



TOOLS & OTHER ITEMS

Cable Cutters

Hammer-Type Cable Cutters

The Finest Quality. The original portable impact cutters, invented by Morse-Starrett, and designed for one purpose: to cut wire rope. Actuated by striking with a hammer, they are simple to operate, and do a superior cutting job with only a few blows. These cutters are precision engineered to deliver a cut without affecting the original roundness of the wire rope. The blades and dies are made of the best tool steel available, heat treated and ground to close tolerances. No other similar product matches M-S quality of material and workmanship.



Model 1



Model 1A & Model 2

For Cutting Wire Rope:

- Up to 3/4" - Use Model 1
- Up to 1-1/16" - Use Model 1A
- Up to 1-1/2" - Use Model 2



Warning !

Wear safety goggles, use cable bands, and read instruction sheet before using this tool.

Specifications

Model	Capacity	Height	Base	Weight
1	3/4"	6"	3-1/2"	7 lbs.
1A	1-1/16"	7"	6-1/4"	15 lbs.
2	1-1/2"	9"	7-3/4"	28 lbs.

Firm base required for operation.

Parts for Morse Starrett Impact Cutters

Model No. 1 (Light Duty)

Description	Part Number	Packed Weight
Cutter Complete	101	8lbs
Casting Base	102	4lbs.
Plunger	103	3lbs.
Die (Set)	104	4oz.
Blade (With Pin)	105	2oz.
Blade Pin Only	106	1oz.
Plunger Guide Pin	107	1oz
Guard	108	1 oz.
Warning Decals	109	

Model No. 1A (Heavy Duty)

Description	Part Number	Packed Weight
Cutter Complete	121	17 lbs.
Casting Base	122	12 lbs.
Plunger	123	4 lbs.
Die (Set)	124	7 oz.
Blade (With Pin)	125	2 oz.
Blade Pin Only	126	1 oz.
Plunger Guide Pin	127	1 oz.
Guard	128	2 oz.
Warning Decals	129	

Model No. 2 (Extra Heavy Duty)

Description	Part Number	Packed Weight
Cutter Complete	131	28 lbs.
Casting Base	132	21 lbs
Plunger	133	7 lbs.
Die (Set)	134	10 oz.
Blade (With Pin)	135	5 oz.
Blade Pin Only	136	1 oz.
Plunger Guide Pin	137	1 oz.
Guard	138	3 oz.
Warning Decals	139	



Morse Starrett guarantees to replace, free of charge, any tools or parts that do not meet its specifications in material or workmanship. Performance guaranteed.

Hydraulic Cable Cutters



Models W-075, P-1125, & C-1750

Manually Operated Hydraulic Wire Rope Cutter

The self-contained hydraulic cable cutter is a precision - engineered tool designed to give a clean cut with minimum effort. Just pump the handle... no outside power is required.

This self-contained portable tool can easily be carried and is used by contractors, rigging lofts, and elevator repairmen. The Pell Hydrashear is recommended by wire rope manufacturers and used by industries throughout the world.

The blades and die sets are made of the finest tool steel available, heat treated and ground to close tolerances. This means a long life for the blades as well as superior performance. All three models will operate underwater.

The hydraulic cutters are available in three sizes and capacities:

- Model W-075 has a 3/4" capacity
- Model P-1125 has a 1 1/8" capacity
- Model C-1750 has a 1 3/4" capacity



Models POC-1750 & POC-1125

Power Operated Hydraulic Wire Rope Cutter

The power operated cutters require an external hydraulic power source for operation. These models can be activated by any electric, gasoline, hand, battery or air operated hydraulic pump capable of developing 10,000 PSI and having free flow return through the pressure line.

The pumps are hose-connected to the Hydrashear body.

The power operated cutters are available in three sizes and cutting capacities:

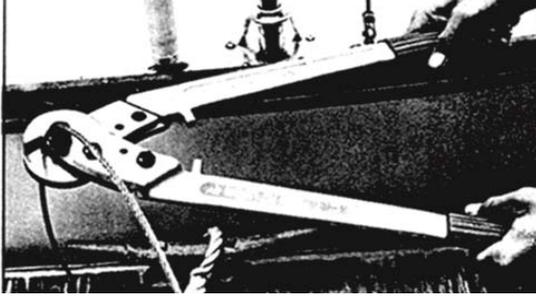
- Model POC-1125 has a 1-1/8" capacity
- Model POC-1750 has a 1-3/4" capacity
- Model POC-2500 has a 2-1/2" capacity



Model POC-2500



Manual Cable Cutters



Required under Category III Safety Regulations of the Offshore Racing Rules, Swiss-made Felco cutters are recognized around the world for their precision manufacture and cutting capabilities. Felco blades are designed with unique triangular jaws for quick, easy cable cutting without leaving a frayed edge. Lightweight enough for overhead cutting, yet strong enough for underwater work, these cutters have plastic coated handles for a firm, comfortable grip. They are an invaluable tool for any boat owner.

**All cutters are tested before leaving the factory.
Replacement parts are available from stock.**

TYPE C7 - The lightest Felco Cable Cutters available.

Capacity: 3/16" diameter and smaller.

Length: 7.5" | Weight: 9.5 oz.



C-7

TYPE CP - Indispensable for cutting steel strapping and banding.

They are also especially good for cutting string, twine, rope, tin and many other materials with ease.

The red plastic handle is fitted to the hand for comfort. A thumb catch locks the cutter when not in use.

Length: 8" | Weight: 10 oz.



CP

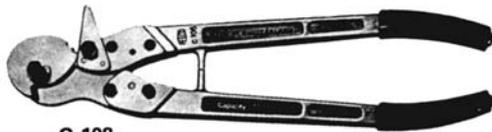
TYPE C-108 - Simple construction, all parts protected against rust and salt water. Designed as an indispensable part of boat equipment.

