000*	44.7	232.7	35,600*	48.9	238.1	37,600*	115
120	34.8	216.4	31,900*	41.5	227.4	34,300*	45.9	233.5	36,200*	120
125	30.8	208.7	30,800*	38.1	221.3	33,100*	42.8	228.3	35,000*	125
130	26.1	199.4	29,900*	34.3	214.5	32,000*	39.4	222.6	33,500	130
135	20.6	187.9	29,200*	30.2	206.6	31,000*	35.8	216.1	31,900	135
140	12.9	171.2	27,700*	25.5	197.1	30,100*	31.9	208.7	30,400	140
145				19.7	185.1	29,200*	27.4	199.9	29,000	145
150				11.5	167.2	28,000*	22.1	189.0	27,700	150
155							15.2	174.2	26,500	155
160										160
165										165
170										170
175										175
180										180
185										185
190										190

# 14000 S-3

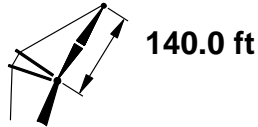
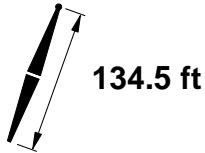
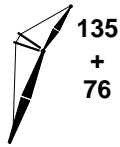
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	60.5	250.5	40,700							105
110	57.9	247.5	38,400							110
115	55.3	244.2	36,300							115
120	52.6	240.6	34,400							120
125	49.7	236.5	32,600	55.9	241.3	30,000				125
130	46.8	232.1	31,000	53.2	237.7	28,500				130
135	43.7	227.1	29,500	50.4	233.8	27,100				135
140	40.4	221.6	28,100	47.5	229.4	25,800				140
145	36.9	215.3	26,800	44.4	224.6	24,600	50.8	229.7	22,500	145
150	33.0	208.2	25,600	41.2	219.2	23,500	47.9	225.4	21,500	150
155	28.7	199.8	24,500	37.7	213.1	22,500	44.9	220.7	20,500	155
160	23.7	189.6	23,400	33.9	206.2	21,500	41.7	215.4	19,600	160
165	17.5	176.3	22,400	29.7	198.1	20,600	38.2	209.4	18,800	165
170	7.1	153.3	21,500	24.9	188.4	19,700	34.5	202.6	18,000	170
175				19.1	176.0	18,900	30.4	194.8	17,200	175
180				10.4	157.0	18,100	25.7	185.4	16,500	180
185							20.1	173.5	15,800	185
190							12.1	156.2	15,200	190

# 14000 S-3

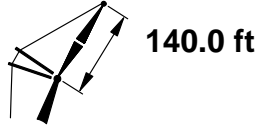
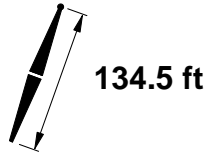
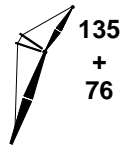
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
50	74.8	277.3	45,000* <b>b</b>							50
55	72.7	275.8	44,200* <b>b</b>							55
60	70.5	274.2	43,400*							60
65	68.3	272.3	42,700*							65
70	66.1	270.2	42,000*	70.2	273.0	43,400*				70
75	63.8	267.9	40,700*	68.0	271.1	42,800*				75
80	61.5	265.3	39,100*	65.8	268.9	42,200*				80
85	59.2	262.4	37,600*	63.5	266.6	40,600*	66.7	268.6	42,200*	85
90	56.8	259.3	36,100*	61.2	263.9	39,100*	64.4	266.4	41,200*	90
95	54.3	255.9	34,700*	58.9	261.1	37,700*	62.1	263.8	39,700*	95
100	51.7	252.1	33,300*	56.5	257.9	36,200*	59.8	261.1	38,200*	100
105	49.1	248.0	32,000*	54.0	254.4	34,800*	57.4	258.0	36,800*	105
110	46.3	243.4	30,700*	51.4	250.6	33,500*	54.9	254.7	35,400*	110
115	43.4	238.4	29,500*	48.7	246.4	32,100*	52.4	251.0	34,100*	115
120	40.3	232.8	28,400*	45.9	241.8	30,800*	49.8	246.9	32,700*	120
125	37.1	226.6	27,300*	43.0	236.7	29,600*	47.0	242.5	31,500*	125
130	33.5	219.5	26,300*	39.9	231.1	28,500*	44.2	237.6	30,200*	130
135	29.6	211.4	25,300*	36.6	224.7	27,400*	41.1	232.2	29,100*	135
140	25.2	201.7	24,500*	33.0	217.5	26,400*	37.9	226.1	27,900*	140
145	19.8	189.6	23,700*	29.1	209.2	25,400*	34.5	219.3	26,900*	145
150	12.4	172.3	23,100*	24.5	199.3	24,500*	30.7	211.5	25,900*	150
155				19.0	186.8	23,800*	26.4	202.3	25,000*	155
160				11.1	168.2	23,200*	21.3	190.9	24,200*	160
165							14.7	175.6	23,500*	165
170										170
175										175
180										180
185										185
190										190
195										195
200										200

# 14000 S-3

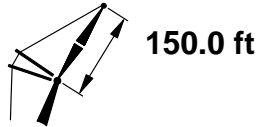
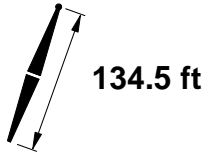
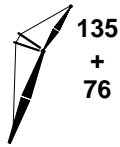
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	62.8	261.8	39,600*							105
110	60.5	259.1	38,000							110
115	58.1	256.2	35,900							115
120	55.6	252.9	34,000							120
125	53.1	249.3	32,200							125
130	50.5	245.4	30,600	56.2	250.0	28,100				130
135	47.8	241.1	29,100	53.7	246.5	26,700				135
140	45.0	236.3	27,700	51.1	242.6	25,400				140
145	42.0	231.0	26,500	48.4	238.4	24,300				145
150	38.9	225.2	25,300	45.6	233.7	23,200	51.5	238.5	21,100	150
155	35.5	218.6	24,200	42.7	228.6	22,100	48.9	234.4	20,100	155
160	31.8	211.1	23,100	39.6	222.8	21,200	46.1	229.8	19,200	160
165	27.7	202.3	22,200	36.3	216.4	20,300	43.2	224.7	18,400	165
170	22.9	191.7	21,200	32.7	209.1	19,400	40.1	219.1	17,600	170
175	16.8	177.8	20,300	28.6	200.7	18,600	36.8	212.8	16,900	175
180	6.8	153.9	19,500	24.0	190.6	17,800	33.2	205.7	16,200	180
185				18.4	177.7	17,100	29.3	197.4	15,500	185
190				10.0	157.9	16,400	24.8	187.6	14,800	190
195							19.3	175.3	14,200	195
200							11.7	157.2	13,600	200

# 14000 S-3

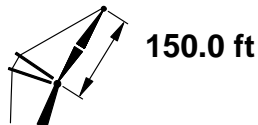
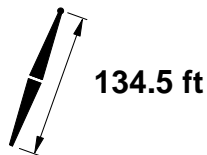
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
55	73.9	286.3	41,400* <sup>b</sup>							55
60	71.9	284.7	40,600*							60
65	69.8	283.0	40,000*							65
70	67.8	281.1	39,000*							70
75	65.7	278.9	37,500*	69.6	281.8	39,900*				75
80	63.6	276.5	36,100*	67.5	279.8	38,900*				80
85	61.4	273.9	34,600*	65.4	277.6	37,400*				85
90	59.2	271.1	33,200*	63.3	275.2	36,000*	66.2	277.4	37,800*	90
95	57.0	268.0	31,800*	61.2	272.6	34,600*	64.1	275.0	36,400*	95
100	54.7	264.6	30,500*	59.0	269.7	33,200*	62.0	272.5	35,100*	100
105	52.3	260.9	29,200*	56.7	266.6	31,800*	59.8	269.7	33,700*	105
110	49.9	256.9	28,000*	54.4	263.1	30,500*	57.6	266.7	32,300*	110
115	47.3	252.4	26,800*	52.0	259.4	29,300*	55.3	263.4	31,100*	115
120	44.7	247.6	25,600*	49.5	255.3	28,000*	52.9	259.7	29,800*	120
125	41.9	242.3	24,500*	47.0	250.9	26,800*	50.5	255.8	28,500*	125
130	38.9	236.4	23,500*	44.3	246.0	25,700*	48.0	251.5	27,400*	130
135	35.8	229.9	22,600*	41.5	240.6	24,600*	45.3	246.8	26,200*	135
140	32.4	222.5	21,600*	38.5	234.6	23,500*	42.6	241.6	25,100*	140
145	28.6	214.0	20,800*	35.3	228.0	22,600*	39.7	235.9	24,100*	145
150	24.3	203.9	19,900*	31.9	220.4	21,700*	36.6	229.5	23,100*	150
155	19.1	191.4	19,200*	28.1	211.8	20,800*	33.3	222.3	22,100*	155
160	12.0	173.4	18,700*	23.7	201.5	20,000*	29.6	214.2	21,200*	160
165				18.4	188.4	19,300*	25.5	204.6	20,400*	165
170				10.7	169.2	18,700*	20.6	192.8	19,600*	170
175							14.2	176.8	19,000*	175
180										180
185										185
190										190
195										195
200										200
205										205
210										210

# 14000 S-3

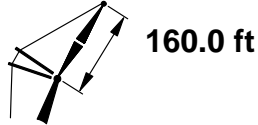
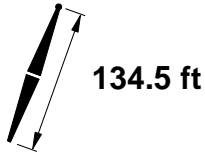
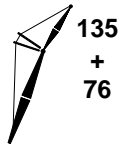
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	62.6	270.5	35,000*							110
115	60.4	267.8	33,800*							115
120	58.2	264.8	32,500*							120
125	55.9	261.6	31,300*							125
130	53.6	258.1	30,100*							130
135	51.2	254.2	28,900*	56.5	258.6	26,600				135
140	48.7	250.0	27,600	54.1	255.2	25,300				140
145	46.1	245.4	26,400	51.7	251.4	24,200				145
150	43.4	240.4	25,200	49.3	247.3	23,100				150
155	40.5	234.8	24,100	46.7	242.8	22,000	52.1	247.3	20,000	155
160	37.5	228.6	23,100	44.0	237.8	21,100	49.7	243.3	19,100	160
165	34.2	221.7	22,100	41.2	232.4	20,200	47.1	238.8	18,300	165
170	30.7	213.9	21,200	38.2	226.4	19,300	44.4	234.0	17,500	170
175	26.7	204.7	20,300	35.0	219.6	18,500	41.6	228.6	16,800	175
180	22.1	193.7	19,500	31.5	212.0	17,800	38.7	222.7	16,100	180
185	16.2	179.3	18,700	27.6	203.2	17,000	35.5	216.1	15,400	185
190	6.6	154.5	17,900	23.2	192.7	16,400	32.1	208.6	14,800	190
195				17.7	179.3	15,700	28.3	200.0	14,200	195
200				9.6	158.7	15,100	23.9	189.8	13,600	200
205							18.7	176.9	13,100	205
210							11.3	158.2	12,500	210

# 14000 S-3

ASME B30.5

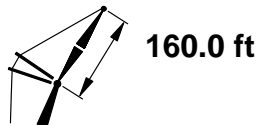
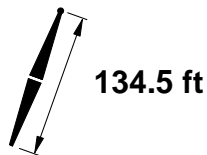


ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
55	74.9	296.7	38,500* <sup>b</sup>							55
60	73.0	295.2	37,900*							60
65	71.1	293.6	37,100*							65
70	69.2	291.8	35,700*							70
75	67.3	289.8	34,200*	70.9	292.4	36,900*				75
80	65.4	287.6	32,800*	69.0	290.6	35,500*				80
85	63.4	285.2	31,400*	67.1	288.6	34,100*				85
90	61.4	282.6	30,100*	65.1	286.3	32,700*	67.8	288.2	34,400*	90
95	59.3	279.8	28,700*	63.1	283.9	31,300*	65.9	286.1	33,100*	95
100	57.2	276.7	27,500*	61.1	281.3	30,000*	63.9	283.7	31,800*	100
105	55.0	273.3	26,200*	59.0	278.4	28,700*	61.9	281.2	30,500*	105
110	52.8	269.7	25,000*	56.9	275.3	27,400*	59.8	278.4	29,200*	110
115	50.5	265.7	23,800*	54.7	271.9	26,200*	57.7	275.4	27,900*	115
120	48.2	261.4	22,700*	52.5	268.2	25,000*	55.6	272.1	26,700*	120
125	45.7	256.7	21,600*	50.2	264.2	23,800*	53.4	268.5	25,500*	125
130	43.2	251.6	20,600*	47.9	259.8	22,700*	51.1	264.6	24,300*	130
135	40.5	246.1	19,600*	45.4	255.1	21,700*	48.8	260.4	23,200*	135
140	37.6	239.9	18,700*	42.8	250.0	20,600*	46.4	255.9	22,100*	140
145	34.6	233.0	17,800*	40.1	244.3	19,600*	43.8	250.9	21,100*	145
150	31.3	225.3	16,900*	37.2	238.1	18,700*	41.2	245.4	20,100*	150
155	27.7	216.5	16,200*	34.2	231.1	17,800*	38.4	239.4	19,200*	155
160	23.5	206.0	15,500*	30.8	223.2	17,000*	35.4	232.7	18,200*	160
165	18.5	193.0	14,800*	27.2	214.2	16,300*	32.2	225.3	17,400*	165
170	11.6	174.5	14,200*	22.9	203.5	15,500*	28.6	216.7	16,500*	170
175				17.8	190.0	14,800*	24.6	206.8	15,800*	175
180				10.4	170.1	14,100*	19.9	194.6	15,200*	180
185							13.7	178.0	14,500*	185
190										190
195										195
200										200
205										205
210										210
215										215
220										220



# 14000 S-3

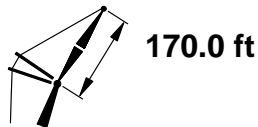
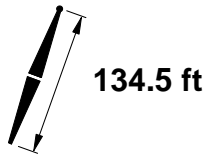
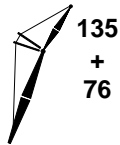
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115	62.5	279.2	30,500*							115
120	60.4	276.5	29,300*							120
125	58.3	273.5	28,100*							125
130	56.2	270.3	27,000*							130
135	54.0	266.8	25,800*							135
140	51.8	263.0	24,700*	56.7	267.3	25,000				140
145	49.5	258.9	23,500*	54.5	263.9	23,800				145
150	47.1	254.5	22,500*	52.3	260.2	22,700				150
155	44.6	249.6	21,400*	50.0	256.2	21,700				155
160	41.9	244.3	20,400*	47.6	251.8	20,700	52.6	256.1	18,700	160
165	39.2	238.4	19,500*	45.1	247.0	19,800	50.3	252.1	17,900	165
170	36.3	232.0	18,600*	42.5	241.8	19,000	48.0	247.8	17,100	170
175	33.1	224.7	17,700*	39.8	236.1	18,200	45.5	243.1	16,400	175
180	29.7	216.6	16,900*	36.9	229.8	17,400	43.0	238.0	15,700	180
185	25.8	207.1	16,100*	33.9	222.7	16,700	40.3	232.3	15,000	185
190	21.4	195.6	15,400*	30.5	214.8	16,000	37.4	226.1	14,400	190
195	15.7	180.7	14,800*	26.8	205.6	15,400	34.3	219.2	13,800	195
200	6.4	155.1	14,000*	22.4	194.7	14,800	31.0	211.4	13,300	200
205				17.2	180.8	14,200	27.4	202.5	12,700	205
210				9.3	159.6	13,600	23.2	191.9	12,200	210
215							18.1	178.6	11,700	215
220							10.9	159.2	11,200	220

# 14000 S-3

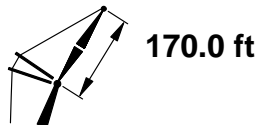
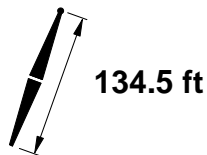
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
60	74.1	305.7	35,200*							60
65	72.3	304.1	34,200*							65
70	70.5	302.5	32,900*							70
75	68.7	300.6	31,500*							75
80	66.9	298.6	30,200*	70.3	301.3	32,700*				80
85	65.1	296.3	28,900*	68.5	299.4	31,300*				85
90	63.2	293.9	27,500*	66.7	297.3	30,000*				90
95	61.3	291.3	26,300*	64.8	295.0	28,700*	67.4	297.0	30,400*	95
100	59.3	288.4	25,000*	62.9	292.6	27,400*	65.5	294.8	29,100*	100
105	57.4	285.3	23,800*	61.0	289.9	26,200*	63.7	292.4	27,900*	105
110	55.3	282.0	22,700*	59.1	287.1	25,000*	61.8	289.8	26,600*	110
115	53.3	278.4	21,600*	57.1	283.9	23,800*	59.8	287.0	25,500*	115
120	51.1	274.5	20,500*	55.1	280.6	22,600*	57.9	284.0	24,300*	120
125	48.9	270.3	19,400*	53.0	276.9	21,500*	55.9	280.8	23,100*	125
130	46.6	265.8	18,400*	50.8	273.0	20,400*	53.8	277.2	22,000*	130
135	44.3	260.9	17,500*	48.6	268.8	19,400*	51.7	273.4	20,900*	135
140	41.8	255.5	16,600*	46.3	264.2	18,500*	49.5	269.3	19,900*	140
145	39.2	249.7	15,700*	44.0	259.2	17,500*	47.2	264.9	18,900*	145
150	36.5	243.2	14,900*	41.5	253.8	16,600*	44.9	260.1	17,900*	150
155	33.5	236.1	14,100*	38.9	247.9	15,700*	42.5	254.8	17,000*	155
160	30.3	228.1	13,300*	36.1	241.4	14,900*	39.9	249.1	16,100*	160
165	26.8	218.9	12,300*	33.1	234.1	14,100*	37.2	242.8	15,300*	165
170	22.8	208.1	11,500*	29.9	226.0	13,200*	34.3	235.9	14,500*	170
175	18.0	194.6	10,700*	26.3	216.6	12,300*	31.2	228.1	13,600*	175
180	11.3	175.5	10,000*	22.2	205.5	11,400*	27.8	219.3	12,700*	180
185				17.2	191.6	10,700*	23.9	208.9	11,800*	185
190				10.1	171.0	9,900*	19.3	196.3	11,000*	190
195							13.3	179.2	10,200*	195
200										200
205										205
210										210
215										215
220										220
225										225
230										230

# 14000 S-3

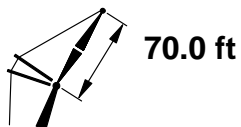
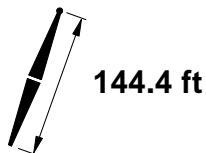
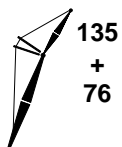
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120	62.3	287.9	26,700*							120
125	60.4	285.1	25,600*							125
130	58.4	282.2	24,400*							130
135	56.4	279.0	23,400*							135
140	54.4	275.5	22,300*							140
145	52.3	271.8	21,200*	56.9	276.0	23,300*				145
150	50.1	267.8	20,200*	54.9	272.6	22,300*				150
155	47.9	263.4	19,200*	52.8	269.0	21,300*				155
160	45.6	258.7	18,200*	50.6	265.0	20,300*				160
165	43.2	253.6	17,300*	48.4	260.7	19,300*				165
170	40.6	248.0	16,400*	46.1	256.1	18,400*	50.9	261.0	16,800	170
175	38.0	241.9	15,600*	43.7	251.1	17,500*	48.7	256.7	16,100	175
180	35.1	235.2	14,800*	41.2	245.6	16,600*	46.5	252.2	15,400	180
185	32.1	227.7	14,000*	38.6	239.7	15,800*	44.1	247.2	14,800	185
190	28.8	219.2	13,000*	35.8	233.1	15,000*	41.6	241.8	14,200	190
195	25.1	209.3	12,100*	32.8	225.7	14,200*	39.0	235.9	13,600	195
200	20.7	197.5	11,200*	29.6	217.5	13,300*	36.2	229.4	13,000	200
205	15.3	182.1	10,500*	25.9	208.0	12,400*	33.3	222.2	12,500	205
210	6.2	155.6	9,800*	21.8	196.7	11,500*	30.1	214.1	12,000	210
215				16.6	182.3	10,700*	26.5	204.9	11,500	215
220				9.1	160.4	10,000*	22.5	193.9	11,000	220
225							17.5	180.1	10,600	225
230							10.6	160.1	10,000*	230

# 14000 S-3

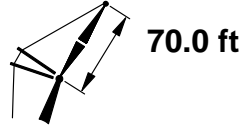
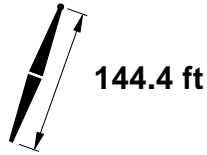
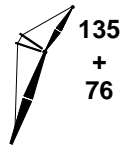
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
32	74.9	219.6	94,900*d						32	
34	73.2	219.1	94,900*d						34	
36	71.5	218.4	94,900*c						36	
38	69.8	217.7	94,900*c						38	
40	68.0	216.9	94,900*c						40	
45	63.5	214.7	93,000*b						45	
50	58.9	211.9	86,200*b	68.0	215.9	92,600*c			50	
55	53.9	208.6	80,100*b	63.6	213.7	85,800*b			55	
60	48.7	204.6	74,700*	58.9	210.9	79,700*b	65.8	213.6	83,400*c	
65	43.0	199.8	69,800*	54.0	207.6	74,300*b	61.2	211.1	77,600*b	
70	36.6	193.8	65,400*	48.7	203.6	69,300*	56.4	208.1	72,400*b	
75	29.0	186.0	61,300*	43.0	198.8	64,900*	51.4	204.4	67,600*b	
80	19.0	174.8	57,200*	36.6	192.8	60,900*	45.9	200.0	62,600	
85				29.1	185.0	57,200*	39.9	194.6	58,100	
90				19.0	173.8	53,800*	33.0	187.9	54,100	
95							24.5	178.7	50,600	
100							11.0	163.1	47,400	
105									105	
110									110	
115									115	
120									120	
125									125	
130									130	
135									135	

# 14000 S-3

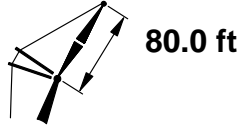
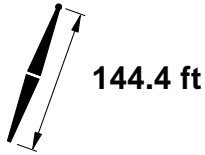
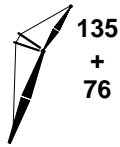
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
32										32
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80	58.6	206.6	58,300 <sup>b</sup>							80
85	53.7	203.2	54,100 <sup>b</sup>							85
90	48.4	199.2	50,400							90
95	42.7	194.3	47,200	55.6	200.7	43,700 <sup>b</sup>				95
100	36.2	188.2	44,200	50.5	196.9	41,000 <sup>b</sup>				100
105	28.6	180.3	41,600	45.0	192.4	38,600				105
110	18.3	168.8	39,200	38.9	186.8	36,400	52.2	193.1	33,600 <sup>b</sup>	110
115				31.8	179.7	34,400	46.8	188.9	31,700	115
120				22.8	170.0	32,500	40.8	183.6	30,000	120
125				6.8	151.1	30,700	34.1	177.1	28,500	125
130							25.9	168.5	27,000	130
135							13.9	154.7	25,600	135

# 14000 S-3

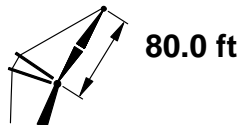
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
36	73.9	228.9	86,900*c						36	
38	72.4	228.3	86,800*c						38	
40	70.9	227.6	86,700*c						40	
45	67.1	225.7	86,600*b						45	
50	63.1	223.4	82,800*b	70.9	226.6	87,500*c			50	
55	59.0	220.6	77,300*b	67.1	224.7	82,400*b			55	
60	54.7	217.3	72,400*	63.1	222.3	76,800*b			60	
65	50.2	213.5	67,800*	59.0	219.6	71,800*b	65.1	222.3	74,800*b	
70	45.4	209.0	63,700*	54.8	216.3	67,300*	61.1	219.8	69,900*b	
75	40.1	203.6	59,900*	50.2	212.5	63,200*	56.9	216.8	65,600*b	
80	34.2	196.9	56,500*	45.4	208.0	59,400*	52.5	213.2	61,600*	
85	27.1	188.5	53,300*	40.1	202.5	56,000*	47.8	209.0	57,800	
90	17.7	176.4	49,300*	34.2	195.9	52,800*	42.8	204.1	53,900	
95				27.2	187.5	49,900*	37.2	198.1	50,400	
100				17.8	175.4	47,100*	30.8	190.7	47,200	
105							22.9	180.8	44,400	
110							10.3	164.0	41,800	
115									115	
120									120	
125									125	
130									130	
135									135	
140									140	
145									145	

# 14000 S-3

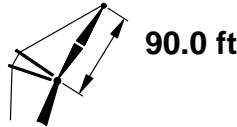
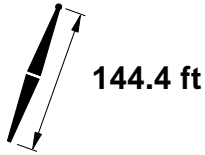
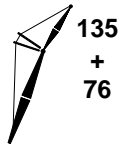
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80	62.9	218.0	57,900 <sup>b</sup>							80
85	58.8	215.3	53,700 <sup>b</sup>							85
90	54.5	212.0	50,100							90
95	50.0	208.1	46,800							95
100	45.1	203.5	43,900	56.2	209.3	40,600				100
105	39.8	198.0	41,300	51.8	205.7	38,200				105
110	33.8	191.4	38,900	47.0	201.4	36,000				110
115	26.7	182.8	36,800	41.9	196.3	34,000				115
120	17.1	170.4	34,800	36.3	190.2	32,200	48.6	197.8	29,600	120
125				29.7	182.5	30,500	43.6	193.0	28,100	125
130				21.3	172.0	29,000	38.1	187.2	26,600	130
135				6.3	151.7	27,500	31.9	180.1	25,300	135
140							24.2	170.7	24,100	140
145							13.0	155.8	22,900	145

# 14000 S-3

ASME B30.5

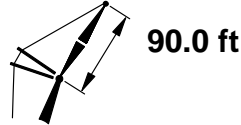
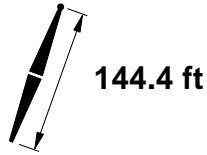
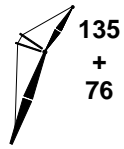


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
38	74.4	238.7	79,200*c						38	
40	73.1	238.1	79,100*c						40	
45	69.7	236.4	78,800*c						45	
50	66.3	234.4	76,800*b						50	
55	62.8	232.0	73,800*b	69.7	235.4	79,600*c			55	
60	59.1	229.3	70,700*	66.3	233.4	74,900*b			60	
65	55.3	226.0	66,500*	62.8	231.0	70,200*b	68.0	233.2	72,800*b	65
70	51.4	222.3	62,600*	59.1	228.2	66,000*	64.5	231.0	68,400*b	70
75	47.2	218.0	59,000*	55.4	225.0	62,100*	60.9	228.4	64,300*b	75
80	42.7	213.0	55,800*	51.4	221.3	58,500*	57.2	225.4	60,500*	80
85	37.7	207.1	52,800*	47.2	217.0	55,300*	53.4	222.0	57,100*	85
90	32.2	199.9	50,000*	42.7	212.0	52,300*	49.3	218.0	53,700	90
95	25.6	190.8	47,500*	37.7	206.1	49,500*	44.9	213.3	50,200	95
100	16.7	177.9	43,700*	32.2	198.9	46,900*	40.2	207.9	47,100	100
105				25.6	189.9	44,500*	35.0	201.4	44,300	105
110				16.8	176.9	42,200*	29.0	193.4	41,800	110
115							21.5	182.8	39,500	115
120							9.7	164.9	37,300	120
125										125
130										130
135										135
140										140
145										145
150										150
155										155



# 14000 S-3

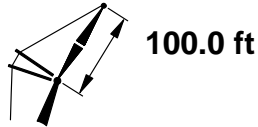
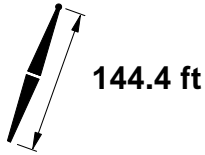
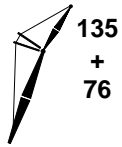
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85	62.6	226.7	53,500 <sup>b</sup>							85
90	58.9	223.9	49,800							90
95	55.1	220.7	46,600							95
100	51.1	216.9	43,700							100
105	46.9	212.6	41,100	56.6	218.0	37,900				105
110	42.4	207.5	38,800	52.7	214.5	35,800				110
115	37.4	201.5	36,600	48.6	210.4	33,800				115
120	31.8	194.3	34,700	44.2	205.6	32,000				120
125	25.2	185.1	32,900	39.4	200.0	30,400	49.9	206.7	27,800	125
130	16.1	171.8	31,200	34.1	193.3	28,800	45.6	202.2	26,400	130
135				27.9	185.0	27,400	41.0	196.9	25,100	135
140				20.1	173.8	26,100	35.8	190.6	23,900	140
145				6.0	152.2	24,800	30.0	182.8	22,800	145
150							22.8	172.8	21,700	150
155							12.2	156.9	20,700	155

# 14000 S-3

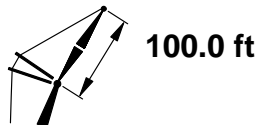
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
40	74.8	248.5	72,700*c							40
45	71.8	247.0	72,400*c							45
50	68.8	245.2	71,600*b							50
55	65.7	243.1	68,700*b							55
60	62.5	240.7	66,000*	68.8	244.2	72,000*b				60
65	59.2	237.9	63,400*	65.7	242.1	68,200*b				65
70	55.8	234.7	61,000*	62.5	239.7	64,300*	67.2	242.0	66,300*b	70
75	52.3	231.1	57,800*	59.2	236.9	60,600*	64.1	239.7	62,600*b	75
80	48.6	227.0	54,700*	55.8	233.7	57,300*	60.8	237.1	59,100*	80
85	44.6	222.2	51,900*	52.3	230.1	54,200*	57.5	234.1	55,800*	85
90	40.4	216.8	49,200*	48.6	226.0	51,300*	54.0	230.7	52,800*	90
95	35.7	210.4	46,800*	44.6	221.2	48,700*	50.4	226.8	49,900	95
100	30.5	202.7	44,500*	40.4	215.8	46,200*	46.6	222.4	46,800	100
105	24.2	193.0	42,400*	35.7	209.4	43,900*	42.5	217.3	44,000	105
110	15.8	179.3	38,800*	30.5	201.7	41,800*	38.1	211.4	41,500	110
115				24.3	192.1	39,800*	33.2	204.5	39,300	115
120				15.9	178.4	37,800*	27.5	195.9	37,200	120
125							20.4	184.6	35,300	125
130							9.2	165.7	33,400	130
135										135
140										140
145										145
150										150
155										155
160										160
165										165

# 14000 S-3

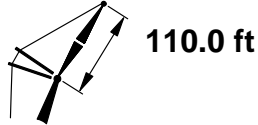
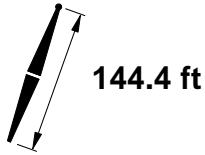
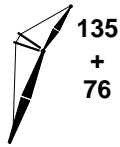
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	62.3	235.4	49,400							90
95	59.0	232.6	46,200							95
100	55.6	229.4	43,300							100
105	52.1	225.7	40,700							105
110	48.3	221.6	38,400	57.0	226.7	35,300				110
115	44.4	216.8	36,300	53.5	223.2	33,400				115
120	40.1	211.3	34,400	49.8	219.3	31,600				120
125	35.5	204.8	32,600	46.0	214.8	30,000				125
130	30.2	197.1	31,000	41.8	209.6	28,500	51.0	215.6	26,000	130
135	23.8	187.3	29,500	37.3	203.5	27,100	47.2	211.2	24,700	135
140	15.3	173.2	28,100	32.3	196.3	25,800	43.2	206.3	23,500	140
145				26.5	187.4	24,600	38.8	200.5	22,400	145
150				19.1	175.5	23,400	34.0	193.7	21,400	150
155				5.6	152.7	22,300	28.4	185.5	20,400	155
160							21.6	174.7	19,500	160
165							11.6	158.0	18,600	165

# 14000 S-3

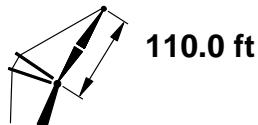
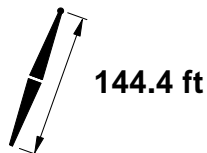
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	73.5	257.5	66,800*c							45
50	70.8	255.9	66,400*b							50
55	68.0	254.0	64,200*b							55
60	65.2	251.9	62,100*	70.8	254.9	66,500*b				60
65	62.3	249.4	60,000*	68.0	253.0	64,500*b				65
70	59.3	246.6	58,100*	65.2	250.8	62,500*				70
75	56.2	243.4	56,100*	62.3	248.4	59,100*	66.6	250.7	60,900*b	75
80	53.0	239.9	53,600*	59.3	245.6	56,000*	63.7	248.4	57,600*	80
85	49.7	235.9	50,800*	56.2	242.4	53,100*	60.8	245.8	54,600*	85
90	46.2	231.4	48,300*	53.0	238.9	50,400*	57.7	242.8	51,800*	90
95	42.4	226.2	46,000*	49.7	234.9	47,800*	54.6	239.4	49,100*	95
100	38.4	220.4	43,900*	46.2	230.3	45,500*	51.3	235.7	46,700*	100
105	34.0	213.5	41,800*	42.4	225.2	43,300*	47.9	231.4	44,000	105
110	29.0	205.4	39,900*	38.4	219.4	41,300*	44.3	226.6	41,500	110
115	23.1	195.1	38,100*	34.0	212.5	39,300*	40.4	221.1	39,300	115
120	15.1	180.7	35,600*	29.0	204.4	37,600*	36.2	214.8	37,200	120
125				23.1	194.2	35,800*	31.6	207.4	35,300	125
130				15.2	179.7	34,200*	26.2	198.3	33,600	130
135							19.5	186.4	31,900	135
140							8.8	166.5	30,400	140
145										145
150										150
155										155
160										160
165										165
170										170
175										175

