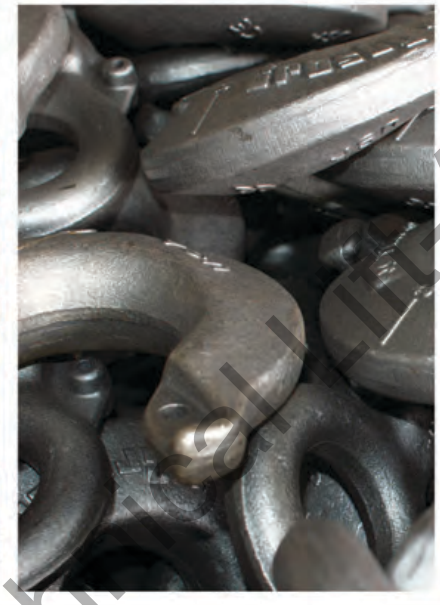


HOOKS & SWIVELS

With Product Warnings and Application Information

S-320N

Crosby "There is No Equal"

The Market Leader: Yesterday Today and Tomorrow

Hooks & Swivels

S-319N

DESIGN

The theoretical reserve capability of a hoist hook should be a minimum of 5 to 1 for carbon eye hooks, alloy eye hooks and carbon shank hooks and 4.5 to 1 for alloy shank hooks. Known as the DESIGN FACTOR, it is usually computed by dividing the catalog ultimate load by the working load limit. The ultimate load is the average load or force at which the product fails or no longer supports the load. The working load limit is the maximum mass or force which the product is authorized to support in general service. The design factor is generally expressed as a ratio such as 5 to 1. Also important to the design of hooks is the selection of proper steel.

THE COMPETITION

Ask: *What is the the design factor?*

Ask: *Is production lot performance tested?*

Crosby

Crosby hoist hooks meet the design factor requirements of 5 to 1 for all carbon hooks, 5 to 1 for all alloy eye and swivel hooks and 4.5 to 1 for alloy shank hooks. Crosby's QC 1400 program determines the mechanical properties of each manufacturing lot of hoist hooks. In addition to the heat treat process, Crosby hooks are designed with a cross section that, when overloaded, allows uniform deformation and straightening before ultimate failure.

QUENCHED AND TEMPERED

Quenching and tempering assures the uniformity of performance and maximizes the properties of the steel. This means that each hook meets its rated strength and other properties. This quenching and tempering process develops a tough material that reduces the risk of a brittle, catastrophic failure, thus improving impact and fatigue properties. As a result, if overloaded, the hook will deform before ultimate failure occurs, thus giving warning. The requirements of your job demand this reliability and consistency. Quench and Tempering insures that not only is the working load limit met, but that ductility, fatigue and impact properties are appropriate.

THE COMPETITION

Ask: *Are their hooks quenched and tempered?*

Ask: *Do their shackles have good fatigue life?*

Ask: *Do their shackles have a fatigue life that meets the new world standards?*

Some competitors normalize the hooks, and as a result, desired properties are not achieved. A few even provide hooks in an "as forged" condition, which can result in brittle failure.

Crosby

Crosby hoist hooks are quenched and tempered. This heat treatment process assures a hook that will deform prior to ultimate failure. Impact and fatigue properties are superior with quenched and tempered hooks. Crosby's Quenched and Tempered carbon and alloy hoist hooks are recommended for all critical applications, including overhead lifting.

"QT" QUENCHED & TEMPERED

FULL LINE AND IDENTIFICATION

The proper application of hoist hooks requires that the correct type, size, and working load capacity of hook be used. All hooks must be load rated (with either the working load or a cross reference code). In addition the traceability code, size, and manufacturer's name should be boldly marked on the product. Availability of a full line of eye, shank, and swivel hooks in carbon and alloy steel is essential when selecting the desired hook for the proper application.

THE COMPETITION

Ask: *Do they have a traceability system?*

Ask: *Does their traceablity system tie into a comprehensive material testing program?*

Ask: *Does their product offering cover the full range?*

Most competitors do not have the full line of hooks that Crosby produces. Most do not have a traceability system.

Crosby

Crosby forges "Crosby" or "CG," the Product Identification Code (P.I.C.), and working load limit (or working load cross reference code) into its full line. Crosby's traceability system and P.I.C. are an integral part of the QC 1400 program.

QUIC-CHECK® Q®

APPLICATION INFORMATION

Detailed application information will assist you in the proper selection and use of hoist hooks. This information is most effective when provided in supporting brochures and engineering information. A formal application and warning system that attracts the attention of the user, clearly informs the user of the factors involved in the task, and informs the user of the proper application procedures is needed.

THE COMPETITION

Ask: *Do they provide hook application and warning information attached directly to the hook?*

Ask: *What training support is provided?*

Most competitors do not have a comparable product warnings system and application information for hoist hooks.

Crosby

The Crosby Product Warnings System provides detailed application and warning information for hoist hooks. In addition, a video on hook maintenance is also available. Field inspection criteria and repair instructions are also available.Training seminars conducted by Crosby provide training on the proper use of hoist hooks. Crosby training packets, supplied free to attendees of Crosby's seminars, provide training materials needed to explain the proper use of hoist hooks.

Remember: "When buying Crosby, you're buying more than product, you're buying Quality."

Crosby VALUE ADDED

- **U.S. ratings:** When comparing to other hooks which are rated in short tons, the design factor of Crosby hooks (in short tons) is 5 to 1 for all carbon hooks, 5 to 1 for alloy eye and swivel hooks, 4.5 to 1 for alloy shank hooks and 4 to 1 for all bronze hooks.
- **Application information:** Application and warning information is available for Crosby hoist hooks. The Crosby Warning System is designed to attract the attention of the user, clearly inform the user of the factors involved in the task, and provide the user with proper application procedures. Each Crosby hoist hook is tagged with appropriate application and warning information, thus insuring that the information is available at the point of application.
- **Charpy impact properties:** Crosby's quenched and tempered hooks have enhanced impact properties for greater toughness at all temperatures. Crosby can provide typical Charpy impact properties on selected sizes upon special request at the time of order.
- **Fatigue properties:** Typical fatigue properties are available for selected sizes. In addition, these properties will be provided upon special request for other sizes.
- **Ductility properties:** Crosby's QC 1400 program provides results of actual test values for ductility of the material. These results are measured by reduction of area and elongation. This is done for each production lot and is traceable by the Product Identification Code (PIC).
- **Tensile strengths:** Crosby's QC 1400 program provides hardness, tensile, and yield strength for each production lot of hoist hooks. They are traceable by the Product Identification Code (PIC).
- **Material Analysis:** Crosby can provide certified material (mill) analysis for each production lot, traceable by the Product Identification Code (PIC). Crosby, through its own laboratory, verifies the analysis of each heat of steel. Crosby purchases only *special bar* forging quality steel with specific cleanliness requirements and guaranteed hardenability.
- **Field inspection:** Written instructions for visual, magnaflux, and dye penetrant inspection of hooks are available from Crosby. In addition, acceptance criteria and repair procedures for hooks are available.
- **Proof testing:** If requested at the time of order, hooks can be furnished proof tested with certification. All SHUR-LOC® hooks (clevis and eye styles) are 100% proof tested with certificates.
- **Mag Certification**: If requested at the time of order, hooks can be Mag inspected with certification.
- **World Class Certification:** Certification to World Class Standards can be furnished upon request at the time of order. Specific standards include American Bureau of Shipping, Lloyds Register of Shipping, Det Norske Veritas, American Petroleum Institute, RINA, Nuclear Regulatory Commission, and other worldwide standards.
- **Bronze Hooks:** Crosby provides bronze shank hooks for non-sparking applications.
- **QUIC-CHECK®**: 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 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 sling legs.
- **McKissick Split-Nut Hook Retention System:** Shank hooks on crane blocks must be inspected in accordance with applicable ASME B30, CSA Z150 and other crane standards. These standards mandate the crane hook to be inspected for surface indications, damage and corrosion which could compromise the integrity of the crane block. Because of the type of environment in which these hooks are required to perform, the removal of corroded nuts from the threads can become a problem during inspections. The innovative patented McKissick Split-Nut Retention System is available on Crosby shank hoist hooks. With 4 easy steps, the hook can be disassembled, inspected and put back into service in a fraction of the time of a conventional threaded nut.