Especially suited for quick easy cutting of shrouds, stays, halyards, and other rigging of hi-tensile wire rope or cable up to 5/16" diameter.

Inexpensive insurance for that rare time when a mast breaks.

The C-108 will cut virtually any material including steel rods up to 5/16" diameter and tempered steel spring wires up to 1/4" diameter.

Length: 22" | Weight: 4.5 lbs.



C-108

TYPE C12

Capacity: 3/8" diameter and smaller.

Length: 19" | Weight 3 lbs.



C-12 C-16

TYPE C16

Capacity: 5/8" diameter and smaller.

Length: 23" | Weight: 5 lbs.



Corrosion Protective Coating

Fluid Film is classified as non-toxic and non-hazardous and contains less than one percent VOC content, helping to eliminate the use of ozone-depleting chemicals in the atmosphere. Fluid Film contains no solvents, phenols, heavy metals, arsenic, pcb's, pc's, tcdd's or other dioxin related substances. It is manufactured using an all natural lanolin base. Once applied Fluid Film's flash point is a high 405 F, compared to typical 125 F for solvent-based products.



While most products of its kind contain between seventy (70%) and ninety percent (90%) solvent, Fluid Film contains none, except for the propellant in its aerosol cans. This means that only ten (10%) to thirty percent (30%) of competing products are usable corrosion control material. The rest evaporates, contaminating the atmosphere and is useless to the user.

Fluid Film is composed of petroleum oils and wool wax to combat corrosion, metal wetting, and water displacement. Surface preparation is minimal. Applied in single coat and requiring no curing time. The high flash point minimizes fire hazard.



Available in liquid, aerosol, and gel formats and in spray cans, one gallon, five gallon, and full drum containers.

**Preventive Maintenance
It Is About Money**

*Proven cost savings with the only product-line used
from nuclear submarines to the Space Shuttle. Why?
One word - Quality.*

Inside Rudders

Marine
Anchor Chains
Rigging
Boat davits
Ballast Tanks
Hatch dogs
Chain lockers
Shaft Alleys
Pumps, etc.

Industrial
Hand tools
Parts in storage
Machinery
Inaccessible areas
Pipes
Tanks, etc.

Logging
Standing rigging
Running lines
Tools
Machinery, etc.



TOOLS &
OTHER
PRODUCTS



Klein Hand Tools

Bull-Pin and Bolt Bags

- Part Number 5416T Bolt bag with bull-pin loop on each side.
- Made of No. 4 Canvas with double bottom and belt loops or tunnel loop.
- Canvas 5" x 9" x 10" deep (13 x 23 x 25 cm).
- Loops fit belts up to 3" wide (76 mm).
- With tunnel loop.
- Also available in Leather.



Wide-Opening Straight-Wall Buckets

- Number 6 Canvas.
- Black molded polypropylene bottom and rope handle.
- 12" Diameter | 15" High

Catalog Number	Special Features	Weight (lbs)
5109		2.06
5109P	8" x 8" Inside Pocket	2.12
5109S	No. 2012 Swivel Snap	2.35
5109PS	8" x 8" Inside Pocket & No. 2012 Swivel Snap	2.40



Standard Side Cutters for Rebar Work

- Specially designed and sharpened for cutting soft annealed tie wire used on reinforcing rods.
- Special, heavy, knurled jaws.
- Hook bends in one handle for non-slip grip.
- Coil spring holds jaws open.



Erection Wrench Holder

- Wrench holders have tool-slots for two erection wrenches.
- Number 5459T has tunnel loop to fit belts up to 3-1/2" wide (89mm) or to slide over D-rings, buckles and other accessories.
- Nominal Size 6"x9-1/2" (15x24 cm).
- Made of Leather.



Snap Loop

- Loop with snap hook for carrying an adjustable wrench, welder's igniter or other tool with hang hole.
- Slides on belts up to 4" wide (102mm).
- Nominal Size 1-1/4"x9" (3x23 cm).
- Made of Leather.





Erection Wrenches



Catalog Number	Nut Type	Bolt Size	Nominal Opening	Length
3212	U.S. Heavy	3/4"	1-1/4"	16-5/8"
3213	U.S. Heavy	7/8"	1-7/16"	17-1/4"
3214	U.S. Heavy	1"	1-5/8"	18"

Drop-forged from select alloy steel to withstand high-leverage and heavy loads. Extra-heavy-duty head area gives maximum strength and durability. Wrench handle features an extra-deep offset to provide an additional hand-clearance without sacrificing tightening power. Continuous taper of handle make lining-up bolt holes easy, allows use on a range of bolt-hole sizes without binding. Extra-large hub area allows use on larger diameter holes than possible with most other wrenches. Available in heavy, regular and utility nut sizes. Catalog number, bolt size and nominal opening size are stamped on every wrench for easy identification. American Bridge Design.

Broad-Head Bull Pins



Catalog Number	Top Diameter	Point Diameter	Length
3255	1-1/4" (31.8 MM.)	5/16" (7.9 MM.)	13-3/4" (349 MM.)
3256	1-1/16" (27.0 MM.)	1/4 (6.4 MM.)	10" (254mm)

All dimensions are nominal.

A drop-forged, heat-treated bull pin which increases efficiency by providing a larger striking surface. Design of the head also reduces chance of pin slipping from the hand when aligning holes. Angled head and smooth blending of radii increase strength and reduce the danger of chipping. Below the head, squared-off shoulders have been forged to provide a surface for applying wrench to loosen wedged bull pins. Long, even taper reduces binding and hang-up. Klein broad-head bull pins offer added resistance to "mushrooming", permitting much longer use than is possible with conventional designs. Black finish.

Note: OSHA specifically states that, "impact tools such as drift pins, wedges, and chisels, shall be kept free of mushroomed heads."