# 14000 S-3

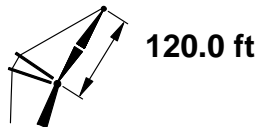
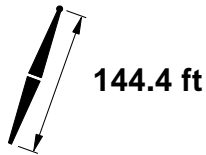
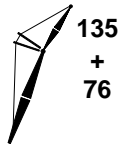
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	62.1	244.1	46,100							95
100	59.1	241.2	43,200							100
105	56.0	238.1	40,700							105
110	52.8	234.5	38,400							110
115	49.5	230.5	36,300	57.3	235.4	33,300				115
120	46.0	225.9	34,300	54.1	232.0	31,500				120
125	42.2	220.8	32,600	50.8	228.1	29,900				125
130	38.2	214.8	31,000	47.4	223.8	28,400				130
135	33.8	207.9	29,500	43.7	218.9	27,100	51.9	224.4	24,700	135
140	28.7	199.7	28,100	39.8	213.3	25,800	48.5	220.2	23,500	140
145	22.7	189.3	26,800	35.5	206.8	24,600	44.9	215.5	22,400	145
150	14.6	174.5	25,600	30.8	199.1	23,500	41.1	210.1	21,400	150
155				25.2	189.7	22,400	36.9	203.9	20,400	155
160				18.2	177.2	21,500	32.3	196.7	19,500	160
165				5.4	153.2	20,500	27.1	187.9	18,700	165
170							20.6	176.6	17,900	170
175							11.1	159.0	17,100	175

# 14000 S-3

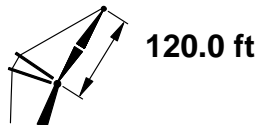
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	74.9	267.9	51,300 <sup>c</sup>							45
50	72.4	266.4	50,300 <sup>b</sup>							50
55	69.9	264.7	49,400 <sup>b</sup>							55
60	67.4	262.8	48,500*							60
65	64.7	260.6	47,600*	69.9	263.7	49,700 <sup>b</sup>				65
70	62.1	258.1	46,800*	67.4	261.8	48,900*				70
75	59.3	255.3	46,000*	64.8	259.5	48,200*				75
80	56.5	252.1	45,300*	62.1	257.0	47,500*	66.1	259.4	48,400*	80
85	53.6	248.6	44,600*	59.4	254.2	46,800*	63.4	257.1	47,800*	85
90	50.6	244.7	43,100*	56.5	251.1	46,100*	60.7	254.4	47,200*	90
95	47.4	240.4	41,500*	53.6	247.6	45,100*	57.9	251.4	46,700*	95
100	44.1	235.5	40,000*	50.6	243.7	43,400*	55.1	248.1	44,500*	100
105	40.5	230.0	38,700*	47.4	239.4	41,600*	52.1	244.4	42,500*	105
110	36.7	223.8	37,400*	44.1	234.5	39,700*	49.0	240.3	40,500*	110
115	32.5	216.5	36,300*	40.6	229.0	37,900*	45.8	235.7	38,700*	115
120	27.8	207.9	35,200*	36.7	222.8	36,300*	42.3	230.6	36,900	120
125	22.1	197.1	33,700*	32.5	215.5	34,700*	38.7	224.7	35,000	125
130	14.5	182.0	31,400*	27.8	206.9	33,200*	34.7	218.0	33,300	130
135				22.1	196.2	31,800*	30.2	210.1	31,700	135
140				14.5	181.0	30,400*	25.0	200.6	30,200	140
145							18.6	188.1	28,800	145
150							8.4	167.2	27,500	150
155										155
160										160
165										165
170										170
175										175
180										180
185										185

# 14000 S-3

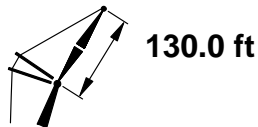
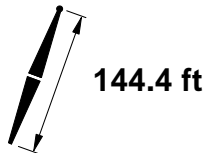
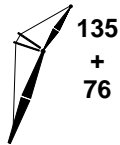
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100	61.9	252.7	42,800							100
105	59.2	249.9	40,300							105
110	56.4	246.8	38,000							110
115	53.5	243.2	35,900							115
120	50.4	239.3	34,000	57.5	244.1	31,100				120
125	47.2	235.0	32,200	54.6	240.7	29,500				125
130	43.9	230.1	30,600	51.6	236.9	28,000				130
135	40.3	224.5	29,200	48.5	232.7	26,700				135
140	36.5	218.2	27,800	45.2	228.1	25,400	52.6	233.1	23,100	140
145	32.3	210.9	26,500	41.8	222.8	24,200	49.5	229.1	22,000	145
150	27.5	202.2	25,300	38.0	216.8	23,100	46.3	224.6	21,000	150
155	21.7	191.3	24,200	34.0	209.9	22,100	42.9	219.5	20,000	155
160	13.9	175.7	23,100	29.4	201.8	21,100	39.2	213.8	19,100	160
165				24.1	191.9	20,200	35.3	207.2	18,300	165
170				17.4	178.7	19,400	30.9	199.5	17,500	170
175				5.2	153.6	18,500	25.9	190.3	16,800	175
180							19.7	178.4	16,100	180
185							10.6	159.9	15,400	185

# 14000 S-3

ASME B30.5

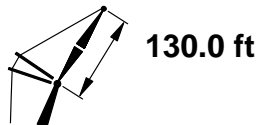
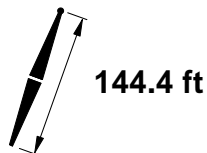


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
50	73.8	276.9	47,400* <b>b</b>							50
55	71.5	275.3	46,500* <b>b</b>							55
60	69.2	273.5	45,700*							60
65	66.8	271.5	45,000*							65
70	64.4	269.3	44,200*	69.2	272.5	46,000*				70
75	61.9	266.7	43,500*	66.8	270.5	45,300*				75
80	59.4	263.9	42,700*	64.4	268.2	44,700*	68.0	270.3	45,300*	80
85	56.8	260.8	41,100*	61.9	265.7	44,000*	65.6	268.1	44,800*	85
90	54.1	257.4	39,700*	59.4	262.9	43,000*	63.2	265.7	44,300*	90
95	51.4	253.6	38,300*	56.8	259.8	41,500*	60.7	263.1	43,700*	95
100	48.5	249.3	36,900*	54.1	256.3	40,000*	58.1	260.1	42,300*	100
105	45.5	244.7	35,600*	51.4	252.5	38,600*	55.5	256.8	40,800*	105
110	42.3	239.5	34,300*	48.5	248.3	37,200*	52.7	253.2	39,400*	110
115	38.9	233.6	33,100*	45.5	243.7	35,900*	49.9	249.2	38,000*	115
120	35.2	227.0	32,000*	42.3	238.5	34,600*	47.0	244.8	36,400*	120
125	31.2	219.4	31,000*	38.9	232.6	33,400*	43.9	239.9	34,800	125
130	26.6	210.3	30,100*	35.2	226.0	32,300*	40.6	234.3	33,100	130
135	21.2	199.0	29,300*	31.2	218.4	31,300*	37.1	228.1	31,500	135
140	13.9	183.2	28,400*	26.7	209.3	30,200*	33.3	221.0	30,000	140
145				21.2	198.1	29,000*	29.0	212.8	28,700	145
150				13.9	182.3	27,800*	24.0	202.7	27,400	150
155							17.9	189.7	26,200	155
160							8.1	168.0	25,000	160
165										165
170										170
175										175
180										180
185										185
190										190
195										195



# 14000 S-3

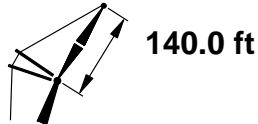
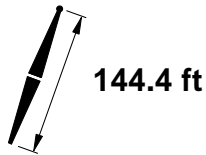
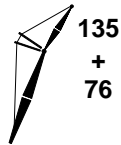
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	61.8	261.4	40,000							105
110	59.3	258.6	37,700							110
115	56.7	255.4	35,600							115
120	54.0	252.0	33,700							120
125	51.2	248.2	32,000	57.7	252.7	29,200				125
130	48.3	243.9	30,400	55.0	249.4	27,800				130
135	45.3	239.2	28,900	52.3	245.7	26,400				135
140	42.1	234.0	27,600	49.5	241.6	25,100				140
145	38.7	228.1	26,300	46.5	237.1	24,000				145
150	35.0	221.4	25,100	43.4	232.1	22,900	50.4	238.0	20,700	150
155	31.0	213.7	24,000	40.1	226.5	21,900	47.4	233.6	19,800	155
160	26.4	204.6	23,000	36.5	220.2	20,900	44.4	228.8	18,900	160
165	20.9	193.2	22,000	32.6	212.9	20,000	41.1	223.3	18,100	165
170	13.4	176.9	21,100	28.3	204.4	19,200	37.6	217.2	17,300	170
175				23.2	194.0	18,400	33.9	210.3	16,600	175
180				16.7	180.2	17,600	29.7	202.2	15,900	180
185				5.0	154.1	16,800	24.9	192.5	15,200	185
190							19.0	180.1	14,600	190
195							10.2	160.8	14,000	195

# 14000 S-3

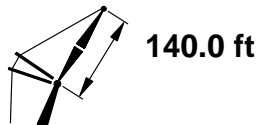
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	72.9	285.8	43,600* <sup>b</sup>						55	
60	70.7	284.2	42,900*						60	
65	68.6	282.3	42,200*						65	
70	66.3	280.3	41,500*	70.7	283.2	42,900*			70	
75	64.1	277.9	40,600*	68.6	281.3	42,300*			75	
80	61.8	275.4	39,100*	66.3	279.2	41,800*			80	
85	59.4	272.6	37,600*	64.1	276.9	40,700*	67.4	279.0	41,700*	85
90	57.0	269.5	36,200*	61.8	274.4	39,300*	65.2	276.9	41,300*	90
95	54.6	266.1	34,700*	59.4	271.6	37,900*	62.9	274.4	40,000*	95
100	52.0	262.3	33,400*	57.0	268.5	36,400*	60.6	271.7	38,500*	100
105	49.4	258.2	32,100*	54.6	265.1	35,100*	58.2	268.8	37,100*	105
110	46.6	253.7	30,900*	52.0	261.3	33,700*	55.8	265.5	35,800*	110
115	43.7	248.8	29,700*	49.4	257.2	32,300*	53.3	262.0	34,400*	115
120	40.7	243.3	28,500*	46.6	252.7	31,200*	50.7	258.1	33,100*	120
125	37.4	237.1	27,500*	43.7	247.8	29,900*	48.0	253.8	31,800*	125
130	33.9	230.1	26,400*	40.7	242.2	28,800*	45.2	249.0	30,600*	130
135	30.0	222.1	25,500*	37.4	236.1	27,700*	42.2	243.8	29,400*	135
140	25.7	212.6	24,600*	33.9	229.1	26,700*	39.1	238.0	28,400*	140
145	20.4	200.9	23,900*	30.1	221.1	25,700*	35.7	231.4	27,300*	145
150	13.4	184.4	23,200*	25.7	211.7	24,800*	32.0	224.0	26,300*	150
155				20.5	199.9	24,000*	27.9	215.3	25,400*	155
160				13.4	183.5	23,400*	23.2	204.8	24,500*	160
165							17.2	191.2	23,800	165
170							7.8	168.7	22,700	170
175										175
180										180
185										185
190										190
195										195
200										200
205										205

# 14000 S-3

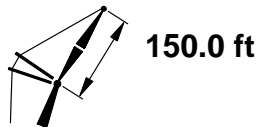
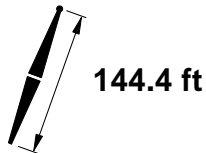
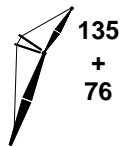
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	61.7	270.1	37,300							110
115	59.3	267.2	35,200							115
120	56.9	264.1	33,400							120
125	54.4	260.7	31,600							125
130	51.9	257.0	30,000	57.8	261.4	27,400				130
135	49.2	252.8	28,600	55.4	258.1	26,000				135
140	46.5	248.3	27,200	52.9	254.5	24,700				140
145	43.6	243.3	26,000	50.3	250.5	23,600				145
150	40.5	237.8	24,800	47.5	246.2	22,500				150
155	37.2	231.6	23,700	44.7	241.3	21,500	51.1	246.8	19,300	155
160	33.7	224.5	22,700	41.7	236.0	20,600	48.4	242.6	18,500	160
165	29.8	216.5	21,700	38.5	230.1	19,700	45.6	237.9	17,700	165
170	25.4	206.9	20,800	35.1	223.4	18,800	42.7	232.7	16,900	170
175	20.1	195.0	19,900	31.4	215.8	18,000	39.6	227.0	16,200	175
180	12.9	178.1	19,100	27.2	206.9	17,300	36.2	220.6	15,500	180
185				22.3	196.0	16,600	32.6	213.3	14,900	185
190				16.1	181.7	15,900	28.6	204.8	14,200	190
195				4.8	154.5	15,200	23.9	194.7	13,600	195
200							18.3	181.7	13,100	200
205							9.8	161.7	12,500	205

# 14000 S-3

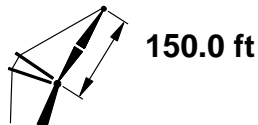
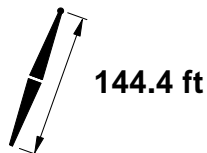
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
55	74.1	296.3	40,800* <sup>b</sup>							55
60	72.1	294.7	40,100*							60
65	70.0	293.0	39,500*							65
70	68.0	291.1	38,900*							70
75	65.9	289.0	37,400*	70.1	292.0	39,500*				75
80	63.8	286.6	36,000*	68.0	290.1	38,900*				80
85	61.7	284.1	34,600*	65.9	288.0	37,500*				85
90	59.5	281.2	33,200*	63.8	285.6	36,100*	67.0	287.8	38,000*	90
95	57.2	278.2	31,800*	61.7	283.0	34,800*	64.9	285.6	36,600*	95
100	54.9	274.8	30,500*	59.5	280.2	33,400*	62.7	283.1	35,300*	100
105	52.6	271.1	29,300*	57.2	277.1	32,100*	60.6	280.4	34,000*	105
110	50.1	267.1	28,100*	54.9	273.8	30,800*	58.4	277.4	32,700*	110
115	47.6	262.7	26,900*	52.6	270.1	29,500*	56.1	274.2	31,400*	115
120	44.9	258.0	25,800*	50.1	266.1	28,300*	53.7	270.7	30,100*	120
125	42.2	252.7	24,700*	47.6	261.7	27,100*	51.3	266.9	29,000*	125
130	39.2	246.9	23,600*	44.9	257.0	25,900*	48.8	262.7	27,700*	130
135	36.1	240.4	22,700*	42.2	251.7	24,800*	46.3	258.1	26,600*	135
140	32.7	233.1	21,700*	39.2	245.9	23,800*	43.6	253.1	25,500*	140
145	29.0	224.7	20,900*	36.1	239.4	22,900*	40.7	247.6	24,400*	145
150	24.8	214.9	20,100*	32.7	232.1	21,900*	37.7	241.4	23,400*	150
155	19.7	202.6	19,400*	29.0	223.7	21,100*	34.4	234.6	22,500*	155
160	12.9	185.6	18,800*	24.8	213.9	20,200*	30.9	226.8	21,500*	160
165				19.8	201.7	19,500*	26.9	217.7	20,700*	165
170				13.0	184.6	18,900*	22.4	206.8	19,900*	170
175							16.6	192.7	19,200*	175
180							7.5	169.3	18,700*	180
185										185
190										190
195										195
200										200
205										205
210										210
215										215

# 14000 S-3

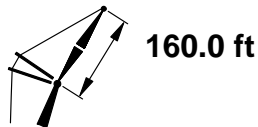
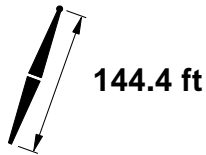
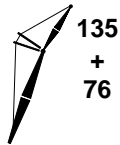
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115	61.6	278.7	34,200*							115
120	59.4	275.9	33,000*							120
125	57.1	272.8	31,500							125
130	54.8	269.4	29,900							130
135	52.4	265.7	28,500	58.0	270.1	25,900				135
140	50.0	261.7	27,100	55.7	266.8	24,600				140
145	47.4	257.3	25,900	53.4	263.2	23,500				145
150	44.8	252.5	24,700	50.9	259.3	22,400				150
155	42.0	247.2	23,600	48.4	255.1	21,400				155
160	39.1	241.4	22,600	45.8	250.5	20,500	51.7	255.6	18,400	160
165	35.9	234.9	21,600	43.1	245.4	19,600	49.2	251.5	17,600	165
170	32.5	227.5	20,700	40.2	239.8	18,700	46.7	247.0	16,800	170
175	28.8	219.1	19,900	37.2	233.5	18,000	44.0	242.0	16,100	175
180	24.5	209.1	19,100	33.9	226.5	17,200	41.2	236.6	15,400	180
185	19.4	196.7	18,300	30.3	218.5	16,500	38.2	230.5	14,800	185
190	12.5	179.2	17,600	26.3	209.2	15,900	35.0	223.8	14,200	190
195				21.6	198.0	15,200	31.5	216.1	13,600	195
200				15.5	183.1	14,600	27.6	207.3	13,000	200
205				4.6	154.9	14,000	23.1	196.8	12,500	205
210							17.6	183.3	12,000	210
215							9.5	162.6	11,500	215

# 14000 S-3

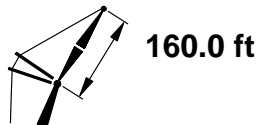
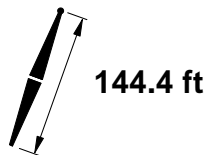
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
60	73.2	305.2	37,400*							60
65	71.3	303.6	36,800*							65
70	69.4	301.8	35,500*							70
75	67.5	299.9	34,200*							75
80	65.6	297.7	32,800*	69.5	300.8	35,500*				80
85	63.6	295.3	31,400*	67.5	298.8	34,200*				85
90	61.6	292.7	30,100*	65.6	296.7	32,800*				90
95	59.5	289.9	28,700*	63.6	294.3	31,500*	66.5	296.5	33,300*	95
100	57.4	286.8	27,500*	61.6	291.7	30,200*	64.6	294.3	32,100*	100
105	55.3	283.5	26,300*	59.5	288.9	29,000*	62.6	291.8	30,800*	105
110	53.0	279.9	25,100*	57.4	285.8	27,600*	60.5	289.1	29,500*	110
115	50.8	276.0	23,900*	55.3	282.5	26,400*	58.5	286.1	28,300*	115
120	48.4	271.7	22,800*	53.1	278.9	25,200*	56.3	282.9	27,100*	120
125	46.0	267.1	21,800*	50.8	274.9	24,100*	54.1	279.4	25,900*	125
130	43.4	262.0	20,700*	48.4	270.7	23,000*	51.9	275.7	24,700*	130
135	40.8	256.5	19,700*	46.0	266.1	21,900*	49.6	271.6	23,600*	135
140	37.9	250.4	18,800*	43.4	261.0	20,900*	47.2	267.2	22,500*	140
145	34.9	243.6	17,900*	40.8	255.5	19,900*	44.7	262.3	21,500*	145
150	31.7	236.0	17,100*	37.9	249.4	19,000*	42.1	257.0	20,500*	150
155	28.1	227.3	16,400*	34.9	242.6	18,100*	39.4	251.2	19,500*	155
160	24.0	217.0	15,600*	31.7	235.0	17,200*	36.4	244.8	18,600*	160
165	19.1	204.4	14,900*	28.1	226.3	16,500*	33.3	237.6	17,700*	165
170	12.5	186.7	14,400*	24.0	216.1	15,700*	29.9	229.5	16,900*	170
175				19.1	203.4	15,000*	26.1	220.1	16,200*	175
180				12.6	185.8	14,400*	21.6	208.8	15,400*	180
185							16.1	194.2	14,700*	185
190							7.3	170.0	14,100*	190
195										195
200										200
205										205
210										210
215										215
220										220
225										225

# 14000 S-3

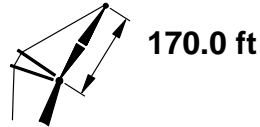
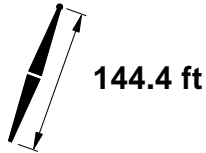
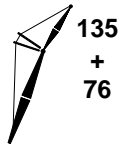
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120	61.5	287.4	29,700*							120
125	59.4	284.6	28,600*							125
130	57.3	281.5	27,500*							130
135	55.1	278.1	26,300*							135
140	52.9	274.5	25,200*							140
145	50.6	270.6	24,100*	56.0	275.5	23,100				145
150	48.3	266.3	23,000*	53.8	272.0	22,000				150
155	45.8	261.6	22,000*	51.5	268.2	21,000				155
160	43.3	256.6	20,900*	49.2	264.0	20,100				160
165	40.6	251.0	20,000*	46.8	259.5	19,200	52.3	264.4	17,200	165
170	37.8	244.9	19,100*	44.3	254.6	18,400	50.0	260.3	16,400	170
175	34.8	238.0	18,200*	41.7	249.2	17,600	47.6	256.0	15,700	175
180	31.5	230.4	17,400*	38.9	243.3	16,900	45.1	251.2	15,000	180
185	27.9	221.6	16,600*	36.0	236.8	16,200	42.5	246.0	14,400	185
190	23.7	211.2	15,800*	32.8	229.5	15,500	39.8	240.3	13,800	190
195	18.8	198.4	15,100*	29.3	221.2	14,900	36.9	233.9	13,200	195
200	12.1	180.3	14,400*	25.4	211.5	14,300	33.8	226.9	12,700	200
205				20.9	199.8	13,700	30.4	218.9	12,200	205
210				15.1	184.4	13,200	26.7	209.7	11,700	210
215				4.5	155.3	12,600	22.4	198.8	11,200	215
220							17.1	184.8	10,700	220
225							9.2	163.4	10,300	225

# 14000 S-3

ASME B30.5

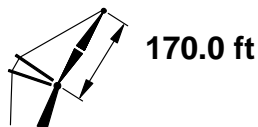
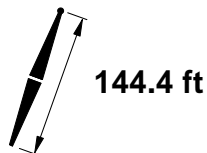


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
60	74.2	315.6	34,800*						60	
65	72.5	314.1	34,000*						65	
70	70.7	312.5	32,700*						70	
75	68.9	310.6	31,400*						75	
80	67.1	308.6	30,100*	70.7	311.4	32,700*			80	
85	65.2	306.4	28,800*	68.9	309.6	31,400*			85	
90	63.4	304.0	27,500*	67.1	307.6	30,100*			90	
95	61.5	301.4	26,300*	65.3	305.4	28,900*	68.0	307.4	30,500*	
100	59.5	298.6	25,100*	63.4	303.0	27,600*	66.2	305.3	29,300*	
105	57.6	295.5	23,900*	61.5	300.4	26,400*	64.3	302.9	28,100*	
110	55.5	292.2	22,800*	59.5	297.5	25,200*	62.4	300.4	27,000*	
115	53.5	288.6	21,600*	57.6	294.5	24,100*	60.5	297.7	25,800*	
120	51.3	284.8	20,600*	55.6	291.2	22,900*	58.5	294.8	24,600*	
125	49.2	280.6	19,600*	53.5	287.6	21,800*	56.5	291.6	23,500*	
130	46.9	276.1	18,600*	51.4	283.8	20,700*	54.5	288.2	22,400*	
135	44.5	271.2	17,600*	49.2	279.6	19,700*	52.4	284.5	21,300*	
140	42.1	265.9	16,700*	46.9	275.1	18,700*	50.2	280.5	20,300*	
145	39.5	260.1	15,800*	44.5	270.2	17,700*	48.0	276.1	19,200*	
150	36.8	253.8	15,000*	42.1	264.9	16,800*	45.7	271.4	18,200*	
155	33.8	246.7	14,200*	39.5	259.1	15,900*	43.3	266.4	17,400*	
160	30.7	238.8	13,400*	36.8	252.8	15,100*	40.8	260.8	16,400*	
165	27.2	229.7	12,500*	33.9	245.7	14,300*	38.1	254.7	15,600*	
170	23.2	219.1	11,600*	30.7	237.8	13,500*	35.3	248.0	14,800*	
175	18.5	206.0	10,800*	27.2	228.7	12,600*	32.3	240.6	14,000*	
180	12.1	187.8	10,100*	23.3	218.1	11,700*	29.0	232.1	13,100*	
185				18.5	205.1	10,800*	25.3	222.4	12,100*	
190				12.2	186.8	10,100*	21.0	210.7	11,200*	
195							15.6	195.5	10,500*	
200							7.0	170.6	9,800*	
205									200	
210									205	
215									210	
220									215	
225									220	
230									225	
235									230	
									235	



# 14000 S-3

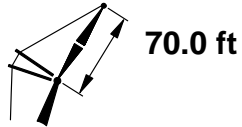
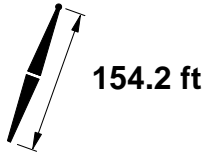
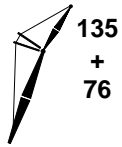
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120										120
125	61.4	296.1	26,100*							125
130	59.4	293.2	24,900*							130
135	57.5	290.1	23,900*							135
140	55.4	286.8	22,800*							140
145	53.4	283.2	21,700*							145
150	51.2	279.4	20,700*	56.2	284.2	21,700				150
155	49.0	275.2	19,700*	54.2	280.7	20,700				155
160	46.8	270.7	18,700*	52.1	276.9	19,800				160
165	44.4	265.8	17,800*	49.9	272.9	18,900				165
170	41.9	260.4	16,800*	47.7	268.5	18,100	52.7	273.1	16,100	170
175	39.4	254.6	16,000*	45.3	263.8	17,400	50.6	269.2	15,400	175
180	36.6	248.2	15,200*	42.9	258.6	16,600	48.4	264.9	14,700	180
185	33.7	241.1	14,400*	40.4	253.0	15,900	46.1	260.3	14,100	185
190	30.5	233.1	13,600*	37.7	246.8	15,300	43.7	255.3	13,500	190
195	27.0	224.0	12,600*	34.9	240.0	14,700	41.2	249.8	13,000	195
200	23.0	213.3	11,700*	31.8	232.4	14,000*	38.6	243.8	12,400	200
205	18.2	200.0	10,900*	28.4	223.8	13,000*	35.8	237.2	11,900	205
210	11.7	181.3	10,100*	24.6	213.8	12,100*	32.8	229.9	11,400	210
215				20.2	201.6	11,300*	29.5	221.6	10,900	215
220				14.6	185.7	10,500*	25.9	212.1	10,500	220
225				4.3	155.7	9,800*	21.7	200.7	10,100	225
230							16.6	186.3	9,600	230
235							8.9	164.2	9,200	235

# 14000 S-3

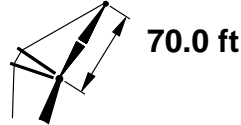
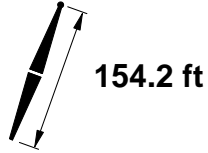
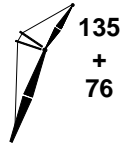
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
34	73.7	229.0	91,300*d						34	
36	72.0	228.4	91,300*d						36	
38	70.2	227.7	91,200*c						38	
40	68.5	227.0	91,200*c						40	
45	64.0	224.8	90,400*c						45	
50	59.4	222.1	84,000*b	69.1	226.2	90,000*c			50	
55	54.5	218.8	78,100*b	64.6	224.0	83,500*c			55	
60	49.3	214.9	73,000*b	60.0	221.4	77,700*b	67.3	224.0	60	
65	43.6	210.1	68,200*	55.2	218.2	72,500*b	62.8	221.7	65	
70	37.3	204.3	63,900*	50.0	214.4	67,700*b	58.1	218.9	70	
75	29.9	196.7	60,000*	44.4	209.8	63,400*	53.1	215.4	75	
80	20.2	186.1	56,400*	38.2	204.1	59,500*	47.8	211.3	80	
85				31.0	196.9	55,900*	42.0	206.3	85	
90				21.8	186.8	52,500*	35.5	200.1	90	
95				1.5	162.6	44,200*	27.6	191.9	95	
100							16.8	179.7	100	
105									105	
110									110	
115									115	
120									120	
125									125	
130									130	
135									135	
140									140	

# 14000 S-3

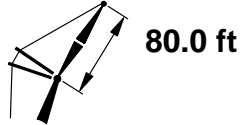
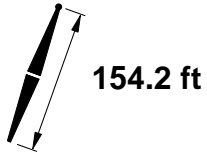
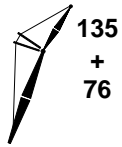
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80	61.0	217.6	57,300 <sup>b</sup>							80
85	56.2	214.5	53,200 <sup>b</sup>							85
90	51.1	210.9	49,600 <sup>b</sup>							90
95	45.7	206.4	46,300							95
100	39.6	201.0	43,500	54.0	208.7	39,900 <sup>b</sup>				100
105	32.7	194.1	40,900	48.8	204.8	37,600				105
110	24.1	184.9	38,500	43.1	199.9	35,400				110
115	10.1	168.6	36,300	36.7	193.9	33,500	51.3	201.4	30,500 <sup>b</sup>	115
120				29.1	186.2	31,700	45.8	197.0	28,900	120
125				19.1	175.0	30,000	39.8	191.6	27,400	125
130							32.9	184.8	26,000	130
135							24.3	175.6	24,700	135
140							10.6	159.7	23,400	140

# 14000 S-3

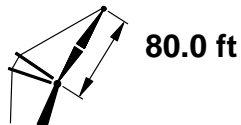
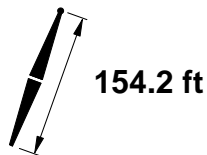
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
36	74.3	238.9	84,200*d						36	
38	72.8	238.3	84,100*c						38	
40	71.3	237.6	84,000*c						40	
45	67.5	235.7	83,800*c						45	
50	63.5	233.5	81,500*b						50	
55	59.4	230.7	76,100*b	68.0	234.9	81,000*c			55	
60	55.2	227.5	71,300*	64.1	232.7	75,600*b			60	
65	50.7	223.8	66,800*	60.0	230.1	70,800*b	66.4	232.8	65	
70	45.9	219.3	62,800*	55.8	226.9	66,300*b	62.4	230.4	70	
75	40.7	214.0	59,100*	51.3	223.2	62,300*	58.3	227.5	75	
80	34.8	207.5	55,700*	46.6	218.9	58,500*	54.0	224.2	80	
85	27.9	199.3	52,600*	41.4	213.7	55,100*	49.5	220.2	85	
90	18.9	187.8	49,700*	35.7	207.4	52,000*	44.6	215.6	90	
95				29.0	199.5	49,100*	39.2	210.0	95	
100				20.4	188.7	46,400*	33.1	203.2	100	
105				1.4	162.7	39,300*	25.8	194.3	105	
110							15.7	181.1	110	
115									115	
120									120	
125									125	
130									130	
135									135	
140									140	
145									145	
150									150	

# 14000 S-3

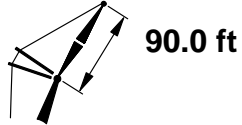
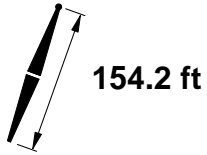
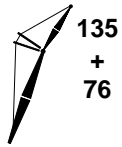
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85	60.9	226.2	52,800 <sup>b</sup>							85
90	56.7	223.2	49,200 <sup>b</sup>							90
95	52.3	219.7	46,000							95
100	47.6	215.5	43,100							100
105	42.6	210.5	40,600	54.8	217.5	37,100				105
110	37.0	204.5	38,200	50.3	213.6	35,000				110
115	30.5	197.0	36,100	45.4	209.1	33,100				115
120	22.5	186.9	34,200	40.2	203.7	31,300	52.4	210.2	28,500	120
125	9.4	169.5	32,300	34.2	197.1	29,700	47.7	206.0	27,000	125
130				27.2	188.7	28,200	42.7	201.0	25,600	130
135				17.9	176.6	26,800	37.1	195.1	24,300	135
140							30.7	187.6	23,200	140
145							22.7	177.7	22,100	145
150							10.0	160.6	21,000	150