Scan this QR code with your smart device to view our Split-Nut Retention System video.

Crosby® Shank Hooks

S-319/S-319N
Trademark indicates QUIC-CHECK® product.
Hook Material Codes: A-Alloy Steel, B-Bronze High Strength, C-Carbon Steel.

- The most complete line of shank marked hoist hooks. Available 3/4 to 300 metric tons.
- Hook Identification code marked into each hook
- All Carbon and Alloy Hooks are quenched and tempered.
- Quenched and Tempered.
- Available in carbon steel, alloy steel, and bronze.
- 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. Simply purchase the latch assemblies listed and shown on pages 121 - 123. Even years after purchase of the original hook, latch assemblies can be added.
- Type Approval Certification in accordance with ABS 2016 Steel Vessels and ABS Guide for Certification on Cranes available. Certificates available when requested at time of order and may include additional charges
- Patented McKissick Split-Nut retention system available, see page 379 for more information.

QUIC-CHECK®

SEE APPLICATION AND WARNING INFORMATION
Crosby On Pages 142 - 143
McKissicks On Pages 144-145
Para Español: www.thecrosbygroup.com

S-319 / S-319N Crosby® Shank Hook

Working Load Limit (t)*			Hook ID Code	Shank Hooks Stock No.			Shank Length ‡	Weight Each (kg)	Rep. Latch Kits		
Carbon	Alloy	Bronze		Carbon S-319C S-319CN	Alloy S-319A S-319AN	Bronze S-319BN			S-4320 Stock No.	PL Stock No.	SS-4055 Stock No.
3/4	1.25	.5	†D	1028505	1028701	1028900	Std.	.23	1096325	-	-
1	1.6	.6	†F	1028514	1028710	1028909	Std.	.34	1096374	-	-
1.6	2.5	1	†G	1028523	1028723	1028918	Std.	.45	1096421	-	-
2	3.2	1.4	†H	1028532	1028732	1028927	Std.	.83	1096468	-	-
3.2	5.4	2	†I	1028541	1028741	1028936	Std.	1.67	1096515	1092000	-
5	8	3.5	†J	1028550	1028750	1028945	Std.	3.29	1096562	1092001	-
7.5	11.5	5	†K	1028563	1028765	1028954	Std.	6.12	1096609	1092002	-
10	16	6.5	†L	1028590	1028792	1028981	Std.	9.9	1096657	1092003	-
15	22	10	†N	1028599	1028801	1028990	Std.	17.4	1096704	1092004	-
20	30	-	O	1024386	1024803	-	Std.	32.7	-	1093716	1090161
20	30	-	O	1024402	1024821	-	Long	38.8	-	1093716	1090161
25	37	-	P	1024420	1024849	-	Std.	61	-	1093717	1090189
25	37	-	P	1024448	1024867	-	Long	78	-	1093717	1090189
30	45	-	S	1024466	1024885	-	Std.	83	-	1093718	1090189
30	45	-	S	1024484	1024901	-	Long	97	-	1093718	1090189
40	60	-	T	1024509	1024929	-	Std.	122	-	1093719	1090205
40	60	-	T	1024545	1024965	-	Long	142	-	1093719	1090205
50	75	-	U	1024563	1024983	-	Std.	177	-	1093720	-
50	75	-	U	1024581	1025009	-	Long	193	-	1093720	-
-	100	-	W	-	1025027	-	Std.	277	-	1093721	-
-	100	-	W	-	1025045	-	Long	306	-	1093721	-
-	150	-	X	-	1025063	-	Std.	333	-	1093721	-
-	200	-	Y	-	1025081	-	Std.	463	-	1093723	-
-	300	-	Z	-	1025090	-	Std.	630	-	1093724	-

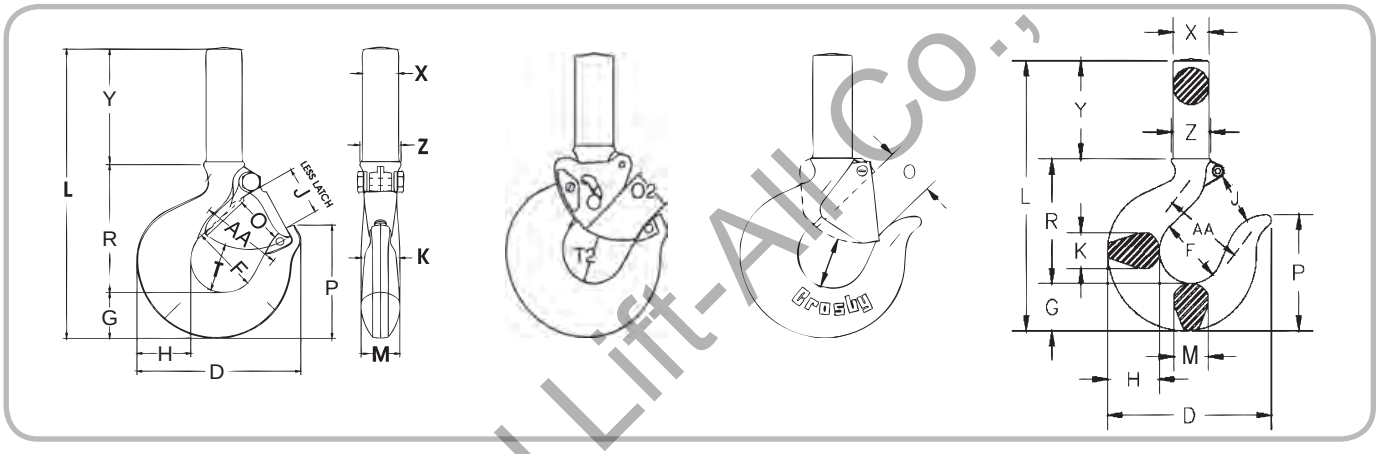
Maximum allowable Proof Load is 2 Times Working Load Limit. All carbon hooks designed with a 5/1 design factor All alloy hooks 1-22t designed with a 4.5/1 design factor. All alloy hooks 30t and larger designed with a 4/1 design factor. All bronze hooks designed with a 4/1 design factor. † New 319N style hook. ‡ See column "Y" on following page for actual length.