Adjustable Wrench - Extra Capacity Design



Jaws open 3/16" (4mm) wider than standard wrenches, length for length. Extra capacity allows use of a smaller size wrench to handle bigger jobs. Ideal for use in confined spaces. Same rugged construction as standard design. Chrome plated. Max Opening 1-1/2" (38mm).

Adjustable-Head Construction Wrench



Versatile wrench fits all nuts and bolts to 1-1/2" (38.1 MM.). Eliminates the need for carrying several fixed-size wrenches. Drop-forged from select alloy steel with continuous-taper handle. Industrial black finish. Max Opening 1-1/2"(38.1 mm).

Hexagonal Bars



Cat. No.	Hex. Diameter	Length
3242	3/4" (19.1 mm)	30"(762 mm)
3243	7/8"(22 mm.)	36" (914 mm)

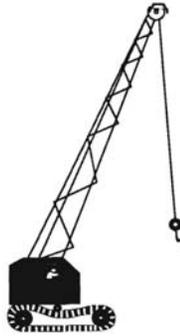


Wire Rope Grips

Wire Mesh Grips

Flexible Tube Grips

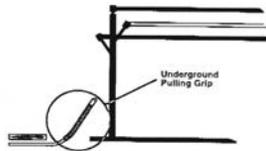
- Double weave mesh construction
- High strength galvanized steel
- Easy installation and removal
- Reusable



Catalog Numbers	Cable Diameter Range (in.)	Approx. Breaking Strength (lbs)	Mesh Length (in.)
FTD03718	.37 - .49	3200	18
FTD05018	.50 - .61	3500	18
FTD05024	.50 - .61	3500	24
FTD06218	.62 - .74	4000	18
FTD06224	.62 - .74	4400	24
FTD06236	.62 - .74	4400	36
FTD07524	.75 - .99	6800	24
FTD07536	.75 - .99	7500	36
FTD07548	.75 - .99	7500	48
FTD07572	.75 - .99	6800	72
FTD10024	1.00-1.49	9000	24
FTD10036	1.00 - 1.38	9100	36
FTD10048	1.00 - 1.49	10000	48
FTD10072	1.00 - 1.49	10000	72
FTD15036	1.50 - 1.99	14500	36
FTD15048	1.50 - 1.99	16000	48
FTD15072	1.50 - 1.99	16000	72

Heavy Duty Grips with Flexible Eye

- Double weave variable mesh for greater strength and gripping power
- High strength galvanized steel eye attaches easily to swivel
- Longer-wearing reinforced tubular metal shoulder protects cable ends
- Functional and dependable pulling tool Pulls one or several cables Reusable Follows line of pull without bending



Catalog Number	Cable Diameter Range (in.)	Approx. Breaking Strength (lbs)	E (in.)	M
PH050	.50-.61	4500	8	21
PH062	.62-.74	5600	8	24
PH075	.75-.99	6800	9	24
PH100	1.00-1.49	9600	9	24
PH150	1.50-1.99	16400	11	24
PH200	2.00-2.49	18500	12	24
PH250	2.50-2.99	24500	12	24
PH300	3.00-3.49	24500	14	24
PH350	3.50-3.99	31000	14	26



Haven Grips

Designed for use when light, compact grip is desired and where conductor damage is not a factor. Gripping pressure of the knurled jaw is applied to 1/4"(6.35mm) cable area. 1604-20L and 1625 series have a swing latch to help hold cable in the jaw.



Catalog Number	Minimum Cable Size (in.) (mm)	Maximum Cable Size (in.) (mm)	Maximum Safe Load - (lbs) (kg)	Approx. Weight Each - (lbs) (kg)
1604-10	1/4 B&S.06 (1.52)	2 B&S.25 (6.35)	2500 (1136)	2.08 (0.9)
1604-20	8B&S.125 (3.18)	Steel Strand .50 (12.70)	5000 (2272)	2.08 (0.9)



Catalog Number	Minimum Cable Size (in.) (mm)	Maximum Cable Size (in.) (mm)	Maximum Safe Load - (lbs) (kg)	Approx. Weight Each - (lbs) (kg)
1604-20L	8 B&S.125 (3.18)	Steel Strand.50 (12.70)	5000 (2272)	2.08 (0.9)



Catalog Number	Minimum Cable Size (in.) (mm)	Maximum Cable Size (in.) (mm)	Maximum Safe Load - (lbs) (kg)	Approx. Weight Each - (lbs) (kg)
1625-20	1 B&S.28 (7.11)	Wire Rope.75 (19.05)	8000 (3629)	4 (1.8)
1625-20 7/8	.38 (9.65)	Wire Rope.88 (22.35)	8000 (3629)	4 (1.8)
1625-20 1	.50 (12.70)	Wire Rope 1.00 (25.40)	8000 (3629)	4 (1.8)

Caution

Proper maintenance and field inspection of all grips is necessary before each use.

Check to be sure there is no accumulation of foreign material in the jaws which might cause slippage.
Use Cat. No. 25450 Wire Brush Set.

Check mechanical condition of entire grip.

Check grip to be sure it is the correct size and type for the application.

Clean and lubricate. DO NOT lubricate gripping surfaces of jaws.

Check all parts for distortion or misalignment.

Warning !

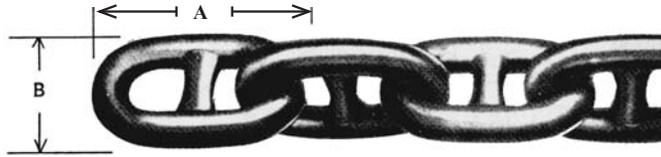
Do not exceed rated capacity. Before each use, clean jaw area and inspect grip for proper operation to avoid slippage.
Always match proper size and type grip to application.
When used on or near energized lines, ground, insulate or isolate grip before pulling.

