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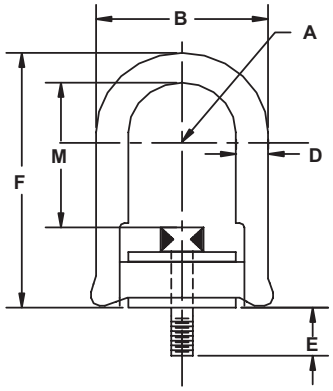
Hoist Ring Forged

- Pivots 180º and swivels 360º simultaneously
- Back and side pins constructed of one piece of forged alloy steel
- 100% magnetic particle inspected
- Bale and center body are closed die forged to assure superior grain flow and consistent dimensional accuracy
- Large bale allows use of a variety of hook sizes



Product Code	Rated Load	Dimensions							Torque Load	Weight
		A	B	D	E	F	Thread	M		
	lb.	in.	in.	in.	in.	in.	in.	in.	Ft.-Load	lb.
433112	500	0.65	2.29	0.44	0.56	3.23	1/4-20	1.57	5	0.50
433212	800	0.65	2.29	0.44	0.56	3.23	5/16-18	1.51	7	0.52
433214	800	0.65	2.29	0.44	1.06	3.23	5/16-18	1.51	7	0.54
433312	1,000	0.65	2.29	0.44	0.56	3.23	3/8-16	1.45	12	0.56
433314	1,000	0.65	2.29	0.44	1.06	3.23	3/8-16	1.45	12	0.58
433512	2,500	1.00	3.50	0.75	0.75	5.31	1/2-13	2.56	28	1.71
433515	2,500	1.00	3.50	0.75	1.00	5.31	1/2-13	2.56	28	1.72
433516	2,500	1.00	3.50	0.75	1.25	5.31	1/2-13	2.56	28	1.82
433612	4,000	1.00	3.50	0.75	0.75	5.31	5/8-11	2.44	60	1.76
433614	4,000	1.00	3.50	0.75	1.00	5.31	5/8-11	2.44	60	1.78
433615	4,000	1.00	3.50	0.75	1.25	5.31	5/8-11	2.44	60	1.88
433714	5,000	1.00	3.50	0.75	1.00	5.31	3/4-10	2.31	100	1.89
433716	5,000	1.00	3.50	0.75	1.50	5.31	3/4-10	2.31	100	2.02
433102	7,000	1.40	5.10	1.00	1.20	7.00	3/4-10	3.20	100	7.23
433103	7,000	1.40	5.10	1.00	1.70	7.00	3/4-10	3.20	100	7.25
433101	8,000	1.40	5.10	1.00	1.20	7.00	7/8-9	3.07	160	7.33
433105	10,000	1.40	5.10	1.00	1.45	7.00	1-8	2.95	230	7.57
433106	10,000	1.40	5.10	1.00	1.70	7.00	1-8	2.95	230	7.63
433107	10,000	1.40	5.10	1.00	2.45	7.00	1-8	2.95	230	7.84
433401	15,000	2.00	6.75	1.25	2.63	9.22	11/4-7	3.74	470	16.00
433420	20,000	2.00	6.75	1.25	2.63	9.22	13/8-6	3.62	670	17.20
433424	24,000	2.00	6.75	1.25	2.63	9.22	11/2-6	3.49	800	18.10
433427	30,000	2.00	6.75	1.25	2.96	9.22	2-4.5	3.49	800	22.90
433432	30,000	2.00	6.75	1.25	2.96	9.22	2-8	3.49	800	22.90

⚠ WARNING ⚠

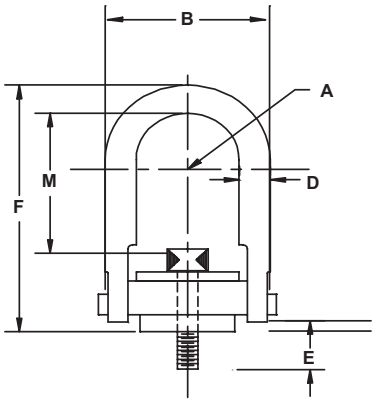
Improper installation and use of hoist rings can cause injury

To avoid injury:

- Do not exceed rated load.
- Install rings per instructions. Verify full 360º seating - Retorque periodically.
- Consult angular lifting graph when lifting at other than 90º.

