



Our flagship product, Rod Rigging systems are used in rigging systems where superior performance and brilliant aesthetics are critical.

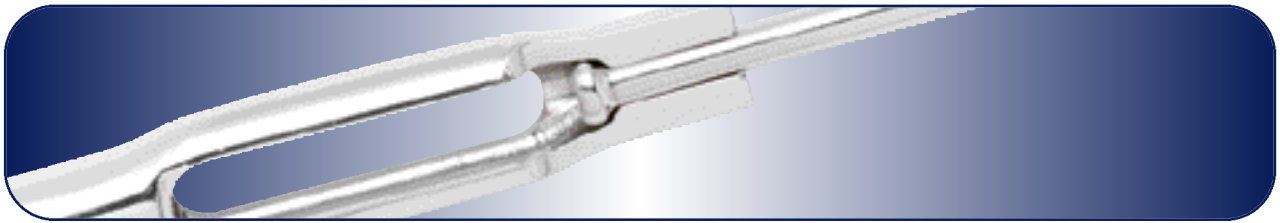
Rod Rigging



ROD RIGGING SYSTEMS



“Cold heading,” pioneered by Marine, is a process used to create rod rigging systems that are incredibly strong. In rod rigging systems, the fit of the rod head in the terminal is critical to safety and long life. In the Marine cold-heading process, the rod ending is designed to fit precisely into the seat, making the termination of the rod as strong as the rod itself. Marine rod rigging is also beautiful to behold because each component we manufacture is polished for an outer shine that’s as striking as its performance.



Rod Ball Heads

Designed to eliminate the use of stemballs, the Rod Ball Head is small, light, and recommended only for the serious inshore Grand Prix sailor who is willing to sacrifice fatigue resistance for weight reduction.

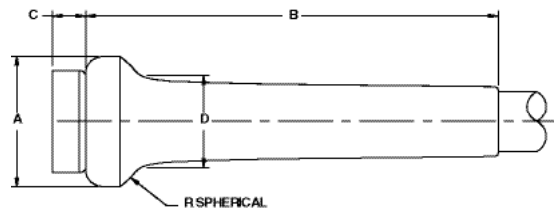
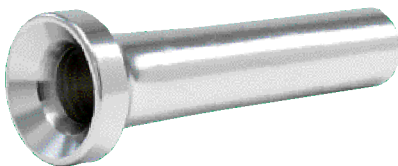


STEMBALLS

Stemballs were developed by Marine with the simple aim of increasing the useful life of rod rigging. The stemball builds on the weight-saving approach of a ball terminal for rod, also originally developed by Marine. Stemball rigging systems provide significant fatigue life with minimal weight and size increase.

F235 Micro Stemball

Micro Stemballs are Marine’s most advanced stemball. Through the use of high-strength material, and sophisticated computer stress analysis programs developed by Marine’s fatigue testing, Marine has developed a smaller, lighter stemball. Commonly used in the L500- Tip cups, K150 & K550 Tangs.

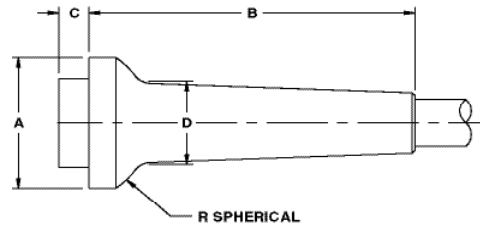
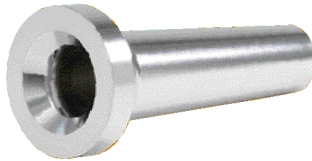


Micro Stemball Dimensions & Part Numbers

ROD SIZE	PART NUMBER	A		B		C		D		R		WEIGHT	
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	grams
-4	F235-004	0.372	9.45	1.04	26.4	0.090	2.29	0.264	6.71	0.250	6.35	0.010	5
-6	F235-006	0.428	10.87	1.20	30.4	0.107	2.72	0.302	7.67	0.280	7.11	0.010	5
-8	F235-008	0.487	12.37	1.36	34.6	0.133	3.38	0.344	8.74	0.313	7.95	0.012	5
-10	F235-010	0.541	13.74	1.51	38.4	0.124	3.15	0.381	9.68	0.344	8.74	0.017	8
-12	F235-012	0.608	15.44	1.70	43.2	0.146	3.71	0.430	10.92	0.394	10.01	0.026	12
-15	F235-015	0.640	16.26	1.79	45.5	0.159	4.04	0.451	11.46	0.406	10.31	0.029	13
-17	F235-017	0.714	18.14	2.00	50.7	0.128	3.25	0.505	12.83	0.469	11.91	0.040	18
-22	F235-022	0.811	20.60	2.27	57.6	0.150	3.81	0.573	14.55	0.531	13.49	0.056	25
-30	F235-030	0.946	24.03	2.64	67.2	0.170	4.32	0.669	16.99	0.625	15.88	0.090	41
-40	F235-040	1.082	27.48	3.02	76.7	0.200	5.08	0.763	19.38	0.687	17.45	0.140	64
-48	F235-048	1.216	30.89	3.40	86.4	0.215	5.46	0.858	21.79	0.781	19.84	0.192	87
-60	F235-060	1.428	36.27	3.99	101.3	0.181	4.60	1.008	25.60	0.925	23.50	0.300	136
-76	F235-076L	1.525	38.74	4.27	108.5	0.304	7.72	1.078	27.38	1.000	25.40	0.375	170
-91	F235-091L	1.662	42.21	4.65	118.1	0.320	8.13	1.173	29.79	1.063	27.00	0.468	212
-115	F235-115L	1.893	48.08	5.29	134.4	0.273	6.93	1.339	34.01	1.250	31.75	0.664	301
-150	F235-150L	2.164	54.97	6.05	153.7	0.410	10.41	1.532	38.91	1.438	36.53	1.06	481
-170	F235-170L	2.307	58.60	6.45	163.8	0.445	11.30	1.631	41.43	1.500	38.10	1.29	585
-195	F235-195L	2.434	61.82	6.81	173.0	0.393	9.98	1.718	43.64	1.583	39.70	1.49	676
-220	F235-220L	2.577	65.46	7.21	183.1	0.297	7.54	1.822	46.28	1.688	42.88	1.68	760
-260	F235-260L	2.845	72.26	7.96	202.2	0.538	13.67	2.007	50.98	1.813	46.06	2.46	1110
-320	F235-320L	3.246	82.45	9.07	230.4	0.439	11.15	2.285	58.04	2.000	50.80	3.47	1570
-400	F235-400L	3.785	96.16	10.59	269.0	0.727	18.47	2.674	67.92	2.450	62.23	5.75	2610

F220 Tapered Stemball

Its larger-head geometry makes it suitable in spreader root tangs to help distribute load. Also used in the K200 tangs.



Tapered Stemball Dimensions & Part Numbers

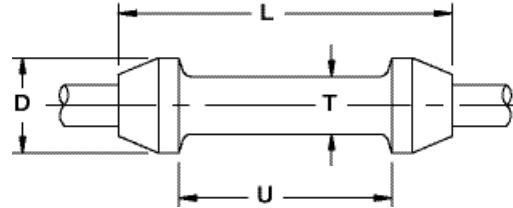
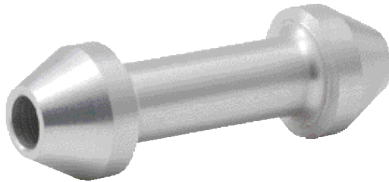
ROD SIZE	PART NUMBER	A		B		C		D		R		WEIGHT	
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	grams
-4	F220-004	0.476	12.09	1.04	26.5	0.092	2.34	0.304	7.72	0.250	6.35	0.012	5
-6	F220-006	0.550	13.97	1.19	30.2	0.116	2.95	0.338	8.59	0.280	7.11	0.020	9
-8	F220-008	0.683	17.35	1.35	34.3	0.127	3.23	0.430	10.92	0.313	7.95	0.034	15
-10	F220-010	0.683	17.35	1.50	38.1	0.100	2.54	0.434	11.02	0.344	8.74	0.035	16
-12	F220-012	0.772	19.61	1.69	42.8	0.146	3.71	0.499	12.67	0.394	10.01	0.055	25
-15	F220-015	0.911	23.14	1.78	45.1	0.159	4.04	0.600	15.24	0.406	10.31	0.089	40
-17	F220-017	0.911	23.14	1.98	50.3	0.183	4.65	0.600	15.24	0.469	11.91	0.088	40
-22	F220-022	1.030	26.16	2.25	57.2	0.151	3.84	0.672	17.07	0.531	13.49	0.125	57
-30	F220-030	1.188	30.18	2.62	66.6	0.206	5.23	0.760	19.30	0.625	15.88	0.195	88
-40	F220-040	1.375	34.93	3.03	77.0	0.200	5.08	0.878	22.30	0.687	17.45	0.303	137
-48	F220-048	1.530	38.86	3.41	86.7	0.215	5.46	1.010	25.65	0.781	19.84	0.440	200
-60	F220-060	1.659	42.14	4.00	101.6	0.181	4.60	1.031	26.19	0.925	23.50	0.520	236
-76	F220-076L	1.926	48.92	4.23	107.4	0.304	7.72	1.122	28.50	1.000	25.40	0.744	337
-91	F220-091L	2.100	53.34	4.61	117.0	0.320	8.13	1.311	33.30	1.063	27.00	1.06	481
-115	F220-115L	2.198	55.83	5.25	133.4	0.273	6.93	1.357	34.47	1.250	31.75	1.26	572
-150	F220-150L	2.500	63.50	6.00	152.4	0.410	10.41	1.550	39.37	1.438	36.53	1.85	840
-170	F220-170L	2.750	69.85	6.40	162.5	0.445	11.30	1.696	42.82	1.500	38.10	2.44	1100
-195	F220-195L	2.826	71.78	6.75	171.5	0.394	9.75	1.743	44.27	1.583	39.70	2.68	1220
-220	F220-220L	3.130	79.50	7.15	181.6	0.297	7.54	1.858	47.19	1.688	42.88	3.17	1440
-260	F220-260L	3.312	84.12	7.95	202.0	0.538	13.67	0.000	0.00	2.045	51.94	4.19	1900
-320	F220-320L	3.950	100.33	9.07	230.4	0.443	11.25	2.342	59.49	2.500	63.50	6.46	2930
-400	F220-400L	4.396	111.66	10.50	266.7	0.552	14.02	2.714	68.94	2.800	71.12	9.58	4340

SPREADER BENDS



Navtec Spreader Bends cover and protect rod rigging that passes over the spreader end. They are ideally suited to masts where shroud-spreader angle change is between 1° and 15°. Spreader bends are available in both Alloy and Stainless Steel.

L200 Aluminum Spreader Bend

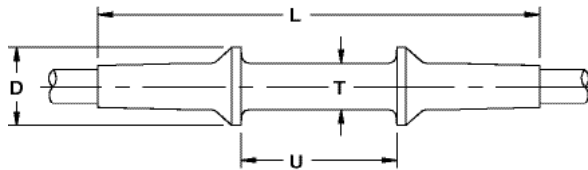
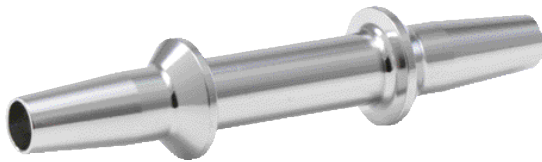


Spreader Bend Dimensions (Aluminum)

ROD SIZE	PART NUMBER	L		U		D		T		WEIGHT	
		in	mm	in	mm	in	mm	in	mm	lbs	grams
-4	L200-004-32	1.55	39.4	1.00	25.4	0.500	12.70	0.300	7.62	0.01	5.0
-6	L200-006-32	1.53	38.9	1.00	25.4	0.625	15.88	0.365	9.27	0.02	8.6
-8	L200-008-40	2.23	56.6	1.25	31.8	0.688	17.48	0.425	10.80	0.04	15.9
-10	L200-010-40	2.23	56.6	1.25	31.8	0.688	17.48	0.425	10.80	0.03	14.1
-12	L200-012-48	2.40	61.0	1.50	38.1	0.750	19.05	0.485	12.32	0.04	19.1
-15	L200-015-48	2.46	62.5	1.50	38.1	0.750	19.05	0.505	12.83	0.04	19.5
-17	L200-017-48	2.50	63.5	1.50	38.1	0.750	19.05	0.550	13.97	0.05	20.9
-22	L200-022-56	3.10	78.7	1.75	44.5	1.000	25.40	0.600	15.24	0.09	42.6
-30	L200-030-64	3.15	80.0	2.00	50.8	1.000	25.40	0.600	15.24	0.08	35.8

Different grip or "U" size available for each rod size.

