

NORTHERN STRANDS

S-319 / S-319N



- Hoist hooks incorporate markings forged into the product which address two (2) **QUIC-CHECK®** features.
 - Deformation Indicators -- Two strategically placed marks, one just below the shank or eye and the other on the hook up, which allows for a **QUIC-CHECK®** measurement to determine if the throat opening has changed, thus indicating abuse or overload.
 - To check, use a measuring device (i.e. tape measure) to measure the distance between the marks. The marks should align to either an inch or half-inch increment on the measuring device. If the measurement does not meet this criteria, the hook should be inspected further for possible damage.
 - Angle Indicators -- Indicates the maximum included angle which is allow between two (2) sling legs in the hook. These indicators also provide the opportunity to approximate other included angles between two sling legs.
- Chemical analysis and tensile tests performed on each PIC to verify chemistry and mechanical properties

Patented trademark indicates
QUIC-CHECK product.

Hook I.D. Codes: A - Alloy Steel,
B - Bronze High Strength,
C - Carbon Steel.

Working Load Limit (t)*			Hook ID Code	Shank Hooks Stock No			Shank Length †	Weight Each (lbs.)	Rep. Latch Kits		
Carbon	Alloy	Bronze		Carbon S-319CN	Alloy S-319AN	Bronze S-319-BN			S-4320 Stock No.	PL Stock No.	SS-4055 Stock No.
3/4	1	.5	D	1028505	1028701	1028900	Std.	.50	1096325	-	-
1	1.5	.6	F	1028514	1028710	1028909	Std.	.75	1096374	-	-
1-1/2	2	1	G	1028523	1028723	1028918	Std.	1.00	1096421	-	-
2	3	1.4	H	1028532	1028732	1028927	Std.	1.82	1096468	-	-
3	5	2	I	1028541	1028741	1028936	Std.	3.69	1096515	1092000	-
5	7	3.5	J	1028550	1028750	1028945	Std.	7.25	1096562	1092001	-
7-1/2	11	5	K	1028563	1028765	1028954	Std.	13.49	1096609	1092002	-
10	15	6.5	L	1028572	1028774	1028963	Std.	18.00	1096657	1092003	-
15	22	10	N	1028581	1028783	1028972	Std.	35.33	1096704	1092004	-
20	30	-	O	1024386	1024803	-	Std.	72.00	-	1093716	1090161
20	30	-	O	1024402	1024821	-	Long	85.50	-	1093716	1090161
25	37	-	P	1024420	1024849	-	Std.	134.00	-	1093717	1090189
25	37	-	P	1024448	1024867	-	Long	172.00	-	1093717	1090189
30	45	-	S	1024466	1024885	-	Std.	182.00	-	1093718	1090189
30	45	-	S	1024484	1024901	-	Long	214.00	-	1093718	1090189
40	60	-	T	1024509	1024929	-	Std.	268.00	-	1093719	1090205
40	60	-	T	1024545	1024965	-	Long	312.00	-	1093719	1090205
50	75	-	U	1024563	1024983	-	Std.	390.00	-	1093720	-
50	75	-	U	1024581	1025009	-	Long	426.00	-	1093720	-
-	100	-	W	-	1025027	-	Std.	610.00	-	1093721	-
-	100	-	W	-	1025045	-	Long	675.00	-	1093721	-
-	150	-	X	-	1025063	-	Std.	735.00	-	1093721	-
-	200	-	Y	-	1025081	-	Std.	1020.00	-	1093723	-
-	300	-	Z	-	1025090	-	Std.	1390.00	-	1093724	-

* NOTE: Proof load is 2 times Working Load Limit.

All carbon hooks designed with a 5/1 design factor.

All alloy hooks 1-22t designed with a 4.5/1 safety factor.

All alloy hooks 30t and larger designed with a 4/1 safety factor.

All bronze hooks designed with a 4/1 safety factor.