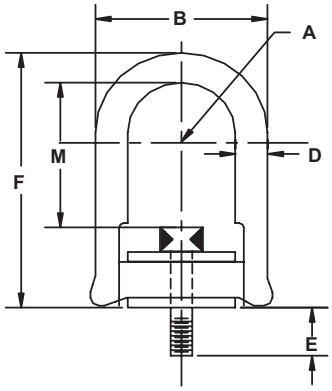
Hoist Ring Machined

- Pivots 180° and swivels 360° simultaneously
- Bale and shoulder pin machined from alloy steel
- Patented design provides shoulder pin retention with specialized clip
- Easily disassembled for periodic non-destructive inspection
- Special available in stainless steel and metric sizes



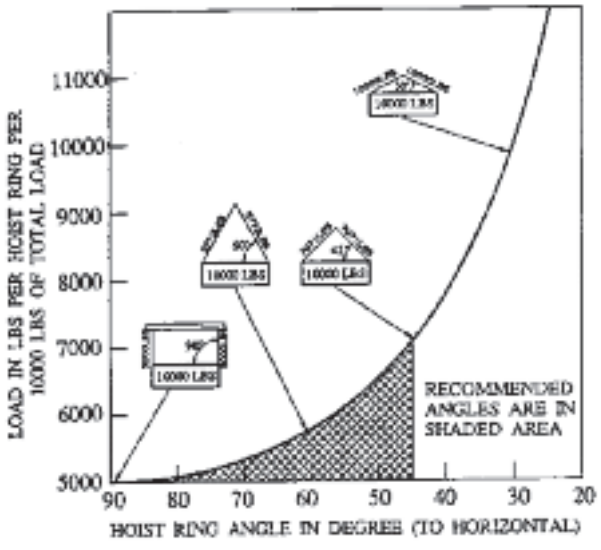
Product Code	Rated Load	Dimensions							Weight
		A	D	E	F	Thread	H	M	
	lb.	in.	in.	in.	in.	in.	in.	in.	lb.
423050	550	0.43	0.38	0.29	2.67	1/4-20	1.84	1.33	0.30
423052	800	0.43	0.38	0.54	2.67	5/16-18	1.84	1.27	0.31
423053	1,000	0.43	0.38	0.54	2.67	3/8-16	1.84	1.21	0.31
423301	2,500	0.70	0.50	1.07	3.77	1/2-13	2.58	1.84	1.00
423004	2,500	0.88	0.75	0.78	4.78	1/2-13	3.52	2.31	2.31
423322	2,500	0.88	0.75	0.78	6.72	1/2-13	3.52	4.25	2.75
423005	2,500	0.88	0.75	1.03	4.78	1/2-13	3.52	2.31	2.31
423323	2,500	0.88	0.75	1.03	6.72	1/2-13	3.52	4.25	2.00
423006	2,500	0.88	0.75	1.28	4.78	1/2-13	3.52	2.31	2.31
423324	2,500	0.88	0.75	1.28	6.72	1/2-13	3.52	4.25	2.75
423001	4,000	0.88	0.75	0.78	4.78	5/8-11	3.52	2.18	2.44
423002	4,000	0.88	0.75	1.03	4.78	5/8-11	3.52	2.18	4.44
423320	4,000	0.88	0.75	1.03	6.72	5/8-11	3.52	4.12	2.88
423003	4,000	0.88	0.75	1.28	4.78	5/8-11	3.52	2.18	2.44
423321	4,000	0.88	0.75	1.28	6.72	5/8-11	3.52	4.12	2.88
423007	5,000	0.88	0.75	1.03	4.78	3/4-10	3.52	2.06	2.56
423009	5,000	0.88	0.75	1.53	4.78	3/4-10	3.52	2.06	2.56
423327	5,000	0.88	0.75	1.53	6.72	3/4-10	3.52	4.00	3.00
423102	7,000	1.40	1.00	1.04	6.52	3/4-10	5.14	3.06	6.63
423103	7,000	1.40	1.00	1.54	6.52	3/4-10	5.14	3.06	6.63
423330	7,000	1.40	1.00	1.54	8.11	3/4-10	5.14	4.65	6.63
423101	8,000	1.40	1.00	1.04	6.52	7/8-9	5.14	2.93	6.75
423328	8,000	1.40	1.00	1.04	8.11	7/8-9	5.14	4.52	6.75
423105	10,000	1.40	1.00	1.29	6.52	1-8	5.14	2.81	7.00
423331	10,000	1.40	1.00	1.29	8.11	1-8	5.14	4.40	7.00
423332	10,000	1.40	1.00	1.54	8.11	1-8	5.14	4.40	7.00
423106	10,000	1.40	1.00	1.54	6.52	1-8	5.14	2.81	7.00
423107	10,000	1.40	1.00	2.29	6.52	1-8	5.14	2.81	7.00
423333	10,000	1.40	1.00	2.29	8.11	1-8	5.14	4.4	7.00
423401	15,000	1.75	1.25	1.89	8.73	1-1/4-7	6.50	4.12	14.00
423202	24,000	2.25	1.75	2.70	12.47	1-1/2-6	8.55	6.41	33.75
423200	30,000	2.25	1.75	2.96	12.47	2-4-1/2	8.55	5.41	36.00
423501	50,000	3.00	2.25	4.00	16.87	2-1/2-8	11.67	8.03	87.50
423503	50,000	3.00	2.25	4.00	16.87	2-1/2-4	11.67	8.03	87.50
423600	75,000	3.75	2.75	5.20	19.50	3-4	14.15	8.48	166.00
423701	100,000	4.00	3.25	7.00	22.09	3.5-4	15.90	9.28	240.00