L250 Tapered Stainless Steel Spreader Bend



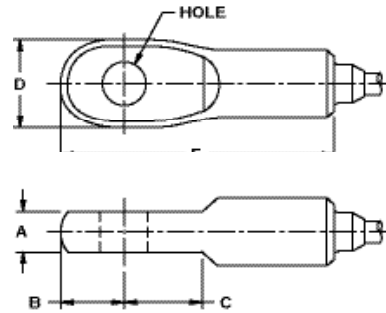
Spreader Bend Dimensions (Stainless Steel)

ROD SIZE	PART NUMBER	L		U		D		T		WEIGHT	
		in	mm	in	mm	in	mm	in	mm	lbs	grams
-4	L250-004	2.68	68.1	0.75	19.1	0.500	12.70	0.300	7.62	0.040	18
-6	L250-006	3.22	81.8	0.88	22.4	0.625	15.88	0.365	9.27	0.070	32
-8	L250-008	3.60	91.4	1.00	25.4	0.688	17.48	0.425	10.80	0.109	49
-10	L250-010	3.60	91.4	1.00	25.4	0.688	17.48	0.425	10.80	0.160	73
-12	L250-012	4.20	106.7	1.25	31.8	0.750	19.05	0.485	12.32	0.139	63
-15	L250-015	4.20	106.7	1.25	31.8	0.750	19.05	0.485	12.32	0.144	65
-17	L250-017	4.90	124.5	1.50	38.1	0.750	19.05	0.550	13.97	0.187	85
-22	L250-022	4.85	123.2	1.75	44.5	1.000	25.40	0.600	15.24	0.270	122
-30	L250-030	5.23	132.8	2.00	50.8	1.000	25.40	0.600	15.24	0.238	108
-40	L250-040	5.52	140.2	2.25	57.2	1.188	30.18	0.660	16.76	0.319	145
-48	L250-048	5.93	150.6	2.50	63.5	1.188	30.18	0.720	18.29	0.339	154
-60	L250-060	6.87	174.5	2.50	63.5	1.375	34.93	0.845	21.46	0.520	236
-76	L250-076	3.15	80.0	2.50	63.5	1.470	37.34	0.903	22.94	0.620	261

ROD TERMINATION FITTINGS

G100 Eyes

Marine Eyes have long been the industry standard and are used as upper and lower rod backstay terminals.



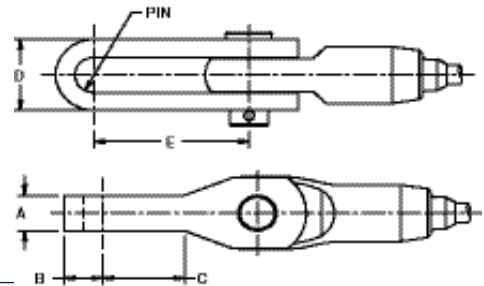
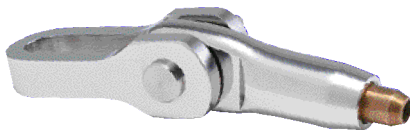
Marine Eye Dimensions & Part Numbers

ROD SIZE	PART NUMBER	HOLE		A		B		C		WEIGHT	
		in	mm	in	mm	in	mm	in	mm	lbs	kg
-4	G100-004	0.390	9.91	0.35	8.9	0.47	11.8	0.65	16.4	0.11	0.05
-6	G100-006	0.453	11.51	0.41	10.4	0.59	14.9	0.69	17.5	0.21	0.10
-8	G100-008	0.515	13.08	0.47	11.9	0.66	16.7	0.92	23.5	0.32	0.15
-10	G100-010	0.515	13.08	0.47	11.9	0.66	16.7	0.92	23.5	0.66	0.30
-12	G100-012	0.640	16.26	0.60	15.2	0.85	21.6	1.04	26.4	0.67	0.30
-15	G100-015	0.640	16.26	0.60	15.2	0.85	21.6	1.04	26.4	0.68	0.31
-17	G100-017	0.640	16.26	0.60	15.2	0.85	21.6	1.04	26.4	0.68	0.31
-22	G100-022	0.765	19.43	0.72	18.3	0.89	22.5	1.24	31.5	1.10	0.50
-30	G100-030	0.890	22.61	0.82	20.8	1.04	26.4	1.29	32.8	1.40	0.63
-40	G100-040	1.015	25.78	0.90	22.9	1.10	27.9	1.31	33.3	1.74	0.79
-48	G100-048	1.140	28.96	0.99	25.1	1.18	30.0	1.37	34.8	2.03	0.92
-60	G100-060	1.265	32.13	1.11	28.2	1.40	35.6	1.75	44.5	3.72	1.69
-76	G100-076L	1.265	32.13	1.23	31.2	1.59	40.4	2.00	50.8	6.04	2.74
-91	G100-091L	1.390	35.31	1.35	34.3	1.69	42.9	2.30	58.4	6.85	3.11
-115	G100-115L	1.580	40.13	1.50	38.1	1.95	49.5	2.42	61.5	10.9	4.96
-150	G100-150L	1.765	44.83	1.76	44.7	2.34	59.4	2.78	70.6	17.0	7.71
-170	G100-170L	1.890	48.01	1.88	47.8	2.37	60.2	3.00	76.2	20.8	9.44
-195	G100-195L	2.140	54.36	2.14	54.4	2.67	67.8	3.10	78.7	23.0	10.4
-220	G100-220L	2.265	57.53	2.26	57.4	2.80	71.1	3.25	82.6	27.0	12.2
-260	G100-260L	2.453	62.31	2.45	62.2	3.04	77.2	3.56	90.4	32.0	14.5

For more details see web site.

G200 High Fatigue Eyes

Forestays require fittings that can toggle under high load and shifting lead angles. Navtec High Fatigue Eyes minimize bending stresses in the rod and are ideal for this application.



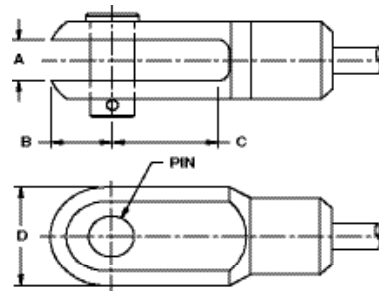
High Fatigue Eye Dimensions & Part Numbers

ROD SIZE	PART NUMBER	PIN		A		B		C		WEIGHT	
		in	mm	in	mm	in	mm	in	mm	lbs	kg
-4	G200-004	0.375	9.53	0.37	9.3	0.38	9.5	0.83	21.1	0.23	0.10
-6	G200-006	0.437	11.10	0.43	10.8	0.41	10.3	0.90	22.9	0.42	0.19
-8	G200-008	0.500	12.70	0.48	12.2	0.50	12.7	1.17	29.7	0.68	0.31
-10	G200-010	0.500	12.70	0.48	12.2	0.50	12.7	1.17	29.7	0.67	0.30
-12	G200-012	0.625	15.88	0.61	15.4	0.63	15.9	1.21	30.7	1.39	0.63
-15	G200-015	0.625	15.88	0.61	15.4	0.63	15.9	1.21	30.7	1.36	0.62
-17	G200-017	0.625	15.88	0.61	15.5	0.63	15.9	1.21	30.7	1.36	0.62
-22	G200-022	0.750	19.05	0.73	18.5	0.75	19.1	1.47	37.3	2.20	1.00
-30	G200-030	0.875	22.23	0.84	21.3	0.81	20.6	1.68	42.7	3.00	1.36
-40	G200-040	1.000	25.40	0.96	24.4	1.00	25.4	2.08	52.8	4.42	2.00
-48	G200-048	1.125	28.58	1.09	27.7	1.06	26.9	2.26	57.4	5.64	2.56
-60	G200-060	1.250	31.75	1.21	30.7	1.25	31.8	2.65	67.3	8.32	3.77
-76	G200-076L	1.250	31.75	1.25	31.8	1.38	34.9	2.50	63.5	11.7	5.31
-91	G200-091L	1.375	34.93	1.34	34.0	1.44	36.5	3.40	86.4	14.8	6.69
-115	G200-115L	1.562	39.67	1.52	38.7	1.78	45.2	2.97	75.5	18.1	8.19
-150	G200-150L	1.750	44.45	1.71	43.4	1.88	47.8	4.87	123.7	32.5	14.7

For more details see web site. For E length see J100 chart on page 34.

H100 Rod Jaws

Commonly used as upper and lower terminals on rod backstays. Also used on low-fatigue assemblies like bobstays.



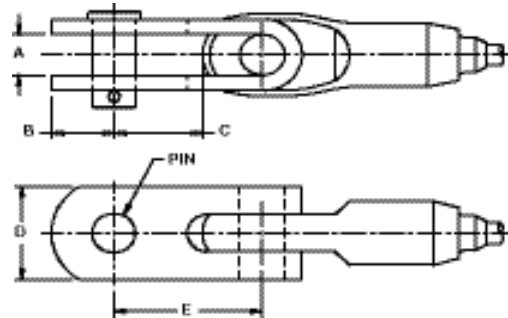
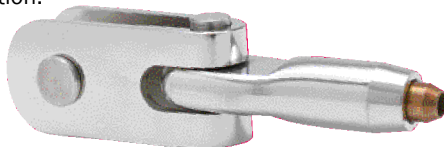
Rod Jaw Dimensions & Part Numbers

ROD SIZE	PART NUMBER	PIN		A		B		C		D		WEIGHT	
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
-4	H100-004	0.311	7.90	0.26	6.5	0.38	9.7	0.35	8.9	0.69	17.5	0.10	0.04
-6	H100-006	0.311	7.90	0.31	8.0	0.50	12.7	0.78	19.7	0.81	20.7	0.16	0.07
-8	H100-008	0.373	9.47	0.31	8.0	0.55	14.0	0.77	19.4	0.88	22.2	0.20	0.09
-10	H100-010	0.433	11.00	0.38	9.7	0.62	15.7	0.78	19.7	1.00	25.4	0.26	0.12
-12	H100-012	0.433	11.00	0.44	11.2	0.68	17.3	1.05	26.7	1.13	28.6	0.40	0.18
-15	H100-015	0.495	12.57	0.52	13.1	0.75	19.1	1.20	30.5	1.25	31.8	0.55	0.25
-17	H100-017	0.495	12.57	0.52	13.1	0.75	19.1	1.20	30.5	1.25	31.8	0.55	0.25
-22	H100-022	0.620	15.75	0.57	14.5	0.90	22.9	1.24	31.5	1.50	38.1	1.07	0.48
-30	H100-030	0.745	18.92	0.63	16.0	1.02	25.9	1.35	34.3	1.75	44.5	1.48	0.67
-40	H100-040	0.870	22.10	0.89	22.6	1.30	33.0	1.37	34.8	2.00	50.8	2.30	1.04
-48	H100-048	0.995	25.27	0.89	22.6	1.45	36.8	1.47	37.4	2.25	57.2	3.31	1.50
-60	H100-060	1.120	28.45	1.15	29.1	1.70	43.2	2.06	52.3	2.75	69.9	5.00	2.27
-76	H100-076L	1.245	31.62	1.27	32.1	1.80	45.7	2.06	52.3	3.00	76.2	7.11	3.22
-91	H100-091L	1.370	34.80	1.39	35.2	1.95	49.5	2.25	57.0	3.25	82.6	8.89	4.03

G150 small pin eyes are designed to fit these jaws.

H200 High Fatigue Jaws

Forestays require fittings that can toggle under high load and shifting lead angles. Navtec High Fatigue Jaws minimize bending stresses in the rod and are ideal for this application.