Crosby® Shank Hooks

S-319/S-319N
Trademark indicates QUIC-CHECK® product.
Hook Material Codes: A-Alloy Steel, B-Bronze High Strength, C-Carbon Steel.

- 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 tip, 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.
- Chemical analysis and tensile tests performed on each PIC to verify chemistry and mechanical properties.

SEE APPLICATION AND WARNING INFORMATION
Crosby On Pages 142 - 143
McKissick On Pages 144-145
Para Español: www.thecrosbygroup.com



S-319 / S-319N Crosby® Shank Hook

Hook ID Code	Dimensions (mm)																	
	D	F	G	H	J	K	L	M	O	O2 ††	P	R	T	T2 ††	X	Y	Z	AA**
D	72.5	31.8	18.5	20.6	23.6	16.0	131	16.0	†23.6	-	49.8	59.5	24.6	-	15.0	52.5	17.5	38.1
F	80.5	35.1	21.3	23.9	24.6	18.0	144	18.0	†24.6	-	56.5	66.0	24.6	-	19.3	57.0	19.8	50.8
G	91.0	38.1	25.4	29.5	26.9	22.4	161	22.4	†26.9	-	62.0	70.0	26.2	-	18.3	66.0	22.4	50.8
H	102	41.1	29.0	33.3	30.2	23.9	181	23.9	†29.5	-	70.5	80.5	29.5	-	22.4	72.0	25.4	50.8
I	123	51.0	36.6	41.4	38.1	33.3	219	28.7	†34.5	25.4	88.0	98.0	38.9	38.1	29.5	87.5	31.8	63.5
J	160	63.5	46.2	52.5	45.2	42.2	265	36.6	40.9	33.3	117	121	49.3	47.8	35.8	97.5	39.6	76.2
K	192	76.0	57.5	67.0	61.0	47.8	318	41.4	53.0	46.0	133	149	62.5	57.2	46.0	111	49.3	101
L	212	82.5	66.0	74.5	66.5	55.5	409	49.3	57.5	51.0	151	162	66.0	58.7	51.0	178	55.5	101
N	268	108	76.5	89.0	86.5	68.5	461	60.5	76.5	69.9	175	207	71.5	65.0	65.0	178	67.0	127
O	346	127	92.0	117	102	76.0	586	76.0	82.5	-	223	240	87.5	-	79.0	254	79.0	165
O	346	127	92.0	117	102	76.0	790	76.0	82.5	-	223	240	87.5	-	79.0	457	79.0	165
P	357	137	116	127	108	92.0	816	76.0	76.0	-	287	318	98.5	-	102	381	102	177
P	357	137	116	127	108	92.0	1044	76.0	76.0	-	287	318	98.5	-	102	610	102	177
S	392	152	129	140	121	94.5	867	82.5	86.0	-	319	356	121	-	106	381	106	203
S	392	152	129	140	121	94.5	1095	82.5	86.0	-	319	356	121	-	106	610	106	203
T	470	178	152	165	146	113	916	99.5	105	-	375	395	145	-	114	368	114	254
T	470	178	152	165	146	113	1208	99.5	105	-	375	395	145	-	114	660	114	254
U	524	197	170	184	165	133	1045	108	124	-	420	492	152	-	127	381	127	292
U	524	197	170	184	165	133	1249	108	124	-	420	492	152	-	127	584	127	292
W	584	173	218	251	149	140	1070	140	114	-	438	468	178	-	178	381	178	305
W	584	173	218	251	149	140	1222	140	114	-	438	468	178	-	178	533	178	305
X	619	171	232	278	152	152	1162	152	114	-	457	467	178	-	184	457	184	330
Y	678	191	248	300	168	178	1283	178	127	-	502	521	203	-	203	508	203	330
Z	765	241	270	329	203	184	1389	203	159	-	576	597	210	-	241	508	241	381

Rough as-forged dimension. Shank will not machine to this dimension. Please refer to page 143 for recommended shank diameter when machining. ** Deformation Indicator. † 3/4tC - 22tA dimensions shown are for S-4320 Latch Kits. Dimensions for "O" frame size and larger are for PL Latch Kits. †† Dimensions are for PL-N latch kits. For the purpose of calculating D/d ratio, utilize dimension M.

Crosby® Eye Hooks

L-320CN
EYE HOOK

L-320C
EYE HOOK

All Crosby L-320 Eye Hoist Hooks incorporate the following features:

- The most complete line of Eye hoist hooks.
- Available in carbon steel and alloy steel.
- Designed with a 5:1 Design Factor for (Carbon Steel); 4.5:1 Design Factor for 30t - 60t (Alloy Steel).
- Eye hooks are load rated.
- Proper design, careful forging and precision controlled quenched and tempering give maximum strength without excessive weight and bulk.
- Every Crosby Eye Hook is equipped with a latch. Even years after purchase of the original hook, latch assemblies can be added. (See pages 121 - 123)
- Chemical analysis and tensile tests performed on each PIC to verify chemistry and mechanical properties.
- Type Approval certification in accordance with ABS 2016 Steel Vessel and Guide for Certification of Lifting Appliances 2016 available. Certificates available when requested at time of order and may include additional charges.
- Meets ASME B30.10
- 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 L-320N Eye Hoist Hooks. (Sizes 3/4 metric ton Carbon through 22 metric ton Alloy.)

- Metric Rated at 5:1 Design Factor for (Carbon Steel); 5:1 Design Factor for 1t - 22t (Alloy Steel).
- Can be proof tested to 2 times the Working Load Limit.
- 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 1926.1431(g) and 1926.1501(g) for personnel hoisting.