Hoist Ring (Metric)

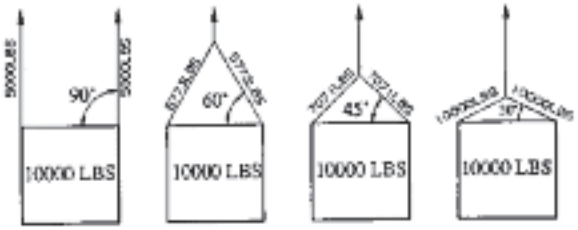


Product Code	Rated Load	Dimensions							Torque Load N.M.	Weight
		A	B	D	E	F	Thread	M		
	Kg	mm	mm	mm	mm	mm		mm		Kg
434212	400	16.50	58.20	11.10	16.00	82.00	M8x 1.25	38.50	9.50	0.24
434214	400	16.50	58.20	11.10	21.00	82.00	M8 x 1.26	38.50	9.50	0.25
434312	450	16.50	58.20	11.10	16.00	82.00	M10 x 1.5	36.50	16.00	0.25
434314	450	16.50	58.20	11.10	26.00	82.00	M10 x 1.5	36.50	16.00	0.26
434515	1,050	25.40	88.90	19.10	25.00	134.90	M12 x 1.75	65.00	37.00	0.78
434516	1,050	25.40	88.90	19.10	32.00	134.90	M12 x 1.75	65.00	37.00	0.83
464614	1,900	25.40	88.90	19.10	25.00	134.90	M16 x 2.0	62.00	80.00	0.81
464615	1,900	25.40	88.90	19.10	32.00	134.90	M16 x 2.0	62.00	80.00	0.85
434714	2,200	25.40	88.90	19.10	25.00	134.90	M20 x 2.5	58.70	135.00	0.86
434716	2,200	25.40	88.90	19.10	38.00	134.90	M20 x 2.5	58.70	135.00	0.92
434101	3,000	35.60	129.50	25.40	28.00	177.80	M20 x 2.5	81.00	135.00	3.14
434102	4,200	35.60	129.50	25.40	28.00	177.80	M24 x 3.0	76.30	311.00	3.29
434103	4,200	35.60	129.50	25.40	38.00	177.80	M24 x 3.0	76.30	311.00	3.30
434105	4,500	35.60	129.50	25.40	38.00	177.80	M30 x 3.5	70.30	311.00	3.44
434107	4,500	35.60	129.50	25.40	48.00	177.80	M30 x 3.5	70.30	311.00	3.55
434401	7,000	50.80	171.50	31.80	67.00	234.20	M30 x 3.5	95.00	637.20	7.26
434402	11,000	50.80	171.50	31.80	67.00	234.20	M36 x 4.0	88.60	1085.50	8.21
434403	12,500	50.80	171.50	31.80	80.00	234.20	M42 x 4.5	88.60	1085.50	10.14
434404	13,500	50.80	171.50	31.80	80.00	234.20	M48 x 5.0	88.60	1085.50	10.59