# 14000 S-3

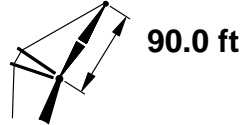
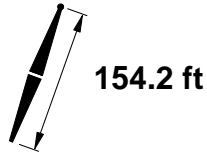
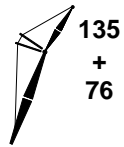
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
38	74.7	248.7	76,900*c						38	
40	73.4	248.1	76,800*c						40	
45	70.1	246.5	76,500*c						45	
50	66.6	244.5	76,100*b						50	
55	63.1	242.1	73,200*b	70.5	245.6	77,100*c			55	
60	59.5	239.4	69,600*b	67.1	243.7	73,500*b			60	
65	55.7	236.2	65,400*	63.6	241.4	69,000*b			65	
70	51.8	232.6	61,700*	60.0	238.7	64,900*	65.7	241.5	67,100*b	70
75	47.6	228.3	58,200*	56.3	235.6	61,100*	62.2	239.0	63,200*b	75
80	43.1	223.4	55,000*	52.4	232.0	57,600*	58.5	236.2	59,500*	80
85	38.2	217.6	52,100*	48.2	227.9	54,400*	54.7	232.9	56,100*	85
90	32.8	210.6	49,300*	43.8	223.0	51,400*	50.7	229.1	52,900*	90
95	26.3	201.7	46,700*	39.0	217.4	48,700*	46.5	224.7	49,700	95
100	17.8	189.4	44,300*	33.6	210.5	46,200*	41.9	219.5	46,600	100
105				27.3	202.0	43,800*	36.9	213.4	43,900	105
110				19.2	190.4	41,500*	31.2	206.0	41,400	110
115				1.3	162.8	35,200*	24.3	196.5	39,100	115
120							14.8	182.5	37,000	120
125										125
130										130
135										135
140										140
145										145
150										150
155										155
160										160

# 14000 S-3

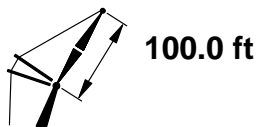
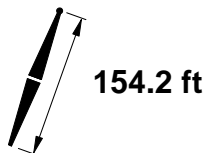
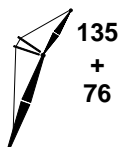
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	60.8	234.9	48,900 <sup>b</sup>							90
95	57.1	231.9	45,700							95
100	53.2	228.4	42,900							100
105	49.1	224.4	40,300							105
110	44.8	219.7	38,100	55.4	226.2	34,800				110
115	40.0	214.2	36,000	51.4	222.5	32,800				115
120	34.8	207.7	34,100	47.2	218.2	31,100				120
125	28.7	199.6	32,300	42.7	213.1	29,500				125
130	21.2	188.9	30,700	37.8	207.2	28,000	49.2	214.9	25,400	130
135	8.9	170.3	29,100	32.2	200.1	26,600	44.9	210.3	24,100	135
140				25.6	191.0	25,400	40.2	204.8	23,000	140
145				16.8	178.2	24,200	34.9	198.3	21,900	145
150							28.9	190.3	20,900	150
155							21.4	179.6	19,900	155
160							9.4	161.5	19,000	160

# 14000 S-3

ASME B30.5

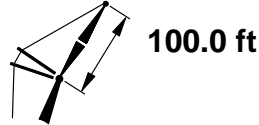
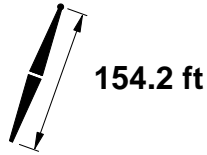
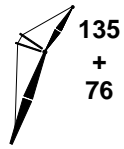


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
45	72.1	257.0	70,400*c						45	
50	69.1	255.3	70,000*b						50	
55	66.0	253.2	68,300*b						55	
60	62.8	250.8	65,600*	69.5	254.4	70,500*b			60	
65	59.6	248.1	63,100*	66.4	252.4	66,900*b			65	
70	56.2	244.9	60,100*	63.3	250.1	63,100*b			70	
75	52.6	241.3	56,900*	60.0	247.4	59,500*	65.2	250.2	61,400*b	75
80	48.9	237.3	53,800*	56.7	244.3	56,300*	62.0	247.7	57,900*	80
85	45.0	232.6	51,100*	53.2	240.8	53,300*	58.7	244.9	54,800*	85
90	40.8	227.2	48,500*	49.5	236.8	50,400*	55.2	241.6	51,800*	90
95	36.2	220.9	46,100*	45.6	232.2	47,900*	51.7	237.9	49,100*	95
100	31.0	213.4	43,800*	41.4	226.9	45,400*	47.9	233.7	46,300	100
105	24.9	204.0	41,700*	36.9	220.8	43,200*	43.9	228.8	43,600	105
110	16.9	190.9	39,700*	31.8	213.5	41,000*	39.6	223.2	41,100	110
115				25.9	204.4	39,100*	34.9	216.7	38,800	115
120				18.2	192.1	37,200*	29.5	208.7	36,800	120
125				1.2	162.9	31,600*	23.1	198.6	34,900	125
130							14.1	183.7	33,100	130
135										135
140										140
145										145
150										150
155										155
160										160
165										165
170										170



# 14000 S-3

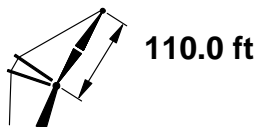
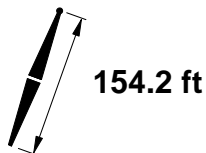
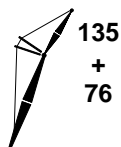
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
45									45	
50									50	
55									55	
60									60	
65									65	
70									70	
75									75	
80									80	
85									85	
90									90	
95	60.7	243.6	45,300						95	
100	57.4	240.6	42,500						100	
105	53.9	237.2	40,000						105	
110	50.3	233.3	37,700						110	
115	46.4	228.8	35,600	55.8	234.9	32,400			115	
120	42.3	223.7	33,700	52.3	231.2	30,700			120	
125	37.9	217.8	32,000	48.6	227.1	29,100			125	
130	32.9	210.7	30,400	44.6	222.4	27,600			130	
135	27.2	202.1	28,900	40.4	216.9	26,300	50.4	223.8	23,700	135
140	20.1	190.7	27,500	35.8	210.6	25,000	46.5	219.4	22,500	140
145	8.4	171.0	26,200	30.5	202.9	23,900	42.4	214.3	21,500	145
150				24.3	193.3	22,800	38.0	208.4	20,500	150
155				16.0	179.6	21,700	33.1	201.4	19,600	155
160							27.4	192.8	18,700	160
165							20.3	181.5	17,800	165
170							8.9	162.3	17,000	170

# 14000 S-3

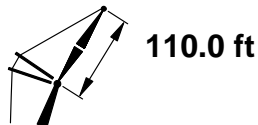
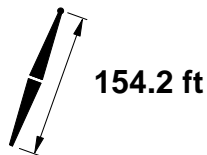
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	73.8	267.5	65,000*c							45
50	71.1	265.9	64,700*b							50
55	68.3	264.1	63,500*b							55
60	65.5	261.9	61,500*							60
65	62.6	259.5	59,500*	68.7	263.2	64,000*b				65
70	59.6	256.7	57,700*	65.9	261.1	61,200*				70
75	56.5	253.6	55,500*	63.0	258.8	58,000*	67.6	261.1	59,500*b	75
80	53.3	250.1	52,700*	60.0	256.0	54,900*	64.7	258.9	56,400*	80
85	50.0	246.1	50,000*	57.0	253.0	52,100*	61.8	256.4	53,500*	85
90	46.5	241.7	47,600*	53.8	249.5	49,500*	58.8	253.5	50,700*	90
95	42.8	236.6	45,300*	50.5	245.6	47,000*	55.7	250.3	48,100*	95
100	38.8	230.8	43,200*	47.0	241.3	44,700*	52.5	246.7	45,700*	100
105	34.5	224.1	41,200*	43.4	236.3	42,500*	49.1	242.6	43,500*	105
110	29.6	216.1	39,300*	39.4	230.6	40,500*	45.6	238.0	41,100	110
115	23.8	206.2	37,400*	35.1	224.0	38,600*	41.8	232.8	38,800	115
120	16.1	192.4	35,700*	30.3	216.3	36,900*	37.7	226.8	36,800	120
125				24.7	206.6	35,100*	33.2	219.7	34,900	125
130				17.4	193.6	33,600*	28.1	211.3	33,200	130
135						29,000*	22.0	200.6	31,600	135
140				1.2	163.0		13.4	184.9	30,100	140
145										145
150										150
155										155
160										160
165										165
170										170
175										175
180										180

# 14000 S-3

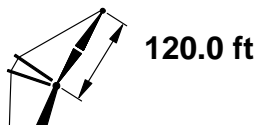
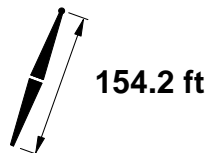
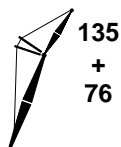
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100	60.7	252.2	42,400							100
105	57.6	249.2	39,900							105
110	54.5	245.9	37,600							110
115	51.2	242.1	35,600							115
120	47.8	237.8	33,700	56.2	243.6	30,600				120
125	44.2	233.0	32,000	53.0	240.0	29,000				125
130	40.3	227.5	30,400	49.7	236.0	27,600				130
135	36.1	221.1	28,900	46.2	231.5	26,200				135
140	31.4	213.6	27,600	42.5	226.4	25,000	51.3	232.6	22,500	140
145	25.9	204.5	26,300	38.5	220.5	23,800	47.9	228.4	21,400	145
150	19.1	192.4	25,100	34.0	213.7	22,800	44.3	223.5	20,500	150
155	8.0	171.7	23,900	29.1	205.6	21,800	40.4	218.1	19,500	155
160				23.1	195.4	20,800	36.2	211.7	18,700	160
165				15.2	181.0	19,900	31.5	204.3	17,900	165
170							26.1	195.2	17,100	170
175							19.3	183.2	16,400	175
180							8.5	163.0	15,600	180

# 14000 S-3

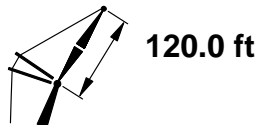
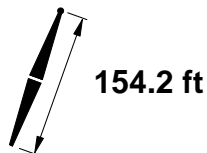
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50	72.7	276.4	49,600* <sup>b</sup>							50
55	70.2	274.8	48,600* <sup>b</sup>							55
60	67.6	272.8	47,800*							60
65	65.0	270.6	47,000*	70.5	273.9	49,000* <sup>b</sup>				65
70	62.4	268.2	46,200*	68.0	272.0	48,300*				70
75	59.6	265.4	45,400*	65.4	269.9	47,600*				75
80	56.8	262.3	44,700*	62.7	267.4	46,900*	66.9	269.9	47,700*	80
85	53.9	258.8	44,000*	60.0	264.7	46,200*	64.3	267.6	47,200*	85
90	50.9	255.0	43,100*	57.2	261.7	45,600*	61.6	265.0	46,600*	90
95	47.8	250.7	41,500*	54.3	258.2	44,900*	58.9	262.2	45,800*	95
100	44.4	245.9	40,100*	51.3	254.5	42,800*	56.1	259.0	43,700*	100
105	40.9	240.4	38,800*	48.2	250.2	40,800*	53.1	255.4	41,600*	105
110	37.1	234.3	37,500*	44.9	245.5	39,000*	50.1	251.5	39,700*	110
115	33.0	227.1	36,200*	41.4	240.2	37,200*	46.9	247.1	37,900*	115
120	28.3	218.7	34,700*	37.7	234.1	35,600*	43.5	242.1	36,200*	120
125	22.7	208.2	33,200*	33.6	227.1	34,000*	39.9	236.5	34,600*	125
130	15.4	193.7	31,700*	29.0	218.9	32,600*	36.1	230.1	32,900	130
135				23.6	208.8	31,100*	31.8	222.7	31,300	135
140				16.6	195.1	29,800*	26.9	213.8	29,900	140
145				1.1	163.1	25,700*	21.0	202.5	28,500	145
150							12.8	186.1	27,200	150
155										155
160										160
165										165
170										170
175										175
180										180
185										185
190										190

# 14000 S-3

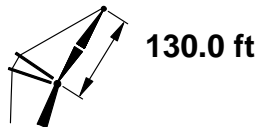
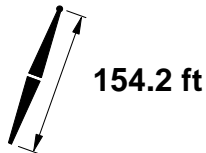
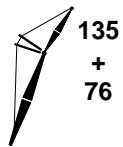
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	60.6	260.9	39,500							105
110	57.8	257.9	37,200							110
115	55.0	254.6	35,200							115
120	52.0	250.9	33,300							120
125	48.9	246.7	31,600	56.6	252.2	28,600				125
130	45.6	242.1	30,000	53.6	248.8	27,200				130
135	42.2	236.9	28,600	50.6	244.9	25,800				135
140	38.5	231.0	27,200	47.5	240.5	24,600				140
145	34.5	224.3	26,000	44.1	235.7	23,500	52.1	241.4	21,000	145
150	30.0	216.4	24,800	40.6	230.2	22,400	49.0	237.3	20,000	150
155	24.8	206.7	23,700	36.8	223.9	21,400	45.7	232.7	19,100	155
160	18.3	194.1	22,700	32.6	216.7	20,500	42.3	227.5	18,300	160
165	7.7	172.4	21,700	27.8	208.1	19,600	38.6	221.6	17,500	165
170				22.1	197.4	18,800	34.6	214.9	16,700	170
175				14.6	182.3	17,900	30.1	207.0	16,000	175
180							25.0	197.4	15,300	180
185							18.5	184.9	14,700	185
190							8.1	163.7	14,000	190

# 14000 S-3

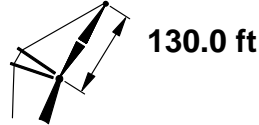
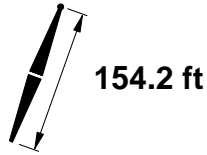
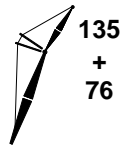
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
50	74.1	286.9	46,600* <b>b</b>							50
55	71.8	285.3	45,800* <b>b</b>							55
60	69.4	283.6	45,000*							60
65	67.1	281.6	44,300*							65
70	64.6	279.3	43,600*	69.8	282.7	45,300*				70
75	62.2	276.8	42,900*	67.4	280.8	44,700*				75
80	59.7	274.0	42,300*	65.0	278.6	44,100*				80
85	57.1	271.0	41,100*	62.5	276.1	43,500*	66.4	278.6	44,200*	85
90	54.4	267.6	39,700*	60.0	273.4	43,000*	64.0	276.3	43,700*	90
95	51.6	263.8	38,200*	57.4	270.3	41,600*	61.5	273.7	43,300*	95
100	48.8	259.6	36,900*	54.8	267.0	40,200*	59.0	270.9	42,500*	100
105	45.8	255.0	35,600*	52.0	263.3	38,800*	56.4	267.7	40,800*	105
110	42.6	249.9	34,400*	49.2	259.1	37,500*	53.7	264.2	39,000*	110
115	39.2	244.1	33,200*	46.2	254.6	36,200*	50.9	260.3	37,300*	115
120	35.6	237.6	32,100*	43.1	249.5	34,800*	48.0	256.0	35,600*	120
125	31.6	230.0	31,100*	39.7	243.9	33,600*	45.0	251.3	34,100*	125
130	27.1	221.2	30,200*	36.2	237.4	32,200*	41.7	246.0	32,700*	130
135	21.8	210.2	29,300*	32.2	230.1	30,900*	38.3	240.0	31,100	135
140	14.8	195.1	28,700*	27.8	221.4	29,600*	34.6	233.3	29,700	140
145				22.7	210.8	28,400*	30.5	225.4	28,300	145
150				16.0	196.6	27,200*	25.8	216.1	27,100	150
155				1.1	163.2	23,400*	20.2	204.3	25,900	155
160							12.3	187.2	24,800	160
165										165
170										170
175										175
180										180
185										185
190										190
195										195
200										200

# 14000 S-3

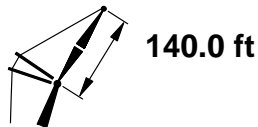
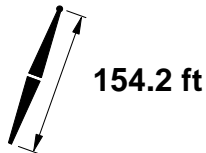
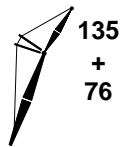
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	60.6	269.6	37,000							110
115	58.0	266.6	34,900							115
120	55.4	263.3	33,000							120
125	52.6	259.7	31,300							125
130	49.8	255.6	29,800	56.8	260.9	26,900				130
135	46.8	251.2	28,300	54.1	257.5	25,600				135
140	43.7	246.2	27,000	51.4	253.7	24,300				140
145	40.5	240.7	25,800	48.5	249.5	23,200				145
150	36.9	234.5	24,600	45.5	244.8	22,100	52.7	250.2	19,800	150
155	33.1	227.3	23,500	42.3	239.6	21,200	49.9	246.2	18,900	155
160	28.8	219.0	22,500	38.9	233.8	20,200	46.9	241.7	18,000	160
165	23.8	208.9	21,500	35.3	227.2	19,400	43.8	236.8	17,200	165
170	17.6	195.6	20,600	31.2	219.5	18,500	40.5	231.3	16,500	170
175	7.4	173.1	19,700	26.7	210.5	17,800	37.0	225.1	15,800	175
180				21.3	199.3	17,000	33.2	217.9	15,100	180
185				14.0	183.5	16,300	28.9	209.6	14,500	185
190							24.0	199.6	13,900	190
195							17.8	186.5	13,300	195
200							7.8	164.4	12,700	200

# 14000 S-3

ASME B30.5

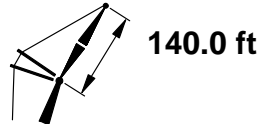
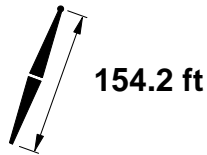
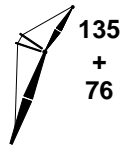


ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
55	73.1	295.8	43,000* <sup>b</sup>							55
60	71.0	294.2	42,200*							60
65	68.8	292.4	41,500*							65
70	66.6	290.3	40,900*							70
75	64.3	288.0	40,300*	69.1	291.5	41,700*				75
80	62.0	285.5	39,000*	66.9	289.5	41,200*				80
85	59.7	282.7	37,500*	64.6	287.3	40,700*				85
90	57.3	279.6	36,100*	62.4	284.8	39,400*	66.0	287.3	40,700*	90
95	54.8	276.3	34,700*	60.0	282.0	37,900*	63.7	285.0	40,000*	95
100	52.3	272.6	33,400*	57.6	279.0	36,600*	61.4	282.4	38,700*	100
105	49.6	268.5	32,100*	55.2	275.7	35,200*	59.1	279.5	37,400*	105
110	46.9	264.1	30,900*	52.6	272.0	33,900*	56.6	276.4	36,100*	110
115	44.0	259.1	29,700*	50.0	268.0	32,600*	54.1	272.9	34,800*	115
120	41.0	253.7	28,600*	47.3	263.6	31,400*	51.6	269.1	33,400*	120
125	37.8	247.6	27,600*	44.4	258.8	30,200*	48.9	265.0	32,200*	125
130	34.3	240.7	26,500*	41.4	253.4	29,100*	46.1	260.4	31,000*	130
135	30.5	232.8	25,500*	38.2	247.4	27,900*	43.2	255.3	29,800*	135
140	26.1	223.5	24,700*	34.8	240.6	26,900*	40.2	249.7	28,700*	140
145	21.0	212.1	23,900*	31.0	232.9	25,900*	36.9	243.4	27,600*	145
150	14.3	196.3	23,300*	26.8	223.9	25,000*	33.3	236.3	26,600*	150
155				21.8	212.8	24,300*	29.4	228.1	25,600	155
160				15.4	197.9	23,600*	24.9	218.3	24,500	160
165				1.0	163.3	21,200*	19.5	206.1	23,500	165
170							11.9	188.2	22,500	170
175										175
180										180
185										185
190										190
195										195
200										200
205										205
210										210



# 14000 S-3

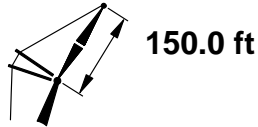
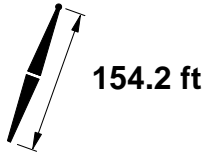
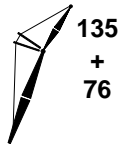
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	62.8	280.9	36,600							110
115	60.5	278.2	34,500							115
120	58.1	275.2	32,700							120
125	55.7	272.0	31,000							125
130	53.2	268.4	29,400							130
135	50.6	264.5	28,000	57.1	269.6	25,200				135
140	47.9	260.2	26,600	54.6	266.2	23,900				140
145	45.0	255.4	25,400	52.0	262.5	22,800				145
150	42.1	250.2	24,200	49.4	258.4	21,800				150
155	38.9	244.3	23,200	46.6	253.9	20,800				155
160	35.5	237.7	22,200	43.7	248.9	19,900	50.6	255.0	17,600	160
165	31.9	230.2	21,200	40.7	243.4	19,000	47.9	250.7	16,800	165
170	27.7	221.5	20,300	37.5	237.2	18,200	45.1	246.0	16,100	170
175	23.0	210.9	19,500	33.9	230.3	17,400	42.2	240.7	15,400	175
180	17.0	197.2	18,700	30.1	222.3	16,700	39.0	234.9	14,700	180
185	7.1	173.7	17,900	25.7	212.8	16,000	35.6	228.3	14,100	185
190				20.5	201.1	15,300	32.0	220.9	13,500	190
195				13.5	184.7	14,700	27.8	212.2	12,900	195
200							23.1	201.7	12,400	200
205							17.1	188.0	11,900	205
210							7.5	165.1	11,300	210

# 14000 S-3

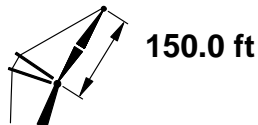
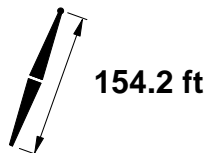
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	74.3	306.2	40,300* <sup>b</sup>						55	
60	72.3	304.7	39,600*						60	
65	70.3	303.0	39,000*						65	
70	68.2	301.1	38,300*						70	
75	66.1	299.0	37,200*	70.5	302.2	39,000*			75	
80	64.0	296.7	35,900*	68.5	300.3	38,500*			80	
85	61.9	294.2	34,500*	66.4	298.3	37,500*			85	
90	59.7	291.4	33,200*	64.3	296.0	36,200*	67.7	298.2	37,900*	90
95	57.5	288.3	31,900*	62.2	293.4	34,900*	65.6	296.0	36,800*	95
100	55.2	285.0	30,500*	60.0	290.7	33,500*	63.5	293.7	35,500*	100
105	52.8	281.3	29,300*	57.8	287.7	32,200*	61.3	291.0	34,200*	105
110	50.4	277.4	28,100*	55.5	284.4	31,000*	59.1	288.2	33,000*	110
115	47.8	273.0	27,000*	53.1	280.8	29,700*	56.9	285.1	31,800*	115
120	45.2	268.3	25,900*	50.7	276.9	28,500*	54.5	281.6	30,500*	120
125	42.5	263.1	24,800*	48.2	272.6	27,400*	52.2	277.9	29,300*	125
130	39.5	257.3	23,700*	45.6	267.9	26,200*	49.7	273.9	28,100*	130
135	36.4	250.9	22,800*	42.9	262.8	25,100*	47.2	269.4	26,900*	135
140	33.1	243.7	21,800*	40.0	257.1	24,100*	44.5	264.6	25,900*	140
145	29.4	235.5	21,000*	36.9	250.8	23,100*	41.7	259.2	24,800*	145
150	25.2	225.8	20,200*	33.6	243.7	22,200*	38.7	253.3	23,800*	150
155	20.3	213.9	19,500*	29.9	235.6	21,300*	35.6	246.7	22,800*	155
160	13.8	197.6	18,900*	25.9	226.2	20,500*	32.1	239.3	21,900*	160
165				21.1	214.7	19,700*	28.4	230.7	21,000*	165
170				14.9	199.3	19,100*	24.0	220.5	20,300*	170
175				1.0	163.4	18,700*	18.8	207.8	19,500*	175
180							11.5	189.3	18,900*	180
185										185
190										190
195										195
200										200
205										205
210										210
215										215
220										220

# 14000 S-3

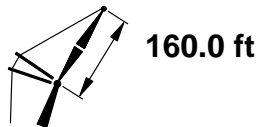
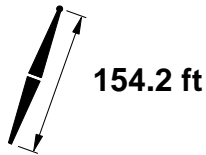
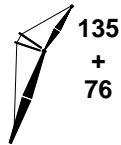
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115	62.7	289.6	34,400							115
120	60.5	286.9	32,500							120
125	58.3	283.9	30,800							125
130	56.0	280.7	29,300							130
135	53.6	277.2	27,800							135
140	51.2	273.3	26,500	57.3	278.3	23,800				140
145	48.7	269.1	25,300	55.0	274.9	22,700				145
150	46.2	264.5	24,200	52.6	271.2	21,600				150
155	43.4	259.5	23,100	50.1	267.3	20,700				155
160	40.6	253.9	22,100	47.6	262.9	19,800				160
165	37.6	247.8	21,200	45.0	258.1	18,900	51.3	263.8	16,700	165
170	34.3	240.9	20,300	42.2	252.8	18,100	48.8	259.7	16,000	170
175	30.7	233.0	19,400	39.3	247.0	17,300	46.2	255.1	15,300	175
180	26.8	223.9	18,700	36.1	240.6	16,600	43.5	250.1	14,600	180
185	22.2	212.9	17,900	32.8	233.3	15,900	40.7	244.5	14,000	185
190	16.4	198.6	17,200	29.0	224.9	15,300	37.6	238.4	13,400	190
195	6.9	174.3	16,500	24.8	215.1	14,700	34.4	231.5	12,900	195
200				19.8	202.9	14,100	30.8	223.7	12,300	200
205				13.0	185.9	13,500	26.9	214.6	11,800	205
210							22.3	203.7	11,300	210
215							16.5	189.5	10,900	215
220							7.3	165.8	10,400	220

# 14000 S-3

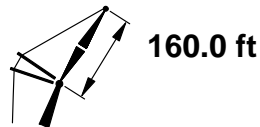
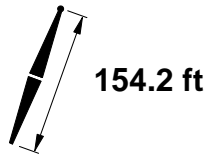
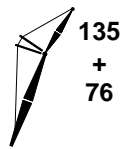
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
60	73.4	315.2	36,900*							60
65	71.5	313.6	36,200*							65
70	69.6	311.9	35,400*							70
75	67.7	309.9	34,000*							75
80	65.8	307.8	32,700*	69.9	311.0	35,500*				80
85	63.8	305.4	31,400*	68.0	309.1	34,200*				85
90	61.8	302.8	30,000*	66.0	307.0	32,900*				90
95	59.7	300.0	28,800*	64.1	304.7	31,600*	67.2	306.9	33,400*	95
100	57.6	297.0	27,500*	62.1	302.1	30,400*	65.2	304.7	32,200*	100
105	55.5	293.7	26,300*	60.0	299.3	29,100*	63.3	302.3	31,000*	105
110	53.3	290.1	25,100*	57.9	296.3	27,900*	61.2	299.7	29,800*	110
115	51.0	286.2	24,000*	55.8	293.1	26,700*	59.2	296.8	28,600*	115
120	48.7	282.0	22,900*	53.6	289.5	25,500*	57.1	293.7	27,400*	120
125	46.2	277.4	21,800*	51.3	285.7	24,300*	54.9	290.4	26,200*	125
130	43.7	272.4	20,800*	49.0	281.5	23,200*	52.7	286.7	25,100*	130
135	41.0	266.9	19,800*	46.6	277.0	22,200*	50.4	282.7	23,900*	135
140	38.2	260.9	18,900*	44.1	272.0	21,100*	48.0	278.4	22,900*	140
145	35.2	254.2	18,000*	41.4	266.6	20,200*	45.6	273.7	21,800*	145
150	32.0	246.6	17,200*	38.6	260.7	19,200*	43.0	268.6	20,800*	150
155	28.4	238.1	16,400*	35.7	254.1	18,300*	40.3	263.0	19,800*	155
160	24.4	228.0	15,700*	32.5	246.7	17,500*	37.5	256.8	18,900*	160
165	19.7	215.7	15,000*	29.0	238.3	16,700*	34.4	249.9	18,000*	165
170	13.3	198.8	14,400*	25.0	228.5	16,000*	31.1	242.1	17,200*	170
175				20.4	216.5	15,200*	27.4	233.2	16,400*	175
180				14.4	200.5	14,600*	23.3	222.6	15,700*	180
185				1.0	163.5	13,900*	18.2	209.4	15,000*	185
190							11.1	190.2	14,400*	190
195										195
200										200
205										205
210										210
215										215
220										220
225										225
230										230

# 14000 S-3

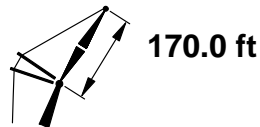
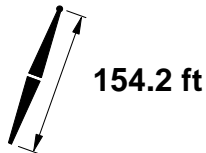
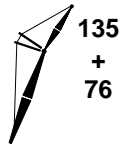
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120	62.5	298.3	30,100*							120
125	60.5	295.5	29,000*							125
130	58.4	292.6	27,900*							130
135	56.2	289.4	26,800*							135
140	54.1	285.9	25,700*							140
145	51.8	282.1	24,600*	57.4	286.9	22,300				145
150	49.5	278.0	23,600*	55.3	283.6	21,200				150
155	47.1	273.6	22,500*	53.1	280.0	20,300				155
160	44.6	268.7	21,500*	50.8	276.1	19,400				160
165	42.0	263.4	20,500*	48.4	271.8	18,500				165
170	39.2	257.6	19,500*	46.0	267.2	17,700	51.9	272.6	15,600	170
175	36.3	251.1	18,700*	43.5	262.2	17,000	49.6	268.6	14,900	175
180	33.2	243.9	17,800*	40.8	256.6	16,300	47.2	264.1	14,200	180
185	29.7	235.7	17,000*	38.0	250.5	15,600	44.7	259.3	13,600	185
190	25.9	226.3	16,200*	35.0	243.8	14,900	42.1	254.0	13,000	190
195	21.5	214.9	15,500*	31.7	236.2	14,300	39.3	248.2	12,500	195
200	15.9	200.0	14,900*	28.1	227.5	13,800	36.4	241.7	12,000	200
205	6.7	174.9	14,100*	24.0	217.2	13,200	33.3	234.5	11,500	205
210				19.2	204.6	12,700	29.8	226.4	11,000	210
215				12.6	187.0	12,200	26.0	217.0	10,500	215
220							21.6	205.6	10,100	220
225							16.0	190.9	9,700	225
230							7.0	166.4	9,200	230

# 14000 S-3

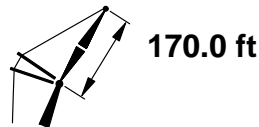
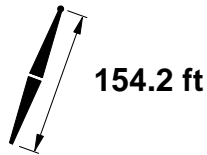
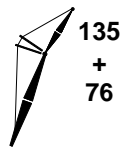
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
60	74.4	325.6	34,300*							60
65	72.7	324.1	33,700*							65
70	70.9	322.5	32,600*							70
75	69.1	320.7	31,300*							75
80	67.3	318.7	30,000*							80
85	65.4	316.5	28,800*	69.3	319.8	31,500*				85
90	63.6	314.1	27,500*	67.5	317.9	30,200*				90
95	61.7	311.5	26,300*	65.7	315.7	29,000*				95
100	59.7	308.7	25,100*	63.8	313.3	27,800*	66.8	315.7	29,500*	100
105	57.8	305.7	24,000*	61.9	310.8	26,600*	64.9	313.5	28,400*	105
110	55.8	302.4	22,800*	60.0	308.0	25,400*	63.1	311.0	27,200*	110
115	53.7	298.8	21,700*	58.0	305.0	24,300*	61.2	308.4	26,100*	115
120	51.6	295.0	20,700*	56.0	301.8	23,100*	59.2	305.5	24,900*	120
125	49.4	290.9	19,600*	54.0	298.3	22,000*	57.2	302.4	23,800*	125
130	47.1	286.4	18,700*	51.9	294.5	20,900*	55.2	299.1	22,700*	130
135	44.8	281.6	17,700*	49.7	290.4	20,000*	53.1	295.4	21,600*	135
140	42.3	276.3	16,800*	47.4	286.0	18,900*	51.0	291.5	20,600*	140
145	39.8	270.6	16,000*	45.1	281.2	18,000*	48.8	287.3	19,600*	145
150	37.1	264.3	15,100*	42.7	276.0	17,100*	46.5	282.8	18,600*	150
155	34.2	257.3	14,300*	40.1	270.3	16,200*	44.1	277.8	17,700*	155
160	31.0	249.5	13,500*	37.4	264.1	15,400*	41.7	272.5	16,700*	160
165	27.6	240.6	12,600*	34.6	257.2	14,600*	39.1	266.6	15,900*	165
170	23.7	230.1	11,700*	31.5	249.5	13,800*	36.3	260.1	15,100*	170
175	19.1	217.4	10,900*	28.1	240.8	12,800*	33.4	252.9	14,300*	175
180	12.9	199.9	10,100*	24.3	230.6	11,900*	30.1	244.8	13,400*	180
185				19.8	218.3	11,000*	26.6	235.6	12,500*	185
190				14.0	201.8	10,300*	22.5	224.6	11,600*	190
195				0.9	163.6	9,700*	17.6	211.0	10,700*	195
200							10.8	191.2	10,000*	200
205										205
210										210
215										215
220										220
225										225
230										230
235										235
240										240