TOOLS &
OTHER
PRODUCTS



Marine Products

Stud Link Chain

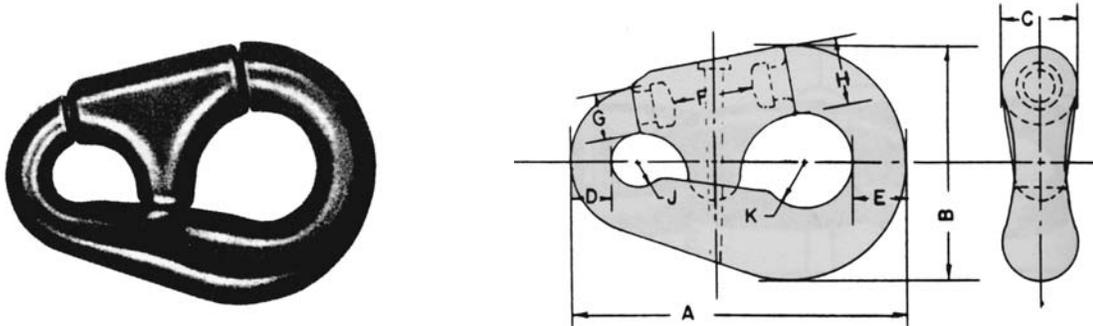


Chain Size		Dimensions				Test Requirements								No. of Links per 15 Fm Shot
(in.)	(mm)	Link Length A	Link Width B	Length over 5-Links	Weight per 15 Fm shot (Appx.)	Grade 1		Grade 2		Grade 3		Oil Rig Quality		
						Proof Load	Break Load	Proof Load	Break Load	Proof Load	Break Load	Proof Load	Break Load	
5/8	16	3-3/4	2-1/4	13-3/4	365	16620	23745	23745	33220	33220	47465			432
3/4	19	4-1/2	2-5/8	16-1/2	480	23800	34000	34000	47600	47600	68000			357
13-16	20	4-7/8	2-7/8	17-7/8	570	27800	39800	39800	55700	55700	79500			329
7/8	22	5-1/4	3-1/8	19-1/4	660	32200	46000	46000	64400	64400	91800			305
15-16	24	5-5/8	3-5/16	20-5/8	760	36800	52600	52600	73700	73700	105000			285
1	25	6	3-9/16	22	860	41800	59700	59700	83600	83600	119500	84000	129000	267
1-1/16	27	6-3/8	3-3/4	23-3/8	970	47000	67200	67200	94100	94100	135000			251
1-1/8	29	6-3/4	4	24-3/4	1080	52600	75000	75000	105000	105000	150000	106000	161000	237
1-3/16	30	7-1/8	4-1/4	26-1/8	1220	58400	83400	83400	116500	116500	167000			225
1-1/4	32	7-1/2	4-1/2	27-1/2	1350	64500	92200	92200	129000	129000	184000	130000	198000	213
1-5/16	33	7-7/8	4-3/4	28-7/8	1490	70900	101500	101500	142000	142000	203000			203
1-3/8	34	8-1/4	4-15/16	30-1/4	1630	77500	111000	111000	155000	155000	222000	157000	235000	195
1-7/16	36	8-5/8	5-3/16	31-5/8	1780	84500	120500	120500	169000	169000	241000			187
1-1/2	38	9	5-3/8	33	1940	91700	131000	131000	183500	183500	262000	185000	280000	179
1-9/16	40	9-3/8	5-5/8	34-3/8	2090	99200	142000	142000	198500	198500	284000			171
1-5/8	42	9-3/4	5-7/8	35-3/4	2240	108000	153000	153000	214000	214000	306000	216000	325000	165
1-11/16	43	10-1/8	6-1/16	37-1/8	2410	115000	166500	166500	229000	229000	327000			159
1-3/4	44	10-1/2	6-5/16	38-1/2	2590	123500	176000	176000	247000	247000	352000	249000	380000	153
1-13/16	46	10-7/8	6-1/2	39-7/8	2790	132000	188500	188500	264000	264000	377000			147
1-7/8	48	11-1/4	6-3/4	41-1/4	2980	140500	201000	201000	281000	281000	402000	285000	432000	143
1-15/16	50	11-5/8	7	42-5/8	3180	149500	214000	214000	299000	299000	427000			139
2	51	12	7-3/16	44	3360	159000	227000	227000	318000	318000	454000	322000	488000	133
2-1/16	52	12-3/8	7-7/16	45-3/8	3570	168500	241000	241000	337000	337000	482000	342000	518000	129
2-1/8	54	12-3/4	7-5/8	46-3/4	3790	178500	255000	255000	357000	357000	510000	362000	548000	125
2-3/16	56	13-1/8	7-7/8	48-1/8	4020	188500	269000	269000	377000	377000	538000	382500	579100	123
2-1/4	58	13-1/2	8-1/8	49-1/2	4250	198500	284000	284000	396000	396000	570000	403000	610000	119
2-5/16	59	13-7/8	8-5/16	50-7/8	4490	209000	299000	299000	418000	418000	598000	425000	642500	117
2-3/8	60	14-1/4	8-9/16	52-1/4	4730	212000	314000	314000	440000	440000	628000	447000	675000	113
2-7/16	62	14-5/8	8-3/4	53-5/8	4960	231000	330000	330000	462000	462000	660000	469500	709500	111
2-1/2	64	15	9	55	5270	242000	346000	346000	484000	484000	690000	492000	744000	107
2-9/16	66	15-3/8	9-1/4	56-3/8	5540	254000	363000	363000	507000	507000	726000	516000	778500	105
2-5/8	67	15-3/4	9-7/16	57-3/4	5820	265000	379000	379000	530000	530000	758000	540000	813000	103
2-11/16	68	16-1/8	9-11/16	59-1/8	6110	277000	396000	396000	554000	554000	792000	565000	849000	99
2-3/4	70	16-1/2	9-7/8	60-1/2	6410	289000	413000	413000	578000	578000	826000	590000	885000	97
2-13/16	71	16-7/8	10-1/8	61-7/8	6710	301000	431000	431000	603000	603000	861000	615000	925000	95
2-7/8	73	17-1/4	10-3/8	63-1/4	7020	314000	449000	449000	628000	628000	897000	640000	965000	93
2-15/16	75	17-5/8	10-9/16	64-5/8	7330	327000	467000	467000	654000	654000	934000	666500	1005000	91
3	76	18	10-13/16	66	7650	340000	485000	485000	679000	679000	970000	693000	1045000	89

Larger sizes are available.