High Fatigue Jaw Dimensions & Part Numbers

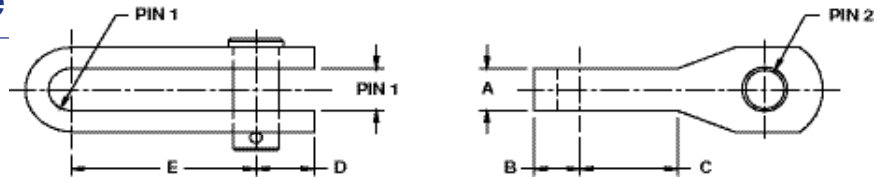
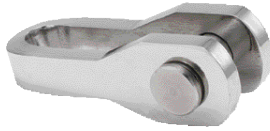
ROD SIZE	PART NUMBER	PIN		A		B		C		D		WEIGHT	
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
-4	H200-004	0.373	9.47	0.39	9.8	0.63	15.9	1.16	29.5	1.00	25.4	0.25	0.11
-6	H200-006	0.433	11.00	0.45	11.4	0.64	16.2	1.09	27.7	1.00	25.4	0.49	0.22
-8	H200-008	0.495	12.57	0.52	13.2	0.78	19.8	1.39	35.4	1.25	31.8	0.75	0.34
-10	H200-010	0.495	12.57	0.52	13.2	0.78	19.8	1.39	35.3	1.25	31.8	0.77	0.35
-12	H200-012	0.620	15.75	0.65	16.4	0.93	23.5	1.43	36.3	1.60	40.6	1.41	0.64
-15	H200-015	0.620	15.75	0.65	16.4	0.93	23.5	1.43	36.3	1.60	40.6	1.41	0.64
-17	H200-017	0.620	15.75	0.65	16.5	0.93	23.5	1.43	36.3	1.60	40.6	1.53	0.69
-22	H200-022	0.745	18.92	0.77	19.6	1.19	30.2	1.74	44.2	2.00	50.8	2.62	1.19
-30	H200-030	0.870	22.10	0.90	22.7	1.19	30.2	2.16	54.9	2.00	50.8	3.76	1.71
-40	H200-040	0.995	25.27	1.04	26.4	1.45	36.8	2.53	64.3	2.50	63.5	5.51	2.50
-48	H200-048	1.120	28.45	1.17	29.6	1.45	36.8	2.82	71.6	2.50	63.5	7.44	3.37
-60	H200-060	1.245	31.62	1.29	32.8	1.82	46.2	3.60	91.4	3.00	76.2	11.7	5.32
-76	H200-076L	1.245	31.62	1.29	32.8	1.82	46.2	3.41	86.6	3.00	76.2	13.6	6.15
-91	H200-091L	1.370	34.80	1.42	36.1	1.82	46.2	3.90	99.1	3.00	76.2	17.4	7.90
-115	H200-115L	1.558	39.57	1.63	41.4	2.25	57.2	4.23	107.4	3.75	95.3	26.5	12.0
-150	H200-150L	1.745	44.32	1.81	46.1	2.43	61.7	4.75	120.7	4.00	101.6	37.8	17.1
-170	H200-170L	1.870	47.50	1.93	49.0	3.13	79.5	4.83	122.7	5.00	127.0	38.1	17.3
-195	H200-195L	2.120	53.85	2.19	55.6	3.35	85.1	4.75	120.7	5.50	139.7	55.0	24.9
-220	H200-220L	2.245	57.02	2.31	58.7	3.70	94.0	5.00	127.0	6.00	152.4	64.2	29.1
-260	H200-260L	2.433	61.80	2.50	63.5	3.50	88.9	5.20	132.1	6.00	152.4	94.0	42.6
-320	H200-320L	2.495	63.37	2.56	65.0	4.00	101.6	5.75	146.1	6.60	167.6	101	46.0
-400	H200-400L	2.745	69.72	2.81	71.4	4.25	108.0	6.25	158.8	7.00	177.8	127	57.4

For more details see web site. For E length see J200 chart on page 34.

Toggles

Marine toggles reduce fatigue and assist in allowing the load forces to align with the shroud angle.

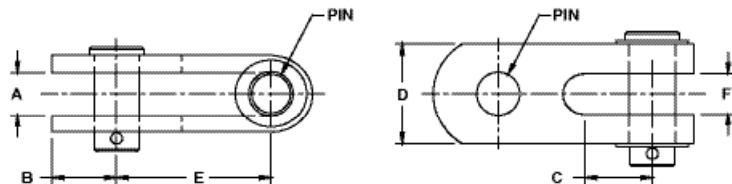
J100 Eye Jaw Toggle



Eye/Jaw Toggle Dimensions & Part Numbers

ROD SIZE	PART NUMBER	PIN 1		PIN 2		A		B		C		D		E	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
-4	J100-1210	0.375	9.53	0.311	7.90	0.37	9.3	0.38	9.5	0.83	21.1	0.45	11.4	1.90	45.7
-4	J100-1212	0.375	9.53	0.373	9.47	0.37	9.3	0.38	9.5	0.83	21.1	0.45	11.4	1.90	45.7
-6	J100-1412	0.437	11.10	0.373	9.47	0.43	10.8	0.41	10.3	0.90	22.9	0.63	16.0	2.00	50.8
-6	J100-1414	0.437	11.10	0.433	11.00	0.43	10.8	0.41	10.3	0.90	22.9	0.63	16.0	2.00	50.8
-8/10	J100-1614	0.500	12.70	0.433	11.00	0.48	12.2	0.50	12.7	1.17	29.7	0.63	16.0	2.20	55.9
-8/10	J100-1616	0.500	12.70	0.495	12.57	0.48	12.2	0.50	12.7	1.17	29.7	0.63	16.0	2.20	55.9
-12/15/17	J100-2018	0.625	15.88	0.561	14.25	0.61	15.4	0.63	15.9	1.21	30.7	0.79	20.1	2.50	63.5
-12/15/17	J100-2020	0.625	15.88	0.620	15.75	0.61	15.4	0.63	15.9	1.21	30.7	0.79	20.1	2.50	63.5
-22	J100-2420	0.750	19.05	0.620	15.75	0.73	18.5	0.75	19.1	1.47	37.3	0.92	23.4	2.90	73.7
-22	J100-2424	0.750	19.05	0.745	18.92	0.73	18.5	0.75	19.1	1.47	37.3	0.92	23.4	2.90	73.7
-30	J100-2824	0.875	22.23	0.745	18.92	0.84	21.3	0.81	20.6	1.68	42.7	1.18	30.0	3.30	83.8
-30	J100-2828	0.875	22.23	0.870	22.10	0.84	21.3	0.81	20.6	1.68	42.7	1.18	30.0	3.30	83.8
-40	J100-3228	1.000	25.40	0.870	22.10	0.96	24.4	1.00	25.4	2.08	52.8	1.18	30.0	3.70	94.0
-40	J100-3232	1.000	25.40	0.995	25.27	0.96	24.4	1.00	25.4	2.08	52.8	1.18	30.0	3.70	94.0
-48	J100-3632	1.125	28.58	0.995	25.27	1.09	27.7	1.06	26.9	2.28	57.4	1.45	36.8	4.10	104
-48	J100-3636	1.125	28.58	1.120	28.45	1.09	27.7	1.06	26.9	2.28	57.4	1.45	36.8	4.10	104
-60	J100-4036	1.250	31.75	1.120	28.45	1.21	30.7	1.25	31.8	2.65	67.3	1.45	36.8	4.50	114
-60	J100-4040	1.250	31.75	1.245	31.62	1.21	30.7	1.25	31.8	2.65	67.3	1.45	36.8	4.50	114
-76	J100-3440	1.250	31.75	1.183	30.05	1.25	31.8	1.38	34.9	2.50	63.5	1.50	38.1	4.56	116
-91	J100-4444	1.375	34.93	1.370	34.80	1.34	34.0	1.44	36.5	3.40	86.4	1.62	41.1	5.60	142
-115	J100-5050	1.562	39.67	1.433	36.40	1.52	38.7	1.78	45.2	2.97	75.5	1.88	47.6	5.69	145
-150	J100-5656	1.750	44.45	1.745	44.32	1.71	43.4	1.88	47.8	4.87	123.7	2.07	52.6	7.50	191

J200 Double Jaw Toggle



Double Jaw Toggle Dimensions & Part Numbers

ROD SIZE	PART NUMBER	PIN		A		B		C		D		E		F	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
-4	J200-1010	0.311	7.90	0.32	8.2	0.50	12.7	0.30	7.6	0.75	19.1	1.41	35.7	0.31	8.0
-6	J200-1212	0.373	9.47	0.39	9.8	0.63	15.9	0.41	10.4	1.00	25.4	1.68	42.5	0.38	9.5
-8	J200-1414	0.433	11.00	0.52	13.2	0.78	19.8	0.39	9.9	1.25	31.8	2.05	52.1	0.44	11.1
-10	J200-1616	0.495	12.57	0.52	13.2	0.78	19.8	0.50	12.7	1.25	31.8	2.05	52.1	0.50	12.7
-12	J200-2020	0.620	15.75	0.65	16.4	0.93	23.5	0.55	14.0	1.60	40.6	2.28	57.8	0.63	15.9
-15	J200-2020	0.620	15.75	0.65	16.4	0.93	23.5	0.55	14.0	1.60	40.6	2.28	57.8	0.63	15.9
-17	J200-2020	0.620	15.75	0.65	16.5	0.93	23.5	0.55	14.0	1.60	40.6	2.28	57.8	0.63	15.9
-22	J200-2424	0.745	18.92	0.77	19.6	1.19	30.2	0.43	10.8	2.00	50.8	2.63	66.7	0.75	19.1
-30	J200-2828	0.870	22.10	0.90	22.7	1.19	30.2	0.66	16.8	2.00	50.8	3.20	81.3	0.88	22.2
-40	J200-3232	0.995	25.27	1.04	26.4	1.45	36.8	0.75	19.1	2.50	63.5	3.63	92.2	1.00	25.4
-48	J200-3636	1.120	28.45	1.17	29.6	1.45	36.8	1.02	25.9	2.50	63.5	4.00	102	1.02	25.9
-60	J200-4040	1.245	31.62	1.29	32.8	1.82	46.2	0.88	22.4	3.00	76.2	5.00	127	1.25	31.8
-76	J200-4040	1.245	31.62	1.29	32.8	1.82	46.2	0.88	22.4	3.00	76.2	5.00	127	1.25	31.8
-91	J200-4444	1.370	34.80	1.42	36.1	1.82	46.2	1.39	35.2	3.00	76.2	5.60	142	1.33	33.8
-115	J200-5050	1.568	39.57	1.63	41.4	2.25	57.2	1.98	50.2	3.75	95.3	6.18	157	1.52	38.6
-150	J200-5656	1.745	44.32	1.81	46.1	2.43	61.7	2.32	58.9	4.00	101.6	7.09	180	1.63	41.3
-170	J200-6060	1.870	47.50	1.93	49.0	3.13	79.5	2.54	64.6	5.00	127.0	7.20	183	1.90	48.3
-195	J200-6868	2.120	53.85	2.19	55.6	3.35	85.1	2.28	57.8	5.50	139.7	7.53	191	2.00	50.8
-220	J200-7272	2.245	57.02	2.31	58.7	3.70	94.0	2.62	66.4	6.00	152.4	8.22	209	2.27	57.7
-260	J200-7878	2.433	61.80	2.50	63.5	3.50	88.9	2.82	74.3	6.00	152.4	8.52	216	2.43	61.6

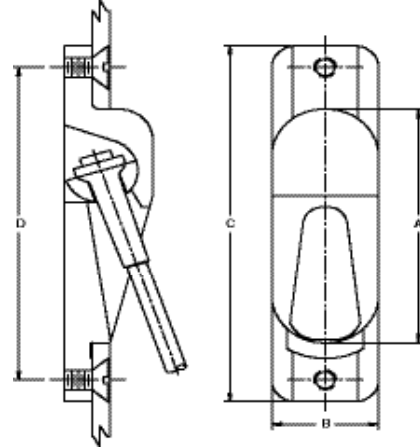
Tangs



Each mast design is unique and mast making today is more advanced than ever. Yet regardless of the design, the interface of the mast and the rigging system is always critical to the safety and performance of the yacht and its crew. Marine's range of tangs provides solutions for managing that interface. Listed below are key examples.

K200 External Stemball Tang

An economical method of attaching rigging with stemballs to the mast. Can be used with rod or wire. Rod installations are used in conjunction with F220 Stemballs and F400 washers (not included).



External Stemball Tang Dimensions & Part Numbers

ROD SIZE	PART NUMBER	STEMBALL PART NO.	WASHER PART NO.	A		B		C		D		WEIGHT	
				in	mm	in	mm	in	mm	in	mm	lbs	kg
-4	K200-006	F220-004	F400-04-06	2.73	69.2	1.13	28.6	4.10	104.1	3.60	91.4	0.20	0.09
-6	K200-006	F220-006	F400-06-06	2.73	69.2	1.13	28.6	4.10	104.1	3.60	91.4	0.20	0.09
-8	K200-012	F220-008	F400-08-12	3.75	95.3	1.50	38.1	5.75	146.1	5.05	128.3	0.42	0.19
-10	K200-012	F220-010	F400-08-12	3.75	95.3	1.50	38.1	5.75	146.1	5.05	128.3	0.42	0.19
-12	K200-012	F220-012	F400-12-12	3.75	95.3	1.50	38.1	5.75	146.1	5.05	128.3	0.42	0.19
-15	K200-030	F220-015	F400-17-30	5.00	127.0	2.00	50.8	7.50	190.5	6.70	170.2	1.11	0.50
-17	K200-030	F220-017	F400-17-30	5.00	127.0	2.00	50.8	7.50	190.5	6.70	170.2	1.11	0.50
-22	K200-030	F220-022	F400-22-30	5.00	127.0	2.00	50.8	7.50	190.5	6.70	170.2	1.11	0.50
-30	K200-030	F220-030	F400-30-30	5.00	127.0	2.00	50.8	7.50	190.5	6.70	170.2	1.11	0.50
-40	K200-090	F220-040	F400-40-60	6.68	174.6	2.80	71.1	10.53	267.3	9.40	238.8	3.26	1.48
-48	K200-060	F220-048	F400-48-60	6.68	174.6	2.80	71.1	10.53	267.3	8.40	238.8	3.26	1.48
-60	K200-060	F220-060	F400-60-60	6.68	174.6	2.80	71.1	10.53	267.3	8.40	238.8	3.26	1.48
-76	K200-076	F220-076L	F400-76-76	9.25	235.0	3.75	95.3	14.25	362.0	12.50	317.5	7.50	3.40
-91	K200-115	F220-091L	F400-91-A2	11.52	292.7	4.50	114.3	17.50	444.5	15.38	390.5	15.3	6.92
-115	K200-115	F220-115L	F400-A2-A2	11.52	292.7	4.50	114.3	17.50	444.5	15.38	390.5	15.3	6.92
-150	K200-150	F220-150L	F400-A5-A5	13.39	340.1	5.25	133.4	20.50	520.7	18.04	458.2	32.5	14.7

F220 STEMBALLS REQUIRE F400 CUP WASHERS FOR USE WITH THESE TANGS.