# 14000 S-3

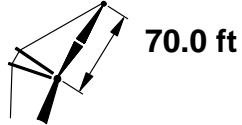
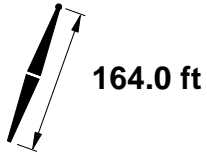
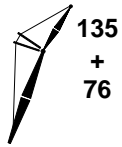
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120										120
125	62.3	306.9	26,400*							125
130	60.4	304.2	25,400*							130
135	58.5	301.2	24,300*							135
140	56.5	298.1	23,300*							140
145	54.4	294.6	22,200*							145
150	52.3	290.9	21,200*	57.6	295.6	21,000				150
155	50.2	286.9	20,200*	55.6	292.3	20,000				155
160	47.9	282.5	19,200*	53.5	288.8	19,100				160
165	45.6	277.8	18,300*	51.4	284.9	18,200				165
170	43.2	272.7	17,400*	49.2	280.8	17,400				170
175	40.7	267.2	16,500*	46.9	276.3	16,700	52.4	281.4	14,600	175
180	38.0	261.1	15,600*	44.6	271.4	16,000	50.2	277.4	13,900	180
185	35.2	254.3	14,900*	42.1	266.1	15,300	48.0	273.1	13,300	185
190	32.2	246.8	14,100*	39.5	260.3	14,700	45.7	268.4	12,800	190
195	28.8	238.3	13,100*	36.8	253.9	14,100	43.3	263.3	12,200	195
200	25.1	228.5	12,200*	33.9	246.9	13,500	40.8	257.7	11,700	200
205	20.8	216.7	11,400*	30.7	239.0	13,000	38.1	251.7	11,200	205
210	15.4	201.4	10,600*	27.2	229.9	12,500	35.3	245.0	10,700	210
215	6.5	175.5	9,900*	23.3	219.3	11,800*	32.2	237.5	10,300	215
220				18.6	206.3	11,000*	28.9	229.0	9,900	220
225				12.2	188.1	10,300*	25.2	219.2	9,400	225
230							20.9	207.5	9,000	230
235							15.5	192.3	8,700	235
240							6.8	167.0	8,300	240

# 14000 S-3

ASME B30.5

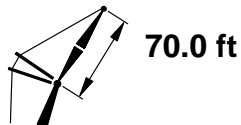
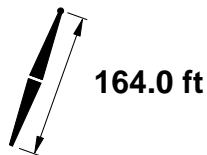


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
34	74.1	239.0	88,200*d						34	
36	72.4	238.4	88,100*d						36	
38	70.7	237.7	88,100*c						38	
40	68.9	237.0	88,000*c						40	
45	64.5	234.9	87,300*c						45	
50	59.8	232.2	81,200*b	70.1	236.4	87,700*c			50	
55	55.0	229.0	75,700*b	65.7	234.3	81,600*c			55	
60	49.8	225.2	70,800*b	61.2	231.8	76,000*b			60	
65	44.2	220.5	66,300*	56.4	228.8	70,900*b	64.4	232.2	74,400*c	
70	38.0	214.8	62,300*	51.3	225.2	66,400*b	59.7	229.6	69,500*b	
75	30.7	207.5	58,500*	45.8	220.7	62,200*	54.9	226.4	65,000*b	
80	21.4	197.2	55,100*	39.8	215.3	58,400*	49.7	222.5	60,900*b	
85				32.9	208.5	55,000*	44.1	217.8	56,900	
90				24.3	199.4	51,800*	37.8	212.1	53,000	
95				10.7	183.6	48,800*	30.5	204.7	49,600	
100							21.1	194.4	46,500	
105									105	
110									110	
115									115	
120									120	
125									125	
130									130	
135									135	
140									140	
145									145	



# 14000 S-3

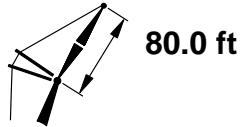
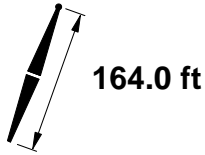
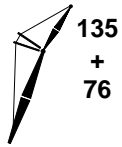
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85	58.7	225.7	52,200b							85
90	53.8	222.3	48,700b							90
95	48.5	218.3	45,500b							95
100	42.8	213.4	42,700	57.3	220.3	38,800b				100
105	36.4	207.4	40,100	52.3	216.8	36,500b				105
110	28.8	199.5	37,800	47.0	212.5	34,400				110
115	18.5	188.1	35,700	41.1	207.3	32,500				115
120				34.4	200.9	30,800	50.4	209.6	27,800b	120
125				26.3	192.3	29,200	44.8	205.1	26,300	125
130				14.5	178.8	27,700	38.7	199.5	25,000	130
135							31.6	192.4	23,800	135
140							22.6	182.6	22,600	140
145							5.9	162.8	21,400	145

# 14000 S-3

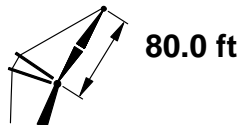
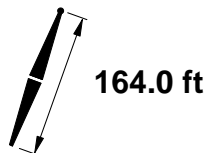
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
36	74.7	248.8	81,400*d						36	
38	73.2	248.3	81,400*c						38	
40	71.7	247.6	81,200*c						40	
45	67.8	245.8	81,000*c						45	
50	63.9	243.5	78,800*b						50	
55	59.9	240.9	73,700*b	68.9	245.2	79,000*c			55	
60	55.6	237.7	69,100*	65.0	243.1	73,900*b			60	
65	51.2	234.0	64,900*	61.0	240.5	69,200*b	67.7	243.2	72,200*c	
70	46.4	229.6	61,100*	56.8	237.5	64,900*	63.8	240.9	67,600*b	
75	41.2	224.4	57,600*	52.4	233.9	61,000*	59.8	238.3	63,500*b	
80	35.5	218.1	54,300*	47.8	229.8	57,500*	55.5	235.1	59,600*b	
85	28.7	210.1	51,300*	42.7	224.8	54,200*	51.0	231.4	56,100*	
90	20.0	199.1	48,600*	37.1	218.8	51,200*	46.3	227.0	52,700	
95				30.7	211.4	48,300*	41.1	221.7	49,300	
100				22.8	201.5	45,700*	35.3	215.4	46,300	
105				10.0	184.5	43,200*	28.5	207.3	43,500	
110							19.7	196.2	41,000	
115									115	
120									120	
125									125	
130									130	
135									135	
140									140	
145									145	
150									150	
155									155	

# 14000 S-3

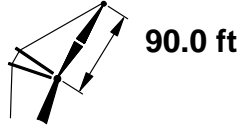
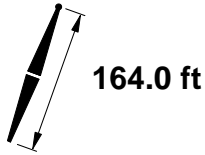
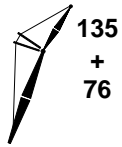
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85	63.0	237.1	51,800 <sup>b</sup>							85
90	58.9	234.3	48,200 <sup>b</sup>							90
95	54.6	231.0	45,100							95
100	50.1	227.2	42,300							100
105	45.2	222.6	39,800	57.7	229.0	36,100 <sup>b</sup>				105
110	39.9	217.2	37,500	53.3	225.5	34,000				110
115	33.9	210.5	35,400	48.7	221.5	32,100				115
120	26.9	202.0	33,500	43.8	216.7	30,400				120
125	17.3	189.7	31,800	38.3	211.0	28,800	51.7	218.5	25,900	125
130				32.1	203.9	27,400	46.9	214.1	24,600	130
135				24.5	194.6	26,000	41.8	209.0	23,400	135
140				13.5	180.1	24,700	36.1	202.9	22,200	140
145							29.5	195.1	21,200	145
150							21.1	184.5	20,200	150
155							5.5	163.3	19,100	155

# 14000 S-3

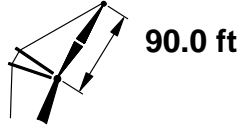
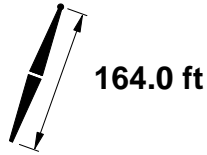
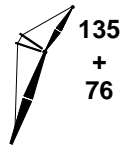
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
40	73.8	258.1	74,500*c						40	
45	70.4	256.5	74,200*c						45	
50	67.0	254.5	73,900*b						50	
55	63.5	252.2	71,700*b						55	
60	59.9	249.5	67,500*b	68.0	254.0	71,800*b			60	
65	56.1	246.4	63,500*	64.5	251.8	67,500*b			65	
70	52.2	242.8	59,900*	60.9	249.2	63,500*b	66.9	251.9	65,800*b	70
75	48.0	238.6	56,600*	57.2	246.2	59,900*	63.4	249.6	62,000*b	75
80	43.6	233.8	53,600*	53.3	242.7	56,500*	59.8	246.9	58,400*b	80
85	38.8	228.0	50,800*	49.2	238.7	53,400*	56.0	243.8	55,100*	85
90	33.4	221.2	48,100*	44.9	234.0	50,500*	52.1	240.2	52,100*	90
95	27.0	212.6	45,700*	40.2	228.6	47,900*	47.9	236.0	49,100	95
100	18.9	200.8	43,400*	34.9	222.1	45,400*	43.5	231.1	46,100	100
105				28.9	214.1	43,100*	38.6	225.3	43,400	105
110				21.4	203.4	41,000*	33.2	218.4	40,900	110
115				9.5	185.3	38,800*	26.8	209.8	38,700	115
120							18.6	197.8	36,600	120
125										125
130										130
135										135
140										140
145										145
150										150
155										155
160										160
165										165

# 14000 S-3

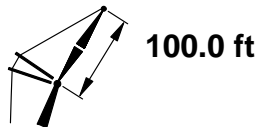
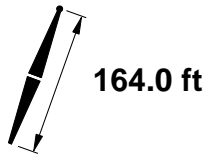
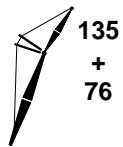
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	62.6	245.8	48,000 <sup>b</sup>							90
95	59.0	243.0	44,800 <sup>b</sup>							95
100	55.2	239.8	42,100							100
105	51.2	236.0	39,600							105
110	47.0	231.7	37,300	57.9	237.6	33,700				110
115	42.5	226.6	35,300	54.1	234.3	31,900				115
120	37.5	220.7	33,400	50.1	230.4	30,200				120
125	31.9	213.5	31,700	45.8	225.9	28,600				125
130	25.3	204.3	30,100	41.1	220.6	27,200	52.6	227.2	24,300	130
135	16.3	191.2	28,600	36.0	214.3	25,900	48.5	223.1	23,100	135
140				30.2	206.6	24,600	44.1	218.3	22,000	140
145				23.1	196.7	23,500	39.3	212.7	21,000	145
150				12.8	181.2	22,300	34.0	206.0	20,000	150
155							27.8	197.6	19,100	155
160							19.9	186.3	18,200	160
165							5.2	163.8	17,300	165

# 14000 S-3

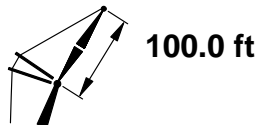
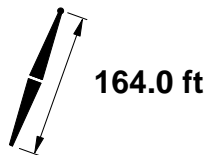
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	72.4	267.0	68,400*c							45
50	69.4	265.3	68,000*b							50
55	66.3	263.3	67,700*b							55
60	63.2	260.9	65,100*b	70.3	264.7	68,300*b				60
65	59.9	258.2	61,800*	67.2	262.7	65,400*b				65
70	56.5	255.1	58,400*	64.0	260.4	61,700*b				70
75	53.0	251.6	55,300*	60.8	257.8	58,400*	66.2	260.7	60,100*b	75
80	49.3	247.5	52,400*	57.5	254.8	55,200*	63.1	258.3	56,800*b	80
85	45.4	242.9	49,800*	54.0	251.4	52,200*	59.8	255.6	53,800*	85
90	41.3	237.6	47,300*	50.4	247.6	49,500*	56.4	252.5	50,900*	90
95	36.7	231.5	44,900*	46.6	243.1	47,000*	52.9	248.9	48,200*	95
100	31.6	224.1	42,800*	42.5	238.0	44,600*	49.2	244.9	45,700*	100
105	25.6	214.9	40,800*	38.0	232.1	42,400*	45.3	240.3	43,100	105
110	17.9	202.4	38,900*	33.1	225.1	40,400*	41.2	234.9	40,600	110
115				27.4	216.6	38,400*	36.6	228.7	38,400	115
120				20.3	205.3	36,600*	31.5	221.3	36,400	120
125				9.0	186.1	34,800*	25.4	212.1	34,500	125
130							17.6	199.4	32,700	130
135										135
140										140
145										145
150										150
155										155
160										160
165										165
170										170
175										175

# 14000 S-3

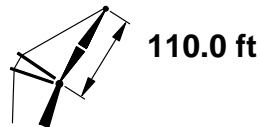
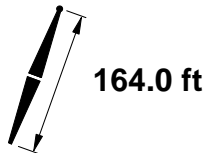
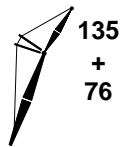
ASME B30.5



ft	75°			70°			65°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	62.4	254.5	44,400 <sup>b</sup>							95
100	59.1	251.7	41,600							100
105	55.7	248.5	39,200							105
110	52.1	244.8	36,900							110
115	48.4	240.7	34,900							115
120	44.5	235.9	33,000	54.7	243.0	29,700				120
125	40.2	230.4	31,300	51.1	239.2	28,200				125
130	35.5	224.0	29,800	47.3	234.9	26,800				130
135	30.3	216.3	28,300	43.3	229.9	25,500				135
140	24.0	206.5	27,000	38.9	224.2	24,200	49.7	232.0	21,600	140
145	15.5	192.6	25,700	34.1	217.5	23,100	45.9	227.5	20,500	145
150				28.6	209.3	22,000	41.7	222.3	19,600	150
155				21.9	198.7	21,000	37.2	216.2	18,700	155
160				12.1	182.3	20,100	32.2	209.0	17,800	160
165							26.3	200.0	17,000	165
170							18.9	188.0	16,300	170
175							4.9	164.2	15,500	175

# 14000 S-3

ASME B30.5

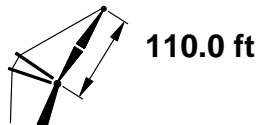
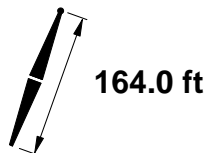


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	74.1	277.5	52,700*c							45
50	71.4	275.9	51,600*b							50
55	68.6	274.1	50,600*b							55
60	65.8	272.0	49,700*b							60
65	62.9	269.6	48,800*	69.4	273.5	51,200*b				65
70	59.9	266.9	47,900*	66.6	271.4	50,500*b				70
75	56.8	263.8	47,100*	63.7	269.1	49,700*				75
80	53.7	260.3	46,300*	60.7	266.5	49,000*	65.7	269.4	50,100*b	80
85	50.4	256.4	45,500*	57.7	263.5	48,200*	62.8	267.0	49,500*	85
90	46.9	252.0	44,800*	54.6	260.2	47,400*	59.8	264.2	48,500*	90
95	43.2	247.0	43,200*	51.3	256.4	45,100*	56.8	261.1	46,100*	95
100	39.3	241.3	41,300*	47.9	252.1	43,000*	53.6	257.7	43,900*	100
105	34.9	234.7	39,400*	44.3	247.3	41,000*	50.3	253.8	41,800*	105
110	30.1	226.8	37,700*	40.4	241.8	39,000*	46.8	249.3	39,800*	110
115	24.4	217.1	36,000*	36.2	235.5	37,300*	43.1	244.3	37,900*	115
120	17.0	203.9	34,400*	31.5	228.0	35,600*	39.2	238.6	36,200*	120
125				26.1	218.9	34,000*	34.8	232.0	34,500*	125
130				19.4	207.0	32,400*	30.0	224.1	32,800	130
135				8.6	186.9	30,900*	24.2	214.3	31,200	135
140							16.8	201.0	29,800	140
145										145
150										150
155										155
160										160
165										165
170										170
175										175
180										180
185										185



# 14000 S-3

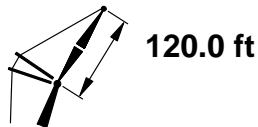
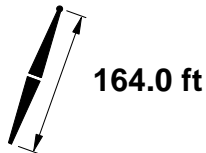
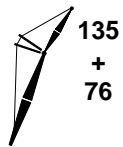
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100	62.2	263.1	41,600							100
105	59.2	260.3	39,100							105
110	56.1	257.1	36,900							110
115	52.9	253.6	34,800							115
120	49.6	249.6	33,000							120
125	46.0	245.0	31,300	55.2	251.7	28,100				125
130	42.3	239.9	29,700	52.0	248.0	26,700				130
135	38.3	234.0	28,300	48.6	243.8	25,400				135
140	33.8	227.1	27,000	45.0	239.1	24,200				140
145	28.8	218.9	25,700	41.2	233.8	23,100	50.7	240.9	20,500	145
150	22.8	208.6	24,600	37.1	227.7	22,000	47.3	236.5	19,500	150
155	14.8	193.9	23,500	32.5	220.5	21,100	43.6	231.6	18,700	155
160				27.3	211.8	20,100	39.7	226.0	17,800	160
165				20.9	200.6	19,300	35.4	219.5	17,100	165
170				11.5	183.3	18,400	30.7	211.8	16,300	170
175							25.1	202.3	15,600	175
180							18.0	189.6	14,900	180
185							4.7	164.7	14,200	185

# 14000 S-3

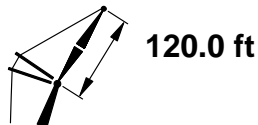
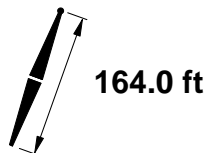
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
50	73.0	286.4	48,700*b							50
55	70.4	284.8	47,900*b							55
60	67.9	282.9	47,000*							60
65	65.3	280.7	46,200*							65
70	62.6	278.3	45,500*	68.6	282.3	47,600*b				70
75	59.9	275.5	44,700*	66.0	280.2	46,900*				75
80	57.1	272.4	44,000*	63.4	277.8	46,300*	67.8	280.3	47,000*	80
85	54.2	269.0	43,400*	60.7	275.2	45,600*	65.2	278.1	46,500*	85
90	51.2	265.2	42,700*	57.9	272.2	45,000*	62.6	275.6	46,000*	90
95	48.1	261.0	41,500*	55.0	268.9	44,000*	59.8	272.9	44,900*	95
100	44.8	256.2	40,100*	52.1	265.2	42,000*	57.0	269.8	42,800*	100
105	41.3	250.9	38,700*	49.0	261.1	40,100*	54.1	266.4	40,800*	105
110	37.5	244.8	37,000*	45.7	256.4	38,300*	51.1	262.6	38,900*	110
115	33.4	237.8	35,400*	42.3	251.3	36,500*	48.0	258.3	37,200*	115
120	28.8	229.5	33,900*	38.6	245.4	35,000*	44.7	253.5	35,500*	120
125	23.4	219.3	32,500*	34.6	238.7	33,400*	41.2	248.2	33,900*	125
130	16.3	205.4	31,100*	30.1	230.8	32,000*	37.4	242.1	32,400*	130
135				25.0	221.2	30,600*	33.3	235.0	30,900	135
140				18.5	208.7	29,300*	28.7	226.7	29,500	140
145				8.2	187.6	27,900*	23.2	216.4	28,100	145
150							16.1	202.4	26,900	150
155										155
160										160
165										165
170										170
175										175
180										180
185										185
190										190
195										195

# 14000 S-3

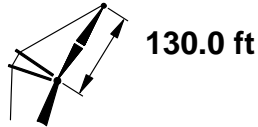
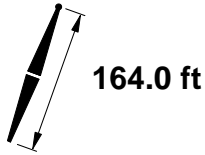
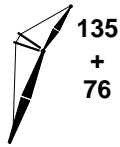
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	62.0	271.8	38,700							105
110	59.2	269.0	36,500							110
115	56.4	265.8	34,400							115
120	53.5	262.3	32,600							120
125	50.5	258.4	30,900							125
130	47.3	254.1	29,400	55.6	260.4	26,300				130
135	44.0	249.2	28,000	52.7	256.8	25,000				135
140	40.4	243.6	26,600	49.6	252.7	23,800				140
145	36.6	237.4	25,400	46.4	248.2	22,700				145
150	32.4	230.1	24,300	43.0	243.2	21,700	51.5	249.7	19,100	150
155	27.6	221.4	23,200	39.4	237.5	20,700	48.4	245.5	18,200	155
160	21.9	210.5	22,200	35.4	230.9	19,800	45.2	240.8	17,400	160
165	14.1	195.1	21,200	31.1	223.3	18,900	41.7	235.5	16,600	165
170				26.1	214.1	18,100	37.9	229.5	15,900	170
175				20.0	202.4	17,300	33.9	222.6	15,200	175
180				11.0	184.3	16,600	29.3	214.5	14,600	180
185							24.0	204.5	14,000	185
190							17.2	191.2	13,400	190
195							4.5	165.1	12,700	195

# 14000 S-3

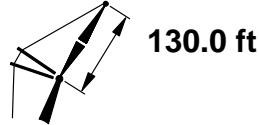
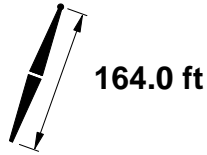
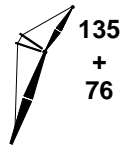
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
50	74.3	296.8	45,900* <sup>b</sup>						50	
55	72.0	295.3	45,100* <sup>b</sup>						55	
60	69.7	293.6	44,300*						60	
65	67.3	291.6	43,600*						65	
70	64.9	289.4	42,900*	70.3	292.9	44,700* <sup>b</sup>			70	
75	62.4	286.9	42,300*	68.0	291.0	44,100*			75	
80	59.9	284.2	41,700*	65.6	288.9	43,500*			80	
85	57.3	281.1	40,900*	63.1	286.5	43,000*	67.2	289.0	43,600*	
90	54.7	277.8	39,600*	60.6	283.8	42,400*	64.8	286.8	43,100*	
95	51.9	274.0	38,200*	58.1	280.8	41,700*	62.4	284.3	42,700*	
100	49.1	269.9	36,900*	55.4	277.6	40,300*	59.9	281.6	41,700*	
105	46.1	265.3	35,600*	52.7	273.9	38,900*	57.3	278.5	39,900*	
110	42.9	260.2	34,400*	49.9	269.9	37,600*	54.6	275.1	38,200*	
115	39.6	254.5	33,200*	46.9	265.5	36,000*	51.9	271.4	36,500*	
120	36.0	248.1	32,100*	43.8	260.6	34,500*	49.0	267.2	34,900*	
125	32.1	240.7	31,100*	40.6	255.0	33,000*	46.0	262.7	33,400*	
130	27.6	232.0	30,200*	37.0	248.8	31,700*	42.9	257.6	32,000*	
135	22.4	221.3	29,400*	33.2	241.7	30,300*	39.5	251.9	30,600*	
140	15.7	206.8	28,400*	28.9	233.4	29,000*	35.9	245.4	29,300	
145				24.0	223.4	27,900*	32.0	237.9	28,000	
150				17.8	210.3	26,700*	27.5	229.2	26,700	
155				7.9	188.3	25,500*	22.3	218.4	25,600	
160							15.5	203.8	24,500	
165									165	
170									170	
175									175	
180									180	
185									185	
190									190	
195									195	
200									200	
205									205	

# 14000 S-3

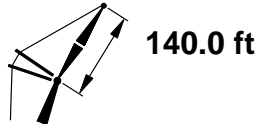
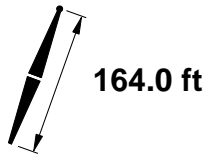
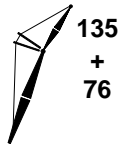
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	61.8	280.5	36,200							110
115	59.3	277.6	34,200							115
120	56.7	274.5	32,300							120
125	54.0	271.1	30,700							125
130	51.3	267.2	29,100							130
135	48.4	263.0	27,700	56.0	269.1	24,700				135
140	45.3	258.3	26,400	53.3	265.5	23,500				140
145	42.2	253.1	25,200	50.5	261.6	22,400				145
150	38.8	247.2	24,000	47.5	257.3	21,400				150
155	35.1	240.6	23,000	44.5	252.4	20,400	52.2	258.5	18,000	155
160	31.1	232.9	22,000	41.2	247.0	19,500	49.4	254.4	17,100	160
165	26.5	223.8	21,100	37.8	241.0	18,700	46.4	249.9	16,400	165
170	21.0	212.4	20,200	34.0	234.1	17,900	43.3	244.8	15,700	170
175	13.6	196.4	19,300	29.8	226.0	17,100	40.0	239.2	15,000	175
180				25.0	216.4	16,400	36.4	232.9	14,300	180
185				19.2	204.1	15,700	32.5	225.6	13,700	185
190				10.6	185.3	15,100	28.1	217.0	13,200	190
195							23.0	206.6	12,600	195
200							16.5	192.7	12,100	200
205							4.3	165.4	11,500	205

# 14000 S-3

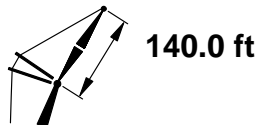
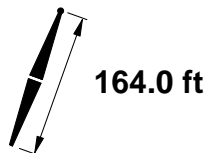
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
55	73.3	305.8	42,300* <sup>b</sup>							55
60	71.2	304.2	41,600*							60
65	69.0	302.4	40,900*							65
70	66.8	300.4	40,300*							70
75	64.6	298.1	39,700*	69.6	301.8	41,100*				75
80	62.3	295.6	38,800*	67.4	299.8	40,600*				80
85	59.9	292.8	37,400*	65.2	297.6	40,200*				85
90	57.5	289.8	36,100*	62.9	295.2	39,400*	66.7	297.8	40,200*	90
95	55.1	286.5	34,800*	60.6	292.5	38,000*	64.5	295.5	39,800*	95
100	52.5	282.8	33,400*	58.2	289.5	36,700*	62.2	293.0	38,900*	100
105	49.9	278.8	32,200*	55.8	286.3	35,400*	59.9	290.2	37,600*	105
110	47.2	274.4	31,000*	53.2	282.7	34,100*	57.5	287.2	36,300*	110
115	44.3	269.5	29,800*	50.6	278.8	32,800*	55.0	283.8	35,100*	115
120	41.3	264.1	28,700*	48.0	274.5	31,600*	52.5	280.2	33,800*	120
125	38.1	258.1	27,600*	45.1	269.7	30,400*	49.8	276.1	32,600*	125
130	34.7	251.3	26,600*	42.2	264.5	29,300*	47.1	271.7	31,300*	130
135	30.9	243.5	25,700*	39.0	258.7	28,200*	44.2	266.8	30,000*	135
140	26.6	234.4	24,800*	35.6	252.1	27,100*	41.2	261.4	28,800*	140
145	21.6	223.2	24,000*	32.0	244.6	26,200*	38.0	255.4	27,600*	145
150	15.1	208.1	23,400*	27.9	235.9	25,300*	34.6	248.6	26,400	150
155				23.1	225.5	24,500*	30.8	240.8	25,300	155
160				17.2	211.8	23,800*	26.5	231.6	24,200	160
165				7.6	189.0	23,100*	21.5	220.3	23,200	165
170							14.9	205.1	22,200	170
175										175
180										180
185										185
190										190
195										195
200										200
205										205
210										210
215										215

# 14000 S-3

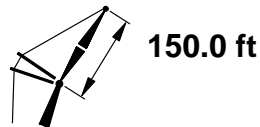
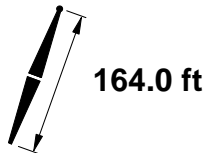
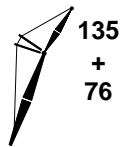
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115	61.7	289.1	33,800							115
120	59.4	286.3	31,900							120
125	56.9	283.2	30,300							125
130	54.5	279.8	28,700							130
135	51.9	276.0	27,300							135
140	49.3	271.9	26,000	56.3	277.8	23,100				140
145	46.5	267.4	24,800	53.8	274.3	22,000				145
150	43.6	262.4	23,700	51.2	270.4	21,000				150
155	40.6	256.9	22,600	48.5	266.2	20,000				155
160	37.3	250.7	21,700	45.7	261.6	19,100	52.8	267.2	16,700	160
165	33.8	243.7	20,700	42.8	256.4	18,300	50.2	263.3	15,900	165
170	29.9	235.6	19,900	39.7	250.7	17,500	47.5	258.9	15,200	170
175	25.5	226.1	19,000	36.3	244.3	16,800	44.6	254.1	14,600	175
180	20.2	214.2	18,200	32.7	237.0	16,100	41.6	248.7	13,900	180
185	13.1	197.5	17,500	28.7	228.6	15,400	38.5	242.8	13,300	185
190				24.1	218.6	14,800	35.0	236.1	12,800	190
195				18.5	205.7	14,200	31.3	228.4	12,200	195
200				10.2	186.2	13,600	27.1	219.5	11,700	200
205							22.2	208.6	11,200	205
210							15.9	194.1	10,700	210
215							4.1	165.8	10,200	215

# 14000 S-3

ASME B30.5

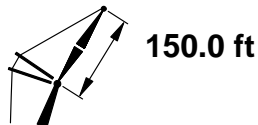
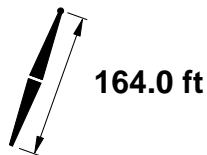


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	74.5	316.2	39,600* <sup>b</sup>						55	
60	72.5	314.7	39,000*						60	
65	70.5	313.0	38,400*						65	
70	68.4	311.2	37,700*						70	
75	66.4	309.1	37,100*						75	
80	64.3	306.8	35,700*	69.0	310.6	37,900*			80	
85	62.1	304.3	34,400*	66.9	308.5	37,500*			85	
90	59.9	301.5	33,100*	64.8	306.3	36,200*			90	
95	57.7	298.5	31,800*	62.7	303.8	34,900*	66.3	306.5	36,900*	
100	55.4	295.2	30,600*	60.5	301.1	33,700*	64.2	304.2	35,700*	
105	53.1	291.6	29,300*	58.3	298.2	32,400*	62.1	301.7	34,500*	
110	50.6	287.6	28,200*	56.1	295.0	31,100*	59.9	298.9	33,200*	
115	48.1	283.3	27,000*	53.7	291.4	29,900*	57.6	295.8	32,000*	
120	45.5	278.6	25,900*	51.3	287.6	28,700*	55.3	292.5	30,800*	
125	42.7	273.5	24,800*	48.8	283.4	27,600*	53.0	288.9	29,600*	
130	39.8	267.8	23,800*	46.2	278.8	26,500*	50.6	285.0	28,500*	
135	36.8	261.5	22,900*	43.5	273.8	25,400*	48.0	280.7	27,400*	
140	33.4	254.3	21,900*	40.7	268.3	24,400*	45.4	276.0	26,300*	
145	29.8	246.2	21,100*	37.6	262.1	23,300*	42.7	270.8	25,200*	
150	25.7	236.7	20,300*	34.4	255.3	22,400*	39.8	265.1	24,200*	
155	20.9	225.1	19,500*	30.9	247.5	21,500*	36.7	258.7	23,100*	
160	14.6	209.4	19,000*	26.9	238.4	20,700*	33.4	251.6	22,200*	
165				22.3	227.5	19,900*	29.7	243.5	21,400*	
170				16.6	213.3	19,300*	25.6	233.9	20,600*	
175				7.3	189.6	18,800*	20.7	222.2	19,800*	
180							14.4	206.4	19,200*	
185									185	
190									190	
195									195	
200									200	
205									205	
210									210	
215									215	
220									220	
225									225	



# 14000 S-3

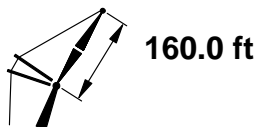
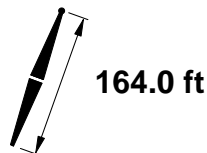
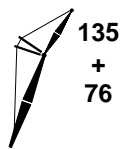
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120	61.6	297.8	31,800							120
125	59.4	295.0	30,200							125
130	57.2	291.9	28,600							130
135	54.8	288.5	27,200							135
140	52.5	284.8	25,900							140
145	50.0	280.8	24,700	56.5	286.5	21,900				145
150	47.5	276.4	23,600	54.2	283.0	20,900				150
155	44.8	271.6	22,500	51.8	279.2	19,900				155
160	42.1	266.3	21,600	49.3	275.1	19,000				160
165	39.1	260.5	20,600	46.8	270.6	18,200				165
170	36.0	254.0	19,800	44.1	265.7	17,400	50.9	272.1	15,100	170
175	32.6	246.7	19,000	41.3	260.3	16,700	48.4	267.8	14,500	175
180	28.9	238.3	18,200	38.3	254.3	16,000	45.8	263.2	13,800	180
185	24.6	228.3	17,500	35.1	247.5	15,300	43.0	258.1	13,200	185
190	19.5	216.0	16,800	31.6	239.9	14,700	40.2	252.5	12,700	190
195	12.6	198.6	16,100	27.7	231.1	14,100	37.1	246.2	12,200	195
200				23.3	220.7	13,500	33.8	239.2	11,600	200
205				17.9	207.3	13,000	30.2	231.2	11,200	205
210				9.9	187.1	12,400	26.2	221.8	10,700	210
215							21.4	210.5	10,200	215
220							15.4	195.5	9,800	220
225							4.0	166.2	9,300	225