Detachable Anchor Connecting Link

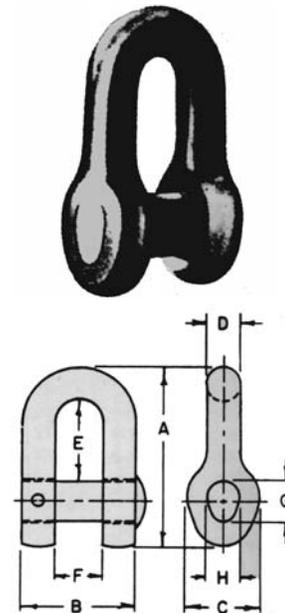


No.	Chain Size		Dimensions										Proof Test in Pounds	Break Test in Pounds	Weight (lbs)
	(in.)	(mm)	A	B	C	D	E	F	G	H	J	K			
2	3/4 - 15/16	19 - 24	7-5/8	5-1/16	1-1/2	15-16	1-1/4	2-1/4	15-16	1-3/8	21/32	1-3/16	74000	113500	7
3	1 - 1-3/16	25 - 30	9-3/8	6-3/16	1-13/16	1-3/16	1-1/2	2-19/32	1-5-16	1-3/4	3/4	1-3/8	118000	179500	14
4	1-1/4 - 1-9/16	32 - 40	11-3/4	8-1/8	2-1/16	1-9/16	1-7/8	3-1/4	1-9/16 x 1-3/4	2-7/32	1-1/32	1-11/16	200500	302500	28
5	1-5/8 - 2	42 - 51	14-7/8	10-1/4	3	2	2-1/2	3-15/16	2-15/16 x 2-3/8	2-29/32	1-1/4	2-1/16	322000	488000	60
6	2-1/16 - 2-3/8	52 - 60	17-7/8	12-5/16	3-5/8	2-3/8	3	4-3/4	2-7/16 x 2-7/8	3-15/32	1-15/32	2-17/32	447000	675000	107
7	2-7/16 - 3-1/8	62 - 79	22-1/8	14-13/16	4-5/8	3-1/8	3-3/4	5-7/8	3-3/8 x 3-1/8	4-3/8	1-29/32	3	748000	1128000	208
8	3-3/16 - 3-5/8	81 - 92	25-3/4	16-1/2	5-1/4	3-5/8	4-7/8	5-7/8	4-3/8 x 4	5-1/8 x 5-1/4	2-1/8	3-1/8	1021000	1566000	328
9	3-11/16 - 3-3/4	94 - 95	27-1/4	17-1/8	5-3/4	3-7/8	5-1/8	6-1/4	4-7/8 x 5-3/8	5-9/16	2-1/4	3-1/4	1120000	1750000	520
10	3-13/16 - 4	97 - 102	35	22-1/2	7-1/2	4-3/4	6-1/2	7-1/2	4-7/8 x 5-13/16	7-1/8	2-7/8	4-1/4	1298000	1996500	850
11	4-1/16 - 4-3/8	103 - 111	37	24	8	5	6-7/8	8	5-3/4 x 6-1/8	7-5/8	3	4-3/8	1569700	2398000	925
12	4-5/16 - 4-1/2	109 - 114	39	25-1/2	8-1/2	5-1/4	7-1/4	8-1/2	6-1/2 x 6-7/8	8	4-1/8	4-1/2	1870000	2805000	1010

Oval Pin Joining Shackles

Chain Size	Weight (lbs)	A	B	C	D	E	F	G	H	
		(in.)	(mm)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)
1/2 - 5/8	3	5-3/16	13 - 16	3-1/4	2	13-16	2-7/8	1-5/8	1-1/8	1
11-16 - 3/4	5	6-1/4	17 - 19	4	2-3/8	1	3-1/8	2	1-3/8	1-1/8
13/16 - 7/8	7.5	7-1/4	21 - 22	4-1/2	2-5/8	1-1/8	3-5/8	2-1/4	1-9/16	1-1/4
15-16 - 1	10	7-7/8	24 - 25	4-7/8	3	1-1/4	3-7/8	2-3/8	1-3/4	1-3/8
1-1/16 - 1-1/8	14	8-5/8	27 - 29	5-3/8	3-3/8	1-3/8	4-1/4	2-5/8	1-15/16	1-1/2
1-3/16 - 1-1/4	19	9-3/8	30 - 32	5-7/8	3-5/8	1-1/2	4-5/8	2-7/8	2-1/8	1-3/4
1-5/16 - 1-3/8	27	10-3/4	33 - 34	6-1/2	4-1/4	1-3/4	5-1/8	3	2-1/2	2
1-7/16 - 1-1/2	34	11-1/2	37 - 38	6-7/8	4-5/8	1-7/8	5-3/8	3-1/8	2-3/4	2-1/4
1-9/16 - 1-5/8	40	12-1/4	40 - 41	7-3/8	5	2	5-3/4	3-3/8	2-15/16	2-3/8
1-11/16 - 1-3/4	52	13-1/8	43 - 44	8-1/8	5-1/4	2-1/4	6-1/8	3-5/8	3-1/8	2-1/2
1-13/16 - 1-7/8	76	14-5/8	46 - 48	8-3/4	6	2-1/2	6-3/4	3-3/4	3-1/2	2-7/8
1-15/16 - 2-1/8	100	15-7/8	49 - 54	9-1/2	6-5/8	2-3/4	7-1/8	4	3-7/8	3-1/8
2-3/16 - 2-3/8	131	17-3/8	56 - 60	10-3/8	7-1/4	3	7-3/4	4-3/8	4-1/4	3-3/8
2-7/16 - 2-5/8	170	19-1/8	62 - 67	11-1/8	8	3-1/4	8-3/4	4-5/8	4-5/8	3-3/4
2-11/16 - 2-7/8	212	20-1/2	68 - 73	12-3/8	8-5/8	3-5/8	9-1/8	5-1/8	5	4
3 - 3-1/8	293	22-5/8	76 - 79	13-1/4	9-5/8	4	9-7/8	5-1/4	5-5/8	4-1/2