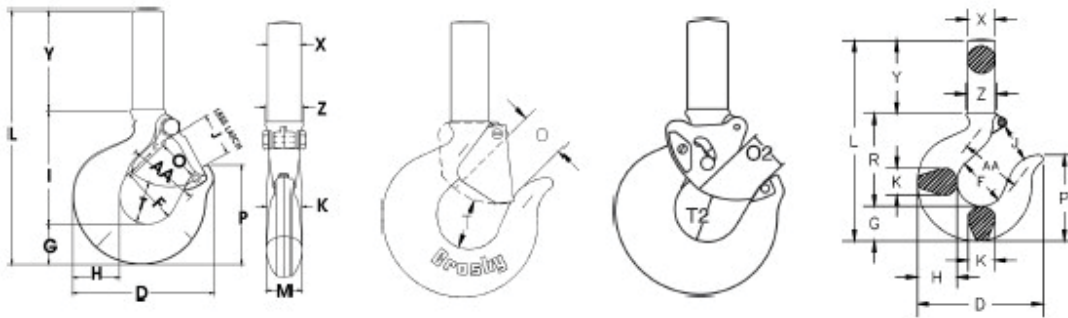
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CROSBY® SHANK HOOKS

NORTHERN STRANDS

S-319 / S- 319N

- The most complete line of shank hoist hooks. Available 3/4 to 300 tons.
- Available in carbon steel, alloy steel, and bronze.
- Quenched and Tempered.
- Proper design, careful forging, and precision controlled quench and tempering give maximum strength without excessive weight and bulk.
- Every Crosby Shank Hook has a pre-drilled cam which can be equipped with a latch. Even years after purchase of the original hook, latch assemblies can be added.
- Load Rating code stamped on each hook.



(in.)																		
Hook I.D. Code	D	F	G	H	J	K	L	M	O	O2††	P	R	T	T2††	X*	Y	Z	Deformation Indicator AA
D	2.86	1.25	.73	.81	.93	.63	5.14	.63	.93†	--	1.96	2.35	.97	--	.59	2.06	.69	1.50
F	3.16	1.38	.84	.94	.97	.71	5.68	.71	.97†	--	2.22	2.59	.97	--	.66	2.25	.78	2.00
G	3.59	1.50	1.00	1.16	1.06	.88	6.35	.88	1.06†	--	2.44	2.76	1.03	--	.72	2.59	.88	2.00
H	4.00	1.62	1.14	1.31	1.19	.94	7.14	.94	1.16†	--	2.78	3.16	1.16	--	.88	2.84	1.00	2.00
I	4.84	2.00	1.44	1.63	1.50	1.31	8.63	1.13	1.36†	1.00	3.47	3.85	1.53	1.50	1.16	3.44	1.25	2.50
J	6.28	2.50	1.82	2.06	1.78	1.66	10.43	1.44	1.61†	1.31	4.59	4.77	1.96	1.88	1.41	3.84	1.56	3.00
K	7.54	3.00	2.26	2.63	2.41	1.88	12.52	1.63	2.08†	1.81	5.25	5.88	2.47	2.25	1.81	4.38	1.94	4.00
L	8.34	3.25	2.60	2.94	2.62	2.19	13.47	1.94	2.27†	2.00	5.96	6.37	2.62	2.31	2.00	4.50	2.19	4.00
N	10.34	4.25	3.01	3.50	3.41	2.69	16.65	2.38	3.02†	2.75	6.88	8.14	2.83	2.56	2.56	5.50	2.63	5.00
O	13.62	5.00	3.62	4.62	4.00	3.00	23.09	3.00	3.25	--	8.78	9.44	3.44	--	3.12	10.00	3.12	6.50
O	13.62	5.00	3.62	4.62	4.00	3.00	31.09	3.00	3.25	--	8.78	9.44	3.44	--	3.12	18.00	3.12	6.50
P	14.06	5.38	4.56	5.00	4.25	3.62	32.12	3.00	3.00	--	11.31	12.50	3.88	--	4.00	15.00	4.00	7.00
P	14.06	5.38	4.56	5.00	4.25	3.62	41.12	3.00	3.00	--	11.31	12.50	3.88	--	4.00	24.00	4.00	7.00
S	15.44	6.00	5.06	5.50	4.75	3.72	34.12	3.25	3.38	--	12.56	14.00	4.75	--	4.19	15.00	4.19	8.00
S	15.44	6.00	5.06	5.50	4.75	3.72	43.12	3.25	3.38	--	12.56	14.00	4.75	--	4.19	24.00	4.19	8.00
T	18.50	7.00	6.00	6.50	5.75	4.44	36.06	3.91	4.12	--	14.75	15.56	5.69	--	4.50	14.50	4.50	10.00
T	18.50	7.00	6.00	6.50	5.75	4.44	47.56	3.91	4.12	--	14.75	15.56	5.69	--	4.50	26.00	4.50	10.00
U	20.62	7.75	6.69	7.25	6.50	5.25	41.16	4.25	4.88	--	16.53	19.38	6.00	--	5.00	15.00	5.00	11.50
U	20.62	7.75	6.69	7.25	6.50	5.25	49.16	4.25	4.88	--	16.53	19.38	6.00	--	5.00	23.00	5.00	11.50
W	23.00	6.81	8.59	9.88	5.88	5.50	42.12	5.50	4.50	--	17.25	18.41	7.00	--	7.00	15.00	7.00	12.00
W	23.00	6.81	8.59	9.88	5.88	5.50	48.12	5.50	4.50	--	17.25	18.41	7.00	--	7.00	21.00	7.00	12.00
X	24.38	6.75	9.12	10.94	6.00	6.00	45.75	6.00	4.50	--	18.00	18.38	7.00	--	7.25	18.00	7.25	13.00
Y	26.69	7.50	9.75	11.81	6.60	7.00	50.50	7.00	5.00	--	19.75	20.50	8.00	--	8.00	20.00	8.00	13.00
Z	30.12	9.50	10.62	12.94	8.00	7.25	54.69	8.00	6.25	--	22.69	23.50	8.25	--	9.50	20.00	9.50	15.00