# 14000 S-3

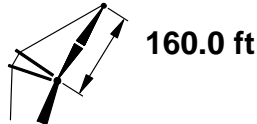
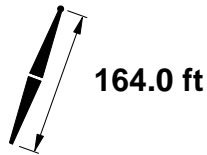
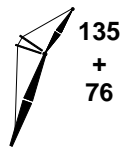
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft		
60	73.6	325.2	36,300*						60	
65	71.7	323.6	35,700*						65	
70	69.8	321.9	35,200*						70	
75	67.9	319.9	33,800*						75	
80	66.0	317.8	32,500*	70.4	321.2	35,200*			80	
85	64.0	315.5	31,300*	68.5	319.3	34,200*			85	
90	62.0	312.9	30,000*	66.5	317.3	32,900*			90	
95	59.9	310.2	28,700*	64.5	315.0	31,800*	67.9	317.3	33,500*	95
100	57.8	307.1	27,500*	62.5	312.5	30,500*	65.9	315.2	32,400*	100
105	55.7	303.9	26,400*	60.5	309.8	29,300*	63.9	312.9	31,200*	105
110	53.5	300.3	25,200*	58.4	306.8	28,000*	61.9	310.3	30,100*	110
115	51.2	296.5	24,000*	56.3	303.6	26,900*	59.9	307.5	28,900*	115
120	48.9	292.3	23,000*	54.1	300.2	25,700*	57.8	304.5	27,700*	120
125	46.5	287.7	22,000*	51.9	296.4	24,600*	55.6	301.2	26,600*	125
130	44.0	282.8	20,900*	49.6	292.3	23,500*	53.4	297.7	25,400*	130
135	41.3	277.3	19,900*	47.2	287.9	22,400*	51.2	293.8	24,300*	135
140	38.5	271.3	19,100*	44.7	283.0	21,400*	48.8	289.6	23,200*	140
145	35.6	264.7	18,200*	42.1	277.7	20,400*	46.4	285.1	22,200*	145
150	32.4	257.3	17,300*	39.3	271.9	19,500*	43.9	280.1	21,200*	150
155	28.8	248.8	16,500*	36.4	265.5	18,600*	41.3	274.6	20,200*	155
160	24.9	239.0	15,800*	33.3	258.3	17,700*	38.5	268.6	19,300*	160
165	20.2	226.9	15,100*	29.9	250.2	16,900*	35.5	262.0	18,400*	165
170	14.1	210.7	14,500*	26.0	240.7	16,100*	32.3	254.6	17,500*	170
175				21.6	229.4	15,500*	28.7	246.1	16,700*	175
180				16.0	214.7	14,800*	24.8	236.1	16,000*	180
185				7.1	190.3	14,100*	20.1	224.0	15,300*	185
190							13.9	207.6	14,700*	190
195										195
200										200
205										205
210										210
215										215
220										220
225										225
230										230
235										235

# 14000 S-3

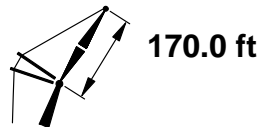
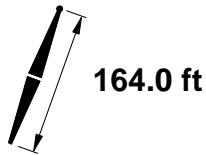
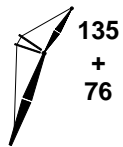
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120										120
125	61.5	306.5	29,400*							125
130	59.4	303.6	28,200							130
135	57.3	300.5	26,800							135
140	55.2	297.2	25,500							140
145	53.0	293.6	24,300							145
150	50.7	289.6	23,200	56.7	295.1	20,500				150
155	48.3	285.4	22,200	54.6	291.7	19,500				155
160	45.9	280.7	21,200	52.3	288.0	18,600				160
165	43.3	275.7	20,300	50.0	284.0	17,800				165
170	40.7	270.1	19,400	47.7	279.6	17,000				170
175	37.8	264.0	18,600	45.2	274.9	16,300	51.5	280.9	14,000	175
180	34.8	257.2	17,900	42.6	269.7	15,600	49.2	276.8	13,400	180
185	31.5	249.5	17,100	39.9	264.0	15,000	46.8	272.2	12,800	185
190	27.9	240.8	16,500	37.0	257.7	14,300	44.2	267.3	12,300	190
195	23.8	230.5	15,800	33.9	250.6	13,800	41.6	262.0	11,800	195
200	18.9	217.7	15,200	30.6	242.7	13,200	38.8	256.0	11,300	200
205	12.2	199.7	14,600	26.8	233.6	12,700	35.9	249.5	10,800	205
210				22.5	222.7	12,200	32.7	242.2	10,300	210
215				17.3	208.9	11,700	29.2	233.8	9,900	215
220				9.6	187.9	11,200	25.3	224.1	9,500	220
225							20.7	212.4	9,100	225
230							14.9	196.8	8,700	230
235							3.9	166.5	8,200	235

# 14000 S-3

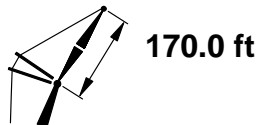
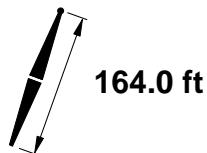
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
60	74.6	335.6	33,800*							60
65	72.8	334.1	33,200*							65
70	71.1	332.5	32,300*							70
75	69.3	330.7	31,100*							75
80	67.5	328.7	29,900*							80
85	65.6	326.5	28,700*	69.8	330.0	31,400*				85
90	63.8	324.2	27,500*	68.0	328.1	30,300*				90
95	61.9	321.6	26,300*	66.1	326.0	29,100*				95
100	59.9	318.8	25,100*	64.3	323.7	27,900*	67.4	326.1	29,700*	100
105	58.0	315.8	24,000*	62.4	321.2	26,800*	65.6	323.9	28,600*	105
110	56.0	312.6	22,900*	60.5	318.5	25,600*	63.7	321.6	27,400*	110
115	53.9	309.0	21,800*	58.5	315.5	24,400*	61.8	319.0	26,300*	115
120	51.8	305.3	20,700*	56.5	312.3	23,400*	59.9	316.2	25,200*	120
125	49.6	301.2	19,700*	54.5	308.9	22,300*	57.9	313.2	24,100*	125
130	47.4	296.7	18,700*	52.4	305.2	21,200*	55.9	309.9	23,000*	130
135	45.0	291.9	17,800*	50.2	301.2	20,200*	53.8	306.4	22,000*	135
140	42.6	286.7	16,900*	48.0	296.8	19,200*	51.7	302.6	20,900*	140
145	40.0	281.0	16,100*	45.7	292.2	18,200*	49.6	298.5	19,900*	145
150	37.3	274.8	15,200*	43.3	287.1	17,300*	47.3	294.1	19,000*	150
155	34.5	267.9	14,400*	40.8	281.5	16,400*	45.0	289.3	18,000*	155
160	31.4	260.2	13,700*	38.1	275.4	15,600*	42.5	284.0	17,000*	160
165	28.0	251.4	12,700*	35.3	268.7	14,800*	40.0	278.3	16,300*	165
170	24.1	241.1	11,900*	32.3	261.2	14,000*	37.3	272.1	15,400*	170
175	19.6	228.7	11,000*	28.9	252.8	13,100*	34.4	265.1	14,600*	175
180	13.7	211.9	10,200*	25.2	243.0	12,100*	31.3	257.4	13,800*	180
185				20.9	231.3	11,300*	27.9	248.6	12,900*	185
190				15.6	216.1	10,500*	24.0	238.3	11,900*	190
195				6.9	190.9	9,800*	19.5	225.7	11,100*	195
200							13.5	208.8	10,300*	200
205										205
210										210
215										215
220										220
225										225
230										230
235										235
240										240
245										245

# 14000 S-3

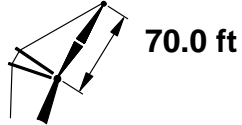
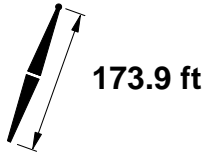
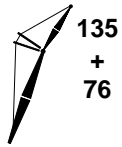
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120										120
125										125
130	61.4	315.1	25,800*							130
135	59.5	312.3	24,700*							135
140	57.5	309.2	23,700*							140
145	55.5	305.9	22,700*							145
150	53.4	302.3	21,700*							150
155	51.3	298.5	20,700*	56.9	303.8	19,200				155
160	49.1	294.3	19,700*	54.9	300.4	18,400				160
165	46.8	289.8	18,700*	52.8	296.8	17,500				165
170	44.4	284.9	17,800*	50.7	292.8	16,800				170
175	42.0	279.6	17,000*	48.4	288.6	16,000				175
180	39.4	273.8	16,100*	46.1	284.0	15,400	52.0	289.7	13,100	180
185	36.7	267.4	15,300*	43.8	278.9	14,700	49.8	285.6	12,600	185
190	33.7	260.3	14,500*	41.3	273.5	14,100	47.6	281.2	12,000	190
195	30.6	252.3	13,600*	38.6	267.5	13,500	45.3	276.5	11,500	195
200	27.1	243.2	12,700*	35.9	260.9	13,000	42.9	271.3	11,000	200
205	23.1	232.6	11,800*	32.9	253.6	12,400	40.3	265.7	10,500	205
210	18.3	219.3	11,000*	29.6	245.4	11,900	37.6	259.5	10,100	210
215	11.9	200.8	10,200*	26.0	235.9	11,400	34.8	252.7	9,600	215
220				21.9	224.7	11,000	31.7	245.0	9,200	220
225				16.8	210.4	10,500	28.3	236.4	8,800	225
230				9.3	188.7	10,100*	24.6	226.3	8,400	230
235							20.1	214.2	8,100	235
240							14.4	198.1	7,700	240
245							3.8	166.8	7,300	245

# 14000 S-3

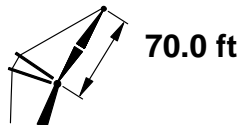
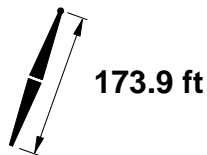
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
34	74.5	249.0	85,000*d						34	
36	72.8	248.4	85,000*d						36	
38	71.1	247.7	84,900*d						38	
40	69.4	247.0	84,800*c						40	
45	64.9	244.9	84,600*c						45	
50	60.3	242.3	79,600*b						50	
55	55.5	239.2	74,300*b	66.8	244.6	79,800*c			55	
60	50.4	235.4	69,500*b	62.3	242.3	74,400*c			60	
65	44.8	230.9	65,200*	57.5	239.4	69,600*b	65.9	242.7	72,800*c	
70	38.7	225.3	61,200*	52.5	235.9	65,200*b	61.3	240.3	68,000*b	
75	31.6	218.1	57,500*	47.2	231.6	61,100*	56.5	237.2	63,700*b	
80	22.5	208.3	54,200*	41.3	226.5	57,400*	51.5	233.6	59,600*b	
85	5.7	188.5	44,900*	34.7	220.1	54,000*	46.0	229.2	56,000*	
90				26.6	211.7	50,900*	40.0	223.9	52,500*	
95				15.1	198.6	47,900*	33.2	217.1	49,100*	
100							24.7	208.1	46,000*	
105							11.5	192.8	43,200*	
110									110	
115									115	
120									120	
125									125	
130									130	
135									135	
140									140	
145									145	

# 14000 S-3

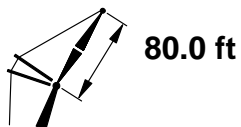
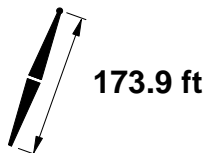
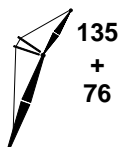
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85	61.1	236.7	51,200b							85
90	56.3	233.6	47,700b							90
95	51.2	230.0	44,600b							95
100	45.8	225.5	41,800							100
105	39.7	220.1	39,300	55.7	228.5	35,400b				105
110	32.8	213.3	37,100	50.6	224.7	33,400b				110
115	24.3	204.1	35,000	45.1	220.2	31,500				115
120	10.5	188.1	33,100	39.0	214.7	29,900				120
125				31.9	207.6	28,300	49.5	217.8	25,200b	125
130				23.0	198.0	26,800	43.9	213.1	23,900	130
135				7.4	179.6	25,400	37.6	207.3	22,700	135
140							30.2	199.9	21,600	140
145							20.7	189.4	20,500	145

# 14000 S-3

ASME B30.5

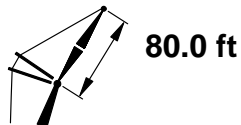
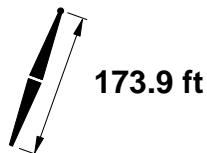


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
38	73.6	258.2	78,600*d						38	
40	72.1	257.6	78,500*c						40	
45	68.2	255.8	78,200*c						45	
50	64.3	253.6	77,100*b						50	
55	60.3	251.0	72,200*b	69.8	255.4	77,100*c			55	
60	56.1	247.9	67,700*b	66.0	253.4	72,300*c			60	
65	51.6	244.2	63,700*	62.0	250.9	67,800*b			65	
70	46.9	239.9	60,000*	57.8	248.0	63,600*b	65.2	251.4	66,100*b	70
75	41.8	234.8	56,500*	53.5	244.6	59,800*	61.2	248.9	62,000*b	75
80	36.1	228.6	53,400*	48.9	240.6	56,300*	57.0	245.9	58,400*b	80
85	29.5	220.9	50,500*	44.0	235.8	53,100*	52.6	242.4	54,900*	85
90	21.1	210.3	47,700*	38.5	230.1	50,100*	47.9	238.2	51,700*	90
95	5.3	188.9	39,700*	32.4	223.1	47,400*	42.9	233.3	48,800	95
100				24.9	214.0	44,900*	37.4	227.4	45,700	100
105				14.1	199.8	42,400*	31.0	220.0	43,000	105
110							23.1	210.2	40,500	110
115							10.8	193.8	38,200	115
120										120
125										125
130										130
135										135
140										140
145										145
150										150
155										155



# 14000 S-3

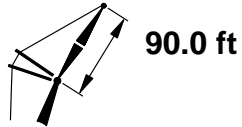
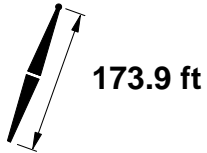
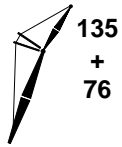
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	61.0	245.3	47,300 <sup>b</sup>							90
95	56.8	242.3	44,200 <sup>b</sup>							95
100	52.4	238.7	41,400							100
105	47.7	234.6	39,000							105
110	42.7	229.6	36,700	56.3	237.2	32,900 <sup>b</sup>				110
115	37.1	223.6	34,700	51.9	233.5	31,100				115
120	30.7	216.1	32,900	47.1	229.3	29,400				120
125	22.7	206.2	31,100	42.0	224.2	27,900				125
130	9.8	189.0	29,500	36.4	218.1	26,500	50.9	226.7	23,400	130
135				29.8	210.4	25,200	46.1	222.3	22,300	135
140				21.5	200.0	24,000	40.9	217.0	21,200	140
145				6.9	180.3	22,700	35.1	210.6	20,200	145
150							28.2	202.5	19,200	150
155							19.4	191.2	18,300	155

# 14000 S-3

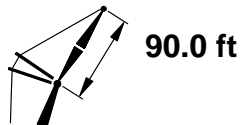
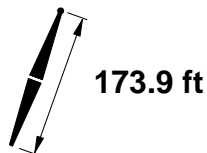
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
40	74.1	268.1	72,100*c							40
45	70.8	266.5	71,800*c							45
50	67.4	264.6	71,400*b							50
55	63.9	262.3	70,100*b							55
60	60.3	259.7	66,100*b	68.8	264.2	70,000*c				60
65	56.5	256.6	62,300*	65.3	262.1	66,000*b				65
70	52.6	253.0	58,700*	61.8	259.6	62,100*b				70
75	48.5	248.9	55,600*	58.1	256.7	58,600*b	64.6	260.1	60,500*b	75
80	44.1	244.1	52,600*	54.3	253.3	55,300*	61.0	257.6	57,100*b	80
85	39.3	238.5	49,900*	50.2	249.5	52,300*	57.3	254.6	53,900*	85
90	34.0	231.8	47,300*	46.0	245.0	49,500*	53.5	251.1	50,900*	90
95	27.7	223.4	44,900*	41.3	239.7	46,900*	49.4	247.2	48,100*	95
100	19.9	212.1	42,600*	36.3	233.5	44,500*	45.0	242.5	45,600	100
105	5.0	189.4	35,500*	30.5	225.9	42,200*	40.4	237.1	42,900	105
110				23.4	216.1	40,100*	35.2	230.7	40,400	110
115				13.3	201.0	38,100*	29.2	222.7	38,200	115
120							21.8	212.2	36,200	120
125							10.2	194.7	34,300	125
130										130
135										135
140										140
145										145
150										150
155										155
160										160
165										165

# 14000 S-3

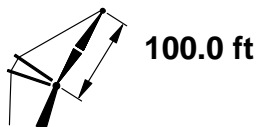
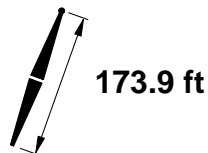
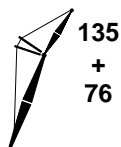
ASME B30.5



ft	75°			70°			65°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	60.9	254.0	43,900 <sup>b</sup>							95
100	57.2	251.0	41,200							100
105	53.3	247.5	38,700							105
110	49.2	243.5	36,500							110
115	44.8	238.8	34,500	56.7	245.8	30,800				115
120	40.1	233.4	32,700	52.8	242.3	29,200				120
125	34.9	226.8	31,000	48.7	238.2	27,700				125
130	28.9	218.8	29,400	44.3	233.5	26,300				130
135	21.4	208.1	28,000	39.5	227.9	25,000	52.0	235.5	22,000	135
140	9.3	189.9	26,600	34.2	221.2	23,800	47.8	231.3	20,900	140
145				28.1	213.0	22,700	43.3	226.4	20,000	145
150				20.3	201.8	21,600	38.5	220.6	19,000	150
155				6.5	180.9	20,600	33.0	213.7	18,200	155
160							26.6	204.9	17,300	160
165							18.2	192.8	16,500	165

# 14000 S-3

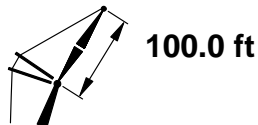
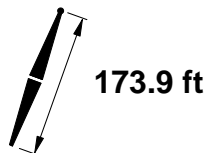
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	72.8	277.0	66,300*c							45
50	69.7	275.3	65,900*b							50
55	66.6	273.3	65,600*b							55
60	63.5	271.0	64,000*b	71.0	274.8	66,100*c				60
65	60.2	268.3	60,500*	67.9	273.0	63,800*b				65
70	56.9	265.3	57,200*	64.8	270.8	60,300*b				70
75	53.4	261.8	54,200*	61.6	268.3	57,000*	67.3	271.1	58,500*b	75
80	49.7	257.8	51,400*	58.3	265.4	54,000*	64.2	268.8	55,400*b	80
85	45.9	253.3	48,800*	54.9	262.1	51,100*	60.9	266.2	52,400*	85
90	41.7	248.0	46,400*	51.3	258.3	48,500*	57.6	263.3	49,700*	90
95	37.2	242.0	44,100*	47.5	254.0	46,000*	54.1	259.9	47,100*	95
100	32.2	234.7	42,000*	43.5	249.1	43,700*	50.5	256.0	44,600*	100
105	26.3	225.8	40,000*	39.1	243.4	41,600*	46.7	251.6	42,400*	105
110	18.8	213.8	38,200*	34.3	236.7	39,500*	42.6	246.5	40,100	110
115	4.8	189.8	31,700*	28.9	228.6	37,600*	38.2	240.7	37,900	115
120				22.2	218.1	35,900*	33.3	233.7	35,900	120
125				12.6	202.2	34,100*	27.6	225.2	34,100	125
130							20.6	214.1	32,400	130
135							9.6	195.6	30,700	135
140										140
145										145
150										150
155										155
160										160
165										165
170										170
175										175

# 14000 S-3

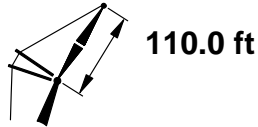
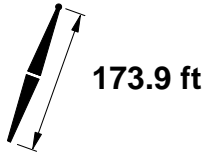
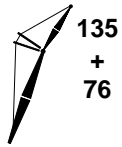
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100	60.8	262.6	40,800							100
105	57.4	259.6	38,300							105
110	54.0	256.2	36,100							110
115	50.3	252.3	34,100							115
120	46.5	247.9	32,300	57.0	254.5	28,700				120
125	42.4	242.8	30,600	53.6	251.1	27,200				125
130	38.0	236.9	29,100	49.9	247.1	25,900				130
135	33.0	229.9	27,700	46.0	242.6	24,600				135
140	27.4	221.3	26,400	41.9	237.4	23,400	52.8	244.3	20,500	140
145	20.2	210.0	25,100	37.4	231.4	22,300	49.1	240.2	19,500	145
150	8.8	190.7	23,900	32.4	224.2	21,300	45.2	235.6	18,600	150
155				26.6	215.4	20,300	41.0	230.2	17,700	155
160				19.2	203.6	19,400	36.4	224.0	16,900	160
165				6.2	181.4	18,500	31.3	216.5	16,200	165
170							25.2	207.2	15,400	170
175							17.3	194.4	14,700	175

# 14000 S-3

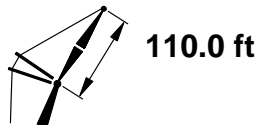
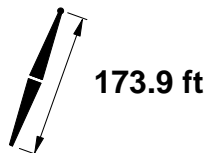
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	74.4	287.4	51,600 <sup>c</sup>							45
50	71.6	285.9	50,700 <sup>b</sup>							50
55	68.9	284.1	49,700 <sup>b</sup>							55
60	66.1	282.0	48,800 <sup>b</sup>							60
65	63.2	279.7	48,000 <sup>*</sup>	70.0	283.7	50,400 <sup>b</sup>				65
70	60.2	277.0	47,100 <sup>*</sup>	67.2	281.7	49,700 <sup>b</sup>				70
75	57.2	273.9	46,300 <sup>*</sup>	64.4	279.5	48,900 <sup>*</sup>				75
80	54.0	270.5	45,600 <sup>*</sup>	61.5	276.9	48,200 <sup>*</sup>	66.7	279.8	49,300 <sup>b</sup>	80
85	50.7	266.7	44,800 <sup>*</sup>	58.4	274.0	47,500 <sup>*</sup>	63.8	277.5	48,700 <sup>*</sup>	85
90	47.3	262.3	44,100 <sup>*</sup>	55.3	270.8	46,300 <sup>*</sup>	60.8	274.9	47,300 <sup>*</sup>	90
95	43.6	257.4	42,400 <sup>*</sup>	52.1	267.1	44,100 <sup>*</sup>	57.8	271.9	45,000 <sup>*</sup>	95
100	39.7	251.8	40,500 <sup>*</sup>	48.7	263.0	42,000 <sup>*</sup>	54.7	268.6	42,800 <sup>*</sup>	100
105	35.4	245.3	38,700 <sup>*</sup>	45.2	258.3	40,000 <sup>*</sup>	51.4	264.8	40,800 <sup>*</sup>	105
110	30.6	237.6	37,000 <sup>*</sup>	41.4	253.0	38,200 <sup>*</sup>	48.0	260.6	38,800 <sup>*</sup>	110
115	25.1	228.1	35,300 <sup>*</sup>	37.2	246.9	36,400 <sup>*</sup>	44.4	255.8	37,000 <sup>*</sup>	115
120	17.9	215.4	33,700 <sup>*</sup>	32.7	239.7	34,800 <sup>*</sup>	40.5	250.3	35,300 <sup>*</sup>	120
125	4.5	190.2	28,500 <sup>*</sup>	27.5	231.1	33,200 <sup>*</sup>	36.4	244.0	33,700 <sup>*</sup>	125
130				21.2	220.0	31,700 <sup>*</sup>	31.7	236.6	32,200 <sup>*</sup>	130
135				12.1	203.3	30,200 <sup>*</sup>	26.3	227.6	30,700 <sup>*</sup>	135
140							19.7	215.8	29,300 <sup>*</sup>	140
145							9.2	196.4	27,900 <sup>*</sup>	145
150										150
155										155
160										160
165										165
170										170
175										175
180										180
185										185

# 14000 S-3

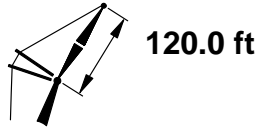
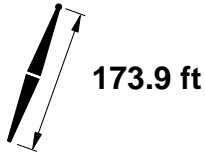
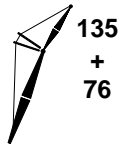
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	60.7	271.3	38,300							105
110	57.7	268.3	36,100							110
115	54.5	265.0	34,100							115
120	51.3	261.2	32,300							120
125	47.9	256.9	30,600	57.3	263.2	27,200				125
130	44.2	252.1	29,100	54.2	259.8	25,800				130
135	40.4	246.6	27,700	50.9	255.9	24,500				135
140	36.2	240.3	26,400	47.4	251.6	23,400				140
145	31.5	232.8	25,200	43.8	246.7	22,300				145
150	26.1	223.7	24,000	39.9	241.1	21,300	50.2	249.1	18,600	150
155	19.3	211.7	23,000	35.6	234.7	20,300	46.7	244.7	17,700	155
160	8.4	191.4	21,900	30.9	227.1	19,400	43.0	239.6	16,900	160
165				25.3	217.7	18,600	39.0	233.9	16,200	165
170				18.3	205.2	17,800	34.7	227.2	15,500	170
175				5.9	181.9	17,000	29.8	219.3	14,800	175
180							24.0	209.4	14,100	180
185							16.5	195.9	13,500	185

# 14000 S-3

ASME B30.5

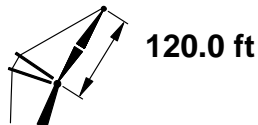
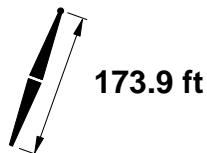


ft	87°			83°			80°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50	73.2	296.4	47,800*b							50
55	70.7	294.8	47,000*b							55
60	68.2	292.9	46,200*b							60
65	65.6	290.8	45,500*							65
70	62.9	288.3	44,700*	69.2	292.5	46,800*b				70
75	60.2	285.6	44,000*	66.6	290.5	46,100*				75
80	57.4	282.6	43,300*	64.0	288.2	45,500*				80
85	54.5	279.2	42,700*	61.3	285.6	44,900*	66.1	288.6	45,700*	85
90	51.5	275.5	42,100*	58.6	282.7	44,400*	63.5	286.2	45,200*	90
95	48.4	271.3	41,500*	55.7	279.5	43,000*	60.8	283.6	43,700*	95
100	45.1	266.6	39,700*	52.8	275.9	41,100*	58.0	280.6	41,700*	100
105	41.7	261.3	37,900*	49.7	271.9	39,200*	55.1	277.3	39,700*	105
110	37.9	255.3	36,300*	46.5	267.4	37,400*	52.2	273.6	37,900*	110
115	33.9	248.4	34,700*	43.1	262.3	35,800*	49.1	269.5	36,200*	115
120	29.3	240.2	33,300*	39.5	256.7	34,200*	45.9	264.9	34,600*	120
125	24.0	230.3	31,800*	35.6	250.1	32,700*	42.4	259.8	33,000*	125
130	17.2	216.9	30,500*	31.3	242.6	31,300*	38.8	253.9	31,600*	130
135	4.3	190.6	25,700*	26.3	233.5	29,900*	34.8	247.2	30,200*	135
140				20.3	221.8	28,600*	30.3	239.4	28,900*	140
145				11.5	204.3	27,300*	25.2	229.9	27,600*	145
150							18.8	217.5	26,400*	150
155							8.8	197.2	25,100*	155
160										160
165										165
170										170
175										175
180										180
185										185
190										190
195										195



# 14000 S-3

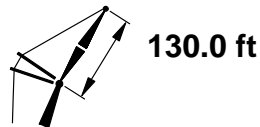
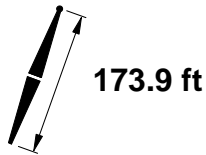
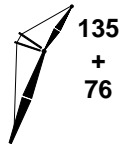
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	60.7	280.0	35,600							110
115	57.9	277.0	33,700							115
120	55.0	273.7	31,900							120
125	52.0	270.0	30,200							125
130	48.9	265.8	28,700	57.5	271.9	25,400				130
135	45.7	261.2	27,300	54.7	268.5	24,100				135
140	42.3	256.1	26,000	51.7	264.8	23,000				140
145	38.6	250.2	24,800	48.6	260.6	21,900				145
150	34.6	243.4	23,700	45.3	255.9	20,900				150
155	30.1	235.5	22,600	41.8	250.6	19,900	51.0	257.9	17,300	155
160	24.9	225.9	21,700	38.1	244.7	19,000	47.9	253.6	16,500	160
165	18.5	213.4	20,700	34.1	237.8	18,200	44.6	248.9	15,700	165
170	8.0	192.1	19,800	29.5	229.8	17,400	41.1	243.5	15,000	170
175				24.2	219.9	16,700	37.3	237.3	14,400	175
180				17.6	206.8	16,000	33.1	230.2	13,800	180
185				5.7	182.4	15,300	28.5	221.9	13,200	185
190							23.0	211.5	12,600	190
195							15.8	197.3	12,100	195

# 14000 S-3

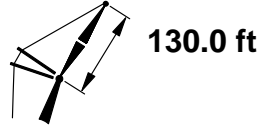
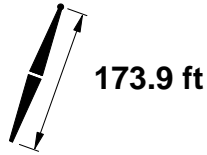
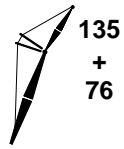
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
50	74.5	306.8	45,000*b							50
55	72.2	305.3	44,300*b							55
60	69.9	303.6	43,600*b							60
65	67.5	301.7	42,900*							65
70	65.1	299.5	42,200*	70.9	303.1	43,900*b				70
75	62.7	297.0	41,600*	68.5	301.3	43,400*				75
80	60.2	294.3	41,000*	66.1	299.2	42,800*				80
85	57.6	291.3	40,400*	63.7	296.9	42,300*				85
90	55.0	287.9	39,400*	61.2	294.3	41,800*	65.7	297.3	42,400*	90
95	52.2	284.3	38,100*	58.7	291.4	41,300*	63.2	294.9	42,000*	95
100	49.4	280.2	36,800*	56.1	288.2	40,100*	60.7	292.2	40,600*	100
105	46.4	275.7	35,600*	53.4	284.6	38,400*	58.2	289.3	38,900*	105
110	43.3	270.6	34,400*	50.6	280.7	36,700*	55.5	286.0	37,200*	110
115	40.0	265.0	33,300*	47.7	276.4	35,200*	52.8	282.4	35,500*	115
120	36.4	258.6	32,200*	44.6	271.6	33,700*	50.0	278.4	34,000*	120
125	32.5	251.3	31,200*	41.4	266.2	32,300*	47.0	274.0	32,600*	125
130	28.1	242.8	30,200*	37.9	260.2	30,900*	44.0	269.1	31,100*	130
135	23.0	232.3	29,000*	34.2	253.3	29,600*	40.7	263.6	29,800*	135
140	16.5	218.4	27,800*	30.0	245.3	28,400*	37.2	257.4	28,600*	140
145	4.2	191.0	23,300*	25.3	235.8	27,200*	33.4	250.3	27,400*	145
150				19.5	223.6	26,000*	29.1	242.1	26,300*	150
155				11.1	205.3	24,900*	24.2	232.1	25,100*	155
160							18.1	219.2	24,000*	160
165							8.4	197.9	23,000*	165
170										170
175										175
180										180
185										185
190										190
195										195
200										200
205										205

# 14000 S-3

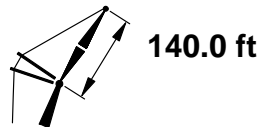
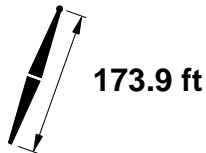
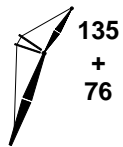
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115	60.6	288.6	33,400							115
120	58.0	285.7	31,600							120
125	55.4	282.4	30,000							125
130	52.7	278.7	28,400							130
135	49.9	274.7	27,100	57.7	280.5	23,800				135
140	46.9	270.3	25,800	55.1	277.2	22,700				140
145	43.8	265.3	24,600	52.4	273.5	21,600				145
150	40.5	259.8	23,500	49.5	269.5	20,600				150
155	37.0	253.6	22,400	46.5	265.0	19,700				155
160	33.2	246.5	21,500	43.4	260.0	18,800	51.8	266.7	16,200	160
165	28.9	238.2	20,500	40.1	254.4	18,000	48.9	262.6	15,500	165
170	23.9	228.1	19,700	36.6	248.1	17,200	45.9	258.0	14,800	170
175	17.7	215.0	18,800	32.7	240.8	16,500	42.7	252.9	14,100	175
180	7.7	192.8	18,000	28.3	232.3	15,800	39.4	247.1	13,500	180
185				23.3	222.0	15,100	35.8	240.6	12,900	185
190				16.9	208.3	14,500	31.8	233.2	12,400	190
195				5.4	182.9	13,800	27.3	224.3	11,900	195
200							22.1	213.5	11,300	200
205							15.2	198.6	10,800	205