Load Rated® Fatigue Rated® TA QUIC-CHECK® QT

SEE APPLICATION AND WARNING INFORMATION
On Pages 144-145
Para Español: www.thecrosbygroup.com

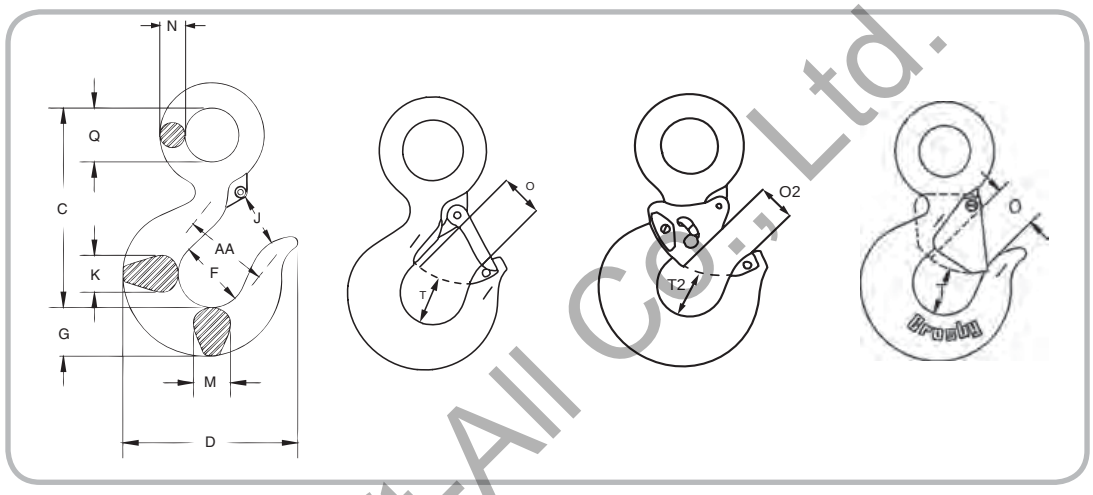
L-320N / L-320 EYE HOOKS

Working Load Limit (t)		Hook ID Code	Eye Hook Stock No.			Weight Each (kg.)	Replacement Latch Kits		
Carbon	Alloy		Carbon L-320C L-320CN S.C.	Carbon GL-320CN Galv.	Alloy L-320A L-320AN S.C.		S-4320 Stock No.	PL Stock No.	SS-4055 Stock No.
.75	1.25	†D	1022205	1022208	1022380	.28	1096325	-	-
1	1.6	†F	1022216	1022219	1022391	.40	1096374	-	-
1.6	2.5	†G	1022227	1022230	1022402	.65	1096421	-	-
2	3.2	†H	1022238	1022241	1022413	.94	1096468	-	-
3.2	5.4	†I	1022246	1022249	1022424	1.95	1096515	1092000	-
5	8	†J	1022260	1022262	1022435	3.76	1096562	1092001	-
7.5	11.5	†K	1022271	1022274	1022446	6.80	1096609	1092002	-
10	16	†L	1022282	1022285	1022457	9.42	1096657	1092003	-
15	22	†N	1022293	1022296	1022468	17.9	1096704	1092004	-
20	31.5	O	1022302	-	1022477	27.2	-	1093716	1090161
25	37	P	1023306	-	1023565	47.6	-	1093717	1090189
30	45	S	1023324	-	1023583	67	-	1093718	1090189
40	60	T	1023342	-	1023609	103	-	1093719	1090205

*Eye Hooks (3/4 TC - 22TA), Proof load is 2 times Working Load Limit. Eye Hooks (20 TC - 60TA). All carbon hooks-average straightening load (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.

L-320AN
EYE HOOK

- 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 tip, 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.



Load Rated® Fatigue Rated® QUIC-CHECK®

SEE APPLICATION AND WARNING INFORMATION
On Pages 144 - 145
Para Español: www.thecrosbygroup.com

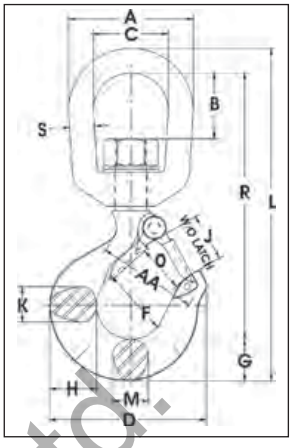
L-320N / L-320 EYE HOOKS

Hook ID Code*	Dimensions (mm)													
	C	D	F	G	J	K	M	N	O †	O2 ††	Q	T †	T2 ††	AA**
D	85.0	72.0	31.8	18.5	22.9	16.0	16.0	9.14	22.6	-	19.1	22.1	-	38.1
F	97.0	79.0	35.1	21.3	23.6	18.0	18.0	10.7	23.1	-	23.1	24.9	-	50.8
G	105	89.5	38.1	25.4	25.4	22.4	22.4	14.0	25.4	-	28.7	26.2	-	50.8
H	119	101	41.4	28.7	28.7	23.9	23.8	14.7	27.7	-	31.8	29.5	-	50.8
I	147	122	51.0	36.6	37.3	33.3	33.3	18.3	34.5	25.4	39.6	38.9	38.1	63.5
J	187	159	63.5	46.0	44.5	42.2	42.2	22.9	40.9	33.3	51.0	49.8	47.7	76.2
K	230	189	76.0	57.0	58.0	47.8	41.4	28.2	53.0	46.0	62.0	62.5	57.2	102
L	256	211	82.5	66.0	63.5	55.5	49.3	32.3	57.5	51.0	72.0	66.5	58.7	102
N	318	262	108	76.0	84.0	68.5	60.5	39.6	76.5	69.8	89.0	72.0	65.0	127
O	357	346	127	92.0	102	76.0	76.2	44.5	82.5	-	89.0	87.5	-	165
P	462	357	137	116	108	95.2	81.0	51.0	76.0	-	114	98.5	-	178
S	511	392	152	129	121	114	82.6	55.4	86.0	-	125	121	-	203
T	602	470	178	152	146	140	99.3	64.3	105	-	145	145	-	254

*Eye Hooks (3/4 TC-22TA), Proof load is 2 times Working Load Limit. Eye Hooks (20 TC-60TA). All carbon hooks - average straightening load (ultimate load) is 5 times Working Load Limit. Alloy eye hooks 1t through 22t - average straightening load (ultimate load) is 5 times Working Load Limit. Alloy eye hooks 30t through 60t - average straightening load (ultimate load) is 4.5 times Working Load Limit.
** Deformation Indicators.† 3/4tC - 22tA dimensions shown are for S-4320 Latch Kits. Dimensions for "O" frame size and larger are for PL Latch Kits.
†† Dimensions are for PL-N latch kits.

L-322CN / L-322AN
(L-322AN Shown)

- Forged - Quenched and Tempered.
- Swivel hooks are load rated.
- 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 atch kit. Simply purchase the latch assemblies listed and shown on pages 121 - 122. Even years after purchase of the original hook, latch assemblies can be added.
- 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 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 sling legs.
- Type Approval certification in accordance with ABS 2016 Steel Vessel Rules and ABS Guide for Certification of Lifting Appliances 2016 available. Certificates available when requested at time of order and may include additional charges.



Load Rated · Fatigue Rated · QUIC-CHECK®

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Suitable for infrequent, non-continuous rotation under load. Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c).