* Dimension before machining (as forged). See Hoist Hook Warnings for maximum clean up dimensions after machining.

† 3/4tC - 22tA dimensions shown are for S-4320 Latch Kits. Dimensions for sizes 20 ton carbon and larger are for PL Latch Kits.

†† Dimensions are for PL-N latch kits.

CROSBY® SHANK HOOKS

NORTHERN STRANDS

All Crosby 320 Eye Hoist Hooks incorporate the following features:

S-320 & S-320N EYE HOOKS



- Designed with a 5:1 Design Factor.
- Chemical analysis and tensile tests performed on each PIC to verify chemistry and mechanical properties.
- The most complete line of Eye hoist hooks.
- Proper design, careful forging and precision controlled quenched and tempering give maximum strength without excessive weight and bulk.
- Every Crosby Eye Hook has a pre-drilled cam which can be equipped with a latch. Even years after purchase of the original hook, latch assemblies can be added.
- Eye hooks are load rated.
- Available in carbon steel and alloy steel.
- Hoist hooks incorporate two types of strategically placed markings forged into the product which address two (2) **QUIC-CHECK®** features:
- Deformation Indicators and Angle Indicators (see following page for detailed definition).

The following additional features have been incorporated in the new Crosby S-320N Eye Hoist Hooks. (Sizes 3/4 ton Carbon through 22 ton Alloy.)



- A new cross section design (see inset drawing) that enhances the overall performance.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- Can be proof tested to 2-1/2 times the working Load Limit.
- Can be Metric Rated at 5:1 Design Factor.
- Low profile hook tip.
- New integrated latch (S-4320) meets the World class standard for lifting.
- Heavy duty stamped latch interlocks with the hook tip.
- High cycle, long life spring.
- When secured with proper cotter pin through the hole in the tip of hook, meets the intent of OSHA Rule 1926.550(g) for personnel hoisting.

Working Load Limit (t)*		Hook ID Code	Eye Hook Stock No.			Weight Each (lbs.)	Replacement Latch Kits		
Carbon	Alloy		Carbon S-320C S.C.	Carbon G-320C Galv.	Alloy S-320A S.C.		S-4320 Stock No.	PL Stock No.	SS-4055 Stock No.
3/4†	1†	D	1022200	1022208	1025802	.61	1096325	--	--
1†	1-1/2†	F	1022211	1022219	1022386	.89	1096374	--	--
1-1/2†	2†	G	1022222	1022230	1025811	1.44	1096421	--	--
2†	3†	H	1022233	1022241	1025820	2.07	1096468	--	--
3†	5†	I	1022244	1022249	1025839	4.30	1096515	1092000	--
5†	7†	J	1022255	1022262	1025848	8.30	1096562	1092001	--
7-1/2†	11†	K	1022264	1022274	1022441	15.00	1096609	1092002	--
10†	15†	L	1022285	1022452	1022452	21.60	1096657	1092003	--
15†	22†	N	1022288	1022296	1022465	39.50	1096704	1092004	--
20	30	O	1023289	--	1023546	60.00	--	1093716	1090161
25	37	P	1023305	--	1023564	105.00	--	1093717	1090189
30	45	S	1023323	--	1023582	148.00	--	1093718	1090189
40	60	T	1023341	--	1023608	228.00	--	1093719	1090205

* Eye Hooks (3/4 TC - 22TA), Proof load is 2.5 times Working Load Limit. Eye Hooks (20 TC - 60TA), Proof Load is 2 times Working Load Limit. All carbon hooks-average straightening loads (ultimate load) is 5 times Working Load Limit. Alloy eye hooks 1 ton through 22 ton-average straightening load (ultimate load) is 5 times Working Load Limit. Alloy eye hooks 30 tons through 60 tons-average straightening load (ultimate load) is 4.5 times Working Load Limit.