# 14000 S-3

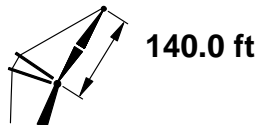
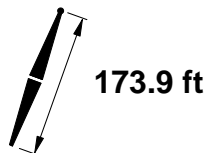
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
55	73.6	315.8	41,500* <b>b</b>							55
60	71.4	314.2	40,900* <b>b</b>							60
65	69.2	312.4	40,200*							65
70	67.0	310.4	39,600*							70
75	64.8	308.2	39,000*	70.1	312.0	40,500*				75
80	62.5	305.7	38,500*	67.9	310.1	40,000*				80
85	60.2	303.0	37,300*	65.7	307.9	39,500*				85
90	57.8	300.0	36,000*	63.5	305.5	39,000*	67.5	308.2	39,500*	90
95	55.3	296.6	34,600*	61.1	302.9	38,100*	65.3	306.0	39,100*	95
100	52.8	293.0	33,400*	58.8	300.0	36,800*	63.0	303.6	38,700*	100
105	50.2	289.0	32,200*	56.4	296.8	35,500*	60.7	300.9	37,600*	105
110	47.5	284.7	31,000*	53.9	293.4	34,200*	58.3	297.9	36,000*	110
115	44.6	279.8	29,900*	51.3	289.5	33,000*	55.9	294.7	34,500*	115
120	41.6	274.5	28,700*	48.6	285.3	31,800*	53.3	291.1	33,100*	120
125	38.4	268.6	27,700*	45.8	280.7	30,600*	50.7	287.2	31,700*	125
130	35.0	261.9	26,700*	42.9	275.6	29,500*	48.1	283.0	30,400*	130
135	31.3	254.2	25,800*	39.8	269.9	28,400*	45.2	278.2	29,200*	135
140	27.1	245.2	24,900*	36.5	263.5	27,400*	42.3	273.0	28,000*	140
145	22.2	234.3	24,100*	32.9	256.3	26,400*	39.1	267.2	26,800*	145
150	15.9	219.8	23,400*	28.9	247.9	25,500*	35.8	260.7	25,700*	150
155	4.0	191.3	21,100*	24.3	238.0	24,600*	32.1	253.2	24,700*	155
160				18.7	225.3	23,600*	28.0	244.6	23,700*	160
165				10.7	206.2	22,600*	23.3	234.2	22,700*	165
170							17.4	220.7	21,800*	170
175							8.1	198.6	20,800*	175
180										180
185										185
190										190
195										195
200										200
205										205
210										210
215										215

# 14000 S-3

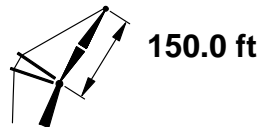
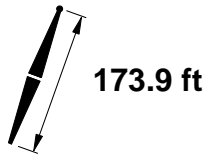
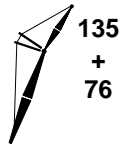
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115	62.9	300.0	33,000							115
120	60.6	297.3	31,200							120
125	58.2	294.3	29,500							125
130	55.7	291.1	28,000							130
135	53.2	287.5	26,700							135
140	50.6	283.6	25,400	57.9	289.2	22,200				140
145	47.9	279.3	24,200	55.4	285.9	21,200				145
150	45.1	274.5	23,100	52.9	282.3	20,200				150
155	42.1	269.3	22,100	50.3	278.3	19,300				155
160	39.0	263.4	21,100	47.6	274.0	18,400				160
165	35.6	256.9	20,200	44.8	269.2	17,600	52.4	275.5	15,000	165
170	31.9	249.4	19,300	41.8	263.9	16,800	49.7	271.5	14,300	170
175	27.8	240.7	18,500	38.6	258.0	16,100	47.0	267.0	13,700	175
180	23.1	230.2	17,800	35.2	251.3	15,400	44.1	262.1	13,100	180
185	17.1	216.5	17,000	31.5	243.7	14,800	41.1	256.7	12,500	185
190	7.4	193.5	16,300	27.3	234.8	14,200	37.9	250.6	12,000	190
195				22.4	224.0	13,600	34.4	243.8	11,500	195
200				16.2	209.8	13,000	30.6	235.9	11,000	200
205				5.2	183.4	12,400	26.3	226.7	10,500	205
210							21.3	215.4	10,000	210
215							14.6	199.9	9,600	215

# 14000 S-3

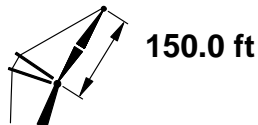
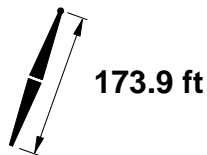
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	74.7	326.2	38,900* <sup>b</sup>						55	
60	72.7	324.7	38,300* <sup>b</sup>						60	
65	70.7	323.1	37,700*						65	
70	68.6	321.2	37,100*						70	
75	66.6	319.1	36,600*						75	
80	64.5	316.9	35,500*	69.5	320.8	37,300*			80	
85	62.3	314.4	34,300*	67.4	318.8	36,900*			85	
90	60.2	311.6	33,000*	65.3	316.6	36,200*			90	
95	57.9	308.6	31,800*	63.2	314.2	34,900*	67.0	316.9	36,400*	
100	55.6	305.3	30,500*	61.1	311.6	33,700*	64.9	314.7	35,700*	
105	53.3	301.8	29,300*	58.9	308.7	32,500*	62.8	312.2	34,500*	
110	50.9	297.9	28,200*	56.6	305.5	31,300*	60.6	309.5	33,400*	
115	48.4	293.6	27,100*	54.3	302.1	30,100*	58.4	306.6	32,200*	
120	45.8	289.0	26,000*	51.9	298.3	28,900*	56.1	303.4	31,100*	
125	43.0	283.9	24,900*	49.4	294.2	27,800*	53.8	299.9	29,900*	
130	40.2	278.2	23,900*	46.9	289.7	26,700*	51.4	296.1	28,700*	
135	37.1	272.0	22,900*	44.2	284.8	25,600*	48.9	291.9	27,700*	
140	33.8	264.9	22,000*	41.4	279.4	24,600*	46.3	287.3	26,500*	
145	30.2	256.9	21,200*	38.4	273.4	23,600*	43.6	282.3	25,500*	
150	26.1	247.6	20,400*	35.2	266.8	22,600*	40.8	276.8	24,500*	
155	21.4	236.3	19,600*	31.7	259.2	21,700*	37.8	270.7	23,500*	
160	15.3	221.2	19,000*	27.9	250.5	20,900*	34.5	263.8	22,600*	
165	3.9	191.7	18,600*	23.5	240.1	20,100*	31.0	256.1	21,700*	
170				18.1	226.9	19,400*	27.1	247.1	20,900*	
175				10.3	207.1	18,900*	22.5	236.2	20,100*	
180							16.8	222.2	19,400*	
185							7.9	199.3	18,900*	
190									190	
195									195	
200									200	
205									205	
210									210	
215									215	
220									220	
225									225	

# 14000 S-3

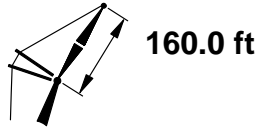
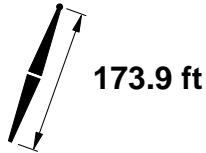
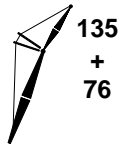
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120	62.7	308.6	31,100							120
125	60.5	305.9	29,400							125
130	58.3	303.0	27,900							130
135	56.0	299.8	26,600							135
140	53.7	296.2	25,300							140
145	51.3	292.4	24,100							145
150	48.8	288.2	23,000	55.8	294.6	20,100				150
155	46.2	283.6	22,000	53.4	291.1	19,100				155
160	43.5	278.6	21,000	51.0	287.2	18,300				160
165	40.6	273.1	20,100	48.5	282.9	17,500				165
170	37.6	266.9	19,300	45.9	278.3	16,700	52.9	284.3	14,200	170
175	34.4	260.0	18,500	43.2	273.2	16,000	50.5	280.3	13,600	175
180	30.8	252.2	17,700	40.3	267.6	15,300	48.0	276.0	13,000	180
185	26.9	243.1	17,000	37.2	261.4	14,700	45.3	271.3	12,400	185
190	22.3	232.2	16,300	34.0	254.4	14,100	42.6	266.1	11,900	190
195	16.5	218.0	15,700	30.4	246.5	13,500	39.7	260.4	11,400	195
200	7.2	194.1	15,000	26.4	237.2	13,000	36.6	254.0	10,900	200
205				21.7	226.0	12,400	33.2	246.8	10,400	205
210				15.7	211.2	11,900	29.6	238.6	10,000	210
215				5.1	183.8	11,400	25.4	229.0	9,600	215
220							20.5	217.2	9,100	220
225							14.1	201.2	8,700	225

# 14000 S-3

ASME B30.5

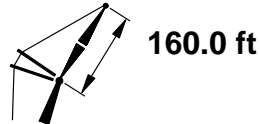
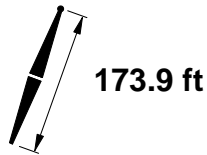
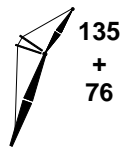


ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
60	73.8	335.2	35,700* <sup>b</sup>							60
65	71.9	333.6	35,100*							65
70	70.0	331.9	34,600*							70
75	68.1	330.0	33,600*							75
80	66.2	327.9	32,400*	70.8	331.4	34,700*				80
85	64.2	325.6	31,100*	68.9	329.6	34,100*				85
90	62.2	323.0	29,900*	67.0	327.6	32,900*				90
95	60.1	320.3	28,700*	65.0	325.3	31,700*				95
100	58.1	317.3	27,500*	63.0	322.9	30,600*	66.6	325.7	32,400*	100
105	55.9	314.0	26,300*	61.0	320.2	29,400*	64.6	323.4	31,300*	105
110	53.7	310.5	25,200*	58.9	317.3	28,200*	62.6	320.9	30,200*	110
115	51.5	306.7	24,100*	56.8	314.2	27,000*	60.6	318.2	29,100*	115
120	49.2	302.5	23,100*	54.7	310.8	25,900*	58.5	315.3	28,000*	120
125	46.7	298.0	22,000*	52.4	307.1	24,800*	56.4	312.1	26,800*	125
130	44.2	293.1	21,000*	50.1	303.1	23,700*	54.2	308.6	25,700*	130
135	41.6	287.7	20,000*	47.8	298.7	22,600*	52.0	304.9	24,700*	135
140	38.8	281.8	19,100*	45.3	294.0	21,600*	49.7	300.8	23,500*	140
145	35.9	275.3	18,300*	42.7	288.8	20,600*	47.3	296.3	22,500*	145
150	32.7	267.9	17,400*	40.0	283.1	19,700*	44.8	291.5	21,500*	150
155	29.2	259.6	16,600*	37.1	276.9	18,800*	42.2	286.2	20,500*	155
160	25.3	249.9	15,900*	34.0	269.9	17,900*	39.4	280.5	19,600*	160
165	20.7	238.1	15,200*	30.7	262.0	17,100*	36.5	274.0	18,700*	165
170	14.9	222.5	14,600*	27.0	252.9	16,300*	33.4	266.9	17,800*	170
175	3.8	192.0	13,900*	22.7	242.1	15,600*	30.0	258.8	17,100*	175
180				17.5	228.5	15,000*	26.2	249.4	16,300*	180
185				10.0	208.0	14,300*	21.8	238.2	15,600*	185
190							16.3	223.7	14,900*	190
195							7.6	200.0	14,300*	195
200										200
205										205
210										210
215										215
220										220
225										225
230										230
235										235



# 14000 S-3

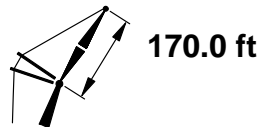
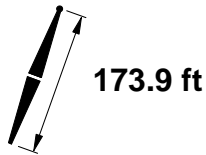
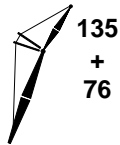
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120										120
125	62.5	317.3	29,000							125
130	60.5	314.6	27,500							130
135	58.4	311.7	26,200							135
140	56.3	308.4	24,900							140
145	54.1	305.0	23,700							145
150	51.9	301.2	22,600							150
155	49.5	297.1	21,600	56.0	303.3	18,700				155
160	47.1	292.7	20,600	53.8	299.8	17,900				160
165	44.7	287.8	19,800	51.6	296.0	17,100				165
170	42.0	282.5	18,900	49.3	291.8	16,300				170
175	39.3	276.7	18,100	46.9	287.4	15,600				175
180	36.4	270.3	17,400	44.4	282.5	14,900	51.1	289.1	12,600	180
185	33.2	263.1	16,700	41.7	277.1	14,300	48.8	284.9	12,000	185
190	29.8	254.9	16,000	39.0	271.2	13,700	46.3	280.4	11,500	190
195	26.0	245.5	15,400	36.0	264.7	13,100	43.8	275.4	11,000	195
200	21.5	234.1	14,700	32.9	257.4	12,600	41.2	269.9	10,500	200
205	16.0	219.4	14,200	29.4	249.1	12,100	38.4	263.9	10,000	205
210	7.0	194.7	13,600	25.5	239.5	11,600	35.4	257.2	9,600	210
215				21.0	227.8	11,100	32.1	249.8	9,200	215
220				15.2	212.5	10,600	28.6	241.2	8,800	220
225				4.9	184.3	10,200	24.6	231.2	8,300	225
230							19.9	219.0	7,900	230
235							13.7	202.4	7,500	235

# 14000 S-3

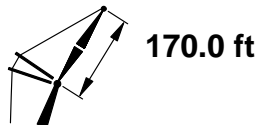
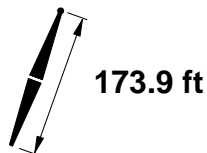
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
65	73.4	344.4	31,300*							65
70	71.6	342.8	30,300*							70
75	69.8	341.1	29,200*							75
80	68.0	339.1	28,000*							80
85	66.2	337.0	26,900*	70.6	340.6	29,500*				85
90	64.3	334.7	25,800*	68.8	338.8	28,500*				90
95	62.4	332.2	24,700*	66.9	336.7	27,400*				95
100	60.5	329.5	23,600*	65.1	334.5	26,300*				100
105	58.6	326.6	22,500*	63.2	332.1	25,300*	66.6	334.8	27,000*	105
110	56.6	323.4	21,500*	61.3	329.5	24,100*	64.7	332.6	26,000*	110
115	54.5	320.0	20,500*	59.4	326.6	23,100*	62.8	330.1	24,900*	115
120	52.4	316.3	19,600*	57.4	323.5	22,100*	60.9	327.4	23,900*	120
125	50.3	312.3	18,600*	55.4	320.2	21,100*	59.0	324.5	22,900*	125
130	48.0	307.9	17,700*	53.3	316.6	20,100*	57.0	321.4	21,900*	130
135	45.7	303.3	16,800*	51.2	312.7	19,200*	55.0	318.0	20,900*	135
140	43.3	298.2	16,000*	49.0	308.6	18,200*	52.9	314.4	20,000*	140
145	40.8	292.6	15,200*	46.7	304.0	17,400*	50.7	310.5	19,000*	145
150	38.2	286.6	14,400*	44.3	299.1	16,400*	48.5	306.2	18,100*	150
155	35.4	279.9	13,700*	41.9	293.8	15,700*	46.2	301.6	17,300*	155
160	32.3	272.4	13,000*	39.3	287.9	14,800*	43.9	296.6	16,300*	160
165	29.0	264.0	12,100*	36.5	281.5	14,200*	41.4	291.2	15,600*	165
170	25.3	254.3	11,300*	33.6	274.4	13,400*	38.7	285.2	14,800*	170
175	21.1	242.6	10,500*	30.4	266.4	12,500*	36.0	278.7	14,000*	175
180	15.7	227.5	9,700*	26.9	257.3	11,700*	33.0	271.4	13,300*	180
185	7.2	202.9	9,100*	22.9	246.5	10,800*	29.8	263.2	12,400*	185
190				18.1	233.1	10,100*	26.2	253.8	11,600*	190
195				11.5	214.2	9,400*	22.0	242.6	10,700*	195
200							17.0	228.5	10,000*	200
205							9.7	207.4	9,300*	205
210										210
215										215
220										220
225										225
230										230
235										235
240										240
245										245
250										250

# 14000 S-3

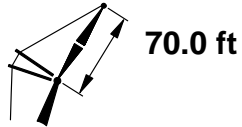
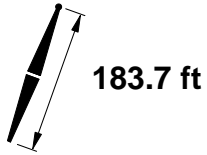
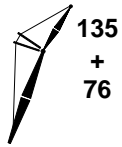
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120										120
125										125
130	62.8	326.5	24,500*							130
135	60.8	323.8	23,600*							135
140	58.9	320.9	22,700*							140
145	56.9	317.8	21,800*							145
150	54.9	314.4	20,900*							150
155	52.8	310.7	19,900*							155
160	50.6	306.8	19,000*	56.7	312.7	17,600				160
165	48.4	302.5	18,100*	54.6	309.2	16,800				165
170	46.1	297.9	17,200*	52.5	305.5	16,100				170
175	43.7	292.9	16,400*	50.4	301.6	15,400				175
180	41.2	287.4	15,600*	48.2	297.3	14,700				180
185	38.6	281.5	14,800*	45.9	292.6	14,100	52.1	298.7	11,800	185
190	35.8	274.9	14,100*	43.5	287.5	13,500	49.9	294.7	11,200	190
195	32.9	267.6	13,400*	40.9	282.0	12,900	47.7	290.3	10,700	195
200	29.6	259.3	12,500*	38.3	276.0	12,400	45.4	285.6	10,300	200
205	26.0	249.8	11,600*	35.5	269.3	11,900	42.9	280.4	9,800	205
210	21.8	238.5	10,800*	32.5	261.9	11,400	40.4	274.8	9,300	210
215	16.7	224.2	10,100*	29.2	253.5	10,900	37.7	268.6	8,900	215
220	9.2	202.5	9,300*	25.5	243.9	10,500	34.9	261.8	8,400	220
225				21.3	232.3	10,000	31.8	254.2	8,000	225
230				16.0	217.5	9,600	28.5	245.6	7,600	230
235				7.8	193.8	9,200	24.7	235.6	7,200	235
240							20.3	223.5	6,900	240
245							14.7	207.6	6,500	245
250							4.5	178.0	6,100	250

# 14000 S-3

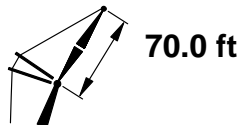
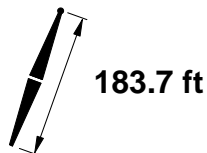
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
34	75.0	259.0	81,900*d						34	
36	73.3	258.4	81,900*d						36	
38	71.6	257.8	81,800*d						38	
40	69.8	257.1	81,700*c						40	
45	65.4	255.0	79,300*c						45	
50	60.8	252.5	74,000*b						50	
55	56.0	249.4	69,200*b	67.9	254.9	74,800*c			55	
60	50.9	245.7	64,800*b	63.4	252.6	69,900*c			60	
65	45.4	241.2	60,800*	58.7	249.9	65,300*b	67.4	253.2	65	
70	39.3	235.7	57,100*	53.8	246.5	61,200*b	62.9	250.9	70	
75	32.3	228.8	53,800*	48.5	242.5	57,400*b	58.2	248.0	75	
80	23.6	219.4	50,700*	42.8	237.6	53,900*	53.3	244.6	80	
85	9.0	202.3	47,700*	36.4	231.6	50,800*	48.0	240.5	85	
90				28.7	223.7	47,800*	42.2	235.5	90	
95				18.5	212.3	45,100*	35.7	229.3	95	
100							27.9	221.3	100	
105							17.2	209.2	105	
110									110	
115									115	
120									120	
125									125	
130									130	
135									135	
140									140	
145									145	
150									150	

# 14000 S-3

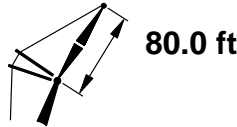
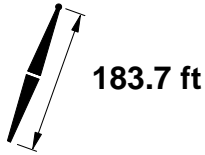
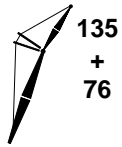
ASME B30.5



ft	75°			70°			65°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
34										34
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	58.8	244.7	46,700b							90
95	53.9	241.4	43,700b							95
100	48.6	237.4	41,000b							100
105	42.9	232.5	38,600							105
110	36.5	226.5	36,300	54.1	236.6	32,400b				110
115	28.9	218.7	34,300	48.9	232.6	30,600b				115
120	18.8	207.4	32,500	43.2	227.8	29,000				120
125				36.8	221.8	27,400				125
130				29.3	214.1	26,000	48.6	226.0	22,900b	130
135				19.3	203.0	24,700	42.9	221.2	21,700	135
140							36.4	215.1	20,700	140
145							28.8	207.3	19,700	145
150							18.7	196.0	18,700	150

# 14000 S-3

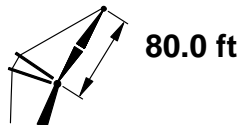
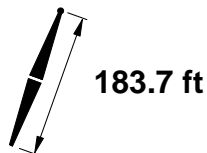
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
38	73.9	268.2	75,900*d						38	
40	72.4	267.6	75,700*c						40	
45	68.6	265.8	75,400*c						45	
50	64.7	263.7	71,700*b						50	
55	60.7	261.1	67,200*b	70.8	265.6	72,200*c			55	
60	56.5	258.1	63,100*b	66.9	263.7	67,700*c			60	
65	52.1	254.5	59,400*	63.0	261.3	63,600*b			65	
70	47.4	250.2	55,900*	58.9	258.5	59,700*b	66.5	261.9	62,400*c	
75	42.3	245.2	52,800*	54.6	255.3	56,200*	62.6	259.5	58,600*b	
80	36.7	239.2	49,800*	50.0	251.4	52,900*	58.4	256.7	55,100*b	
85	30.2	231.6	47,100*	45.2	246.8	49,900*	54.1	253.4	51,900*b	
90	22.1	221.4	44,600*	39.9	241.4	47,100*	49.6	249.4	49,000*	
95	8.4	203.0	42,100*	33.9	234.7	44,500*	44.7	244.8	46,200*	
100				26.8	226.2	42,200*	39.3	239.2	43,700*	
105				17.3	213.9	39,900*	33.3	232.4	41,300*	
110							26.0	223.6	39,100*	
115							16.1	210.6	37,000*	
120									120	
125									125	
130									130	
135									135	
140									140	
145									145	
150									150	
155									155	
160									160	

# 14000 S-3

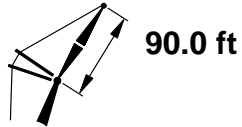
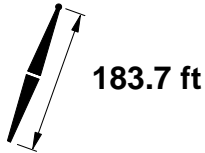
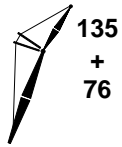
ASME B30.5



ft	75°			70°			65°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	58.9	253.4	43,300 <sup>b</sup>							95
100	54.7	250.1	40,600 <sup>b</sup>							100
105	50.1	246.3	38,200							105
110	45.3	241.7	36,000							110
115	40.0	236.3	34,000	54.9	245.3	30,100 <sup>b</sup>				115
120	34.1	229.7	32,200	50.4	241.5	28,500				120
125	27.0	221.2	30,500	45.5	236.9	27,000				125
130	17.6	209.0	28,900	40.3	231.6	25,700				130
135				34.4	225.0	24,400	50.1	234.9	21,300	135
140				27.4	216.6	23,200	45.3	230.4	20,200	140
145				18.1	204.7	22,100	40.0	224.9	19,300	145
150							34.0	218.3	18,400	150
155							26.9	209.8	17,500	155
160							17.5	197.5	16,700	160

# 14000 S-3

ASME B30.5

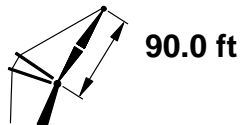
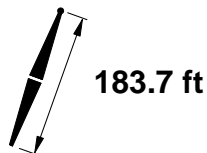


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
40	74.4	278.0	69,800*d						40	
45	71.1	276.5	69,400*c						45	
50	67.7	274.6	69,100*b						50	
55	64.2	272.4	65,400*b						55	
60	60.6	269.8	61,600*b	69.6	274.4	65,700*c			60	
65	56.9	266.7	58,000*	66.2	272.4	61,900*b			65	
70	53.0	263.2	54,800*	62.6	270.0	58,400*b			70	
75	48.9	259.2	51,800*	59.0	267.2	55,000*	65.8	270.6	57,200*b	75
80	44.6	254.5	49,100*	55.2	264.0	51,900*	62.3	268.2	54,000*b	80
85	39.8	249.0	46,500*	51.2	260.2	49,100*	58.6	265.4	51,000*b	85
90	34.5	242.4	44,200*	47.0	255.9	46,500*	54.8	262.1	48,200*	90
95	28.4	234.2	41,900*	42.5	250.8	44,000*	50.8	258.3	45,500*	95
100	20.8	223.3	39,800*	37.5	244.9	41,700*	46.6	253.9	43,100*	100
105	7.9	203.8	37,600*	31.9	237.7	39,600*	42.0	248.8	40,900*	105
110				25.3	228.5	37,700*	37.0	242.7	38,800*	110
115				16.3	215.3	35,800*	31.3	235.3	36,900*	115
120							24.5	225.9	35,000*	120
125							15.1	212.0	33,200*	125
130										130
135										135
140										140
145										145
150										150
155										155
160										160
165										165
170										170



# 14000 S-3

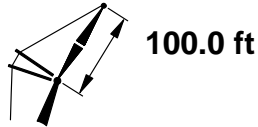
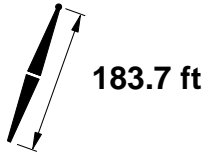
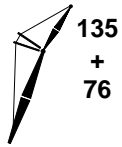
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	62.7	264.8	43,000 <sup>b</sup>							95
100	59.1	262.1	40,300 <sup>b</sup>							100
105	55.3	258.8	37,900							105
110	51.3	255.1	35,700							110
115	47.1	250.8	33,800							115
120	42.6	245.8	32,000	55.4	254.0	28,300				120
125	37.6	239.8	30,300	51.5	250.3	26,800				125
130	32.1	232.6	28,800	47.3	246.0	25,400				130
135	25.4	223.5	27,400	42.8	241.0	24,200				135
140	16.5	210.5	26,100	37.9	235.1	23,000	51.3	243.8	20,000	140
145				32.3	228.0	21,900	47.1	239.4	19,000	145
150				25.8	219.0	20,900	42.5	234.4	18,100	150
155				17.0	206.2	19,900	37.6	228.5	17,300	155
160							32.0	221.3	16,500	160
165							25.4	212.1	15,700	165
170							16.5	199.0	15,000	170

# 14000 S-3

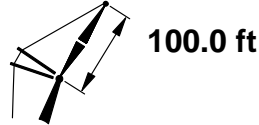
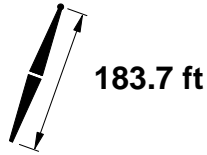
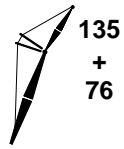
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	73.1	287.0	64,200*c							45
50	70.0	285.3	63,800*c							50
55	67.0	283.4	63,100*b							55
60	63.8	281.1	59,600*b							60
65	60.6	278.4	56,400*	68.7	283.2	59,800*b				65
70	57.2	275.4	53,300*	65.6	281.1	56,500*b				70
75	53.7	272.0	50,600*	62.4	278.7	53,500*b				75
80	50.1	268.1	48,000*	59.1	275.9	50,600*	65.2	279.3	52,400*b	80
85	46.3	263.6	45,500*	55.7	272.7	47,900*	62.0	276.9	49,600*b	85
90	42.2	258.5	43,300*	52.1	269.0	45,500*	58.8	274.0	47,000*	90
95	37.7	252.5	41,200*	48.4	264.9	43,100*	55.3	270.8	44,600*	95
100	32.7	245.4	39,200*	44.5	260.1	41,000*	51.8	267.1	42,200*	100
105	27.0	236.7	37,400*	40.2	254.6	38,900*	48.0	262.9	40,100*	105
110	19.7	225.1	35,600*	35.5	248.2	37,100*	44.0	258.1	38,100*	110
115	7.5	204.4	33,500*	30.3	240.5	35,300*	39.8	252.5	36,200*	115
120				24.0	230.7	33,700*	35.0	245.9	34,500*	120
125				15.5	216.7	32,000*	29.7	238.0	32,800*	125
130							23.2	228.0	31,300*	130
135							14.3	213.3	29,800*	135
140										140
145										145
150										150
155										155
160										160
165										165
170										170
175										175
180										180

# 14000 S-3

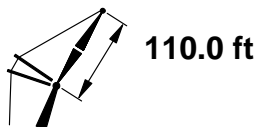
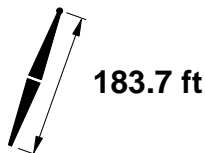
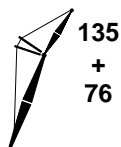
ASME B30.5



	75°			70°			65°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100	62.4	273.5	39,900 <sup>b</sup>							100
105	59.2	270.7	37,500							105
110	55.8	267.5	35,300							110
115	52.2	263.9	33,400							115
120	48.5	259.8	31,600							120
125	44.5	255.0	30,000	55.9	262.7	26,300				125
130	40.3	249.5	28,500	52.4	259.1	25,000				130
135	35.6	243.1	27,100	48.7	254.9	23,800				135
140	30.4	235.4	25,800	44.7	250.2	22,600				140
145	24.1	225.7	24,600	40.5	244.8	21,500	52.2	252.5	18,500	145
150	15.7	211.9	23,400	35.9	238.4	20,500	48.5	248.4	17,700	150
155				30.6	230.8	19,600	44.5	243.7	16,800	155
160				24.4	221.2	18,700	40.3	238.2	16,100	160
165				16.2	207.7	17,900	35.6	231.8	15,400	165
170							30.3	224.0	14,700	170
175							24.1	214.3	14,000	175
180							15.6	200.4	13,400	180

# 14000 S-3

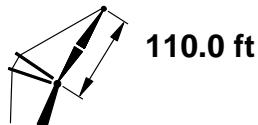
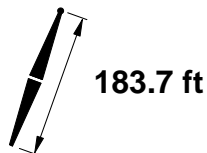
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
45	74.6	297.4	50,600*c							45
50	71.9	295.9	49,700*c							50
55	69.2	294.1	48,800*b							55
60	66.3	292.1	47,900*b							60
65	63.5	289.8	47,100*	70.7	293.9	49,500*b				65
70	60.5	287.1	46,300*	67.9	292.0	48,800*b				70
75	57.5	284.1	45,500*	65.1	289.8	48,100*b				75
80	54.3	280.7	44,800*	62.2	287.3	47,400*	67.6	290.2	48,400*b	80
85	51.1	276.9	43,600*	59.2	284.5	45,700*	64.8	288.0	47,100*b	85
90	47.6	272.6	41,600*	56.1	281.4	43,500*	61.9	285.5	44,800*	90
95	44.0	267.7	39,600*	52.9	277.8	41,400*	58.9	282.7	42,600*	95
100	40.1	262.2	37,800*	49.5	273.8	39,400*	55.8	279.5	40,500*	100
105	35.9	255.8	36,100*	46.0	269.2	37,500*	52.6	275.9	38,500*	105
110	31.2	248.2	34,500*	42.3	264.1	35,800*	49.2	271.8	36,700*	110
115	25.7	239.0	32,900*	38.3	258.2	34,100*	45.7	267.2	35,000*	115
120	18.8	226.8	31,500*	33.8	251.3	32,600*	41.9	262.0	33,300*	120
125	7.2	205.1	30,100*	28.8	243.1	31,200*	37.8	256.0	31,900*	125
130				22.8	232.8	29,800*	33.4	249.0	30,400*	130
135				14.7	218.1	28,400*	28.3	240.6	29,100*	135
140							22.2	230.0	27,800*	140
145							13.7	214.5	26,500*	145
150										150
155										155
160										160
165										165
170										170
175										175
180										180
185										185
190										190

# 14000 S-3

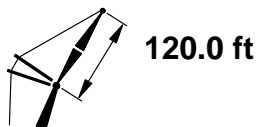
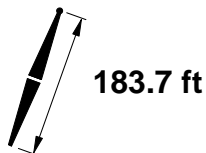
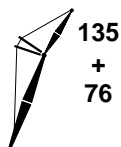
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105	62.2	282.2	37,400							105
110	59.2	279.4	35,300							110
115	56.2	276.2	33,300							115
120	53.0	272.7	31,500							120
125	49.6	268.7	29,900							125
130	46.1	264.1	28,400	56.3	271.4	24,900				130
135	42.4	259.0	27,100	53.1	267.8	23,700				135
140	38.3	253.1	25,800	49.8	263.8	22,600				140
145	33.9	246.3	24,600	46.3	259.3	21,500				145
150	28.9	238.1	23,500	42.5	254.2	20,500	52.9	261.3	17,600	150
155	23.0	227.8	22,400	38.5	248.4	19,600	49.6	257.3	16,800	155
160	15.0	213.2	21,400	34.1	241.6	18,700	46.1	252.8	16,100	160
165				29.2	233.5	17,900	42.3	247.6	15,300	165
170				23.3	223.3	17,100	38.3	241.7	14,700	170
175				15.4	209.1	16,400	33.9	234.9	14,000	175
180							28.9	226.7	13,400	180
185							22.9	216.4	12,800	185
190							14.9	201.8	12,200	190