F400 CUP WASHER IS SOLD SEPARATELY.

SIZES K200-040 AND LARGER ARE SHIPPED WITHOUT FASTENER HOLES.

K200 / N641 / N060 Gibb Stemball Combinations

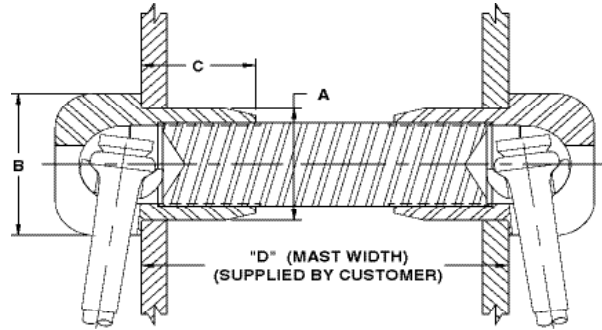
WIRE SIZE	TANG PART NO.	SWAGE STEMBALL PART NO.	SWAGELESS STEMBALL PART NO.	WASHER PART NO.
3mm	K200-006	N641-M03	N060-M03	F400-04-06
1/8"	K200-006	N641-04	N060-04	F400-04-06
4mm	K200-006	N641-M04	N060-M04	F400-06-06
5/32"	K200-006	N641-05	N060-10	F400-06-06
3/16"	K200-012	N641-06	N060-06	N640-06
5mm	K200-012	N641-M05	N060-M05	N640-M05
7/32"	K200-012	N641-07	N060-07	N640-07
6mm	K200-012	N641-M06	N060-M06	N640-M06
1/4"	K200-012	N641-08	N060-08	N640-08
7mm	K200-012	N641-M07	N060-M07	NONE
9/32"	K200-012	N641-09	N060-09	NONE
5/16"	K200-030	N641-10	N060-10	N640-10
8mm	K200-030	N641-M08	N060-M08	N640-M12
3/8"	K200-030	N641-12	N060-12	N640-10
10mm	K200-030	N641-M10	N060-M10	N640-M12

K200 / C651 Tip Turnbuckle Combinations

ROD SIZE	PART NUMBER	TIP TBK PART NO.	WASHER PART NO.
-4	K200-006	C651-004-08B	F410-08-06
-6	K200-006	C651-006-10B	F410-10-06
-8	K200-012	C651-008-10B	F410-10-12
-10	K200-012	C651-010-12B	F410-12-12
-12	K200-012	C651-012-14B	F410-14-12
-15	K200-030	C651-015-16B	F410-16-30
-17	K200-030	C651-017-16B	F410-16-30
-22	K200-030	C651-022-20B	F410-20-30
-30	K200-030	C651-030-20B	F410-20-30
-40	K200-060	C651-402428B	F410-24-60
-48	K200-060	C651-482428B	F410-24-60
-60	K200-060	C651-602832B	F410-28-60

K150 Micro Stemball Tangs

Features small mast cut-out and Stainless Steel tie bar. Includes a pair of Micro Stemballs and cup washers in each assembly.



Micro Stemball Tang Dimensions & Part Numbers

ROD SIZE	PART NUMBER	A		B		C		WEIGHT		
		in	mm	in	mm	in	mm	"D"	lbs	kg
-4	K150-004	0.745	18.92	1.00	25.4	0.65	16.6	4"	0.49	0.22
-6	K150-006	0.912	20.62	1.06	27.0	0.75	19.1	4"	0.62	0.29
-8	K150-008	0.932	23.67	1.19	30.2	0.85	21.6	4"	0.90	0.41
-10	K150-010	0.995	25.27	1.25	31.8	1.00	25.4	6"	1.27	0.58
-12	K150-012	1.184	30.07	1.44	36.5	1.09	27.6	6"	1.79	0.81
-15	K150-015	1.305	33.15	1.63	41.3	1.19	30.1	6"	2.38	1.06
-17	K150-017	1.305	33.15	1.63	41.3	1.19	30.1	6"	2.42	1.10
-22	K150-022	1.490	37.86	1.98	47.6	1.26	31.9	6"	3.94	1.61
-30	K150-030	1.870	47.50	2.38	60.3	1.66	42.3	6"	6.99	2.69
-40	K150-040	2.065	52.45	2.50	63.5	1.90	48.3	8"	9.45	3.83
-48	K150-048	2.248	57.10	2.87	72.8	1.94	49.2	8"	11.3	5.11
-60	K150-060	2.625	66.68	3.30	83.8	2.28	57.8	8"	16.4	7.42
-76	K150-076L	2.995	76.07	3.75	95.9	3.23	82.0	8"	22.4	10.2
-91	K150-091L	3.245	82.42	4.00	101.6	3.53	89.6	8"	27.5	12.5
-116	K150-116L	3.745	95.12	4.75	120.7	4.06	102.9	10"	44.1	20.0
-150	K150-150L	4.120	104.65	5.00	127.0	4.51	114.7	10"	54.0	24.5
-170	K150-170L	4.495	114.17	5.75	146.1	5.39	136.9	12"	80.0	36.3
-186	K150-195L	4.745	120.52	6.00	152.4	5.52	140.2	12"	86.0	39.0
-220	K150-220L	4.995	126.87	6.75	171.5	5.79	147.1	14"	112	50.8
-260	K150-260L	5.495	139.57	7.25	184.2	6.25	158.8	14"	138	62.6
-320	K150-320L	6.495	164.87	8.50	215.9	7.38	186.2	16"	225	102
-400	K150-400L	7.495	190.37	10.00	254.0	8.58	216.7	18"	360	163

ONE ASSEMBLY INCLUDES 2 CAPS, 2 CUP WASHERS, 2 F296 STEMBALLS & 1 TIE BAR

Rod Rigging

K150 Tang/C651 Tip Turnbuckle Combinations

Based on the K150 design system, works with cup washer for use with tip turnbuckles. Commonly used on jumper assemblies.

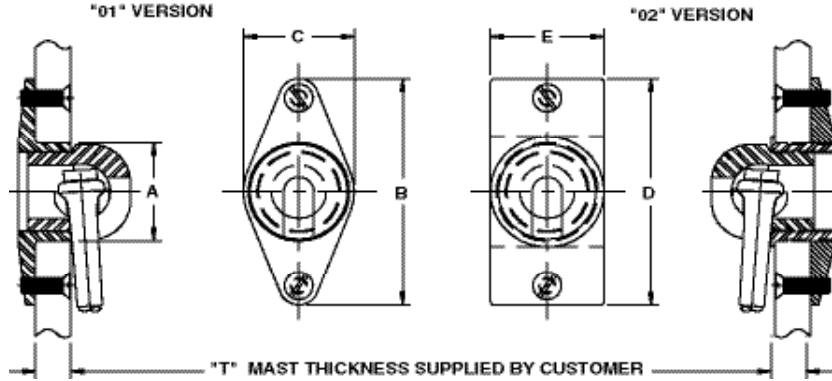
K150 Tang / C651 Tip Turnbuckle Combinations

ROD SIZE	PART NUMBER	TIP TBK PART NO.	CUP WASHER PART NO.	A		B		C	
				in	mm	in	mm	in	mm
-4	K150-004S08	C651-004-08B	K151-02-004S08	0.745	18.92	1.00	25.4	0.65	16.6
-6	K150-006S10	C651-006-10B	K151-02-006S10	0.812	20.62	1.06	27.0	0.75	19.1
-8	K150-008S10	C651-008-10B	K151-02-0082	0.932	23.67	1.19	30.2	0.85	21.6
-10	K150-010S12	C651-010-12B	K151-02-010S12	0.995	25.27	1.25	31.8	1.00	25.4
-12	K150-012S14	C651-012-14B	K151-02-012S14	1.184	30.07	1.44	36.5	1.09	27.6
-15	K150-017S16	C651-015-16B	K151-02-017S16	1.305	33.15	1.63	41.3	1.19	30.1
-17	K150-017S16	C651-017-16B	K151-02-017S16	1.305	33.15	1.63	41.3	1.19	30.1
-22	K150-030S20	C651-022-20B	K151-02-030S20	1.870	47.50	2.38	60.3	1.66	42.3
-30	K150-030S20	C651-030-20B	K151-02-030S20	1.870	47.50	2.38	60.3	1.66	42.3
-40	K150-048S24	C651-402428B	K401-02-482	2.248	57.10	2.87	72.8	1.94	49.2
-48	K150-048S24	C651-482428B	K401-02-482	2.248	57.10	2.87	72.8	1.94	49.2
-60	K150-060S28	C651-602832B	K151-02-060S28	2.625	66.68	3.30	83.8	2.28	57.8

ONE ASSEMBLY INCLUDES 2 CAPS, 2 CUP WASHERS & 1 TIE BAR.

K550 Micro Stemball Tang

Creates a custom fit for every mast by matching the height of the backing plate sleeve to the mast wall thickness (T). Available in a 01 & 02 version. The cap is constructed from a high-strength Stainless Steel alloy. The 01 version has a 316 backing plate with predrilled nylock mounting screws. The 02 version has a Nitronic 50 clamp bushing in a high-strength aluminum backing plate. This allows for custom sizing to the spar. The 02 version is common in composite spars.



Screw-In Tang Dimensions & Part Numbers

ROD SIZE	PART NUMBER (316 Backing plate)	PART NUMBER (Alloy Backing plate)	A		B		C		D		E		WEIGHT	
			in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
-4	K550-006-01	K550-006-02	1.245	31.62	2.81	71.4	1.38	34.9	2.88	73.0	1.63	41.3	0.34	0.15
-8	K550-008-01	K550-008-02	1.245	31.62	2.81	71.4	1.38	34.9	2.88	73.0	1.63	41.3	0.34	0.15
-10	K550-010-01	K550-010-02	1.370	34.80	3.32	84.3	1.50	38.1	3.38	85.7	1.63	41.3	0.48	0.22
-12	K550-012-01	K550-012-02	1.370	34.80	3.32	84.3	1.50	38.1	3.38	85.7	1.63	41.3	0.48	0.22
-15	K550-015-01	K550-015-02	1.370	34.80	3.32	84.3	1.50	38.1	3.38	85.7	1.63	41.3	0.48	0.22
-17	K550-017-01	K550-017-02	1.870	47.50	4.59	116.6	2.00	50.8	4.50	114.3	2.25	57.2	1.12	0.51
-22	K550-022-01	K550-022-02	1.870	47.50	4.59	116.6	2.00	50.8	4.50	114.3	2.25	57.2	1.12	0.51
-30	K550-030-01	K550-030-02	2.183	55.45	5.12	130.0	2.38	60.5	5.13	130.2	2.50	63.5	1.77	0.80
-40	K550-040-01	K550-040-02	2.495	63.27	5.73	145.5	2.73	69.3	5.75	146.1	3.00	76.2	2.74	1.24
-48	K550-048-01	K550-048-02	2.995	76.07	6.37	161.8	3.28	83.3	6.38	161.9	3.50	88.9	4.00	1.81
-60	K550-060-01	K550-060-02	3.120	79.25	7.22	183.4	3.41	86.6	7.24	183.9	3.75	95.3	5.13	2.33
-76	K550-076-01	K550-076-02	3.620	91.95	8.40	213.4	4.00	101.6	8.40	213.4	4.50	114.3	7.85	3.56
-91	K550-091-01	K550-091-02	4.120	104.85	9.00	228.6	4.50	114.3	9.00	228.6	5.00	127.0	11.0	4.99
-115	K550-115-01	K550-115-02	4.745	120.52	10.20	259.1	5.18	131.6	10.20	259.1	6.00	152.4	15.1	6.85
-150	K550-150-01	K550-150-02	5.120	130.05	11.95	303.8	5.59	142.0	12.00	304.8	7.00	177.8	20.9	9.48
-170	K550-170-01	K550-170-02	5.745	145.92	12.74	323.6	6.27	159.3	12.74	323.6	7.50	190.5	27.5	12.5

ONE ASSEMBLY INCLUDES 1 CAP, 1 CUP WASHER & 1 BACKING PLATE.
 "02" VERSION ALLOY BACKING PLATES SUPPLIED UNHARDENED & W/O MOUNTING HOLES.