†New 320N style hook

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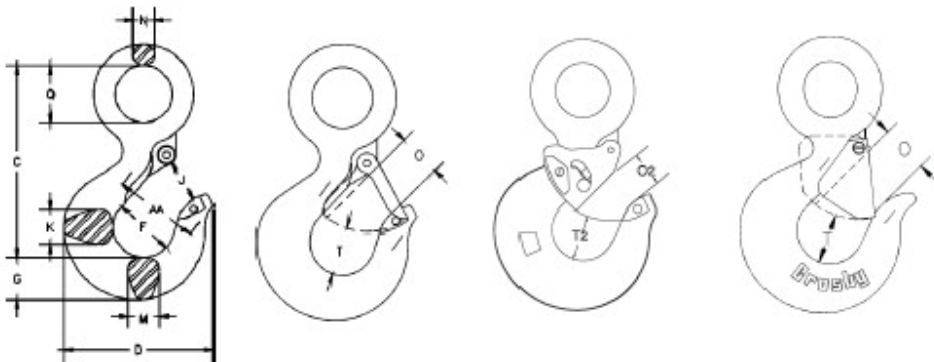
NORTHERN STRANDS

S-320 & S-320N EYE HOOKS



Hoist hooks incorporate markings forged into the product which address two (2) QUIC-CHECK® features.

- **Deformation Indicators** - Two strategically placed marks, one just below the shank or eye and the other on the hook up, which allows for a QUIC-CHECK® measurement to determine if the throat opening has changed, thus indicating abuse or overload. To check, use a measuring device (i.e. tape measure) to measure the distance between the marks. The marks should align to either an inch or half-inch increment on the measuring device. If the measurement does not meet this criteria, the hook should be inspected further for possible damage.
- **Angle Indicators** - Indicates the maximum included angle which is allowed between two (2) sling legs in the hook. These indicators also provide the opportunity to approximate other included angles between two sling legs.



Hook ID*	Dimensions (in.)													
	C	D	F	G	J	K	M	N	O †	O2 ††	Q	T †	T2 ††	AA
D	3.34	2.83	1.25	.73	.90	.63	.63	.36	.89	--	.75	.87	--	1.50
F	3.81	3.11	1.38	.84	.93	.71	.71	.42	.91	--	.91	.98	--	2.00
G	4.14	3.53	1.50	1.00	1.00	.88	.88	.55	1.00	--	1.13	1.03	--	2.00
H	4.69	3.97	1.63	1.13	1.13	.94	.94	.58	1.09	--	1.25	1.16	--	2.00
I	5.77	4.81	2.00	1.44	1.47	1.31	1.31	.72	1.36	1.00	1.56	1.53	1.50	2.50
J	7.37	6.27	2.50	1.81	1.75	1.66	1.66	.90	1.61	1.31	2.00	1.96	1.88	3.00
K	9.07	7.45	3.00	2.25	2.29	1.88	1.63	1.11	2.08	1.81	2.44	2.47	2.25	4.00
L	10.08	8.30	3.25	2.59	2.50	2.19	1.94	1.27	2.27	2.00	2.84	2.62	2.31	4.00
N	12.53	10.30	4.25	3.00	3.30	2.69	2.38	1.56	3.02	2.75	3.50	2.83	2.56	5.00
O	14.06	13.62	5.00	3.62	4.00	3.00	3.00	1.75	3.25	--	3.50	3.44	--	6.50
P	18.19	14.06	5.38	4.56	4.25	4.00	3.19	2.00	3.00	--	4.50	3.88	--	7.00
S	20.12	15.44	6.00	5.06	4.75	4.50	3.25	2.18	3.38	--	4.94	4.75	--	8.00
T	23.72	18.50	7.00	6.00	5.75	5.50	3.91	2.53	4.12	--	5.69	5.69	--	10.00

* Eye Hooks (3/4 TC - 22TA), Proof load is 2.5 times Working Load Limit. Eye Hooks (20T - 60TA), Proof Load is 2 times Working Load Limit. All carbon hooks-average straightening loads (ultimate load) is 5 times Working Load Limit. Alloy eye hooks 1 ton through 22 tons-average straightening load (ultimate load) is 5 times Working Load Limit. Alloy eye hooks 30 tons through 60 tons-average straightening load (ultimate load) is 4.5 times Working Load Limit.