# 14000 S-3

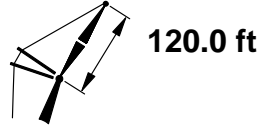
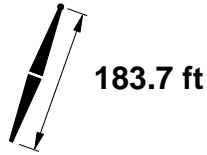
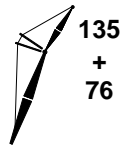
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
50	73.5	306.4	46,900*c							50
55	71.0	304.8	46,100*b							55
60	68.4	302.9	45,300*b							60
65	65.8	300.8	44,600*							65
70	63.2	298.4	43,900*	69.8	302.7	45,900*b				70
75	60.5	295.8	43,200*	67.3	300.7	45,300*b				75
80	57.7	292.8	42,600*	64.7	298.5	44,700*				80
85	54.8	289.4	41,900*	62.0	296.0	44,100*	67.0	299.0	44,900*	85
90	51.8	285.7	40,500*	59.2	293.2	42,300*	64.4	296.7	43,400*	90
95	48.7	281.6	38,700*	56.4	290.0	40,300*	61.7	294.2	41,400*	95
100	45.5	276.9	37,000*	53.5	286.5	38,500*	59.0	291.3	39,500*	100
105	42.0	271.7	35,400*	50.5	282.6	36,700*	56.1	288.2	37,600*	105
110	38.3	265.8	33,900*	47.3	278.3	35,100*	53.2	284.6	35,800*	110
115	34.3	259.0	32,400*	44.0	273.4	33,500*	50.2	280.7	34,200*	115
120	29.8	251.0	31,000*	40.4	267.9	32,000*	47.0	276.3	32,700*	120
125	24.6	241.2	29,700*	36.6	261.6	30,600*	43.6	271.3	31,300*	125
130	18.0	228.4	28,400*	32.4	254.3	29,300*	40.0	265.7	29,900*	130
135	6.9	205.7	27,200*	27.6	245.6	28,000*	36.2	259.3	28,500*	135
140				21.9	234.7	26,900*	31.9	251.9	27,300*	140
145				14.1	219.3	25,600*	27.0	243.1	26,100*	145
150							21.2	231.9	25,000*	150
155							13.1	215.7	23,900*	155
160										160
165										165
170										170
175										175
180										180
185										185
190										190
195										195
200										200

# 14000 S-3

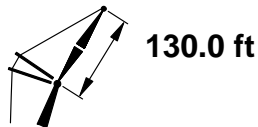
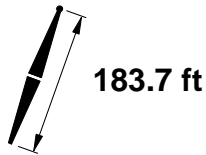
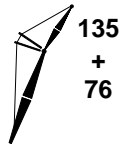
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
50									50	
55									55	
60									60	
65									65	
70									70	
75									75	
80									80	
85									85	
90									90	
95									95	
100									100	
105									105	
110	62.0	290.9	34,800						110	
115	59.3	288.0	32,900						115	
120	56.5	284.9	31,100						120	
125									125	
130									130	
135									135	
140									140	
145									145	
150									150	
155									155	
160									160	
165									165	
170									170	
175									175	
180									180	
185									185	
190									190	
195									195	
200									200	

# 14000 S-3

ASME B30.5

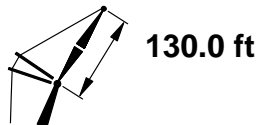
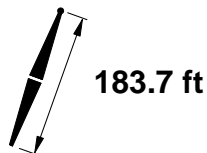


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
50	74.8	316.8	44,200* <sup>c</sup>							50
55	72.5	315.3	43,400* <sup>b</sup>							55
60	70.2	313.6	42,700* <sup>b</sup>							60
65	67.8	311.7	42,100*							65
70	65.4	309.5	41,500*							70
75	62.9	307.1	40,800*	69.1	311.5	42,600* <sup>b</sup>				75
80	60.4	304.4	40,300*	66.7	309.5	42,000*				80
85	57.9	301.4	39,600*	64.3	307.2	41,500*				85
90	55.2	298.1	39,200*	61.8	304.7	41,100*	66.5	307.7	41,600*	90
95	52.5	294.5	37,900*	59.3	301.8	39,400*	64.1	305.4	40,300*	95
100	49.7	290.4	36,200*	56.7	298.7	37,600*	61.6	302.9	38,500*	100
105	46.7	286.0	34,700*	54.0	295.3	36,000*	59.0	300.0	36,800*	105
110	43.6	281.0	33,300*	51.3	291.5	34,400*	56.4	296.9	35,200*	110
115	40.3	275.4	31,900*	48.4	287.2	32,900*	53.7	293.4	33,600*	115
120	36.8	269.2	30,600*	45.3	282.5	31,500*	51.0	289.5	32,100*	120
125	32.9	262.0	29,300*	42.2	277.3	30,200*	48.1	285.2	30,700*	125
130	28.6	253.6	28,100*	38.8	271.4	28,900*	45.0	280.5	29,400*	130
135	23.6	243.4	27,000*	35.1	264.8	27,800*	41.8	275.2	28,200*	135
140	17.3	229.9	25,900*	31.1	257.1	26,600*	38.4	269.3	27,000*	140
145	6.6	206.3	24,700*	26.5	248.0	25,500*	34.7	262.5	25,800*	145
150				21.0	236.6	24,400*	30.6	254.7	24,800*	150
155				13.6	220.5	23,400*	26.0	245.4	23,700*	155
160							20.4	233.8	22,800*	160
165							12.6	216.8	21,800*	165
170										170
175										175
180										180
185										185
190										190
195										195
200										200
205										205
210										210



# 14000 S-3

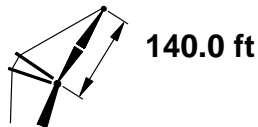
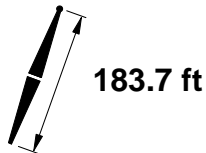
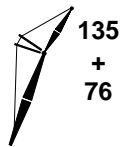
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115	61.9	299.5	32,600							115
120	59.4	296.7	30,900							120
125	56.8	293.6	29,300							125
130	54.1	290.1	27,800							130
135	51.3	286.3	26,400							135
140	48.4	282.1	25,200	56.9	288.7	21,800				140
145	45.4	277.4	24,000	54.2	285.3	20,800				145
150	42.2	272.2	22,900	51.4	281.5	19,800				150
155	38.8	266.4	21,900	48.6	277.3	18,900				155
160	35.2	259.7	20,900	45.5	272.7	18,100				160
165	31.1	252.1	20,000	42.4	267.5	17,300	51.3	275.0	14,600	165
170	26.6	243.0	19,200	39.0	261.7	16,500	48.4	270.8	14,000	170
175	21.1	231.7	18,400	35.3	255.1	15,800	45.4	266.1	13,300	175
180	13.8	215.8	17,600	31.3	247.5	15,200	42.2	260.9	12,700	180
185				26.8	238.5	14,500	38.8	255.0	12,200	185
190				21.4	227.3	13,900	35.1	248.4	11,700	190
195				14.2	211.7	13,300	31.1	240.7	11,200	195
200							26.5	231.6	10,700	200
205							21.1	220.3	10,200	205
210							13.7	204.3	9,700	210

# 14000 S-3

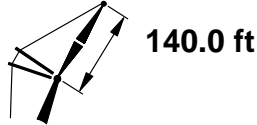
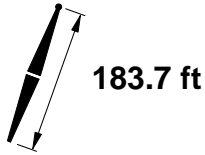
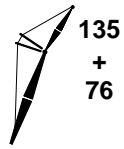
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	lb	ft	lb	ft	ft	
55	73.8	325.8	40,700* <sup>b</sup>						55	
60	71.6	324.2	40,100* <sup>b</sup>						60	
65	69.5	322.4	39,500*						65	
70	67.3	320.5	38,900*						70	
75	65.0	318.2	38,400*	70.7	322.2	39,800*			75	
80	62.7	315.8	37,800*	68.5	320.3	39,300*			80	
85	60.4	313.1	37,100*	66.3	318.2	38,800*			85	
90	58.0	310.1	35,700*	64.0	315.9	38,300*			90	
95	55.6	306.8	34,600*	61.7	313.3	37,900*	66.0	316.5	38,400*	95
100	53.1	303.2	33,300*	59.4	310.5	36,600*	63.8	314.1	37,200*	100
105	50.5	299.3	32,100*	56.9	307.4	35,000*	61.5	311.5	35,700*	105
110	47.8	295.0	30,900*	54.5	304.0	33,500*	59.1	308.7	34,100*	110
115	44.9	290.2	29,800*	51.9	300.2	32,100*	56.7	305.5	32,700*	115
120	41.9	284.9	28,800*	49.3	296.1	30,800*	54.2	302.1	31,300*	120
125	38.8	279.0	27,700*	46.5	291.6	29,500*	51.6	298.3	30,000*	125
130	35.4	272.4	26,800*	43.6	286.6	28,300*	49.0	294.2	28,700*	130
135	31.7	264.9	25,800*	40.6	281.1	27,200*	46.2	289.6	27,500*	135
140	27.5	256.1	25,000*	37.3	274.9	26,000*	43.3	284.6	26,400*	140
145	22.7	245.4	24,200*	33.8	267.9	25,000*	40.2	279.0	25,300*	145
150	16.6	231.4	23,400*	29.9	259.8	24,000*	37.0	272.7	24,300*	150
155	6.4	206.8	22,300*	25.5	250.3	23,000*	33.4	265.6	23,300*	155
160				20.2	238.4	22,100*	29.5	257.4	22,300*	160
165				13.1	221.7	21,200*	25.0	247.7	21,400*	165
170							19.6	235.5	20,600*	170
175							12.1	217.9	19,700*	175
180										180
185										185
190										190
195										195
200										200
205										205
210										210
215										215
220										220

# 14000 S-3

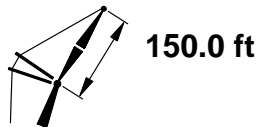
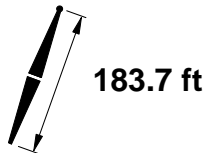
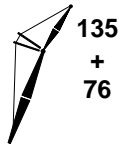
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120	61.7	308.2	30,400							120
125	59.4	305.4	28,800							125
130	57.0	302.3	27,400							130
135	54.5	298.9	26,000							135
140	52.0	295.1	24,800							140
145	49.3	291.0	23,600	57.1	297.4	20,400				145
150	46.6	286.5	22,500	54.6	294.0	19,400				150
155	43.7	281.5	21,500	52.1	290.3	18,500				155
160	40.6	276.0	20,600	49.4	286.2	17,700				160
165	37.4	269.8	19,700	46.7	281.7	16,900				165
170	33.8	262.8	18,800	43.8	276.8	16,100	51.9	283.8	13,500	170
175	30.0	254.8	18,100	40.8	271.3	15,400	49.3	279.7	12,900	175
180	25.6	245.3	17,300	37.5	265.1	14,800	46.5	275.2	12,300	180
185	20.3	233.5	16,600	34.0	258.2	14,200	43.6	270.2	11,800	185
190	13.2	216.9	15,900	30.2	250.2	13,600	40.6	264.6	11,200	190
195				25.8	240.8	13,000	37.3	258.5	10,700	195
200				20.6	229.1	12,400	33.8	251.5	10,300	200
205				13.6	212.9	11,900	29.9	243.4	9,800	205
210							25.5	233.9	9,400	210
215							20.3	222.1	8,900	215
220							13.2	205.5	8,500	220

# 14000 S-3

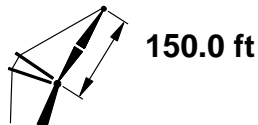
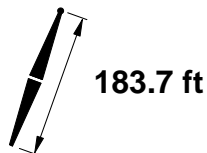
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
55	74.9	336.1	38,100* <b>b</b>							55
60	72.9	334.7	37,600* <b>b</b>							60
65	70.9	333.1	37,000*							65
70	68.8	331.2	36,500*							70
75	66.8	329.2	35,900*							75
80	64.7	326.9	35,300*	70.0	331.0	36,700*				80
85	62.6	324.5	34,100*	67.9	329.1	36,200*				85
90	60.4	321.7	32,800*	65.9	326.9	35,800*				90
95	58.2	318.8	31,700*	63.7	324.6	34,900*	67.7	327.3	35,700*	95
100	55.9	315.5	30,500*	61.6	322.0	33,700*	65.6	325.2	35,400*	100
105	53.5	312.0	29,300*	59.4	319.2	32,600*	63.5	322.8	34,500*	105
110	51.1	308.1	28,100*	57.1	316.1	31,300*	61.4	320.2	33,200*	110
115	48.6	303.9	27,100*	54.8	312.7	30,200*	59.2	317.3	31,900*	115
120	46.0	299.3	26,000*	52.5	309.0	29,000*	56.9	314.2	30,600*	120
125	43.3	294.2	24,900*	50.0	305.0	28,000*	54.6	310.8	29,300*	125
130	40.5	288.7	24,000*	47.5	300.6	26,800*	52.2	307.1	28,200*	130
135	37.4	282.5	23,000*	44.8	295.8	25,800*	49.8	303.0	27,000*	135
140	34.2	275.5	22,100*	42.1	290.5	24,800*	47.2	298.6	26,000*	140
145	30.6	267.7	21,300*	39.1	284.7	23,800*	44.6	293.8	24,900*	145
150	26.6	258.5	20,500*	36.0	278.2	22,900*	41.8	288.4	23,900*	150
155	21.9	247.4	19,700*	32.6	270.9	22,000*	38.8	282.5	23,000*	155
160	16.1	232.9	19,000*	28.9	262.5	21,100*	35.7	276.0	22,100*	160
165	6.1	207.4	18,600*	24.6	252.5	20,300*	32.2	268.5	21,200*	165
170				19.5	240.2	19,600*	28.5	260.0	20,400*	170
175				12.6	222.8	19,000*	24.1	249.9	19,600*	175
180							18.9	237.2	18,800*	180
185							11.7	219.0	18,000*	185
190										190
195										195
200										200
205										205
210										210
215										215
220										220
225										225
230										230

# 14000 S-3

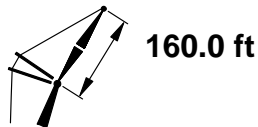
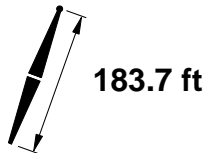
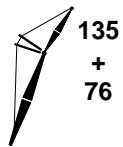
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120										120
125	61.6	316.9	28,700							125
130	59.4	314.0	27,300							130
135	57.2	310.9	25,900							135
140	54.9	307.6	24,600							140
145	52.5	303.9	23,500							145
150	50.1	299.9	22,400	57.3	306.1	19,300				150
155	47.5	295.5	21,400	55.0	302.7	18,400				155
160	44.9	290.7	20,500	52.6	299.1	17,600				160
165	42.1	285.5	19,600	50.2	295.1	16,800				165
170	39.2	279.6	18,800	47.7	290.7	16,000				170
175	36.1	273.1	18,000	45.0	285.9	15,300	52.5	292.6	12,800	175
180	32.7	265.8	17,200	42.2	280.7	14,700	50.1	288.5	12,200	180
185	28.9	257.4	16,500	39.3	274.9	14,100	47.5	284.2	11,700	185
190	24.7	247.6	15,900	36.2	268.4	13,500	44.9	279.4	11,100	190
195	19.6	235.3	15,200	32.8	261.2	12,900	42.1	274.1	10,700	195
200	12.8	218.1	14,600	29.1	252.8	12,400	39.2	268.3	10,200	200
205				24.9	243.0	11,900	36.0	261.8	9,700	205
210				19.9	230.9	11,400	32.6	254.4	9,300	210
215				13.2	214.1	10,900	28.9	246.0	8,800	215
220							24.7	236.1	8,400	220
225							19.6	223.8	8,000	225
230							12.7	206.6	7,600	230

# 14000 S-3

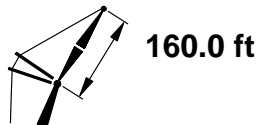
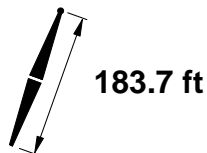
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft	lb	
60	74.0	345.1	35,000* <sup>b</sup>							60
65	72.1	343.6	34,500*							65
70	70.2	341.9	34,000*							70
75	68.3	340.0	33,400*							75
80	66.4	337.9	32,200*							80
85	64.4	335.6	31,000*	69.4	339.8	33,600*				85
90	62.4	333.1	29,800*	67.4	337.8	32,800*				90
95	60.4	330.4	28,600*	65.5	335.7	31,700*				95
100	58.3	327.4	27,500*	63.5	333.3	30,600*	67.3	336.1	32,400*	100
105	56.1	324.2	26,300*	61.5	330.7	29,500*	65.3	333.9	31,300*	105
110	54.0	320.7	25,200*	59.4	327.8	28,300*	63.3	331.5	30,300*	110
115	51.7	316.9	24,100*	57.3	324.8	27,200*	61.3	328.9	29,200*	115
120	49.4	312.8	23,100*	55.2	321.4	26,000*	59.2	326.0	28,200*	120
125	47.0	308.3	22,100*	53.0	317.8	24,900*	57.1	322.9	27,100*	125
130	44.5	303.5	21,100*	50.7	313.9	23,900*	55.0	319.5	26,000*	130
135	41.9	298.1	20,100*	48.3	309.6	22,900*	52.7	315.9	24,900*	135
140	39.1	292.3	19,200*	45.9	304.9	21,800*	50.5	311.9	23,900*	140
145	36.2	285.8	18,300*	43.3	299.9	20,900*	48.1	307.6	22,900*	145
150	33.0	278.6	17,500*	40.7	294.3	19,900*	45.6	302.9	21,800*	150
155	29.6	270.3	16,700*	37.8	288.2	19,000*	43.1	297.8	20,900*	155
160	25.7	260.8	16,000*	34.8	281.4	18,200*	40.4	292.2	19,900*	160
165	21.2	249.3	15,300*	31.5	273.7	17,300*	37.5	286.0	19,000*	165
170	15.6	234.3	14,700*	27.9	265.0	16,500*	34.5	279.1	18,200*	170
175	5.9	207.9	14,000*	23.8	254.7	15,800*	31.2	271.4	17,300*	175
180				18.9	241.9	15,200*	27.5	262.5	16,500*	180
185				12.2	223.9	14,500*	23.4	252.0	15,900*	185
190							18.3	238.8	15,200*	190
195							11.3	220.0	14,500*	195
200										200
205										205
210										210
215										215
220										220
225										225
230										230
235										235
240										240

# 14000 S-3

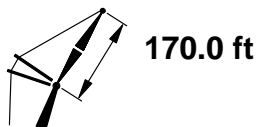
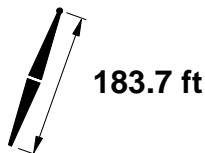
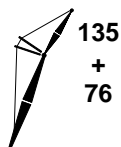
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120										120
125										125
130	61.5	325.5	26,800							130
135	59.5	322.7	25,500							135
140	57.4	319.6	24,300							140
145	55.2	316.3	23,100							145
150	53.0	312.7	22,000							150
155	50.7	308.7	21,000	57.5	314.8	18,000				155
160	48.4	304.5	20,100	55.3	311.4	17,100				160
165	45.9	299.8	19,200	53.1	307.8	16,400				165
170	43.4	294.8	18,400	50.8	303.9	15,600				170
175	40.7	289.2	17,600	48.5	299.7	14,900				175
180	37.9	283.1	16,900	46.1	295.1	14,300	53.0	301.3	11,700	180
185	34.9	276.3	16,200	43.5	290.0	13,700	50.7	297.4	11,200	185
190	31.6	268.7	15,500	40.8	284.5	13,100	48.4	293.1	10,600	190
195	28.0	260.0	14,900	38.0	278.4	12,600	45.9	288.5	10,100	195
200	23.9	249.7	14,300	35.0	271.7	12,000	43.4	283.4	9,600	200
205	19.0	237.0	13,700	31.8	264.1	11,500	40.7	277.9	9,100	205
210	12.4	219.2	13,200	28.2	255.4	11,000	37.9	271.8	8,700	210
215				24.1	245.2	10,600	34.8	265.0	8,300	215
220				19.3	232.6	10,100	31.6	257.3	7,900	220
225				12.8	215.2	9,700	28.0	248.6	7,500	225
230							23.9	238.3	7,100	230
235							19.0	225.5	6,700	235
240							12.3	207.7	6,300	240

# 14000 S-3

ASME B30.5

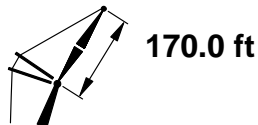
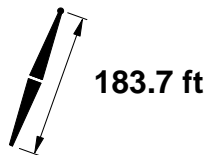


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
65	73.6	354.4	30,800*						65	
70	71.8	352.8	30,100*						70	
75	70.0	351.1	29,000*						75	
80	68.2	349.2	27,900*						80	
85	66.4	347.1	26,800*	71.0	350.8	29,300*			85	
90	64.5	344.8	25,700*	69.2	349.0	28,500*			90	
95	62.6	342.3	24,700*	67.4	347.0	27,400*			95	
100	60.7	339.6	23,600*	65.5	344.8	26,300*			100	
105	58.8	336.7	22,600*	63.7	342.4	25,300*	67.2	345.2	27,100*	
110	56.8	333.6	21,600*	61.8	339.9	24,300*	65.4	343.1	26,100*	
115	54.7	330.2	20,600*	59.9	337.1	23,300*	63.5	340.7	25,100*	
120	52.7	326.5	19,600*	57.9	334.1	22,300*	61.6	338.1	24,100*	
125	50.5	322.5	18,700*	55.9	330.8	21,300*	59.7	335.2	23,200*	
130	48.3	318.2	17,800*	53.8	327.3	20,300*	57.7	332.2	22,200*	
135	46.0	313.6	16,900*	51.7	323.5	19,400*	55.7	328.9	21,200*	
140	43.6	308.5	16,100*	49.5	319.4	18,400*	53.6	325.4	20,200*	
145	41.1	303.1	15,200*	47.3	314.9	17,500*	51.5	321.5	19,300*	
150	38.5	297.1	14,500*	44.9	310.1	16,700*	49.3	317.4	18,400*	
155	35.7	290.4	13,800*	42.5	304.9	15,900*	47.0	312.9	17,500*	
160	32.7	283.1	13,100*	39.9	299.2	15,100*	44.7	308.1	16,600*	
165	29.4	274.7	12,200*	37.2	292.9	14,300*	42.2	302.8	15,900*	
170	25.7	265.2	11,400*	34.3	286.0	13,600*	39.7	297.0	15,000*	
175	21.5	253.7	10,500*	31.2	278.2	12,800*	36.9	290.7	14,400*	
180	16.3	239.2	9,800*	27.8	269.4	11,900*	34.0	283.7	13,600*	
185	8.5	216.4	9,200*	23.9	259.0	11,100*	30.9	275.8	12,800*	
190				19.4	246.5	10,300*	27.4	266.9	11,900*	
195				13.4	229.4	9,600*	23.5	256.4	11,100*	
200							18.9	243.5	10,300*	
205							12.6	225.7	9,600*	
210									205	
215									210	
220									215	
225									220	
230									225	
235									230	
240									235	
245									240	
250									245	
									250	



# 14000 S-3

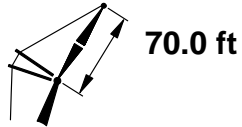
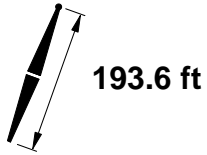
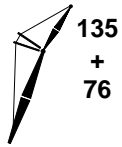
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120										120
125										125
130										130
135	61.8	334.7	23,900*							135
140	59.9	331.9	23,000*							140
145	57.9	328.9	22,100*							145
150	55.9	325.7	21,300*							150
155	53.9	322.1	20,300*							155
160	51.7	318.4	19,400*							160
165	49.6	314.3	18,500*	56.0	320.8	16,100				165
170	47.3	309.8	17,700*	54.0	317.3	15,400				170
175	45.0	305.0	16,900*	51.8	313.5	14,700				175
180	42.5	299.8	16,100*	49.7	309.4	14,100				180
185	40.0	294.1	15,300*	47.4	305.0	13,500				185
190	37.3	287.8	14,500*	45.1	300.2	12,900	51.7	307.0	10,300	190
195	34.4	280.9	13,800*	42.6	295.0	12,300	49.5	302.9	9,700	195
200	31.3	273.2	13,000*	40.1	289.4	11,800	47.3	298.5	9,300	200
205	27.9	264.4	12,100*	37.4	283.1	11,300	45.0	293.7	8,800	205
210	24.0	254.1	11,300*	34.5	276.2	10,800	42.5	288.4	8,300	210
215	19.5	241.5	10,500*	31.4	268.5	10,400	40.0	282.7	7,900	215
220	13.5	224.7	9,700*	28.0	259.8	10,000	37.3	276.5	7,500	220
225				24.2	249.6	9,500	34.4	269.5	7,100	225
230				19.7	237.2	9,100	31.3	261.8	6,800	230
235				13.9	220.6	8,700	27.9	253.0	6,400	235
240							24.0	242.7	6,000	240
245							19.4	230.1	5,700	245
250							13.5	213.2	5,400	250

# 14000 S-3

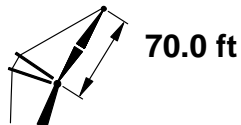
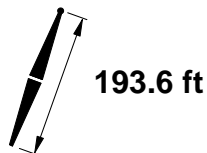
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
36	73.7	268.4	78,800*d						36	
38	72.0	267.8	78,600*d						38	
40	70.3	267.1	78,500*d						40	
45	65.9	265.1	77,200*c						45	
50	61.3	262.6	72,100*c						50	
55	56.5	259.6	67,600*b	68.9	265.2	72,700*c			55	
60	51.5	255.9	63,400*b	64.5	263.0	67,900*c			60	
65	46.0	251.5	59,500*	59.8	260.4	63,600*b			65	
70	40.0	246.2	55,900*	55.0	257.2	59,600*b	64.5	261.4	62,400*c	70
75	33.1	239.4	52,700*	49.8	253.3	56,000*b	59.8	258.7	58,500*b	75
80	24.6	230.4	49,600*	44.2	248.6	52,600*	55.0	255.6	54,900*b	80
85	11.4	215.0	46,800*	38.0	242.9	49,600*	49.8	251.7	51,600*b	85
90				30.7	235.6	46,700*	44.2	247.0	48,500*	90
95				21.4	225.4	44,000*	38.0	241.3	45,700*	95
100							30.7	234.0	43,100*	100
105							21.4	223.8	40,700*	105
110										110
115										115
120										120
125										125
130										130
135										135
140										140
145										145
150										150
155										155

# 14000 S-3

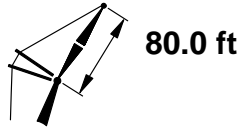
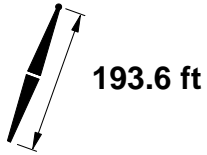
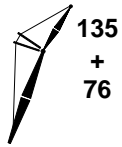
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
36										36
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90	61.2	255.7	45,700 <sup>c</sup>							90
95	56.4	252.7	42,700 <sup>b</sup>							95
100	51.3	249.0	40,100 <sup>b</sup>							100
105	45.9	244.6	37,700 <sup>b</sup>							105
110	39.9	239.2	35,500	57.4	248.1	31,300 <sup>b</sup>				110
115	33.0	232.5	33,600	52.4	244.6	29,500 <sup>b</sup>				115
120	24.4	223.3	31,800	47.1	240.4	27,900 <sup>b</sup>				120
125	10.9	207.7	30,000	41.2	235.2	26,500				125
130				34.5	228.8	25,100	53.0	238.4	21,700 <sup>b</sup>	130
135				26.4	220.3	23,900	47.7	234.2	20,600 <sup>b</sup>	135
140				14.8	207.0	22,700	41.8	229.2	19,600	140
145							35.3	222.9	18,700	145
150							27.4	214.7	17,800	150
155							16.4	202.2	16,900	155

# 14000 S-3

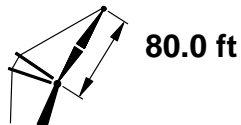
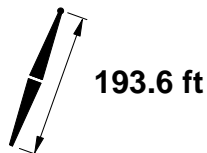
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
38	74.3	278.2	73,100*d						38	
40	72.8	277.6	73,000*d						40	
45	69.0	275.9	72,600*c						45	
50	65.2	273.8	69,800*c						50	
55	61.1	271.2	65,600*b						55	
60	57.0	268.2	61,600*b	67.8	273.9	65,800*c			60	
65	52.6	264.7	58,000*	63.9	271.7	61,800*b			65	
70	47.9	260.5	54,700*	59.9	269.0	58,100*b	67.8	272.3	60,500*c	
75	42.9	255.6	51,600*	55.6	265.9	54,600*b	63.9	270.1	56,900*b	
80	37.3	249.7	48,800*	51.2	262.1	51,500*	59.9	267.4	53,600*b	
85	30.9	242.3	46,200*	46.4	257.8	48,600*	55.6	264.3	50,500*b	
90	23.0	232.5	43,700*	41.2	252.6	45,900*	51.2	260.5	47,600*	
95	10.6	215.9	41,300*	35.4	246.2	43,400*	46.4	256.2	44,900*	
100				28.7	238.2	41,100*	41.2	250.9	42,400*	
105				20.0	227.2	38,900*	35.5	244.6	40,200*	
110							28.7	236.6	38,000*	
115							20.0	225.6	36,000*	
120									120	
125									125	
130									130	
135									135	
140									140	
145									145	
150									150	
155									155	
160									160	
165									165	

# 14000 S-3

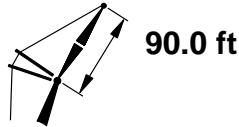
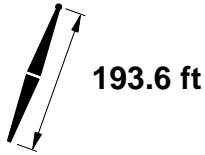
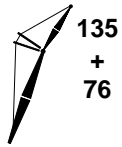
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
38										38
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95	61.1	264.4	42,300b							95
100	56.9	261.4	39,700b							100
105	52.5	257.8	37,300b							105
110	47.8	253.7	35,200							110
115	42.8	248.7	33,200	57.8	256.8	29,100b				115
120	37.2	242.7	31,400	53.4	253.4	27,500b				120
125	30.8	235.3	29,800	48.8	249.3	26,100				125
130	22.8	225.4	28,300	43.9	244.5	24,700				130
135	10.2	208.6	26,800	38.4	238.8	23,500				135
140				32.2	231.8	22,400	49.3	243.1	19,100	140
145				24.7	222.5	21,300	44.4	238.4	18,200	145
150				13.8	208.2	20,200	39.0	232.8	17,400	150
155							32.9	225.9	16,500	155
160							25.6	217.0	15,800	160
165							15.3	203.6	15,000	165

# 14000 S-3

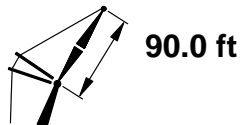
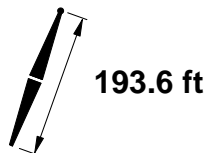
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
40	74.8	288.0	67,300*d						40	
45	71.5	286.5	66,900*c						45	
50	68.1	284.7	66,600*c						50	
55	64.6	282.5	63,600*b						55	
60	61.0	279.9	60,000*b	70.4	284.6	63,700*c			60	
65	57.3	276.9	56,700*b	67.0	282.7	60,100*b			65	
70	53.4	273.5	53,500*	63.5	280.4	56,700*b			70	
75	49.4	269.5	50,600*	59.9	277.7	53,500*b	67.0	281.1	55,400*b	75
80	45.0	264.8	48,000*	56.1	274.6	50,500*	63.5	278.8	52,300*b	80
85	40.3	259.4	45,500*	52.2	270.9	47,800*	59.9	276.1	49,400*b	85
90	35.1	252.9	43,200*	48.0	266.8	45,300*	56.1	272.9	46,700*	90
95	29.1	245.0	41,000*	43.6	261.9	42,900*	52.2	269.3	44,200*	95
100	21.7	234.4	39,100*	38.8	256.2	40,700*	48.0	265.2	41,900*	100
105	10.0	216.8	37,100*	33.4	249.3	38,600*	43.6	260.3	39,700*	105
110				27.0	240.7	36,700*	38.8	254.6	37,700*	110
115				18.8	228.9	34,800*	33.4	247.7	35,800*	115
120							27.0	239.1	34,000*	120
125							18.9	227.3	32,300*	125
130										130
135										135
140										140
145										145
150										150
155										155
160										160
165										165
170										170
175										175

# 14000 S-3

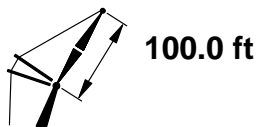
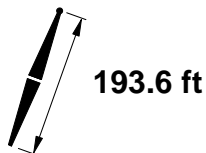
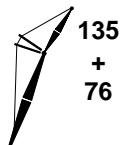
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
40										40
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100	60.9	273.0	39,400 <sup>b</sup>							100
105	57.2	270.0	37,000 <sup>b</sup>							105
110	53.3	266.6	34,900							110
115	49.3	262.6	33,000							115
120	44.9	257.9	31,200							120
125	40.2	252.5	29,600	54.2	262.1	25,800				125
130	35.0	246.0	28,100	50.1	258.2	24,500				130
135	29.0	238.0	26,800	45.9	253.7	23,300				135
140	21.5	227.4	25,500	41.2	248.4	22,100				140
145	9.6	209.4	24,200	36.1	242.2	21,100	50.6	252.0	18,000	145
150				30.3	234.6	20,100	46.3	247.6	17,100	150
155				23.3	224.7	19,200	41.7	242.4	16,300	155
160				13.0	209.4	18,300	36.7	236.3	15,600	160
165							31.0	228.8	14,800	165
170							24.1	219.2	14,200	170
175							14.4	204.9	13,500	175