K550/C651 Tip Turnbuckle Combinations

Based on the K550 design system, works with cup washers to incorporate Tip Turnbuckles commonly used in jumper application with a C651 Tip Turnbuckle.

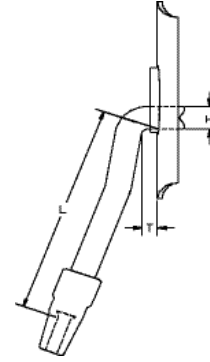
K550 Tang / C651 Tip Turnbuckle Combinations

ROD SIZE	PART NUMBER	TIP TBK PART NO.	CUP WASHER PART NO.	A		B		C	
				in	mm	in	mm	in	mm
-4	K550-008S08	C651-004-08B	K551-02-008S08	1.245	31.62	2.81	71.4	1.38	34.9
-6	K550-008S10	C651-006-10B	K151-02-0082	1.245	31.62	2.81	71.4	1.38	34.9
-8	K550-008S10	C651-008-10B	K151-02-0082	1.245	31.62	2.81	71.4	1.38	34.9
-10	K550-012S12	C651-010-12B	K151-02-0121	1.370	34.80	3.32	84.3	1.50	38.1
-12	K550-012S14	C651-012-14B	K151-02-012S14	1.370	34.80	3.32	84.3	1.50	38.1
-15	K550-022S16	C651-015-16B	K551-02-022S16	1.870	47.50	1.63	41.3	1.19	30.1
-17	K550-022S16	C651-017-16B	K551-02-022S16	1.870	47.50	1.63	41.3	1.19	30.1
-22	K550-030S20	C651-022-20B	K151-02-030S20	2.183	55.45	5.12	130.0	2.38	60.5
-30	K550-030S20	C651-030-20B	K151-02-030S20	2.183	55.45	5.12	130.0	2.38	60.5
-40	K550-048S24	C651-402428B	K401-02-482	2.995	76.07	6.37	161.8	3.28	83.3
-48	K550-048S24	C651-482428B	K401-02-482	2.995	76.07	6.37	161.8	3.28	83.3
-60	K550-060S28	C651-602832B	K151-02-060S28	3.120	79.25	7.22	183.4	3.41	86.6

ONE ASSEMBLY INCLUDES 1 CAP, 1 CUP WASHER & 1 BACKING PLATE.

N074 Rod T

After extensive research and testing, Navtec has developed a T fitting to be used in rod applications up to -22. With highly detailed construction techniques these T's are stronger than our wire T fittings. Made from high-quality 316 Stainless and Nitronic 50, these T's have a longer fatigue life than any other T on the market today.



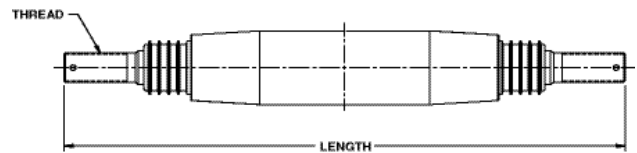
Rod T									
ROD SIZE	PART NUMBER	H		T*		L**		BACKING PLATE	RETAINING PLUG
		in	mm	in	mm	in	mm		
-4	N074-04	0.44	11.1	0.16	4.1	3.9	99	N740-M05	N742-M05
-6	N074-06	0.56	14.3	0.23	5.8	4.6	118	N740-M07	N742-M07
-8	N074-08	0.56	14.3	0.23	5.8	4.7	118	N740-M07	N742-M07
-10	N074-10	0.56	14.3	0.23	5.8	4.7	119	N740-M07	N742-M07
-12	N074-12	0.70	17.8	0.22	5.6	6.2	157	N740-M10	N742-M10
-15	N074-15	0.70	17.8	0.22	5.6	6.2	158	N740-M10	N742-M10
-17	N074-17	0.70	17.8	0.22	5.6	6.3	161	N740-M10	N742-M10
-22	N074-22	0.70	17.8	0.45	11.4	7.1	180	N740-M10	N742-M10

* T dimension above is for 15-degree shroud angle. Allowable mast thickness increases and decreases with shroud angle.
 ** Length measured from rod seat to bearing surface.
 Rod T-terminals are designed for shroud angles of 10 to 20 degrees.
 Terminals for use with thicker mast walls are available on a custom basis.

ROD RIGGING INSULATORS

P100 Rigging Insulator

Designed for higher loading from rod rigging, the Navtec insulator delivers superior insulating and short-prevention characteristics in even the harshest conditions. Allows for better antenna tuning and radio performance. Clearly the industry standard.



Insulator Dimensions & End Fitting Part Numbers									
ROD SIZE	INS. BODY PART NO.	THREAD SIZE	LENGTH		WEIGHT		ROD CAP PART NO.	EYE PART NO.	JAW PART NO.
			in	mm	lbs	kg			
-6	P100-10A	1/2-20	11.3	286	1.13	0.51	P101-08-006A	G700-010J01	H120-161414
-8	P100-10A	1/2-20	11.3	286	1.13	0.51	P101-08-008A	G700-010J01	H120-161616
-10	P100-10A	1/2-20	11.3	286	1.13	0.51	P101-08-010A	G700-010J01	H120-161616
-12	P100-17A	5/8-18	13.0	331	2.88	1.31	P101-08-012A	G700-017J01	H120-202020
-15	P100-17A	5/8-18	13.0	331	2.88	1.31	P101-08-015A	G700-017J01	H120-202020
-17	P100-17A	5/8-18	13.0	331	2.88	1.31	P101-08-017A	G700-017J01	H120-202020
-22	P100-22A	3/4-16	14.4	367	3.81	1.73	P101-08-022A	G700-022J01	H120-242424
-30	P100-30A	7/8-14	15.8	401	5.50	2.49	P101-08-030A	G700-030J01	H120-282828
-40	P100-40A	1-12	17.6	447	7.38	3.35	P101-08-040A	G700-040J01	H120-323232
-48	P100-48A	1-12	19.3	490	10.8	4.90	P101-08-048A	G700-048J01	H120-323636
-60	P100-60A	1 1/4-12	22.4	569	16.0	7.26	P101-08-060A	G700-060-01	H120-404040
-76	P100-76A	1 3/8-12	24.1	612	19.0	8.62	P101-08-076L	G700-075	H120-444040
-91	P100-91A	1 1/2-12	26.8	681	28.0	12.7	P101-08-091L	G700-090	H120-484444
-115	P100-115A	1 3/4-12	27.3	693	38.0	17.2	P101-08-115L	G700-115	H120-565050

RESISTANCE: 100 M- Mega Ohms
 CAPACITANCE: 60 pF
 ELECTRICAL BREAKDOWN: 8000V WET OR DRY (DOUSED W/SALT WATER & DRAINED FOR APPROX. 1 SECOND).

Rod Rigging

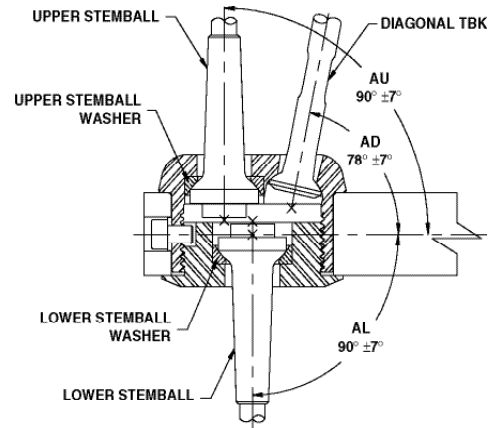
SPREADER TIP CUPS



Navtec Spreader Tip Cups are engineered for weight reduction and enduring strength. The range of product sizes and designs provides a solution for sailboats of most any length.

L400 Tip Cup

Economical and flexible, the L400-001 is ideal for smaller boats in the 30-foot LOA range. Two-piece modular design will accept most rod combinations up to -15 rod. Makes discontinuous rigging affordable for 24- to 36-foot boats.



Rod Rigging

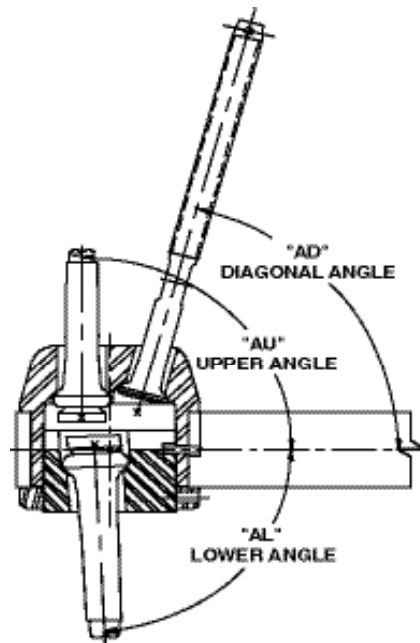
Tip Cup Combinations & Washer Part Numbers

LOWER ROD SIZE	LOWER STEMBALL PART NO.	LOWER WASHER PART NO.	UPPER ROD SIZE	UPPER STEMBALL PART NO.	UPPER WASHER PART NO.	DIAGONAL ROD SIZE	DIAGONAL TBK PART NO.
-4	F220-004	L401-03-041	-4	F220-004	L401-03-041	-4	C881-004-10B
			-6	F220-006	L401-03-061	-4	C881-004-10B
			-6	F220-006	L401-03-061	-6	C881-006-10B
			-8	F220-008	L401-03-101	-4	C881-004-10B
			-6	F220-006	L401-03-061	-4	C881-004-10B
			-6	F220-006	L401-03-061	-6	C881-006-10B
			-8	F220-008	L401-03-101	-6	C881-006-10B
			-8	F220-008	L401-03-101	-8	C881-008-10B
			-10	F220-010	L401-03-101	-4	C881-004-10B
			-6	F220-006	L401-03-061	-4	C881-004-10B
			-6	F220-006	L401-03-061	-6	C881-006-10B
			-8	F220-008	L401-03-101	-4	C881-004-10B
			-8	F220-008	L401-03-101	-6	C881-006-10B
			-10	F220-010	L401-03-101	-4	C881-004-10B
			-10	F220-010	L401-03-101	-6	C881-006-10B
			-10	F220-010	L401-03-101	-8	C881-008-10B
			-12	F225-012	L401-03-122	-4	C881-004-10B
			-6	F220-006	L401-03-061	-6	C881-006-10B
			-6	F220-006	L401-03-101	-4	C881-004-10B
			-8	F220-008	L401-03-101	-6	C881-006-10B
			-8	F220-008	L401-03-101	-8	C881-008-10B
			-10	F220-010	L401-03-101	-4	C881-004-10B
			-10	F220-010	L401-03-101	-6	C881-006-10B
			-10	F220-010	L401-03-101	-8	C881-008-10B
			-12	F225-012	L401-03-122	-4	C881-004-10B
			-12	F225-012	L401-03-122	-6	C881-006-10B
			-12	F225-012	L401-03-122	-8	C881-008-10B
			-15	F225-012-02	L401-03-122	-4	C881-004-10B
			-6	F220-006	L401-03-101	-6	C881-006-10B
			-8	F220-008	L401-03-101	-6	C881-006-10B
			-10	F220-010	L401-03-101	-4	C881-004-10B
			-10	F220-010	L401-03-101	-6	C881-006-10B
			-10	F220-010	L401-03-101	-8	C881-008-10B
			-12	F225-012	L401-03-122	-4	C881-004-10B
			-12	F225-012	L401-03-122	-6	C881-006-10B
			-12	F225-012	L401-03-122	-8	C881-008-10B

ONE L400-001 TIP CUP ASSEMBLY INCLUDES TIP CUP PLUG, BODY & LOCKING SCREW (NO WASHERS). F220 STEMBALLS, F225 STEMBALLS & L401-03 WASHERS ARE SOLD SEPARATELY.

L500 Tip Cups

The standard in the Navtec line of spreader end tip cups. Incorporates Navtec Micro Stemballs for superior fatigue resistance. Fits completely inside the spreader to reduce sail chafe. Three-piece design makes for ease of installation.