L-322CN & L-322AN Swivel Hooks

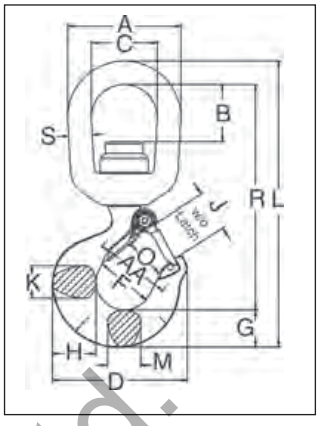
Working Load Limit (t)*		Hook ID Code*	L-322CN Stock No.	L-322AN Stock No.	Weight Each (kg)	Dimensions (mm)															Rep. Latch Stock No.
Carbon	Alloy					A	B	C	D	F	G	H	J	K	L	M	O †	R	S	AA**	
.75	1.25	D	1048603	1048807	.34	51.0	20.8	31.8	72.5	31.8	18.5	20.6	23.6	16.0	144	16.0	23.6	116	9.65	38.1	1096325
1	1.60	F	1048612	1048816	.57	63.5	33.3	38.1	80.0	35.1	21.3	23.9	24.6	18.0	170	18.0	24.6	136	12.7	50.8	1096374
1.6	2.50	G	1048621	1048825	1.02	76.0	38.1	44.5	91.0	38.1	25.4	29.5	26.9	22.4	197	22.4	26.9	155	16.0	50.8	1096421
2	3.20	H	1048630	1048834	1.04	76.0	38.1	44.5	102	41.1	28.7	33.3	30.2	23.9	210	23.9	29.5	165	16.0	50.8	1096468
3.2	5.4	I	1048639	1048840	2.25	89.0	41.7	50.8	123	51.0	36.6	41.4	38.1	33.3	246	28.7	35.8	191	19.1	63.5	1096515
5	8.0	J	1048648	1048859	4.67	116	58.0	63.5	160	63.5	46.0	52.5	45.2	42.2	317	36.6	42.9	245	25.4	76.2	1096562
7.5	11.5	K	1048657	1048868	8.80	127	62.0	70.0	192	76.0	57.0	67.0	51.0	47.8	375	41.4	56.5	289	28.7	101	1096609
10	16	L	1048666	1048880	10.5	143	63.0	79.0	212	82.5	66.0	74.5	66.5	55.5	417	49.3	61.0	311	31.8	101	1096657
15	22	N	1048675	1048889	21.3	180	95.5	104	263	108	76.0	89.0	86.5	68.5	542	60.5	81.0	424	38.1	127	1096704
-	31.5	O	-	1048898	32.0	180	95.5	104	346	127	93.0	118	102	72.5	590	76.2	82.6	459	38.1	165	1090161

* Carbon swivel hooks .75tC-15tC: proof load is 2 times working load limit. Designed with a 5 to 1 safety factor. Alloy swivel hooks 1tA - 30tA : proof load is 2.5 times working load limit. Designed with a 4 to 1 safety factor. Alloy swivel hook 30tA: proof load is 2 times working load limit. Designed with a 4 to 1 design factor. ** Deformation Indicators † Dimensions for hooks 3/4t carbon thru 22t alloy are for S-4320 latch kits. Dimensions for hooks 30t alloy are for 4055 latch kit.

L-3322B
Swivel Hooks
with Bearing

New anti-friction bearing design allows hook to rotate freely under load.

- Capacities 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 atch kit. Simply purchase the latch assemblies listed and shown on pages 121 - 123. Even years after purchase of the original hook, latch assemblies can be added.
- L-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 sling legs.



Hooks & Swivels

"QT"

QUIC-CHECK®

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On Pages 144 - 145
Para Español: www.thecrosbygroup.com

For other swivel hooks designed to rotate under load, see pages 117, 119, 120, 127, 128, 136-139. Use in corrosive environment requires shank and nuts inspection in accordance with ASME B30.10-1.10.4 (b)(5)(c).

L-3322B Swivel Hooks with Bearing

Working Load Limit (t)	Hook ID Code*	L-3322B Stock No.†	Weight Each (kg)	Dimensions (mm)															Rep. Latch Stock No.
				A	B	C	D	F	G	H	J	K	L	M	O	R	S	AA**	
2	G	1028609	1.13	76.2	38.1	44.5	91.2	38.1	25.4	29.5	26.9	22.4	194	22.4	25.4	152	16.0	50.8	1096421
3	H	1028618	1.72	88.9	39.6	50.8	101	41.1	28.7	33.3	30.2	23.9	218	23.9	27.7	170	19.1	50.8	1096468
5	I	1028627	3.17	101	39.6	57.2	122	50.8	36.6	41.4	38.1	33.3	262	28.7	34.5	203	22.4	63.5	1096515
7	J	1028636	6.35	127	49.3	69.9	159	63.5	46.0	52.3	45.2	42.2	326	36.6	40.9	251	28.7	76.2	1096562
11	K	1028645	10.1	142	52.1	79.2	191	76.2	57.2	66.8	61.2	47.8	387	41.4	52.8	298	31.8	101	1096609
15	L	1028654	16.3	180	91.9	104	211	82.6	65.8	74.7	66.5	55.6	473	49.3	57.7	366	38.1	101	1096657

* Maximum allowable proof load is 2.5 times working load limit. Designed with a 4.5 to 1 design factor. ** Deformation Indicators. † Supplied with latch attached.

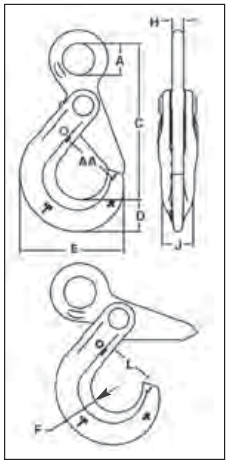
Crosby® SHUR-LOC® Hooks

S-1316
EYE HOOK

All SHUR-LOC® hooks have the following features:

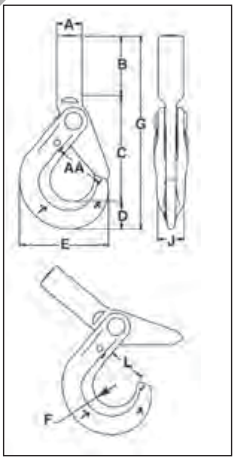
- Forged Alloy Steel - Quenched and Tempered.
- Recessed trigger design is flush with the hook bod , protecting the trigger from potential damage.
  - Easy to operate with enlarged thumb access.
- Positive Lock Latch is Self-Locking when hook is loaded.
- The SHUR-LOC® hook, if properly installed and locked, can be used for personnel lifting applications and meets the intent of OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B).
- Contact Engineered solutions for additional threading or Split Nut options to 1-800-777-1555.

S-1318A
SHANK HOOK



Eye Style incorporates these added features:

- Individually Proof Tested to 2-1/2 times the Chain Working Load Limit with certification
- S-1316 meets the performance requirements of EN1677-3.
- 25% stronger than Grade 80.
- Suitable for use with Grade 100 and Grade 80 chain.
- Designed with “Engineered Flat” to connect to S-1325 chain coupler.