Angular Lifting Graph



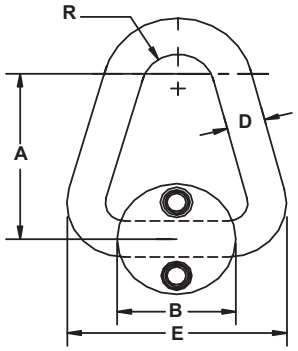
Effect of Hoist Ring Angle on Load



INSTALLATION INSTRUCTIONS: Drill and tap workpiece for hoist ring screw with axis vertical to mounting surface. Work surface should be flat and smooth to provide full 360° flush seating for the bushing flange. (SAFETY NOTE: Some loosening may develop after prolonged service in a permanent installation. It is advisable to periodically re-tighten the mounting screw to maintain the specified torque value.) The use of free fit spacers between the bushing flange and mounting surface is not recommended as this will reduce the safe load rating on angularly applied loads. Hoist ring must be free to swivel 360° and pivot 180° at all times.

Hoist Ring Swivel

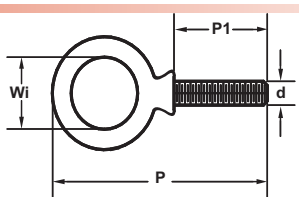
- Hoist Rings are heat treated
- 6:1 design factor
- Screws are not included



Product Code	Rated Load	Dimensions					Torque Load	Weight	High Strength Screws		
		A	B	D	E	R			Product Code	Screw Thread	Screw Length
	lb.	in.	in.	in.	in.	in.	Ft.-Load	lb.			in.
434030	2,000	2	1-3/4	5/16	2-1/2	1/2	4-7	1.72	423812	43,236	1.25
434035	2,500	2-1/2	2-1/4	3/8	3-3/16	5/8	7-10	1.82	423813	42,437	1.25
434040	5,500	3	2-5/8	1/2	3-7/8	3/4	20-25	1.89	423804	41,276	2.00
434045	12,000	4	3-1/8	3/4	5-1/4	7/8	20-25	2.50	423805	41,276	2.25
434050	20,000	5	3-5/8	1	6-3/16	1	42-50	6.80	433645	40,671	2.75

Shoulder Eyebolts

- Forged Steel
- Heat treated, quenched & tempered
- Meets IFI standards, ASTM A 489, ANSI/ASME, B18.15



Shank Diameter	Product Code	Working Load Limit	Dimensions				Weight
			Wi	P1	P	d Thread (UNC-2A)	
in.		lb.	in.	in.	in.	in.	lb.
1/4	456920	500	0.750	1.000	2.39	1/4 - 20	0.06
5/16	456921	900	0.870	1.120	2.80	5/16 - 18	0.11
3/8	456922	1,300	1.000	1.250	3.22	3/8 - 16	0.18
7/16	496933	1,800	1.094	1.375	3.59	7/16 - 14	0.22
1/2	456923	2,400	1.188	1.500	3.96	1/2 - 13	0.35
5/8	456924	4,000	1.375	1.750	4.69	5/8 - 11	0.70
3/4	456925	5,000	1.500	2.000	5.28	3/4 - 10	1.10
7/8	456926	7,000	1.690	2.500	6.04	7/8 - 9	1.70
1	456927	9,000	1.810	2.500	6.67	1 - 8	2.36
1-1/8	456930	12,000	2.000	2.750	7.44	1 1/8 - 7	3.98
1-1/4	456928	15,000	2.180	3.000	8.12	1 1/4 - 7	4.68
1-1/2	456929	21,000	2.500	3.500	9.49	1 1/2 - 6	7.77