Tip Cup Angle Combinations & Part Numbers

TIPCUP PART NO.	LOWER SHROUD ANGLE AL	UPPER SHROUD ANGLE AU	DIAGONAL SHROUD ANGLE AD
L500-XXYYZZ01	87° ± 3°	90° ± 3°	75° ± 3°
L500-XXYYZZ02	87° ± 3°	90° ± 3°	80° ± 3°
L500-XXYYZZ03	87° ± 3°	90° ± 3°	70° ± 3°
L500-XXYYZZ04	90° ± 3°	90° ± 3°	75° ± 3°
L500-XXYYZZ05	90° ± 3°	90° ± 3°	80° ± 3°
L500-XXYYZZ06	90° ± 3°	90° ± 3°	70° ± 3°
L500-XXYYZZ07	84° ± 3°	90° ± 3°	75° ± 3°
L500-XXYYZZ08	84° ± 3°	90° ± 3°	80° ± 3°
L500-XXYYZZ09	84° ± 3°	90° ± 3°	70° ± 3°
L500-XXYYZZ10	OUT OF RANGE	OUT OF RANGE	OUT OF RANGE
L500-XXYYZZ11	OF STANDARD	OF STANDARD	OF STANDARD
-----	ANGLES FROM	ANGLES FROM	ANGLES FROM
L500-XXYYZZ99	81° - 93°	87° - 93°	67° - 83°

"XX" REPRESENTS THE LOWER VERTICAL ROD DASH SIZE (22,30,40,48,60,76, ETC.)

"YY" REPRESENTS THE UPPER VERTICAL ROD DASH SIZE (22,30,40,48,60,76, ETC.)

"ZZ" REPRESENTS THE DIAGONAL TIP TURNBUCKLE SIZE (10,12,14,16,20,24, ETC.)

L834 Micro Tip Cup

Made from ultra high-strength Stainless Steel to reduce size and weight. Chosen by high-performance cruisers and top Grand Prix racers from the Maxi level down.



TURNBUCKLES FOR ROD RIGGING



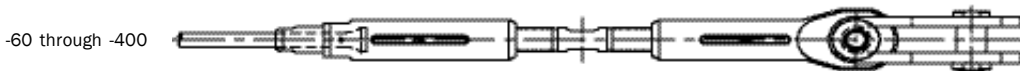
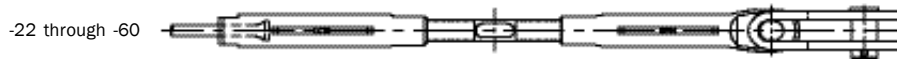
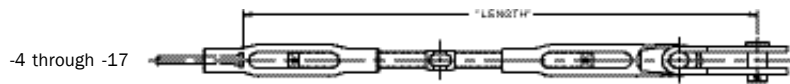
These turnbuckles are a critical part of Navtec's approach to rod rigging systems. They are designed to complement Navtec rod design and are made from 316 Stainless Steel for strength and corrosion resistance. Like all Navtec rod rigging system components, our terminals are polished to a gleaming finish to complete the Navtec look.

C550 (-17 & Smaller)

The industry standard. Fully machined body. Center screw design allows for ease of adjustment under load. Nickel-plated bronze screw prevents galling.



C550 (-22 & Larger)



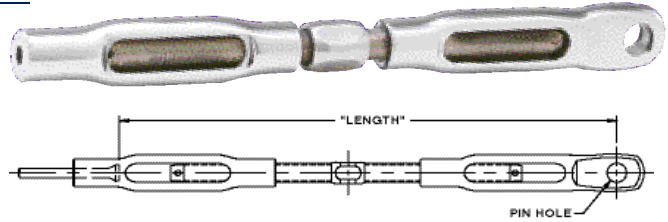
Toggle Turnbuckle Dimensions & Part Numbers

ROD SIZE	PART NUMBER	PIN SIZE		TURNBUCKLE STRENGTH		LENGTH OPEN		LENGTH CLOSED		WEIGHT	
		in	mm	lbs	kg	in	mm	in	mm	lbs	kg
-4	C550-041012	0.371	9.42	5,500	2,490	12.95	314	8.53	217	0.47	0.21
-6	C550-061214	0.433	11.00	8,300	3,760	13.92	351	9.66	245	0.70	0.32
-8	C550-081416	0.495	12.57	11,200	5,080	16.13	384	10.43	265	1.25	0.57
-10	C550-101616	0.495	12.57	15,200	6,900	17.33	440	12.25	311	1.66	0.75
-12	C550-121620	0.620	15.75	15,200	6,900	18.62	473	13.54	344	1.72	0.78
-15	C550-152020	0.620	15.75	24,000	10,800	20.15	512	14.09	358	3.19	1.45
-17	C550-172820	0.620	15.75	24,000	10,800	20.15	512	14.09	358	3.19	1.45
-22	C550-222424	0.745	18.92	31,300	14,200	23.95	606	17.37	441	5.51	2.50
-30	C550-302828	0.870	22.10	43,000	19,500	26.38	685	19.77	502	8.50	3.85
-40	C550-403232	0.995	25.27	56,000	25,400	29.26	743	21.55	550	11.5	5.22
-48	C550-483636	1.120	28.45	69,400	31,000	30.47	774	22.95	580	14.7	6.66
-60	C550-604040	1.245	31.62	90,000	40,800	32.90	833	24.99	634	22.9	10.4
-76	C550-763640L	1.245	31.62	116,000	52,600	32.59	828	24.59	625	23.5	10.7
-91	C550-914044L	1.370	34.80	145,000	65,800	34.05	865	25.05	662	29.7	13.5
-115	C550-A24450L	1.558	39.57	177,000	80,300	36.58	929	28.58	726	37.7	17.1
-150	C550-A55256L	1.745	44.32	253,000	114,000	40.15	1,020	31.15	791	60.6	27.5
-170	C550-A75660L	1.870	47.50	295,000	133,000	42.56	1,081	32.56	827	72.9	33.1
-195	C550-A96068L	2.120	53.85	341,000	154,000	45.00	1,143	35.00	889	89.7	40.2
-220	C550-B26472L	2.245	57.02	390,000	177,000	48.51	1,232	37.51	953	122	55.3
-260	C550-B67678L	2.433	61.80	483,000	210,000	49.60	1,260	37.60	955	163	73.9
-320	C550-C28080L	2.495	63.37	528,000	239,000	54.40	1,382	42.40	1,077	202	91.6
-400	C550-D08488L	2.745	69.72	660,000	299,000	55.25	1,403	43.25	1,099	241	109

FOR DETAILS ON TOGGLE GEOMETRY, REFER TO TABLE H200 ON PAGE 33.

C560 Marine Eye Turnbuckle

Marine eye version of the C550 turnbuckle. Can be used with an upset J100 toggle on female chainplates for articulation.



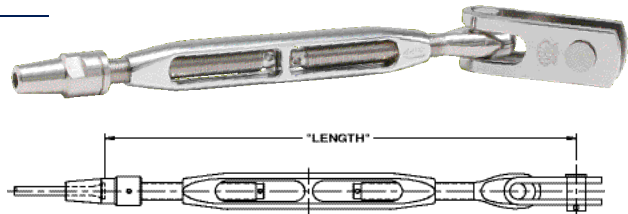
Marine Eye Turnbuckle Dimensions & Part Numbers

ROD SIZE	PART NUMBER	PIN HOLE		TURNBUCKLE STRENGTH		LENGTH OPEN		LENGTH CLOSED		WEIGHT	
		in	mm	lbs	kg	in	mm	in	mm	lbs	kg
-4	C560-041010	0.318	8.08	5,500	2,490	10.3	261	6.80	173	0.35	0.16
-6	C560-061212	0.380	9.65	8,300	3,760	11.4	290	7.24	184	0.52	0.24
-8	C560-081414	0.445	11.30	11,200	5,080	12.6	319	7.86	200	0.85	0.39
-10	C560-101616	0.505	12.83	15,200	6,900	14.3	362	9.17	233	1.19	0.54
-12	C560-121616	0.505	12.83	15,200	6,900	14.3	362	9.17	233	1.19	0.54
-15	C560-152020	0.630	16.00	24,000	10,800	16.7	425	10.7	271	2.48	1.12
-17	C560-172020	0.630	16.00	24,000	10,800	16.7	425	10.7	271	2.48	1.12
-22	C560-222424	0.760	19.30	31,300	14,200	19.4	493	12.9	328	3.90	1.77
-30	C560-302828	0.885	22.48	43,000	19,500	21.7	551	14.5	368	5.95	2.70
-40	C560-403232	1.010	25.65	56,000	25,400	23.2	590	15.6	396	7.70	3.49
-48	C560-483636	1.130	28.70	68,400	31,000	24.0	610	16.4	416	9.71	4.40
-60	C560-604040	1.265	32.13	90,000	40,800	24.6	624	16.8	425	15.0	6.82
-76	C560-763638L	1.188	30.18	116,000	52,600	27.6	701	19.6	497	16.8	7.63
-91	C560-914044L	1.380	35.05	145,000	65,800	28.5	723	20.5	519	20.9	9.48
-115	C560-A24450L	1.568	39.83	177,000	80,300	30.4	772	22.4	569	30.3	13.7

FOR DETAILS ON EYE GEOMETRY, REFER TO TABLE G100 ON PAGE 32.

N690 Norseman Rod Turnbuckle

Combines classic Norseman open-body design with the look of a swageless terminal to produce the most economical way to rig a boat with rod.



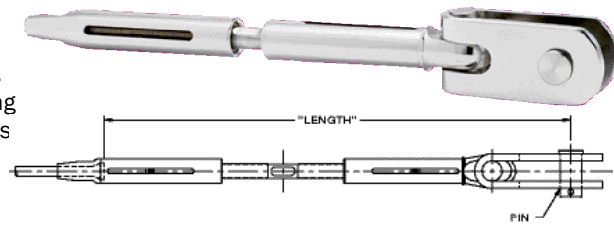
Norseman Rod Turnbuckle Dimensions & Part Numbers

ROD SIZE	PART NUMBER	PIN SIZE		TURNBUCKLE STRENGTH		LENGTH OPEN		LENGTH CLOSED		WEIGHT	
		in	mm	lbs	kg	in	mm	in	mm	lbs	kg
-4	N690-041212	0.373	9.47	8,200	3,720	11.5	292	8.0	203	0.59	0.27
-6	N690-061414	0.433	11.00	10,900	4,940	13.0	330	9.0	229	0.87	0.39
-8	N690-081414	0.433	11.00	10,900	4,940	13.0	330	9.0	229	0.87	0.39
-8	N690-081616	0.495	12.57	14,600	6,620	15.0	381	11.0	279	1.57	0.71
-10	N690-101616	0.495	12.57	14,600	6,620	15.0	381	11.0	279	1.57	0.71
-12	N690-121616	0.495	12.57	14,600	6,620	15.0	381	11.0	279	1.57	0.71
-12	N690-122020	0.620	15.75	23,500	10,600	18.0	457	13.0	330	2.80	1.27
-15	N690-152020	0.620	15.75	23,500	10,600	18.0	457	13.0	330	2.80	1.27
-17	N690-172020	0.620	15.75	23,500	10,600	18.0	457	13.0	330	2.80	1.27
-22	N690-222424	0.745	18.92	36,500	16,500	20.5	521	15.0	381	4.90	2.22
-30	N690-302828	0.870	22.10	44,600	20,200	25.4	645	18.2	462	8.55	3.88
-40	N690-403232	0.995	25.27	59,200	26,800	29.1	739	20.1	511	12.8	5.82

FOR DETAILS ON TOGGLE GEOMETRY, REFER TO TABLE N673 ON PAGE 18.

C800 Calibrated Turnbuckle

Navtec's performance range. Calibrated for accurate tuning. High-strength materials ensure lightweight without sacrificing performance. Nitronic 50 screw with bronze bushings allows adjustment under load. Available in marine eye, barrel pin, and toggle versions.



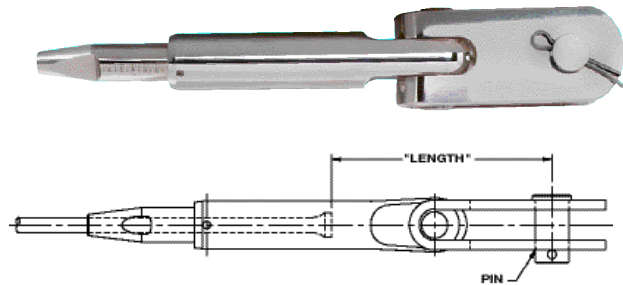
Toggle Turnbuckle Dimensions & Part Numbers

ROD SIZE	PART NUMBER	PIN SIZE		TURNBUCKLE STRENGTH		LENGTH OPEN		LENGTH CLOSED		WEIGHT	
		in	mm	lbs	kg	in	mm	in	mm	lbs	kg
-8	C800-081014	0.433	11.00	11,200	5,080	13.5	343	9.59	244	0.81	0.37
-10	C800-101216	0.495	12.57	15,200	6,900	13.9	354	9.82	249	1.14	0.52
-12	C800-121420	0.620	15.75	20,700	9,390	14.5	368	10.8	274	1.49	0.68
-15	C800-151620	0.620	15.75	24,000	10,800	14.9	378	10.9	277	1.92	0.87
-17	C800-171620	0.620	15.75	24,000	10,800	14.9	378	10.9	277	1.92	0.87
-22	C800-222024	0.745	18.92	31,300	14,200	19.7	500	13.8	351	3.70	1.68
-30	C800-302028	0.870	22.10	43,000	19,500	20.6	523	14.5	368	4.84	2.20
-40	C800-402432	0.995	25.27	56,000	25,400	24.9	632	17.4	442	7.78	3.53
-48	C800-482436	1.120	28.45	68,400	31,000	25.4	645	17.9	455	10.1	4.56
-60	C800-602840	1.245	31.62	90,000	40,800	27.1	688	19.1	485	16.3	7.39
-76	C800-763240L	1.245	31.62	116,000	52,600	28.8	732	20.8	528	17.5	7.94
-91	C800-914044L	1.370	34.80	145,000	65,800	34.2	869	26.2	665	24.4	11.0
-115	C800-A24450L	1.558	39.57	177,000	80,300	36.3	921	28.3	718	36.5	16.6

FOR DETAILS ON TOGGLE GEOMETRY, REFER TO TABLE H200 ON PAGE 33.