† 3/4tC - 22tA dimensions shown are for S-4320 Latch Kits. Dimensions for sizes 20 ton carbon and larger are for PL Latch Kits.

†† Dimensions are for PL-N latch kits.

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CROSBY® EYE HOOKS

NORTHERN STRANDS

S-3322 SWIVEL HOOKS WITH BEARING

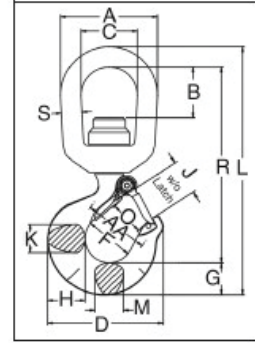


Suitable for frequent rotation under load.

- New anti-friction bearing design allows hook to rotate freely under load.
- Capacity ranging from 2 through 15 metric tonnes.
- Forged - Quenched and Tempered.
- Proper design, careful forging, and precision controlled quench and tempering gives maximum strength without excessive weight and bulk.
- Low profile hook tip designed to utilize Crosby S-4320 or PL-N latch kit. Even years after purchase of the original hook, latch assemblies can be added.
- S-3322 hooks incorporate markings forged into the product which address two (2) **QUIC-CHECK®** features:

- **Deformation Indicators** -- Two strategically placed marks, one just below the shank or eye and the other on the hook tip, which allows for a **QUIC-CHECK®** measurement to determine if the throat opening has changed, thus indicating abuse or overload.

- **Angle Indicators** - Indicates the maximum included angle which is allowed between two (2) sling legs in the hook. These indicators also provide the opportunity to approximate other included angles between two slings legs.



For other swivel hooks designed to rotate under load, see page 95, 103, 106, 111-115. Use in corrosive environment requires shank and nut inspection in accordance with A.S.M.E. B30.10-1.2.1(b)(2)(c) 2000.

* U.S. Patents 5,381,650 & 5,193,480 & 5,103,755 and foreign equivalents

Working Load Limit (t)*	S-3322 Stock No.	L-3322 Stock No.†	Weight Each (lbs.)	Dimensions (in.)																Rep. Latch Stock No.
				A	B	C	D	F	G	H	J	K	L	M	O	R	S	AA		
2	1028605	1028609	2.5	3.00	1.50	1.75	3.59	1.50	1.00	1.16	1.06	.88	7.64	.88	1.00	6.01	.63	2.00	1096421	
3	1028614	1028618	3.8	3.50	1.56	2.00	4.00	1.62	1.13	1.31	1.19	.94	8.60	.94	1.09	6.72	.75	2.00	1096468	
5	1028623	1028627	7.0	4.00	1.56	2.25	4.84	2.00	1.44	1.63	1.50	1.31	10.32	1.13	1.36	8.00	.88	2.50	1096515	
7	1028632	1028636	14.0	5.00	1.94	2.75	6.27	2.50	1.81	2.06	1.78	1.66	12.84	1.44	1.61	9.90	1.13	3.00	1096562	
11	1028641	1028645	22.3	5.62	2.05	3.12	7.54	3.00	2.25	2.63	2.41	1.88	15.24	1.63	2.08	11.74	1.25	4.00	1096609	
15	1028650	1028654	37.8	7.12	3.62	4.10	8.33	3.25	2.59	2.94	2.62	2.19	18.64	1.94	2.27	14.41	1.50	4.00	1096657	

NOTE: Proofload is 2.5 times the working load limit. Designed with a 4.5 to 1 design factor.

† Supplied with latch attached.

CROSBY® SWIVEL HOOKS

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Northern Strands Co. Ltd.

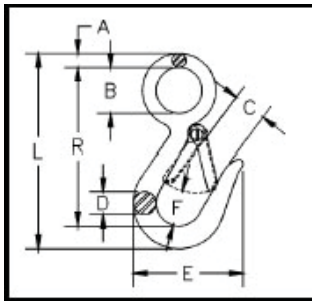
NORTHERN STRANDS

G-3315



- Forged Alloy Steel -- Quenched and Tempered.
- Pressed steel latches and stainless steel springs, bolts and nuts.
- For replacement latch kit, order Stock No. 9900299.