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On Pages 272 - 273
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Crosby 8/10™ “QT” CE Fatigue Rated

S-1316 Eye Hook • SHUR-LOC® Hook Series with Positive Locking Latch

Chain Size (in)	Chain Size (mm)	Frame code	Grade 100 Alloy Chain Working Load Limit (t)* 4:1	Working Load Limit (t) 5:1	S-1316 Stock No.	Weight Each (kg)	Dimensions (mm) A	C	D	E	F	H	J	L	AA**
-	6	D	1.45	1.00	1022896	.39	19.8	100	20.1	66.0	17.0	7.87	16.0	29.5	38.1
1/4-5/16	7-8	G	2.60	1.90	1022914	.82	27.4	135	27.9	88.9	22.1	9.91	20.6	37.6	51.0
3/8	10	H	4.00	2.50	1022923	1.54	33.0	167	29.7	112	27.9	12.9	23.9	46.5	63.5
1/2	13	I	6.80	5.62	1022932	2.72	41.9	209	42.4	139	32.0	17.0	29.5	56.4	76.2
5/8	16	J	10.30	7.53	1022941	6.83	55.9	256	51.8	167	38.1	22.1	38.1	67.3	89.0
3/4	18-20	-	16.00	9.98	1022942	8.61	66.0	274	56.4	197	51.1	22.1	51.6	89.4	-
7/8	22	-	19.40	12.0	1022943	12.7	72.9	317	62.2	222	57.7	24.9	55.9	97.3	-
1	26	-	27.10	-	1022944	22.45	80.0	371	81.5	251	62.5	32.0	68.1	104	-

* Ultimate Load is 4 times the Working Load Limit based on Grade 100 chain. ** Deformation Indicators.

S-1318A SHUR-LOC® Shank Hook

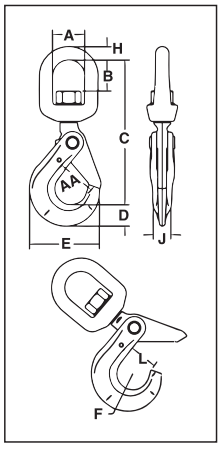
Chain Size (in)	Chain Size (mm)	S-1318A Stock No.	Frame code	Grade 100 Alloy Chain Working Load Limit (t)*	Dimensions (mm) A†	B	C	D	E	F	G	J	L	AA**	Weight Each (kg)
-	6	1098200	D	1.45	20.1	55.0	84.0	20.1	66.0	17.0	159	16.0	28.7	38.1	.45
1/4-5/16	7-8	1098209	G	2.59	25.4	61.0	106	27.9	89.0	22.1	195	20.6	35.1	51.0	.90
3/8	10	1098218	H	3.99	29.0	75.0	131	29.7	112	27.9	235	23.9	46.5	63.5	1.61
1/2	13	1098227	I	7	34.0	85.0	160	42.4	138	32.0	288	29.5	53.5	76.2	3.18

* Ultimate Load is 4 times the Working Load Limit based on Grade 100 chain. ** Deformation Indicators. † Dimension before machining (as forged).

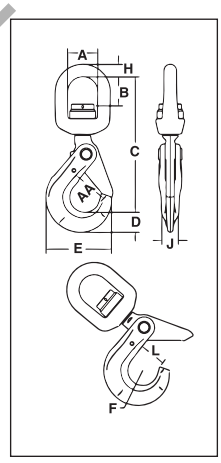
Crosby® SHUR-LOC® Hooks

S-1326
SWIVEL HOOK

- Forged Alloy Steel - Quenched and Tempered.
- Individually Proof Tested at 2-1/2 times the Chain Working Load Limit with certification
- Recessed trigger design is flush with the hook bod , protecting the trigger from potential damage.
  - Easy to operate with enlarged thumb access.
- Positive Lock Latch is Self-Locking when hook is loaded.
- Rated for both Wire Rope and use with Grade 80/100 Chain or G-411 Standard Th
- G-414 Heavy Thimble or G-411 Standard Thimble should be used with wire rope slings.
- Trigger Repair Kit available (S-4316). Consists of spring, roll pin and trigger.
- S-13326 Swivel Hook utilizes anti-friction bearing design which allows hook to rotate freely under load.
- Fatigue rated.
- The SHUR-LOC® hook, if properly installed and locked, can be used for personnel lifting applications and meets the intent of OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B).
- "Look for the Platinum Color – Crosby Grade 100 Alloy Products."



S-13326
SWIVEL HOOK
with BEARING



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On Pages 272 - 273
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Crosby 8/10™ "QT" CE Fatigue Rated

Use in corrosive environment requires shank and nut inspection in accordance with ASME B 30.10-1.10.4 (b)(5)(c) 2019. The S-1326 hook is a positioning device and is not intended to rotate under load. For swivel hook designed to rotate under load, use the S-13326.

S-1326 SHUR-LOC® Swivel Hooks • Suitable for infrequent, non-continuous rotation under load.

Chain Size		Grade 100 Alloy Chain Working Load Limit (t) 4:1*	Working Load Limit (t) 5:1*	S-1326 Stock No.	Weight Each (kg)	Dimensions (mm)									
(in)	(mm)					A	B	C	D	E	F	H	J	L	AA**
-	6	1.45	1.16	1004304	.57	38.1	33.5	156	20.1	66.0	17.0	12.7	16.0	28.7	38.1
1/4 - 5/16	7-8	2.59	2.1	1004313	1.18	44.5	40.4	193	27.9	88.9	22.1	16.0	20.6	35.1	51.0
3/8	10	3.99	3.2	1004322	2.13	50.8	43.9	224	29.7	112	27.9	19.1	23.9	44.5	63.5
1/2	13	6.80	5.4	1004331	3.92	63.5	60.5	284	42.4	139	32.0	25.4	29.5	53.6	76.2
5/8	16	10.3	8.2	1004340	7.71	69.9	64.3	328	51.8	167	38.1	28.7	38.1	63.2	89.0
3/4	18 - 20	16.0	12.8	1004349	10.9	71.9	64.0	358	56.4	197	51.1	27.9	51.6	89.4	127
7/8	22	20.0	16.0	1004358	13.2	87.4	81.0	417	62.2	222	57.4	33.0	55.9	97.3	152

*Ultimate Load is 4 times the Working Load Limit. ** Deformation Indicators.

S-13326 SHUR-LOC® Swivel Hooks with Bearing • Suitable for frequent rotation under load.

Chain Size		Grade 100 Alloy Chain Working Load Limit (t) 4:1*	Working Load Limit (t) 5:1*	S-13326 Stock No.	Weight Each (kg)	Dimensions (mm)									
(in)	(mm)					A	B	C	D	E	F	H	J	L	AA**
-	6	1.45	1.16	1004404	.57	38.1	29.0	157	20.1	66.0	17.0	12.7	16.0	28.7	38.1
1/4 - 5/16	7-8	2.59	2.1	1004413	1.18	44.5	38.6	192	27.9	89.0	22.1	16.0	20.6	35.1	51.0
3/8	10	3.99	3.2	1004422	2.13	51.0	40.9	226	29.7	112	27.9	19.1	23.9	46.5	63.5
1/2	13	6.80	5.4	1004431	3.92	63.5	51.6	282	42.4	138	32.0	25.4	29.5	53.5	76.2
5/8	16	10.3	8.2	1004440	7.71	70.0	50.3	328	52.0	167	38.1	28.7	38.1	63.0	89.0

* Ultimate Load is 4 times the Working Load Limit. ** Deformation Indicators.