C890 Toggle Turnbuckle

Originally part of Navtec's Grand Prix range, these turnbuckles are becoming more popular in every boat range. High-strength, lightweight materials ensure performance without a weight penalty. Closed-body design means no cover is needed to protect today's costly sheets and lines. Calibrated for accurate tuning. Available in marine eye, barrel pin, and toggle versions.



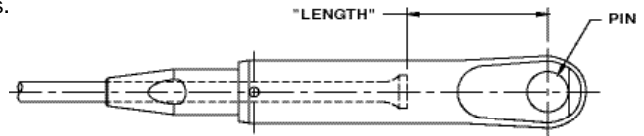
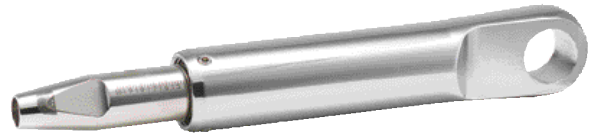
Toggle Turnbuckle Dimensions & Part Numbers

ROD SIZE	PART NUMBER	PIN SIZE		TERMINAL STRENGTH		LENGTH OPEN		LENGTH CLOSED		WEIGHT	
		in	mm	lbs	kg	in	mm	in	mm	lbs	kg
-8	C890-082014	0.433	11.00	19,200	8,710	5.18	131	3.15	80	0.95	0.43
-10	C890-102416	0.495	12.57	26,000	11,800	5.97	152	3.98	101	1.25	0.57
-12	C890-122416	0.495	12.57	26,000	11,800	5.93	151	3.94	100	1.25	0.57
-15	C890-152420	0.620	15.75	32,700	14,800	6.14	156	4.14	105	1.61	0.73
-17	C890-172820	0.620	15.75	32,700	14,800	6.22	158	4.22	107	1.61	0.73
-22	C890-223224	0.745	18.92	48,100	21,800	6.96	177	4.96	126	3.12	1.41
-30	C890-303628	0.870	22.10	55,100	25,000	7.61	193	5.61	142	4.64	2.10
-40	C890-404032	0.995	25.27	76,700	34,800	8.99	228	6.49	165	6.94	3.15
-48	C890-484436	1.120	28.45	83,900	38,000	9.55	243	7.05	179	9.25	4.20
-60	C890-605640	1.245	31.62	131,600	59,700	12.7	324	8.69	221	18.5	8.39
-76	C890-765640L	1.245	31.62	158,600	72,000	12.8	324	8.71	221	18.5	8.39
-91	C890-916444L	1.370	34.80	195,800	88,800	17.1	435	9.21	234	30.8	14.0
-115	C890-A26850L	1.558	39.57	248,500	112,000	18.3	465	10.1	257	46.3	21.0
-150	C890-A58056AL	1.745	44.32	297,000	134,000	19.4	491	11.8	300	68.7	31.1
-170	C890-A78460L	1.870	47.50	397,000	180,000	20.4	518	12.1	307	84.5	38.3
-195	C890-A98868L	2.120	53.85	397,000	180,000	21.0	533	12.0	305	95.4	43.3
-220	C890-B29672L	2.245	57.02	474,000	215,000	22.1	561	13.6	345	113	51.2
-260	C890-B6A0478L	2.433	61.80	615,000	279,000	22.6	574	13.7	347	144	65.3
-320	C890-C2A1280L	2.495	63.37	724,000	328,000	26.9	683	16.9	429	195	88.4
-400	C890-D0A4088L	2.745	69.72	900,000	408,000	30.0	761	18.0	456	290	132

FOR DETAILS ON TOGGLE GEOMETRY, REFER TO TABLE H200 ON PAGE 33.

C890 Barrel Pin Turnbuckle

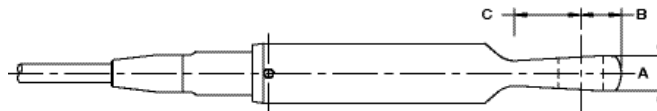
Featuring adjustable barrel pin terminals, this is the ultimate lightweight turnbuckle, and is used on top Grand Prix, One-Designs, Maxi's, and high-performance cruisers. Crafted from Nitronic 50 Stainless and calibrated for accurate tuning.



Barrel Pin Turnbuckle Dimensions & Part Numbers

ROD SIZE	PART NUMBER	PIN SIZE		TERMINAL STRENGTH		LENGTH OPEN		LENGTH CLOSED		WEIGHT	
		in	mm	lbs	kg	in	mm	in	mm	lbs	kg
-8	C890-BP08001	0.423	10.74	19,200	8,710	3.50	89	1.47	37	0.63	0.29
-10	C890-BP10001	0.485	12.32	26,000	11,800	3.92	100	1.93	49	0.73	0.33
-12	C890-BP12001	0.485	12.32	26,000	11,800	3.88	99	1.89	48	0.73	0.33
-15	C890-BP15001	0.610	15.49	32,700	14,800	3.86	98	1.86	47	0.79	0.36
-17	C890-BP17001	0.610	15.49	32,700	14,800	3.94	100	1.94	49	0.79	0.36
-22	C890-BP22001	0.735	18.67	48,100	21,800	4.33	110	2.33	59	1.49	0.68
-30	C890-BP30001	0.860	21.84	55,100	25,000	4.41	112	2.41	61	2.00	0.91
-40	C890-BP40001	0.985	25.02	76,700	34,800	5.36	136	2.86	73	2.90	1.32
-48	C890-BP48001	1.110	28.19	83,900	38,000	5.55	141	3.05	77	3.90	1.77
-60	C890-BP60001	1.235	31.37	131,600	59,700	7.74	197	3.69	94	10.4	4.72
-76	C890-BP76002L	1.423	36.14	158,600	72,000	7.70	196	3.64	92	13.0	5.90
-91	C890-BP91002L	1.610	40.89	195,800	88,800	11.5	293	3.61	92	27.0	12.2
-115	C890-BPA2002L	1.730	43.94	248,500	112,000	12.1	308	3.92	100	34.0	15.4
-150	C890-BPA5002L	1.985	50.42	297,000	134,000	12.9	328	4.73	120	47.0	21.3
-170	C890-BPA7002L	2.110	53.59	397,000	180,000	13.4	340	5.07	129	61.0	27.7
-195	C890-BPA9002L	2.235	56.77	397,000	180,000	13.9	353	5.19	132	67.0	30.4
-220	C890-BPB2002L	2.360	59.94	474,000	215,000	14.0	356	5.38	137	80.0	36.3
-260	C890-BPB6002L	2.610	66.29	615,000	279,000	15.1	383	6.15	156	103	46.7
-320	C890-BPC2002L	2.860	72.64	724,000	328,000	16.9	430	6.80	173	137	62.1
-400	C890-BPD0002L	3.235	82.17	900,000	408,000	20.0	510	7.95	202	215	97.5

BARREL PIN TAPERS ALLOW $\pm 4^\circ$ ARTICULATION. LARGER ANGLES ARE AVAILABLE UPON REQUEST.
 *02" VERSIONS FOR -76 AND LARGER INCORPORATE NEW, LARGER PIN SIZES.



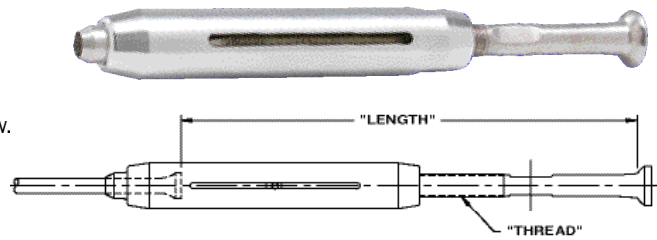
Barrel Pin Turnbuckle Eye Dimensions

ROD SIZE	PART NUMBER	PIN SIZE		A		B		C	
		in	mm	in	mm	in	mm	in	mm
-8	C890-BP08001	0.423	10.74	0.408	10.36	0.443	11.25	0.651	16.54
-10	C890-BP10001	0.485	12.32	0.470	11.94	0.500	12.70	0.765	19.43
-12	C890-BP12001	0.485	12.32	0.470	11.94	0.500	12.70	0.765	19.43
-15	C890-BP15001	0.610	15.49	0.595	15.11	0.605	15.37	0.937	23.80
-17	C890-BP17001	0.610	15.49	0.595	15.11	0.605	15.37	0.937	23.80
-22	C890-BP22001	0.735	18.67	0.720	18.29	0.688	17.48	1.125	28.58
-30	C890-BP30001	0.860	21.84	0.845	21.46	0.870	22.10	1.313	33.35
-40	C890-BP40001	0.985	25.02	0.968	24.59	1.025	26.04	1.500	38.10
-48	C890-BP48001	1.110	28.19	1.095	27.81	1.030	26.16	1.640	41.66
-60	C890-BP60001	1.235	31.37	1.220	30.99	1.155	29.34	1.950	49.53
-76	C890-BP76002L	1.423	36.14	1.408	35.76	1.395	35.43	2.025	51.44
-91	C890-BP91002L	1.610	40.89	1.595	40.51	1.915	48.64	2.165	54.99
-115	C890-BPA2002L	1.730	43.94	1.720	43.69	2.210	56.13	2.455	62.36
-150	C890-BPA5002L	1.985	50.42	1.970	50.04	2.405	61.09	3.010	76.45
-170	C890-BPA7002L	2.110	53.59	2.095	53.21	2.800	71.12	3.040	77.22
-195	C890-BPA9002L	2.235	56.77	2.220	56.39	2.800	71.12	3.190	81.03
-220	C890-BPB2002L	2.360	59.94	2.345	59.56	3.100	78.74	3.440	87.38
-260	C890-BPB6002L	2.610	66.29	2.595	65.91	3.515	89.28	3.970	100.84
-320	C890-BPC2002L	2.860	72.64	2.845	70.00	3.750	100.00	4.300	110.00
-400	C890-BPD0002L	3.235	82.17	3.220	80.00	4.340	110.00	4.900	120.00

*02" VERSIONS FOR -76 AND LARGER INCORPORATE NEW, LARGER PIN SIZES.

C651 Tip Turnbuckle

Series 500 tip turnbuckle. Chrome-plated bronze body and high-strength Nitronic 50 ball-head screw. Stainless Steel nose.