# 14000 S-3

ASME B30.5

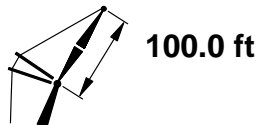
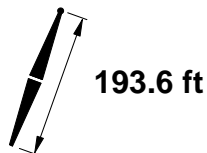


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
45	73.4	297.0	52,100*c						45	
50	70.4	295.4	51,100*c						50	
55	67.3	293.4	50,100*b						55	
60	64.1	291.2	49,100*b						60	
65	60.9	288.6	48,200*b	69.4	293.4	51,000*c			65	
70	57.6	285.6	47,300*	66.3	291.4	50,200*b			70	
75	54.1	282.2	46,400*	63.1	289.1	49,400*b			75	
80	50.5	278.3	45,600*	59.9	286.3	48,000*	66.3	289.8	49,400*b	
85	46.7	273.9	43,500*	56.5	283.2	45,500*	63.1	287.4	46,800*b	
90	42.6	268.8	41,500*	53.0	279.7	43,200*	59.9	284.7	44,400*	
95	38.2	263.0	39,500*	49.3	275.7	41,100*	56.5	281.6	42,200*	
100	33.3	256.0	37,600*	45.4	271.1	39,100*	53.0	278.1	40,100*	
105	27.6	247.5	35,900*	41.3	265.8	37,100*	49.3	274.1	38,100*	
110	20.6	236.3	34,200*	36.7	259.6	35,400*	45.4	269.5	36,200*	
115	9.5	217.7	32,600*	31.6	252.2	33,700*	41.3	264.2	34,500*	
120				25.6	243.1	32,100*	36.7	258.0	32,800*	
125				17.9	230.5	30,600*	31.6	250.6	31,200*	
130							25.6	241.5	29,800*	
135							17.9	228.9	28,400*	
140									140	
145									145	
150									150	
155									155	
160									160	
165									165	
170									170	
175									175	
180									180	
185									185	



# 14000 S-3

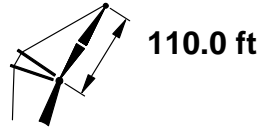
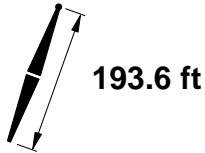
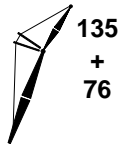
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	lb	ft	lb	ft		
45									45	
50									50	
55									55	
60									60	
65									65	
70									70	
75									75	
80									80	
85									85	
90									90	
95									95	
100									100	
105	60.8	281.7	36,600 <sup>b</sup>						105	
110	57.5	278.7	34,500						110	
115	54.0	275.3	32,600						115	
120	50.4	271.4	30,800						120	
125	46.6	267.0	29,200						125	
130	42.5	261.9	27,800	54.8	270.8	24,000			130	
135	38.1	256.0	26,400	51.2	267.0	22,800			135	
140	33.1	249.1	25,100	47.4	262.7	21,700			140	
145	27.5	240.5	24,000	43.4	257.8	20,700			145	
150	20.4	229.2	22,800	39.0	252.1	19,700	51.6	260.8	16,600	150
155	9.1	210.3	21,800	34.2	245.4	18,800	47.8	256.6	15,800	155
160				28.7	237.2	18,000	43.8	251.7	15,100	160
165				22.1	226.7	17,200	39.5	246.1	14,400	165
170				12.4	210.5	16,400	34.8	239.5	13,800	170
175							29.4	231.5	13,100	175
180							22.8	221.3	12,500	180
185							13.7	206.1	11,900	185

# 14000 S-3

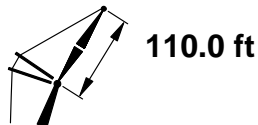
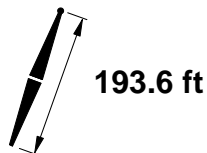
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
45	74.9	307.4	49,600*c						45	
50	72.2	305.9	48,700*c						50	
55	69.4	304.2	47,800*b						55	
60	66.6	302.2	47,000*b						60	
65	63.8	299.8	46,100*						65	
70	60.8	297.2	45,400*	68.6	302.2	47,700*b			70	
75	57.8	294.3	44,600*	65.8	300.1	47,100*b			75	
80	54.7	290.9	43,900*	62.9	297.7	46,400*			80	
85	51.4	287.1	42,600*	59.9	295.0	44,400*	65.8	298.5	45,500*b	
90	48.0	282.9	40,600*	56.8	291.9	42,300*	62.9	296.1	43,300*b	
95	44.4	278.1	38,700*	53.7	288.5	40,200*	59.9	293.4	41,200*	
100	40.5	272.6	36,900*	50.4	284.5	38,300*	56.8	290.3	39,200*	
105	36.3	266.3	35,300*	46.9	280.1	36,500*	53.7	286.8	37,400*	
110	31.7	258.9	33,700*	43.2	275.1	34,900*	50.4	282.9	35,600*	
115	26.3	249.9	32,300*	39.3	269.4	33,200*	46.9	278.5	33,900*	
120	19.6	238.1	30,800*	34.9	262.8	31,700*	43.2	273.5	32,400*	
125	9.1	218.5	29,400*	30.1	255.0	30,300*	39.3	267.8	30,800*	
130				24.4	245.3	28,900*	34.9	261.2	29,400*	
135				17.0	232.0	27,600*	30.1	253.4	28,100*	
140							24.4	243.7	26,900*	
145							17.0	230.5	25,600*	
150									150	
155									155	
160									160	
165									165	
170									170	
175									175	
180									180	
185									185	
190									190	
195									195	

# 14000 S-3

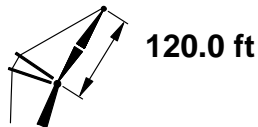
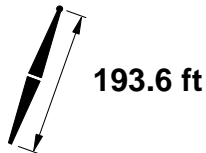
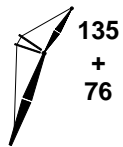
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
45										45
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110	60.8	290.4	34,400							110
115	57.7	287.4	32,500							115
120	54.6	284.0	30,800							120
125	51.3	280.3	29,200							125
130	47.9	276.0	27,700							130
135	44.3	271.2	26,400	55.3	279.5	22,800				135
140	40.4	265.7	25,100	52.0	275.8	21,700				140
145	36.2	259.4	24,000	48.6	271.7	20,700				145
150	31.6	252.0	22,900	45.1	267.0	19,700				150
155	26.2	242.9	21,900	41.3	261.7	18,800	52.4	269.6	15,800	155
160	19.4	231.0	20,900	37.1	255.5	18,000	49.0	265.5	15,100	160
165	8.7	211.0	20,000	32.6	248.4	17,200	45.5	260.9	14,400	165
170				27.4	239.7	16,400	41.7	255.6	13,800	170
175				21.0	228.6	15,700	37.6	249.6	13,100	175
180				11.8	211.6	15,000	33.1	242.5	12,600	180
185							28.0	234.1	12,000	185
190							21.8	223.3	11,500	190
195							13.1	207.3	10,900	195

# 14000 S-3

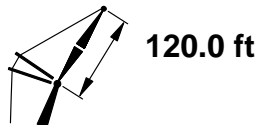
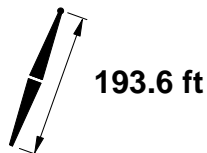
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	ft	lb	ft
50	73.7	316.4	45,900 <sup>c</sup>							50
55	71.2	314.8	45,200 <sup>b</sup>							55
60	68.7	313.0	44,400 <sup>b</sup>							60
65	66.1	310.9	43,700*							65
70	63.5	308.5	43,000*	70.4	312.9	44,900 <sup>b</sup>				70
75	60.8	305.9	42,400*	67.9	311.0	44,300 <sup>b</sup>				75
80	58.0	302.9	41,700*	65.3	308.8	43,800*				80
85	55.1	299.6	41,100*	62.6	306.4	43,000*	67.9	309.4	43,900 <sup>b</sup>	85
90	52.2	295.9	39,500*	59.9	303.7	41,100*	65.3	307.2	41,900*	90
95	49.1	291.8	37,800*	57.1	300.6	39,200*	62.6	304.8	40,000*	95
100	45.8	287.2	36,100*	54.2	297.2	37,300*	59.9	302.0	38,200*	100
105	42.4	282.1	34,500*	51.2	293.4	35,700*	57.1	299.0	36,400*	105
110	38.7	276.2	33,100*	48.1	289.1	34,100*	54.2	295.6	34,700*	110
115	34.7	269.5	31,700*	44.8	284.4	32,500*	51.2	291.8	33,100*	115
120	30.3	261.7	30,300*	41.3	279.0	31,100*	48.1	287.5	31,600*	120
125	25.2	252.2	29,000*	37.5	272.9	29,800*	44.8	282.8	30,200*	125
130	18.8	239.8	27,800*	33.4	265.9	28,400*	41.3	277.4	28,900*	130
135	8.7	219.3	26,500*	28.8	257.6	27,200*	37.5	271.3	27,600*	135
140				23.3	247.4	26,100*	33.4	264.3	26,400*	140
145				16.3	233.5	24,900*	28.8	256.0	25,300*	145
150							23.4	245.8	24,200*	150
155							16.3	231.9	23,100*	155
160										160
165										165
170										170
175										175
180										180
185										185
190										190
195										195
200										200
205										205

# 14000 S-3

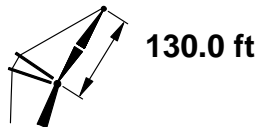
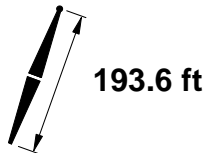
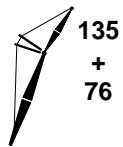
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
50										50
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115	60.7	299.0	32,100							115
120	57.9	296.1	30,400							120
125	55.1	292.7	28,800							125
130	52.1	289.1	27,300							130
135	49.0	284.9	26,000							135
140	45.8	280.3	24,700	55.7	288.2	21,200				140
145	42.3	275.2	23,600	52.7	284.6	20,200				145
150	38.6	269.3	22,500	49.7	280.6	19,300				150
155	34.6	262.6	21,500	46.5	276.1	18,400				155
160	30.2	254.7	20,600	43.1	271.0	17,600				160
165	25.0	245.2	19,700	39.4	265.3	16,800	50.0	274.4	13,900	165
170	18.6	232.7	18,800	35.5	258.8	16,100	46.8	269.9	13,300	170
175	8.3	211.8	18,000	31.2	251.2	15,400	43.4	265.0	12,700	175
180				26.2	242.1	14,700	39.8	259.3	12,100	180
185				20.1	230.4	14,100	35.9	252.9	11,600	185
190				11.3	212.6	13,400	31.7	245.4	11,100	190
195							26.8	236.5	10,600	195
200							20.8	225.1	10,100	200
205							12.5	208.4	9,600	205

# 14000 S-3

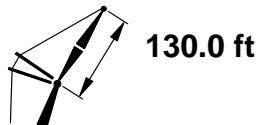
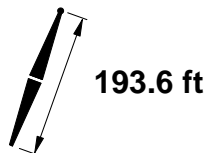
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	72.7	325.3	42,600* <b>b</b>						55	
60	70.4	323.6	41,900* <b>b</b>						60	
65	68.0	321.7	41,300*						65	
70	65.6	319.6	40,600*						70	
75	63.2	317.2	40,000*	69.7	321.7	41,700* <b>b</b>			75	
80	60.7	314.5	39,400*	67.3	319.8	41,100*			80	
85	58.1	311.6	38,900*	64.9	317.5	40,700*			85	
90	55.5	308.3	38,400*	62.4	315.1	39,900*	67.3	318.2	40,600*	90
95	52.8	304.7	37,000*	59.9	312.3	38,200*	64.9	315.9	38,900*	95
100	50.0	300.7	35,400*	57.3	309.3	36,500*	62.4	313.5	37,200*	100
105	47.0	296.3	33,900*	54.7	305.9	34,900*	59.9	310.7	35,600*	105
110	43.9	291.4	32,400*	51.9	302.2	33,400*	57.3	307.7	34,000*	110
115	40.7	285.9	31,100*	49.1	298.0	32,000*	54.7	304.3	32,500*	115
120	37.1	279.7	29,900*	46.1	293.5	30,600*	51.9	300.6	31,000*	120
125	33.3	272.6	28,600*	42.9	288.4	29,300*	49.1	296.4	29,700*	125
130	29.1	264.3	27,500*	39.6	282.7	28,100*	46.1	291.9	28,400*	130
135	24.2	254.4	26,400*	36.0	276.2	26,900*	42.9	286.8	27,200*	135
140	18.0	241.4	25,300*	32.1	268.8	25,800*	39.6	281.1	26,100*	140
145	8.3	220.0	24,200*	27.6	260.1	24,700*	36.0	274.6	25,000*	145
150				22.4	249.4	23,700*	32.1	267.2	23,900*	150
155				15.7	234.9	22,700*	27.6	258.5	22,900*	155
160							22.4	247.8	21,900*	160
165							15.7	233.3	21,000*	165
170										170
175										175
180										180
185										185
190										190
195										195
200										200
205										205
210										210
215										215

# 14000 S-3

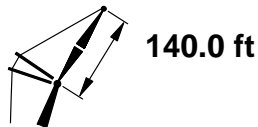
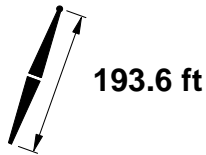
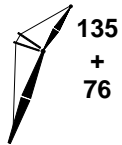
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120	60.6	307.7	30,100							120
125	58.1	304.7	28,500							125
130	55.5	301.5	27,100							130
135	52.7	297.8	25,700							135
140	49.9	293.8	24,500							140
145	47.0	289.4	23,300	56.0	296.9	19,900				145
150	43.9	284.5	22,300	53.3	293.4	19,000				150
155	40.6	279.0	21,300	50.5	289.4	18,100				155
160	37.1	272.7	20,400	47.6	285.1	17,300				160
165	33.2	265.6	19,500	44.5	280.3	16,500				165
170	29.0	257.4	18,700	41.3	274.9	15,800	50.8	283.2	13,000	170
175	24.0	247.3	17,900	37.8	268.8	15,100	47.9	278.9	12,400	175
180	17.9	234.3	17,100	34.1	261.9	14,500	44.9	274.2	11,900	180
185	8.0	212.5	16,400	29.9	253.9	13,900	41.6	268.8	11,300	185
190				25.1	244.3	13,300	38.2	262.9	10,800	190
195				19.3	232.1	12,700	34.5	256.1	10,300	195
200				10.8	213.5	12,200	30.4	248.2	9,800	200
205							25.7	238.8	9,400	205
210							20.0	226.9	8,900	210
215							12.0	209.5	8,400	215

# 14000 S-3

ASME B30.5

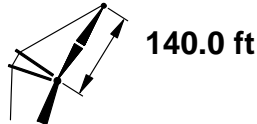
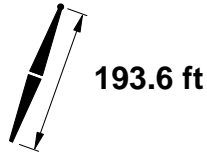
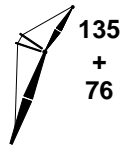


	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
55	74.0	335.7	38,600* <sup>b</sup>						55	
60	71.8	334.2	38,400* <sup>b</sup>						60	
65	69.7	332.5	38,200*						65	
70	67.5	330.5	38,000*						70	
75	65.2	328.3	37,600*						75	
80	63.0	325.9	37,000*	69.0	330.5	38,500*			80	
85	60.7	323.2	36,500*	66.8	328.5	38,000*			85	
90	58.3	320.3	35,600*	64.5	326.2	37,500*			90	
95	55.8	317.0	34,300*	62.3	323.7	36,900*	66.8	326.9	37,400*	
100	53.3	313.5	33,200*	59.9	321.0	35,400*	64.5	324.6	35,900*	
105	50.7	309.6	32,000*	57.5	317.9	33,900*	62.3	322.1	34,400*	
110	48.0	305.3	30,900*	55.1	314.6	32,500*	59.9	319.4	32,900*	
115	45.2	300.5	29,800*	52.5	310.9	31,100*	57.5	316.3	31,500*	
120	42.3	295.3	28,700*	49.9	306.9	29,800*	55.1	313.0	30,200*	
125	39.1	289.5	27,800*	47.2	302.5	28,600*	52.5	309.3	28,900*	
130	35.8	283.0	26,800*	44.3	297.6	27,400*	49.9	305.3	27,700*	
135	32.1	275.5	25,800*	41.3	292.2	26,300*	47.2	300.9	26,500*	
140	28.0	266.9	24,800*	38.1	286.2	25,200*	44.3	296.0	25,500*	
145	23.3	256.5	23,900*	34.6	279.4	24,200*	41.3	290.6	24,400*	
150	17.4	242.9	22,900*	30.9	271.7	23,200*	38.1	284.6	23,400*	
155	8.0	220.7	21,900*	26.6	262.5	22,300*	34.7	277.8	22,500*	
160				21.6	251.4	21,400*	30.9	270.0	21,500*	
165				15.1	236.3	20,500*	26.6	260.9	20,700*	
170							21.6	249.8	19,800*	
175							15.1	234.7	18,900*	
180									180	
185									185	
190									190	
195									195	
200									200	
205									205	
210									210	
215									215	
220									220	
225									225	



# 14000 S-3

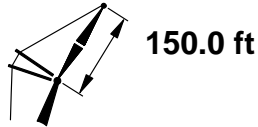
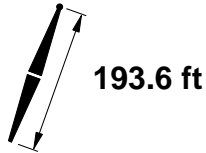
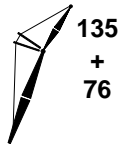
ASME B30.5



ft	75°			70°			65°			ft
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
55										55
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120	62.9	319.0	29,600							120
125	60.6	316.3	28,100							125
130	58.2	313.4	26,600							130
135	55.8	310.1	25,300							135
140	53.3	306.6	24,100							140
145	50.7	302.7	23,000							145
150	48.0	298.4	21,900	56.3	305.6	18,600				150
155	45.2	293.6	20,900	53.8	302.1	17,700				155
160	42.2	288.4	20,000	51.2	298.3	16,900				160
165	39.1	282.6	19,100	48.6	294.0	16,100				165
170	35.7	276.0	18,300	45.8	289.4	15,400				170
175	32.0	268.6	17,500	42.8	284.3	14,700	51.5	292.0	11,900	175
180	27.9	259.9	16,800	39.7	278.6	14,100	48.8	287.9	11,300	180
185	23.2	249.4	16,100	36.4	272.2	13,500	46.1	283.3	10,800	185
190	17.2	235.8	15,400	32.8	264.9	12,900	43.1	278.2	10,200	190
195	7.7	213.2	14,800	28.8	256.6	12,400	40.1	272.6	9,700	195
200				24.2	246.5	11,800	36.8	266.3	9,300	200
205				18.6	233.8	11,300	33.2	259.1	8,800	205
210				10.4	214.5	10,800	29.2	250.9	8,400	210
215							24.7	241.0	7,900	215
220							19.3	228.7	7,500	220
225							11.6	210.5	7,100	225

# 14000 S-3

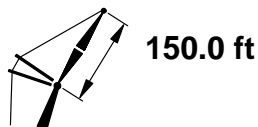
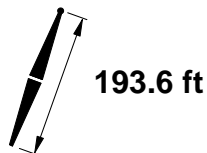
ASME B30.5



	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
60	73.1	344.7	36,900*						60	
65	71.1	343.1	36,300*						65	
70	69.1	341.3	35,800*						70	
75	67.0	339.2	35,200*						75	
80	64.9	337.0	34,800*	70.5	341.2	36,000*			80	
85	62.8	334.6	33,800*	68.4	339.3	35,500*			85	
90	60.6	331.9	32,700*	66.4	337.2	35,100*			90	
95	58.4	328.9	31,500*	64.2	334.9	34,700*			95	
100	56.1	325.7	30,400*	62.1	332.4	33,600*	66.4	335.6	100	
105	53.8	322.2	29,200*	59.9	329.6	32,500*	64.3	333.3	105	
110	51.4	318.4	28,100*	57.7	326.6	31,400*	62.1	330.8	110	
115	48.9	314.2	27,000*	55.4	323.3	30,200*	59.9	328.0	115	
120	46.3	309.6	26,000*	53.0	319.7	29,200*	57.7	325.0	120	
125	43.6	304.6	25,000*	50.6	315.8	28,000*	55.4	321.7	125	
130	40.8	299.1	24,000*	48.1	311.5	26,900*	53.1	318.1	130	
135	37.7	293.0	23,100*	45.5	306.8	25,800*	50.6	314.2	135	
140	34.5	286.1	22,200*	42.7	301.6	24,900*	48.1	309.9	140	
145	31.0	278.3	21,300*	39.8	295.9	23,900*	45.5	305.2	145	
150	27.0	269.3	20,500*	36.8	289.6	22,900*	42.7	300.0	150	
155	22.5	258.5	19,800*	33.4	282.5	22,000*	39.8	294.3	155	
160	16.8	244.4	19,100*	29.8	274.4	21,200*	36.8	288.0	160	
165	7.8	221.4	18,700*	25.7	264.9	20,300*	33.4	280.9	165	
170				20.9	253.2	19,500*	29.8	272.8	170	
175				14.6	237.6	18,800*	25.7	263.3	175	
180							20.9	251.6	180	
185							14.6	236.0	185	
190									190	
195									195	
200									200	
205									205	
210									210	
215									215	
220									220	
225									225	
230									230	
235									235	

# 14000 S-3

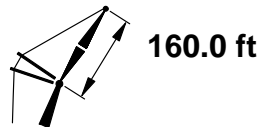
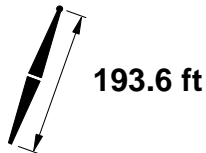
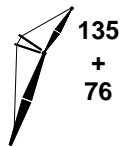
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120										120
125	62.7	327.7	28,000							125
130	60.6	325.0	26,500							130
135	58.3	322.1	25,200							135
140	56.1	318.8	24,000							140
145	53.7	315.3	22,800							145
150	51.3	311.5	21,800							150
155	48.8	307.3	20,800	56.6	314.3	17,600				155
160	46.3	302.7	19,900	54.2	310.8	16,800				160
165	43.5	297.7	19,000	51.8	307.1	16,000				165
170	40.7	292.2	18,200	49.4	302.9	15,300				170
175	37.7	286.0	17,500	46.8	298.5	14,600				175
180	34.4	279.2	16,700	44.1	293.5	14,000	52.1	300.8	11,100	180
185	30.9	271.4	16,000	41.3	288.1	13,400	49.6	296.8	10,600	185
190	26.9	262.3	15,400	38.3	282.1	12,800	47.1	292.3	10,100	190
195	22.4	251.4	14,800	35.1	275.4	12,300	44.4	287.4	9,600	195
200	16.6	237.3	14,200	31.7	267.8	11,800	41.6	282.1	9,100	200
205	7.5	213.9	13,600	27.8	259.1	11,300	38.6	276.1	8,600	205
210				23.4	248.6	10,800	35.5	269.5	8,200	210
215				18.0	235.4	10,300	32.0	262.0	7,800	215
220				10.1	215.4	9,900	28.2	253.4	7,400	220
225							23.9	243.2	7,000	225
230							18.6	230.3	6,600	230
235							11.2	211.5	6,300	235

# 14000 S-3

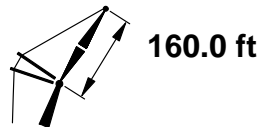
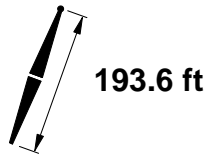
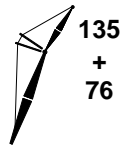
ASME B30.5



ft	87°			83°			80°			ft
	ft	ft	lb	ft	lb	ft	lb	ft		
60	74.2	355.1	34,100* <sup>b</sup>						60	
65	72.3	353.6	33,500*						65	
70	70.4	351.9	33,100*						70	
75	68.5	350.0	32,500*						75	
80	66.6	348.0	31,900*						80	
85	64.6	345.7	30,800*	69.8	350.0	32,900*			85	
90	62.6	343.2	29,600*	67.9	348.1	32,600*			90	
95	60.6	340.5	28,500*	66.0	346.0	31,600*			95	
100	58.5	337.6	27,400*	64.0	343.6	30,500*	67.9	346.5	100	
105	56.4	334.4	26,300*	62.0	341.1	29,400*	66.0	344.4	105	
110	54.2	330.9	25,300*	59.9	338.3	28,300*	64.0	342.0	110	
115	52.0	327.2	24,200*	57.8	335.3	27,300*	62.0	339.5	115	
120	49.6	323.1	23,100*	55.7	332.0	26,200*	59.9	336.7	120	
125	47.2	318.7	22,100*	53.5	328.5	25,100*	57.8	333.7	125	
130	44.8	313.8	21,200*	51.2	324.6	24,100*	55.7	330.4	130	
135	42.2	308.5	20,200*	48.9	320.4	23,000*	53.5	326.8	135	
140	39.4	302.7	19,300*	46.5	315.9	22,000*	51.2	323.0	140	
145	36.5	296.3	18,400*	44.0	310.9	21,100*	48.9	318.8	145	
150	33.4	289.2	17,600*	41.3	305.5	20,100*	46.5	314.3	150	
155	30.0	281.1	16,800*	38.5	299.5	19,200*	44.0	309.3	155	
160	26.2	271.7	16,100*	35.6	292.9	18,300*	41.3	303.9	160	
165	21.7	260.4	15,400*	32.3	285.4	17,500*	38.5	297.9	165	
170	16.2	245.9	14,700*	28.8	277.0	16,700*	35.6	291.3	170	
175	7.5	222.1	14,100*	24.9	267.1	16,000*	32.4	283.8	175	
180				20.2	255.0	15,300*	28.8	275.4	180	
185				14.1	238.8	14,800*	24.9	265.5	185	
190							20.2	253.4	190	
195							14.1	237.2	195	
200									200	
205									205	
210									210	
215									215	
220									220	
225									225	
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245									245	

# 14000 S-3

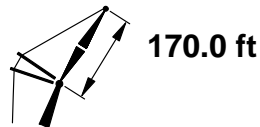
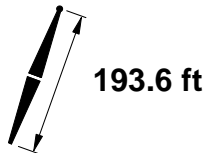
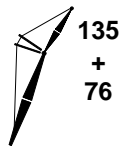
ASME B30.5



	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
60										60
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120										120
125										125
130	62.6	336.4	26,100							130
135	60.5	333.7	24,800							135
140	58.5	330.7	23,600							140
145	56.3	327.5	22,400							145
150	54.1	324.1	21,400							150
155	51.9	320.3	20,400							155
160	49.6	316.2	19,500	56.8	322.9	16,300				160
165	47.2	311.8	18,700	54.6	319.5	15,600				165
170	44.7	306.9	17,800	52.4	315.8	14,900				170
175	42.1	301.6	17,100	50.1	311.8	14,200				175
180	39.4	295.8	16,400	47.7	307.5	13,600				180
185	36.4	289.4	15,700	45.2	302.7	13,000	52.6	309.6	10,000	185
190	33.3	282.2	15,100	42.7	297.5	12,400	50.3	305.6	9,400	190
195	29.9	274.1	14,400	39.9	291.8	11,900	48.0	301.3	9,000	195
200	26.1	264.7	13,900	37.1	285.5	11,400	45.5	296.6	8,500	200
205	21.6	253.4	13,300	34.0	278.5	10,900	42.9	291.4	8,100	205
210	16.1	238.7	12,800	30.6	270.6	10,400	40.2	285.8	7,600	210
215	7.2	214.5	12,200	26.9	261.5	10,000	37.4	279.6	7,200	215
220				22.6	250.7	9,600	34.3	272.7	6,800	220
225				17.4	236.9	9,200	31.0	264.9	6,500	225
230				9.8	216.2	8,700	27.3	255.9	6,100	230
235							23.1	245.3	5,800	235
240							18.0	232.0	5,400	240
245							10.8	212.5	5,100	245

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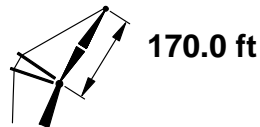
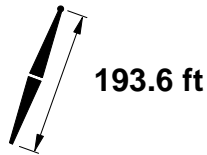
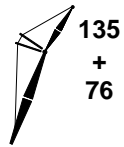
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	87°			83°			80°			
ft	ft	ft	lb	ft	ft	lb	ft	lb	ft	
65	73.7	364.4	30,200*						65	
70	72.0	362.8	29,800*						70	
75	70.2	361.1	28,800*						75	
80	68.4	359.2	27,700*						80	
85	66.6	357.1	26,700*						85	
90	64.7	354.9	25,600*	69.6	359.2	28,200*			90	
95	62.8	352.4	24,600*	67.8	357.3	27,400*			95	
100	60.9	349.7	23,600*	66.0	355.1	26,400*			100	
105	59.0	346.9	22,500*	64.1	352.8	25,400*	67.8	355.6	26,800*	
110	57.0	343.7	21,600*	62.2	350.3	24,400*	66.0	353.5	26,200*	
115	55.0	340.3	20,600*	60.3	347.5	23,400*	64.1	351.2	25,200*	
120	52.9	336.7	19,700*	58.4	344.6	22,400*	62.2	348.7	24,300*	
125	50.7	332.8	18,800*	56.4	341.4	21,400*	60.3	345.9	23,400*	
130	48.5	328.5	17,900*	54.3	337.9	20,500*	58.4	343.0	22,400*	
135	46.2	323.9	17,000*	52.2	334.2	19,500*	56.4	339.8	21,400*	
140	43.8	318.9	16,200*	50.0	330.1	18,600*	54.3	336.3	20,500*	
145	41.4	313.5	15,300*	47.8	325.8	17,800*	52.2	332.6	19,600*	
150	38.7	307.5	14,600*	45.5	321.1	16,900*	50.0	328.5	18,700*	
155	36.0	301.0	13,900*	43.1	315.9	16,100*	47.8	324.2	17,800*	
160	33.0	293.7	13,200*	40.6	310.4	15,300*	45.5	319.5	16,900*	
165	29.7	285.5	12,400*	37.9	304.2	14,500*	43.1	314.3	16,100*	
170	26.1	276.0	11,500*	35.1	297.5	13,800*	40.6	308.7	15,400*	
175	22.0	264.9	10,700*	32.0	289.9	13,000*	37.9	302.6	14,600*	
180	16.9	250.7	10,000*	28.7	281.4	12,100*	35.1	295.9	13,900*	
185	9.6	229.5	9,300*	24.9	271.5	11,300*	32.0	288.3	13,200*	
190				20.6	259.5	10,500*	28.7	279.8	12,200*	
195				15.0	243.9	9,800*	24.9	269.9	11,400*	
200				5.6	216.5	9,200*	20.6	257.9	10,600*	
205							15.1	242.4	9,800*	
210							5.7	215.0	9,200*	
215									215	
220									220	
225									225	
230									230	
235									235	
240									240	
245									245	
250									250	
255									255	

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	75°			70°			65°			
	ft	ft	lb	ft	ft	lb	ft	ft	lb	
65										65
70										70
75										75
80										80
85										85
90										90
95										95
100										100
105										105
110										110
115										115
120										120
125										125
130										130
135	62.8	345.6	23,700*							135
140	60.9	342.9	22,800*							140
145	58.9	340.0	22,000*							145
150	56.9	336.9	21,100*							150
155	54.9	333.5	20,200							155
160	52.8	329.8	19,300							160
165	50.7	325.9	18,400	57.4	332.3	15,300				165
170	48.5	321.6	17,600	55.3	328.9	14,600				170
175	46.2	317.0	16,900	53.3	325.4	14,000				175
180	43.8	312.0	16,200	51.1	321.5	13,300				180
185	41.3	306.6	15,500	48.9	317.3	12,800				185
190	38.7	300.6	14,900	46.7	312.7	12,200				190
195	35.9	294.0	14,200*	44.3	307.8	11,700	51.4	315.3	8,600	195
200	32.9	286.7	13,500*	41.8	302.5	11,200	49.2	311.1	8,100	200
205	29.7	278.5	12,600*	39.2	296.6	10,700	46.9	306.6	7,700	205
210	26.1	269.0	11,800*	36.5	290.2	10,200	44.6	301.7	7,300	210
215	21.9	257.8	10,900*	33.6	283.1	9,800	42.1	296.4	6,900	215
220	16.8	243.6	10,100*	30.4	275.0	9,400	39.5	290.6	6,500	220
225	9.4	222.1	9,400*	26.8	265.9	8,900	36.8	284.3	6,100	225
230				22.8	255.1	8,500	33.9	277.2	5,800	230
235				18.0	241.6	8,100	30.7	269.3	5,400	235
240				11.3	222.5	7,700	27.2	260.3	5,100	240
245							23.3	249.7	4,800	245
250							18.6	236.6	4,500	250
255							12.2	218.4	4,200	255