Crosby® Grade 100 SHUR-LOC® Handle Hooks

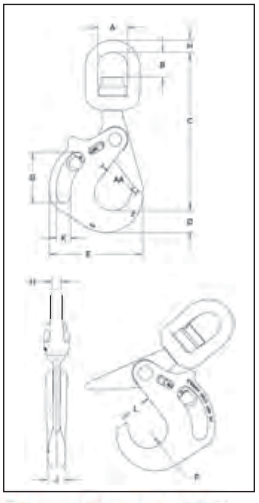
S-13326AH
SHUR-LOC® Handle
Swivel Hook with Bearing

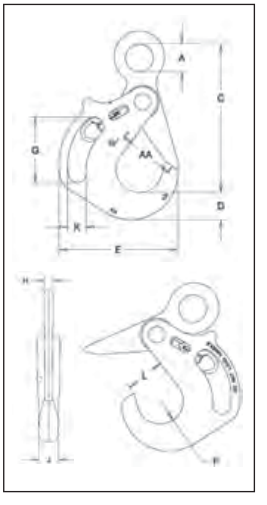
- The SHUR-LOC® Handle Hook allows the user to get a confident grip on a load with ease and comfort.
- Designed with a handle opening big enough to comfortably fit a gloved hand.
- The replaceable pull-trigger allows the user to easily open the SHUR-LOC's positive self-locking latch.
  - Ergonomically designed for easy use and precise control.
  - Secondary side trigger is recessed to avoid inadvertent release.

All SHUR-LOC® hooks have the following features:

- Forged Alloy Steel - Quenched and Tempered.
- Positive Lock Latch is Self-Locking when hook is loaded.
- Individually Proof Tested at 2-1/2 times the Chain Working Load Limit with certification
- Rated for both Wire Rope and use with Grade 80/100 Chain.
- G-414 Heavy Thimble or G-411 Standard Thimble should be used with wire rope slings.
- S-13326 Swivel Hook utilizes anti-friction bearing design which allows hook to rotate freely under load.
- Fatigue rated.
- "Look for the Platinum Color – Crosby Grade 100 Alloy Products."
- The SHUR-LOC® hook, if properly installed and locked, can be used for personnel lifting applications and meets the intent of OSHA Rule1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B).
- Each SHUR-LOC® handle hook has a serial number.

S-1316AH
SHUR-LOC®
Handle Eye Hook





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Crosby 8/10™ "QT" QUIC-CHECK® CE Fatigue Rated

S-13326AH SHUR-LOC® Handle Swivel Hooks with Bearings

Chain Size (in)	Chain Size (mm)	Grade 100 Alloy Chain Working Load Limit (t) 4:1*	Working Load Limit (t) 5:1†	Frame Code	S-1326 Stock No.	Weight Each (kg)	Dimensions (mm) A	B	C	D	E	F	G	H	J	K	L	AA**
5/8	16	10.3	8.2	JA	1005014	11.8	69.9	57.2	272	50	217	42.5	119	28.7	44	33.5	71	102
3/4	18/20	16.0	12.8	KA	1005023	16.8	79.2	51.9	393	66	255	50.5	120	31.8	52	32	84	127
7/8	22	19.4	15.5	LA	1005041	25.9	104	92.7	482	69	292	57	136	41.4	62	40	93	152
1	26	27.1	21.7	NA	1005050	38.1	127	102	547	79	324	64	164	41.4	70	40	104	165

*Ultimate Load is 4 times the Working Load Limit. †Ultimate Load is 5 times the Working Load Limit. ** Deformation Indicators.

S-1316AH SHUR-LOC® Handle Eye Hook

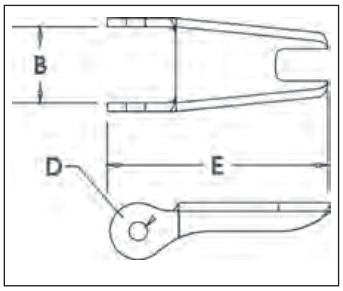
Chain Size (in)	Chain Size (mm)	Grade 100 Alloy Chain Working Load Limit (t) 4:1*	Working Load Limit (t) 5:1†	Frame Code	Stock No.	Weight Each (kg)	Dimensions (mm) A	C	D	E	F	G	H	J	K	L	AA**
5/8	16	10.3	8.2	JA	1023579	8.2	51	272	50	217	42.5	119	20	44	33.5	71	102
3/4	18/20	16.0	12.8	KA	1023599	12.7	70	306	66	255	50.5	120	22	52	32	84	127
7/8	22	19.4	15.5	LA	1023607	17.7	80	342	69	292	57	136	91	62	40	93	152
1	26	27.1	21.7	NA	1023625	27.2	90	395	79	324	64	164	30	70	40	104	165

*Ultimate Load is 4 times the Working Load Limit. †Ultimate Load is 5 times the Working Load Limit. ** Deformation Indicators.

Crosby® Hook Latch Kits

S-4320 Latch Kits

- Heavy duty stamped latch interlocks with the hook tip.
- High cycle, long life spring.
- Can be made into a "Positive Locking" Hook when proper cotter pin is utilized.
- Latch kits shipped unassembled and individually packaged with instructions.
- Meets the intent of OSHA Rule 1926.1431(g) and 1926.1501(g) (when secured with the bolt, nut and pin) for lifting personnel.



IMPORTANT: The new S-4320 Latch Kit will not fit the old style 319, 320 and 322 hooks.

SEE APPLICATION AND WARNING INFORMATION
On Page 141
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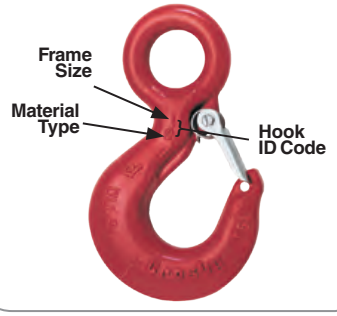
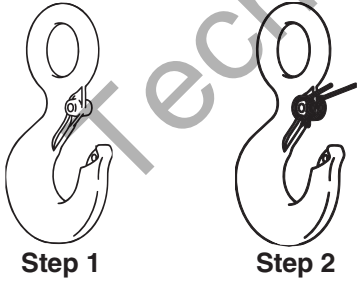
S-4320 Replacement Latch Kit for 319N, 320N, 322N, 339N, 1327 and 1339 Hooks

Hook Size (t)			Hook ID Code	S-4320 Stock No.	Weight Each (kg)	Dimensions (mm)		
Carbon	Alloy	Bronze				B	D	E
.75	1.25	.5	D	1096325	.01	12.7	3.80	36.6
1	1.6	.6	F	1096374	.02	13.7	4.30	39.6
1.6	2	1	G	1096421	.02	16.0	4.30	42.2
2	3.2	1.4	H	1096468	.03	16.8	4.30	48.5
3.2	5.4	2	I	1096515	.05	21.1	5.10	58.5
5	8	3.5	J	1096562	.07	26.4	5.10	73.2
7.5	11.5	5	K	1096609	.13	31.8	6.85	90.5
10	16	6.5	L	1096657	.15	34.3	6.85	97.0
15	22	10	N	1096704	.38	42.2	9.90	132

Example of Hook ID Placement Location



IMPORTANT: Instructions for Assembling S-4320 Latch on Crosby 320N Hooks



Step 1

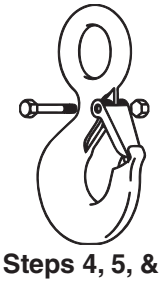
1. Place hook at approximately a 45 degree angle with the cam up.