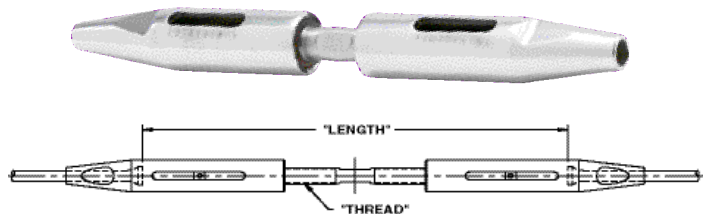


Tip Turnbuckle Dimensions & Part Numbers

ROD SIZE	PART NUMBER	PORT SIZE	THREAD SIZE	TURNBUCKLE STRENGTH		LENGTH OPEN		LENGTH CLOSED		WEIGHT	
				lbs	kg	in	mm	in	mm	lbs	kg
-4	C651-004-08B	D341-08	1/4-28	7,600	3,450	6.3	161	4.3	110	0.18	0.08
-4	C651-004L08B	D341-08	1/4-28	7,600	3,450	9.1	232	7.1	181	0.21	0.10
-4	C651-004-10B	D341-10	5/16-24	10,500	4,760	6.8	173	4.6	117	0.38	0.17
-4	C651-004L10B	D341-10	5/16-24	10,500	4,760	9.8	249	7.6	193	0.43	0.20
-6	C651-006-10B	D341-10	5/16-24	10,500	4,760	6.8	173	4.6	117	0.38	0.17
-6	C651-006L10B	D341-10	5/16-24	10,500	4,760	9.8	249	7.6	193	0.43	0.20
-8	C651-008-10B	D341-10	5/16-24	10,500	4,760	6.8	173	4.6	117	0.38	0.17
-8	C651-008L10B	D341-10	5/16-24	10,500	4,760	9.8	249	7.6	193	0.43	0.20
-10	C651-010-12B	D341-12	3/8-24	15,200	6,900	8.6	217	6.1	154	0.56	0.25
-10	C651-010L12B	D341-12	3/8-24	15,200	6,900	12.3	312	9.8	249	0.66	0.30
-12	C651-012-14B	D341-14	7/16-20	18,500	8,390	9.6	244	6.8	173	0.84	0.38
-12	C651-012L14B	D341-14	7/16-20	18,500	8,390	14.0	355	11.2	283	1.00	0.45
-15	C651-015-16B	D341-16	1/2-20	28,600	12,900	10.2	260	7.2	184	1.25	0.57
-15	C651-015L16B	D341-16	1/2-20	28,600	12,900	14.6	371	11.6	295	1.45	0.66
-17	C651-017-16B	D341-16	1/2-20	28,600	12,900	10.2	260	7.2	184	1.25	0.57
-17	C651-017L16B	D341-16	1/2-20	28,600	12,900	14.6	371	11.6	295	1.45	0.66
-22	C651-022-20B	D341-20	5/8-18	44,100	20,000	14.1	359	10.5	267	2.04	0.93
-22	C651-022L20B	D341-20	5/8-18	44,100	20,000	17.1	435	13.5	343	2.29	1.04
-30	C651-030-20B	D341-20	5/8-18	44,100	20,000	14.2	360	10.6	269	2.69	1.22
-30	C651-030L20B	D341-20	5/8-18	44,100	20,000	17.1	435	13.5	343	2.94	1.33
-40	C651-402428B	D341-24	7/8-14	80,000	36,300	14.4	367	10.5	267	4.71	2.14
-48	C651-482428B	D341-24	7/8-14	80,000	36,300	14.4	367	10.5	267	4.71	2.14
-60	C651-602832B	D341-28	1-12	115,000	52,200	15.3	389	11.1	282	5.93	2.69
-76	C651-763236L	D341-32	1 1/8-12	150,000	68,100	20.7	525	15.3	388	10.3	4.67
-91	C651-913640L	D341-36	1 1/4-12	190,000	86,200	23.4	594	16.2	411	13.1	5.94
-115	C651-A23842L	D341-38	1 5/16-12	213,000	96,700	24.1	613	16.9	430	18.3	8.30
-150	C651-A54448L	D341-44	1 1/2-12	268,000	121,000	25.9	658	17.5	445	28.7	13.0

C882 In-Line Turnbuckle

Navtec's Nitronic 50 alternative to a long screw-tip turnbuckle in the tangs on jumpers. Center screw design allows for higher loads inherent in jumper applications. Bronze bushings ensure ease of adjustment under load. Allows for smaller tang to be used.

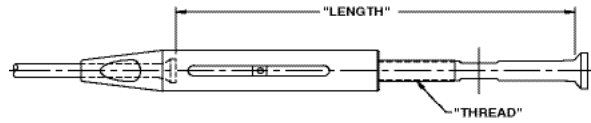
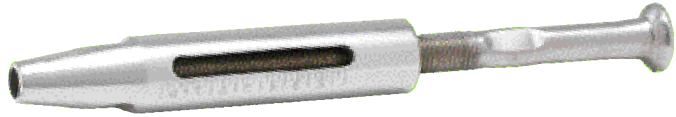


In-Line Turnbuckle Dimensions & Part Numbers

ROD SIZE	PART NUMBER	THREAD SIZE	TURNBUCKLE STRENGTH		LENGTH OPEN		LENGTH CLOSED		WEIGHT	
			lbs	kg	in	mm	in	mm	lbs	kg
-4	C882-004L08	1/4-28	7,600	3,450	9.8	250	6.4	162	0.26	0.12
-6	C882-006L10	5/16-24	10,500	4,760	10.5	266	6.7	170	0.54	0.24
-8	C882-008L10	5/16-24	10,500	4,760	10.5	266	6.7	170	0.54	0.24
-10	C882-010L12	3/8-24	15,200	6,900	11.4	290	7.4	187	0.66	0.30
-12	C882-012L14	7/16-20	18,500	8,390	11.3	287	7.5	190	0.93	0.42
-15	C882-015L16	1/2-20	28,600	12,900	11.6	295	7.5	191	1.14	0.52
-17	C882-017L16	1/2-20	28,600	12,900	11.7	296	7.6	192	1.14	0.52
-22	C882-022L20	5/8-18	44,100	20,000	15.4	390	9.5	240	1.96	0.89
-30	C882-030L20	5/8-18	44,100	20,000	15.9	404	9.8	248	2.33	1.06
-40	C882-040L24	3/4-16	76,000	34,500	19.1	484	11.6	295	3.96	1.80
-48	C882-048L24	3/4-16	76,000	34,500	19.5	495	12.0	305	4.59	2.08
-60	C882-060L28	7/8-14	115,000	52,200	20.1	511	12.1	307	8.20	3.72

C880 Tip Turnbuckle

Navtec's Nitronic 50 performance range. Calibrated for accurate tuning. High-strength material body and Nitronic 50 ball-head screw for lighter weight than the C651. Bronze bushing ensures ease of adjustment under high loads.



Tip Turnbuckle Dimensions & Part Numbers

ROD SIZE	PART NUMBER	PORT SIZE	THREAD SIZE	TURNBUCKLE STRENGTH		LENGTH OPEN		LENGTH CLOSED		WEIGHT	
				lbs	kg	in	mm	in	mm	lbs	kg
-4	C880-004-08	D341-08	1/4-28	7,600	3,450	6.0	153	4.3	110	0.15	0.07
-4	C880-004L08	D341-08	1/4-28	7,600	3,450	8.8	224	7.1	181	0.18	0.08
-6	C880-006-10	D341-10	5/16-24	10,500	4,760	6.3	161	4.4	113	0.27	0.12
-6	C880-006L10	D341-10	5/16-24	10,500	4,760	9.3	237	7.4	189	0.32	0.15
-8	C880-008-10	D341-10	5/16-24	10,500	4,760	6.3	161	4.4	113	0.27	0.12
-8	C880-008L10	D341-10	5/16-24	10,500	4,760	9.3	237	7.4	189	0.34	0.15
-10	C880-010-12	D341-12	3/8-24	15,200	6,900	8.0	203	6.0	152	0.39	0.18
-10	C880-010L12	D341-12	3/8-24	15,200	6,900	11.7	298	9.7	247	0.49	0.22
-12	C880-012-14	D341-14	7/16-20	18,500	8,390	8.5	215	6.6	168	0.54	0.24
-12	C880-012L14	D341-14	7/16-20	18,500	8,390	12.8	326	11.0	278	0.70	0.32
-15	C880-015-16	D341-16	1/2-20	28,600	12,900	9.2	234	7.2	182	0.72	0.33
-15	C880-015L16	D341-16	1/2-20	28,600	12,900	13.6	345	11.5	293	0.93	0.42
-17	C880-017-16	D341-16	1/2-20	28,600	12,900	9.2	234	7.2	182	0.72	0.33
-17	C880-017L16	D341-16	1/2-20	28,600	12,900	13.6	345	11.5	293	0.93	0.42
-22	C880-022-20	D341-20	5/8-18	44,100	20,000	13.1	334	10.2	259	1.31	0.59
-22	C880-022L20	D341-20	5/8-18	44,100	20,000	16.1	410	13.2	335	1.56	0.71
-30	C880-030-20	D341-20	5/8-18	44,100	20,000	13.3	339	10.3	260	1.56	0.71
-30	C880-030L20	D341-20	5/8-18	44,100	20,000	16.3	415	13.3	337	1.81	0.82
-40	C880-402428	D341-24	7/8-14	80,000	36,300	14.5	369	10.8	274	3.40	1.54
-48	C880-482428	D341-24	7/8-14	80,000	36,300	14.5	369	10.8	274	3.90	1.77
-60	C880-602832	D341-28	1-12	115,000	52,200	16.1	408	12.0	306	5.50	2.49
-76	C880-763236L	D341-32	1 1/8-12	150,000	68,100	19.5	495	15.5	394	6.99	3.17
-91	C880-913640L	D341-36	1 1/4-12	190,000	86,200	20.2	514	16.2	412	10.1	4.56
-115	C880-A23842L	D341-38	1 5/16-12	213,000	96,700	21.1	535	17.1	433	12.8	5.80
-150	C880-A54448L	D341-44	1 1/2-12	268,000	121,000	22.7	576	18.2	462	28.7	13.0

Rod Rigging

RIGGING ACCESSORIES



D550 Stainless Steel Turnbuckle Covers

Series 500 Covers are part number D550-CA-XXX (Specify wire or rod size)
 Series 800 Covers are part number D800-CA-XXX (Specify rod size)



Turnbuckle Cover Dimensions & Turnbuckle Part Numbers

ROD SIZE	WIRE SIZE mm	WIRE SIZE in	COVER PART NO.	NAVTEC ROD OR WIRE TURNBUCKLE PART NO.	GIBB METRIC WIRE TURNBUCKLE PART NO.	GIBB IMPERIAL WIRE TURNBUCKLE PART NO.	GIBB ROD TURNBUCKLE PART NO.	TUBE I.D.		LENGTH*	
								in	mm	in	mm
-8			D550-CA-006	C550-081416			N673-081414	1.055	26.80	21.7	550
-8			D550-CA-006	C550-081616			N690-081616	1.055	26.80	21.7	550
	5mm	7/32	D550-CA-008			N673-071414		1.055	26.80	21.7	550
			D550-CA-008		N673-M061414			1.055	26.80	21.7	550
		1/4	D550-CA-008	C500-081416			N673-081414	1.055	26.80	21.7	550
		1/4	D550-CA-008				N673-081616	1.055	26.80	21.7	550
-10			D550-CA-010	C550-101616			N690-101616	1.055	26.80	21.7	550
	7mm	9/32	D550-CA-010		N673-M071414		N673-091414	1.055	26.80	21.7	550
	7mm	9/32	D550-CA-010	C500-091616	N673-M071616		N673-091616	1.055	26.80	21.7	550
-12			D550-CA-012	C550-121620			N690-121616	1.055	26.80	23.9	606
	8mm	5/16	D550-CA-012	C500-101620	N673-M081616		N673-101616	1.055	26.80	23.9	606
-12			D550-CA-015				N690-122020	1.305	33.15	25.3	642
-15			D550-CA-015	C550-152020			N690-152020	1.305	33.15	25.3	642
-17			D550-CA-017	C550-172020			N690-172020	1.305	33.15	25.3	642
	9mm	5/16	D550-CA-017		N673-M082020		N673-102020	1.305	33.15	25.3	642
		3/8	D550-CA-017	C500-122020			N673-122020	1.305	33.15	25.3	642
-22			D550-CA-022	C550-222424				1.305	33.15	27.1	688
	10mm		D550-CA-022		N673-M102020			1.305	33.15	27.1	688
		7/16	D550-CA-0437	C500-142424				1.305	33.15	27.1	688
-22			D550-CA-022N				N690-222424	1.527	38.79	31.7	804
-30			D550-CA-030	C550-302828				1.527	38.79	31.7	804
	12mm	7/16	D550-CA-030			N673-142424		1.527	38.79	31.7	804
			D550-CA-0500		N673-M122424			1.527	38.79	31.7	804
		1/2	D550-CA-0500	C500-162828			N673-162424	1.527	38.79	31.7	804
-40			D550-CA-040	C550-403232				1.820	41.15	37.1	942
	14mm	9/16	D550-CA-040	C500-182828				1.820	41.15	37.1	942
		5/8	D550-CA-0826	C500-203232				1.820	41.15	37.1	942
-50			D550-CA-050N				N690-502828	1.902	48.31	39.8	1,010
-45			D550-CA-045	C550-483030				1.902	48.31	39.8	1,010
	14mm	9/16	D550-CA-045		N673-M142828		N673-182828	1.902	48.31	39.8	1,010
-40			D550-CA-040N				N690-403232	2.130	54.10	42.9	1,089
-50			D550-CA-050	C550-504040				2.130	54.10	42.9	1,089
	16mm	5/8	D550-CA-050		N673-M163232		N673-208232	2.130	54.10	42.9	1,089
-75			D550-CA-075	C550-763640				2.130	54.10	45.5	1,155
		3/4	D550-CA-075	C500-244040				2.130	54.10	45.5	1,155
-91			D550-CA-091	C550-914044L				2.370	60.20	47.5	1,205
	18mm	3/4	D550-CA-091		N673-M183030		N673-243030	2.370	60.20	47.5	1,205
-115			D550-CA-115	C550-124450L				2.620	66.55	52.5	1,334
	22mm	7/8	D550-CA-115		N673-M224040		N673-284040	2.620	66.55	52.5	1,334

*Length is the internal length of turnbuckle cover.

Rod Rigging