If in doubt, consult a rigging handbook or discuss with a qualified person

lb.Note:

- Do not exceed the working load limit - reduce the working load limit according to the adjacent table if loading other than true vertical. Inspect eyebolts before use. Do not use if bent more than 15° or if wear of more than 10% of original dimension is evident.
- Install with shoulder at 90° to axis of hole to assure total contact of shoulder. Torque nut/eyebolt to assure proper seating. Check seating after initial loading.
- If installing in tapped hole, make sure depth of thread engagement is at least 1-1/2 times bolt diameter. Thread fit must also be good-tight, not loose-sloppy.
- Where eyebolts must be aligned, a washer or shim may be placed under the shoulder to permit alignment when tightened.
- To minimize the bending movement, always apply load in the direction of the plane of eye. Reduce working load limit according to table if loading other than true vertical
- Never insert a hook tip in an eyebolt to load.
- Do not use a sling reeved through an eyebolt or a pair of eyebolts using a shackle.

JD Weld-on Alloy Lifting Hook

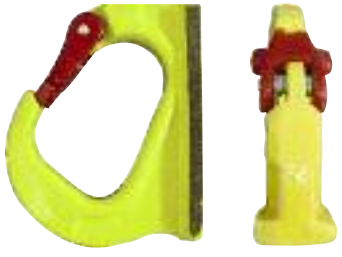
Working Load Limit	Approx. Weight Each	Product Code	Replacement Latch Product Code
lb.	lb.	lb.	in.
2,205	2.2	M4301	4X4301
6,615	4.6	M4303	4X4303
11,025	7.5	M4305	4x4305
22,050	22.5	M4310	4x4310

Design Factor 5:1 **Made in the U.S.A.**

Yale Import Weld-On Lifting Hook

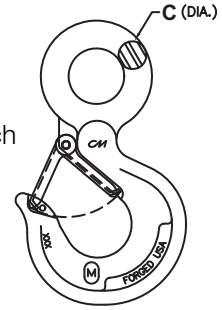
Working Load Limit	Approx. Weight Each	Product Code	Replacement Latch Product Code
lb.	lb.	lb.	in.
2,205	2.2	48211	4X4301
6,615	4.6	48212	4X4303
11,025	7.5	48213	4x4305
22,050	22.5	48214	4x4310

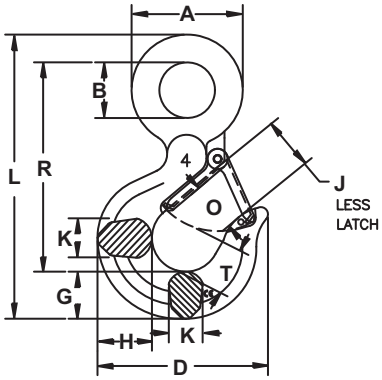
Design Factor 4:1



Rigging Hook

- Built in distortion detectors
- Load rating marked on each hook body
- Design factor 5:1
- Pre-drilled latch tab allows addition of latch
- Carbon hooks have a clear protective coating to resist rust and for cleaner handling (use suffix “C” when ordering carbon clear finish, use suffix “G” when ordering hot dip galvanized)