Larger Sizes Available.



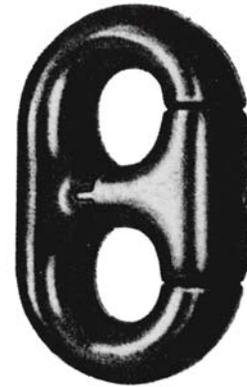
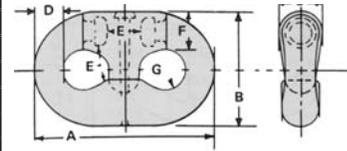
TOOLS & OTHER PRODUCTS



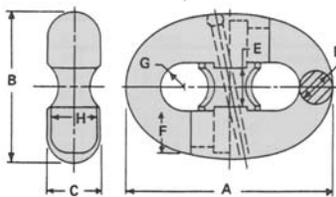
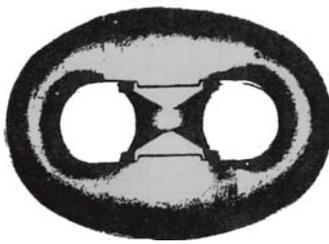
Detachable Chain Connecting Link

Chain Size		A	B	C	D	E	F	G	Proof Test (lbs)	Break Test (lbs)	Weight (lbs)
(in.)	(mm)										
3/4	19	4-1/2	3	1-3/64	3/4	27/32	59/64	1/2	67,500	91,100	2.1
13/16 - 7/8	21-22	5-1/4	3-1/2	1-7/32	7/8	63/64	1-1/16	19/32	88,200	119,000	3.4
15/16 - 1	24 - 25	6	4	1-25/64	1	1-1/8	1-7/32	21-32	116,100	156,700	5.1
1-1/16 - 1-1/8	27 - 29	6-3/4	4-1/2	1-9/16	1-1/8	1-17/64	1-3/8	47/64	145,000	195,000	7.2
1-3/16 - 1-1/4	30 - 32	7-1/2	5	1-47/64	1-1/4	1-13/32	1-17/32	13/16	178,200	240,000	9.9
1-5/16 - 1-3/8	33 - 34	8-1/4	5-1/2	1-29/32	1-3/8	1-35/64	1-43/64	29/32	211,500	285,500	13.3
1-7/16 - 1-1/2	36 - 38	9	6	2-5/64	1-1/2	1-11/16	1-53/64	63/64	252,000	340,200	17.3
1-9/16 - 1-5/8	40 - 42	9-3/4	6-1/2	2-1/4	1-5/8	1-63/64	1-63/64	1-1/16	292,500	395,000	22.0
1-11/16 - 1-3/4	43 - 44	10-1/2	7-1/2	2-7/16	1-3/4	2	2-7/32	1-3/16	352,000	376,000	27.5
1-13/16 - 1-7/8	46 - 48	11-1/4	7-1/4	2-1/2	1-7/8	2-5/32	2-11/32	1-15/64	285,000	432,000	32
1-15/16 - 2	50 - 51	12	7-3/4	2-1/2	2	2-5/16	2-1/2	1-5/16	322,000	488,000	36
2-1/16 - 2-1/8	52 - 54	12-3/4	8-1/4	2-21/32	2-1/8	2-1/2	2-21/32	1-13/32	362,000	548,000	44
2-3/16 - 2-1/4	56 - 58	13-1/2	8-23/32	2-13/16	2-1/4	2-5/8	2-13/16	1-1/2	403,000	610,000	52
2-5/16 - 2-3/8	59 - 60	14-1/4	9-7/32	3-1/16	2-3/8	2-3/4	2-15/16	1-9/16	447,000	675,000	61
2-7/16 - 2-1/2	62 - 64	15	9-11/16	3-1/8	2-1/2	2-7/8	3-1/8	1-21/32	492,000	744,000	71
2-9/16 - 2-5/8	66 - 67	15-3/4	10-3/16	3-1/4	2-5/8	3-1/16	3-1/16	1-3/4	540,000	813,000	82
2-11/16 - 2-3/4	68 - 70	16-1/2	10-13/16	3-11/16	2-7/8	3-1/4	3-11/16	1-13/16	640,000	981,000	100
2-13/16 - 2-7/8	71 - 73	17-1/4	11-1/8	3-19/32	2-7/8	3-11/32	3-9/16	1-29/32	649,000	965,000	107
2-15/16 - 3	75 - 76	18	11-5/8	3-3/4	3	3-17/32	3-3/4	1-31/32	693,000	1,045,000	120

Larger Sizes Available.