G-3315 Snap Hooks



Hook Size (in.)	G-3315 Stock No. Galv.	Working Load Limit* (lbs.)	Weight Each (lbs.)	Dimensions (in.)							
				A	B	C	D	E	F	L	R
7/16	1023056	750	.23	.25	.75	.75	.44	2.25	.75	3.94	3.25
9/16	1023074	1000	.48	.34	1.12	.81	.56	2.69	.88	4.75	3.84

* Ultimate Load is 4 times the Working Load Limit

1210

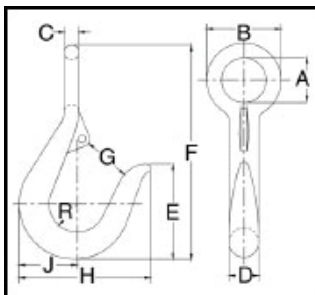


1210 Round Reverse Eye Hook

- Forged Carbon steel -- Galvanized.

Size (in.)	Stock No. Galv.	Working Load Limit (lbs.)	Weight Each (lbs.)	Latch No.	Dimensions (in.)											
					A	B	C	D	E	F	G	H	J	R		
1/2	919019	300	.4	1090027	.81	1.38	.28	.50	1.62	4.00	.75	2.25	.97	.47		
5/8	919037	400	.6	1090027	.94	1.56	.31	.62	2.00	4.50	.94	2.75	1.22	.59		
3/4	919055	700	1.1	1090045	1.12	1.88	.38	.75	2.25	5.25	1.06	3.00	1.44	.69		
7.8	919073	1200	1.6	1096468	1.19	2.06	.44	.88	3.00	6.50	1.25	3.38	1.63	.75		
1 - 1-1/8	919091	1800	2.0	1090081	1.50	2.75	.62	1.12	3.50	8.00	1.50	4.38	2.00	.94		
1-1/4 - 1-3/8	919135	2700	5.5	1090081	1.88	3.50	.81	1.38	4.00	9.12	1.62	5.00	2.38	1.06		

* Ultimate Load is 4 times the Working Load Limit



CROSBY® FORGED HOOKS

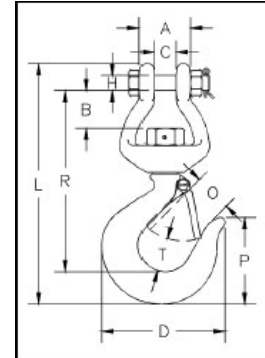
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NORTHERN STRANDS

S-3316



- Easily attaches to any chain and electric hoist with welded link load chain, roller chain or wire rope with suitable end fitting.
- Swivel jaw is forged.
- Suitable for infrequent, non-continuous rotation under load.
- Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.2.1(b)(2)(c)2000.



S-3316 Replacement Hook

Working Load Limit (Tons)*	S-3316 Stock No.	Weight Each (lbs.)	Dimensions (in.)										Rep. Latch Kit Stock No.
			A	B	C	D	H	L	O	P	R	T	
1/2	1023029	1.25	1.31	.76	.56	3.19	.38	6.12	.97	2.25	4.59	.81	1090045
1	1023047	2.61	1.56	1.00	.69	4.09	.44	7.69	1.12	2.84	5.81	1.19	1090063

*Ultimate Load is 5 times the Working Load Limit.

- Forged Carbon Steel - Quenched and Tempered.
- Meets the performance requirements of Federal Specification RR-C-271D, Type V, Class 6, except for those provisions required of the contractor.

S-377



S-377 Barrel Hooks

Working Load Limit Per Pair (Tons)*	S-377 Stock No. Per Pair	Weight Each Per Pair (lbs.)	Dimensions (in.)			
			I.D. of Eye	O.D. of Eye	Overall Length	Width of Lip
1	1028248	3.56	1.56	2.81	5.00	2.88

*Ultimate Load is 4 times the Working Load Limit.

- Forged Alloy Steel - Quenched and Tempered
- Deep straight throat permits efficient handling of flat plates or large cylindrical shapes.

A-378



A-378 Sorting Hook

Working Load Limit at tip of Hook (Tons)*	Working Load Limit at bottom of Hook (Tons)*	A-378 Stock No.	Style	Weight Each (lbs.)	Dimensions (in.)			
					I.D. of Eye	Overall Length	Opening at top of Hook	Radius at bottom of Hook
2	7-1/2	1028024	No Handle	6.42	1.38	9.69	2.81	.625
2	7-1/2	1028033	With Handle	6.42	1.38	9.69	2.81	.625

*Ultimate Load is 4 times the Working Load Limit.

CROSBY® FORGED HOOKS