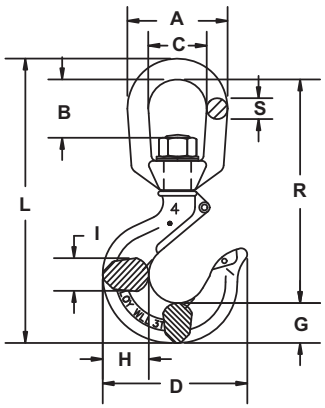


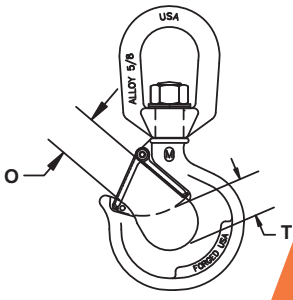


Alloy			Carbon			Dimensions												Weight
WLL	Product Code w/o latch	Product Code w/ latch	WLL	Product Code w/o latch	Product Code w/ latch	A	B	C	D	G	H	J	K	L	O	R	T	
ton			ton			in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	lb.
1	M6402A	M6502A	3/4	M6402C	M6502C	1.50	0.75	0.38	3.06	0.87	1.05	0.93	0.63	4.37	0.93	3.13	0.87	0.66
1-1/2	M6403A	M6503A	1	M6403C	M6503C	1.75	0.88	0.44	3.33	0.94	1.11	0.97	0.71	5.04	0.97	3.66	0.97	1.12
2	M6404A	M6504A	1-1/2	M6404C	M6504C	2.13	1.13	0.50	3.67	1.06	1.21	1.06	0.88	5.63	1.06	4.09	1.03	1.46
3	M6405A	M6505A	2	M6405C	M6505C	2.50	1.25	0.63	4.20	1.27	1.43	1.19	0.94	6.55	1.16	4.67	1.16	2.42
5	M6407A	M6507A	3	M6407C	M6507C	3.06	1.56	0.75	5.11	1.44	1.63	1.50	1.31	7.97	1.41	5.78	1.53	4.10
7	M6409A	M6509A	5	M6409C	M6509C	3.88	2.00	0.94	6.24	1.82	2.01	1.78	1.68	10.07	1.69	7.31	1.94	8.16
11	M6411A	M6511A	7-1/2	M6411C	M6511C	4.69	2.44	1.13	7.89	2.25	2.63	2.38	1.88	12.41	2.19	9.03	2.52	15.60
15	M6415A	M6515A	10	M6415C	M6515C	5.34	2.84	1.25	8.37	2.59	2.94	2.50	2.19	14.05	2.30	10.21	2.54	21.58
22	M6422A	M6522A	15	M6422C	M6522C	6.63	3.50	1.56	10.19	3.00	3.50	3.30	2.69	17.37	3.12	12.81	2.73	39.89

Swivel Rigging Hook

- Design factor 5:1
- Pre-drilled for latches
- Hook and latch assemblies furnished separately
- Powder coated orange
- Carbon swivel hooks are technically advanced Micro-alloy which requires no secondary heat treat
- Alloy swivel hooks are heat treated quenched and tempered





Alloy			Carbon			Dimensions												Weight
WLL	Product Code w/o latch	Product Code w/ latch	WLL	Product Code w/o latch	Product Code w/ latch	A	B	C	D	G	H	I	L	R	S	T	O	
ton			ton			in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	lb.
1	M3402A	M3502A	3/4	M3402C	M3502C	2.00	1.11	1.25	3.06	0.87	1.05	0.63	5.83	4.63	0.38	0.87	0.93	1.05
1-1/2	M3403A	M3503A	1	M3403C	M3503C	2.50	1.38	1.50	3.33	0.94	1.11	0.71	6.83	5.44	0.50	0.97	0.97	1.56
2	M3404A	M3504A	1-1/2	M3404C	M3504C	3.00	1.65	1.75	3.67	1.06	1.21	0.88	7.76	6.25	0.63	1.03	1.06	2.50
3	M3405A	M3505A	2	M3405C	M3505C	3.00	1.65	1.75	4.20	1.27	1.43	0.94	8.40	6.49	0.063	1.16	1.16	3.20
5	M3407A	M3507A	3	M3407C	M3507C	3.50	1.77	2.00	5.11	1.44	1.63	1.31	9.76	7.53	0.75	1.53	1.41	5.36
7	M3409A	M3509A	5	M3409C	M3509C	4.75	2.39	2.75	6.24	1.82	2.01	1.68	12.42	9.67	1.00	1.94	1.69	10.56
11	M3411A	M3511A	7-1/2	M3411C	M3511C	5.50	2.55	3.25	7.69	2.25	2.63	1.88	14.89	12.06	1.13	2.46	2.22	19.00
15	M3415A	M3515A	10	M3415C	M3515C	6.00	2.47	3.50	8.37	2.59	2.94	2.19	15.79	11.95	1.25	2.62	2.23	26.75
22	M3422A	M3522A	15	M3422C	M3522C	7.75	3.82	4.75	10.19	3.00	3.50	2.69	21.18	16.68	1.50	2.74	3.05	51.80