Kenter Detachable Connecting Links



Chain Size		A	B	C	D	E	F	G	H
(in.)	(mm)								
3/4	19	4-1/2	3-1/8		3/4	7/8	15-16	1/2	1
7/8	22	5-1/4	3-11/16	1-5/16	7/8	1	1-1/8	9/16	1-3/16
1	25	6	4-3/16	1-1/2	1	1-1/8	1-1/4	11-16	1-3/8
1-1/8	29	6-3/4	4-3/4	1-11/16	1-1/8	1-1/4	1-7/16	3/4	1-1/2
1-1/4	32	7-1/2	5-1/4	1-7/8	1-1/4	1-3/8	1-9/16	13/16	1-11/16
1-3/8	34	8-1/4	5-3/4	2-1/8	1-3/8	1-1/2	1-3/4	15/16	1-7/8
1-1/2	38	9	6-5/16	2-1/4	1-1/2	1-11/16	1-15/16	1	2
1-5/8	42	9-3/4	6-13/16	2-1/2	1-5/8	1-13/16	2-1/16	1-3/32	2-3/16
1-3/4	44	10-1/2	7-5/16	2-5/8	1-3/4	2	2-1/4	1-3/16	2-3/8
1-7/8	48	11-1/4	7-7/8	2-7/8	1-7/8	2-1/8	2-3/8	1-1/4	2-1/2
2	51	12	8-3/8	3-1/16	2	2-1/4	2-9/16	1-11/32	2-11/16
2-1/8	54	12-3/4	8-15/16	3-1/4	2-1/8	2-3/8	2-3/4	1-7/16	2-7/8
2-1/4	58	13-1/2	9-3/8	3-7/16	2-1/4	2-1/2	2-7/8	1-1/2	3
2-3/8	60	14-1/4	9-15/16	3-5/8	2-3/8	2-11/16	3-1/16	1-19/32	3-7/32
2-1/2	64	15	10-1/2	3-13/16	2-1/2	2-13/16	3-3/16	1-11/16	3-3/8
2-5/8	67	15-3/4	11-1/16	4	2-5/8	3	3-3/8	1-3/4	3-9/16

Larger Sizes Available.



Pilot Ladders

The **DJM Series Pilot Ladder** replaces the obsolete “Jacob’s and Chain Suspension Ladder.” The step spacing is 13-3/4 inches. DJM-I lengths up to 60 feet (USCG Approval Series 163.003/11/0). DJM-II length up to 90 feet (USCG Approval Series 163.003/17/0).

- DJM-I Ladder has steps/spreaders of hardwood except for the bottom 4 steps that are the same as found on the DJM II to withstand greater impact.
- DJM II ladder has all synthetic step/spreaders made from Dupont® high impact strength surlyn HP. All steps and spreaders are painted international orange.
- All steps and spreaders have non-skid grit applied to the surface using 2-part epoxy.
- All U. S. C. G. ladders have the A. L. Don patented clamp made from Dupont® high impact strength surlyn HP that is designed for quick step replacement with no special tools.
- The suspension rope is one continuous length on each side comprised of 3/4” diameter 3-strand synthetic PolyPro-Dacron with a white outer jacket and an orange inner safety core.
- All U. S. C. G. ladders are tested to 2000 lbs. Steps are tested to 700 lbs. with no more than 3/4” deflection.
- Replacement steps/spreaders are white in color designed in the same manner as the original steps/spreaders to allow for quick replacement.
- Standard Lanyards are 10 ft. in accordance with CFR specifications. Other lengths available.
- SOLAS type ladders available also if U. S. C. G. approval is not required.



Embarkation Ladders

The **ERIK Series Embarkation Ladder** replaces the obsolete “Chain Suspension Ladder.” The step spacing is 15 inches. ERIK-I lengths up to 95 feet SOLAS (USCG Approval Series 160.117/6/0). ERIK-II lengths up to 110 feet SOLAS (USCG Approval Series 160.117/7/0).

- ERIK - I ladder has steps of hardwood. ERIK-II ladder has all synthetic steps made from Dupont® high impact strength surlyn HP. All steps are painted international orange.
- All steps have non-skid rit applied to the surface of all steps using 2-part epoxy.
- All U.S.C.G. ladders have the A. L. Don patented clamp made from Dupont® high impact strength surlyn HP that is designed for quick step replacement with no special tools.
- The suspension rope is one continuous length on each side comprised of 3/4” diameter 3-strand synthetic PolyPro-Dacron with a white outer jacket and an orange inner safety core.
- All U. S. C. G. ladders are tested to 2000 lbs. Steps are tested to 700 lbs. with no more than 3/4” deflection.
- Replacement steps/spreaders are white in color designed in the same manner as the original steps/spreaders to allow for quick replacement.
- Both ERIK-I and ERIK-II come with a two (2) foot tail complete with thimble/ring assembly.
- SOLAS type ladders available if U.S.C.G. approval is not required.



TOOLS &
OTHER
PRODUCTS



Mooring Buoys

JIM-BUOY

Swivel & Eye Style Mooring Buoys



Features Include:

- Hot dipped galvanized swivel & eyes (also available in stainless steel)
- Interior rod bent to prevent pull-thru in stormy conditions
- Hard Polyethylene shell - 2 lb. high density foam filled
- Standard color is white
- Also available in orange, specify “O”, and yellow, specify “Y”

Premium Mark V Selection Chart

Model Number	Diameter	Swivel & Eye	Buoyancy (+/- 5 lb)	Pack	Shipping Weight
4400	12”	1/2”	22 lb	4	26 lb
4401	15”	1/2”	46 lb	4	42 lb
4402	18”	1/2”	90 lb	1	14 lb
4403	24”	5/8”	209 lb	1	27 lb
4404	30”	5/8”	400 lb	1	47 lb

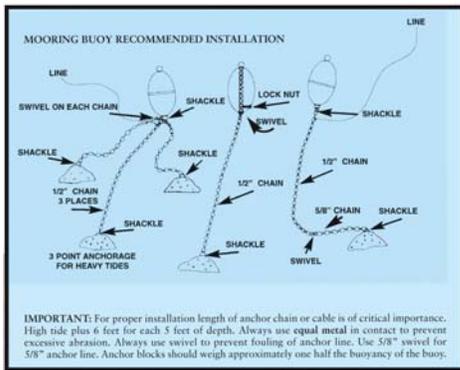
Tube Style Mooring Buoys

Features Include:

- 2”, 2-1/2” & 3” PVC Tube (other sizes available)
- Hard Shell - 2 lb. high-density foam filled
- Standard color is white
- Also available in orange, specify “O” and yellow, specify “Y”

Premium Mark V Selection Chart - Tube Style

Model Number	Diameter	Tube Size	Buoyancy (+/- 5 lb)	Pack	Shipping Weight
4402-T-2”	18”	2”	87 lb	1	13 lb
4402-T-2-1/2”	18”	2-1/2”	86 lb	1	13 lb
4402-T-3”	18”	3”	85 lb	1	13 lb
4403-T-2”	24”	2”	196 lb	1	24 lb
4403-T-2-1/2”	24”	2-1/2”	195 lb	1	24 lb
4403-T-3”	24”	3”	194 lb	1	24 lb
4404-T-2”	30”	2”	396 lb	1	47 lb
4404-T-2-1/2”	30”	2-1/2”	395 lb	1	47 lb
4404-T-3”	30”	3”	394 lb	1	47 lb



Drum Mooring Buoy

Feature Include:

- Heavy Duty Construction
- High Density Polyethylene
- Maximum syability - flat top & bottom
- Galvanized swivel & eye (Stainless available)
- 3” tube will accommodate model 4000 mooring system



Model Number	Diameter	Swivel & Eye	Buoyancy (+/- 5 lb)	Pack	Shipping Weight
4304	30”	5/8”	240 lb	1	33 lb
4304-T	30”	3” Tube	230 lb	1	30 lb



Cleats-Chocks-Bollards

Open Base Cleats



No. 4010

Size (Length)	3 1/2	4	5	6	8	10	12	14	18
Finish	Galv	Galv	Galv	Galv	Galv	Galv	Galv	Galv	Galv
Screw No.	8	10	12	1/4	5/16	1/4	3/8	3/8	5/8
Wt. Lbs.	3/16	1/4	3/8	1/2	1-1/4	2-1/4	3-1/4	6-1/4	11-1/2

Dock Cleats



No. 4090

Size (Length)	8	10	12	15	18	24
Finish	Galv	Galv	Galv	Galv	Galv	Galv
Screw No.	7/16	1/2	5/8	3/4	3/4	7/8
Wt. Lbs.	3	5-3/4	10	14	21	35

Welt Down Cleats



No. 5010

Size (Length)	8	10	12	16	18	24	30	36
Finish	SC	SC						
Wt. Lbs.	6	8	17	25	36	84	145	226

Kevel Cleats



No. 5090

Size (Length)	24	30	36	42	48
Finish	SC	SC	SC	SC	SC
Wt. Lbs.	50	70	91	117	166

Chocks



No. 6010

No. 6011

Size	6	7	8	9	10	11	12	14	18
Opening Length Inches	8	9-1/4	10-3/4	12	13-1/4	14-3/4	16	18-3/4	24
Opening Height Inches	4	4-3/8	5-3/8	6	6-5/8	7-3/8	8	9-3/8	12
Overall Length Inches	19-3/4	22-3/8	25-1/4	27-3/4	30-3/8	33-1/4	36	42	54

Bollards



No. 7010

A complete range of bollards is available including: Doubles, singles, towing style, barge style, mooring style, bollards with horns, straight or angular, four post towing, and others. Call with your requirements.





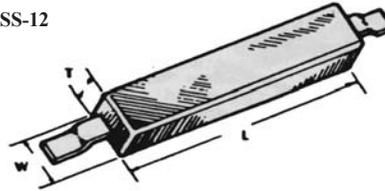
Zinc Anodes

ZSS-12* Anode

CORE: Galvanized steel strap bolt or weld-on attachment.

Type	Dimensions			Approx. Weight
	L	x W	x T	
ZSS-12	12"	3"	1-1/4"	12 lbs.

ZSS-12

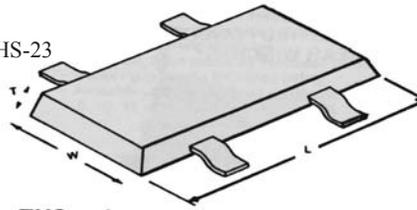


ZHS-23* Anode

With galvanized steel straps.
Also available with brass straps.
CORE: Two straps for weld-on installation.

Type	Dimensions			Approx. Weight
	L	x W	x T	
ZHS-23	12"	6"	1-1/4"	23 lbs.

ZHS-23



ZHS-50* Anode

CORE: Galvanized steel strap for weld-on or bolting to studs welded to structure.

Type	Dimensions			Approx. Core	Weight
	L	x W	x T		
ZHS-50	25-1/2"	4-1/2"	2"	32-3/4" x 1-1/2" x 1/4"	48 lbs.

ZHS-50

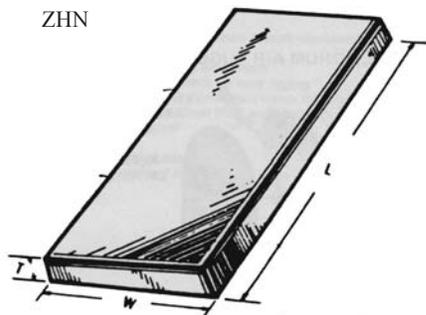


ZHN* Anode

PLATE TYPE: ZHN series without cores.

Type	Dimensions			Approx. Weight
	L	x W	x T	
ZHN-10	12"	6"	1/2"	10 lbs.
ZHN-20	12"	6"	1"	20 lbs.

ZHN



* Anodes meet MIL-A-18001H