Step 2

2. Position coils of spring over cam with legs of spring pointing toward point of hook and loop of spring positioned down and lying against the hook.

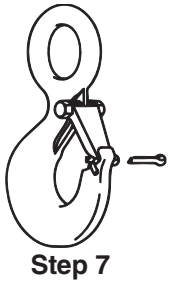
Step 3

3. Position latch to side of hook points. Slide latch onto spring legs between lockplate and latch body until latch is partially over hook cam. Then depress latch and spring until latch clears point of hook.



Steps 4, 5, & 6

4. Line up holes in latch with hook cam.
5. Insert bolt through latch, spring, and cam.
6. Tighten self-locking nut on one end of bolt.



Step 7 (For Personnel Lifting)

7. With latch in closed position and rigging resting in bowl of hook, insert cotter pin through hook tip and secure by bending prongs.

Crosby® Hook Latch Kits

PL Latch Kits

LATCH ORDERING INSTRUCTIONS

1. Specify PL, PL-N or PL-O latch kit stock number from charts below.
2. Specify capacity of hook to which latch will be assembled.
3. Specify hook material (carbon or alloy).

The PL latch will not work on 319N, 320N or 322N hooks. The PL-N/O latches, in the sizes available, will work on both the old and new style hooks.

SEE APPLICATION AND WARNING INFORMATION
On Page 151
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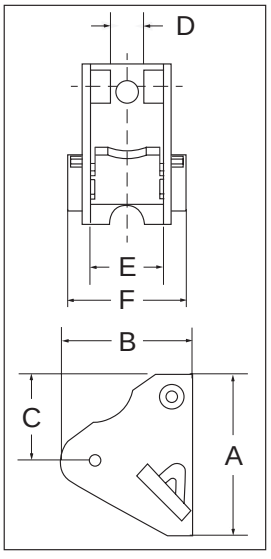
- Hot dip galvanized.
- Heavy duty latch with easy operating features.
- Flapper lever indicates locked or unlocked position.
- Assembly instructions included with each latch.
- For additional dimensional data on eye, shank or swivel hooks refer to pages 110 through 115 in this section.
- Meets the intent of OSHA Rule 1926.1431(g) and 1926.1501(g) (when secured with the bolt, nut and pin) for lifting personnel.



PL LATCH KITS

Hook Size (t)		Hook ID Code	PL Latch Kit Stock No.	Weight Each (kg)	Dimensions (mm)					
Carbon	Alloy				A	B	C	D	E	F
3.2	5.4	I	1093711	.24	65.5	59.5	49.3	14.2	28.7	51.0
5	8	J	1093712	.30	76.0	59.5	51.0	16.0	35.1	56.5
7.5	11.5	K	1093713	.45	92.0	70.5	60.5	16.0	41.4	60.5
10	16	L	1093714	.57	102	82.0	68.5	16.0	47.8	86.0
15	22	N	1093715	1.34	135	102	74.0	21.3	60.5	87.5
20	31.5	O	1093716	1.84	152	113	81.0	26.9	73.0	108
25	37	P	1093717	3.91	178	168	103	57.0	114	155
30	45	S	1093718	4.54	171	178	102	57.0	121	162
40	60	T	1093719	6.49	203	195	111	88.0	140	184
50	75	U	1093720	12.2	251	208	130	86.0	165	226
-	100-150	W - X	1093721	15.1	276	281	162	86.0	191	254
-	200	Y	1093723	20.4	302	284	162	86.0	222	286
-	300	Z	1093724	24.9	318	310	203	86.0	248	330

PL-N/O Latch Kits

LATCH ORDERING INSTRUCTIONS

1. Specify PL, PL-N or PL-O latch kit stock number from charts below.
2. Specify capacity of hook to which latch will be assembled.
3. Specify hook material (carbon or alloy).

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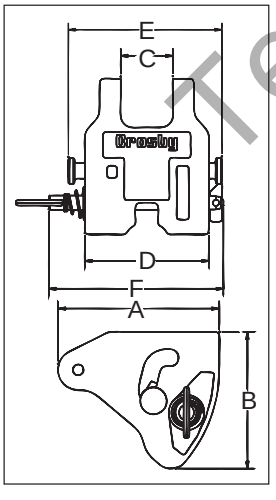
- Heavy duty latch with easy operating features.
- PL-N designed for Crosby 319N & 320N style hooks, PL-O designed for Crosby 319 & 320 old style hooks.
- Flapper lever indicates locked or unlocked position.
- Assembly instructions included with each latch.
- For additional dimensional data on eye, shank or swivel hooks refer to pages 114 through 122 in this section.
- Meets the intent of OSHA Rule 1926.1431(g) and 1926.1501(g) (when secured with the supplied toggle pin) for lifting personnel



PL-N/O LATCH KITS

Hook Size (t)		Hook ID Code	PL-N Latch Kit	PL-O Stock No.	Weight Each (kg)	Dimensions (mm)					
Carbon	Alloy					A	B	C	D	E	F
3.2	5.4	I	1092000	1091900	.36	60.9	51.0	21.1	54.1	68.8	87.4
5	8	J	1092001	1091901	.58	74.7	63.5	25.4	64.0	81.0	97.3
7.5	11.5	K	1092002	1091902	.90	92.2	76.7	30.2	69.9	87.4	111
10	16	L	1092003	1091903	1.27	102	86.1	34.0	81.0	102	114
15	22	N	1092004	1091904	2.22	132	110	40.9	98.0	122	130

*"N" style hooks are rated at 5 tonnes.

SS-4055 Latch Kits

LATCH ORDERING INSTRUCTIONS

1. Specify latch kit stock number.
2. Specify capacity of hook to which latch will be assembled.
3. Specify hook material (carbon or alloy).

These latches will not work on new "N" style hooks.

- Stainless steel construction with cadmium plated steel nuts.
- Shipped packaged and unassembled.
- Instructions included for easy field assembl .

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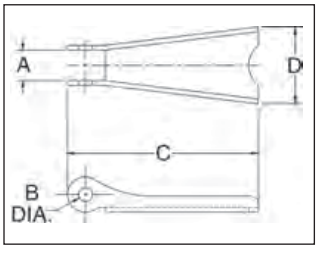
SS-4055 LATCH KITS



Hook Size (t)			Hook ID Code	SS-4055 Stock No.	Weight Each (kg)	Dimensions (mm)			
Carbon	Alloy	Bronze				A	B	C	D
.75	1.25	.5	D	1090027	.01	9.65	4.05	36.6	15.0
1	1.6	.6	F	1090045	.01	9.65	4.05	40.6	15.0
1.6 - 2.0	2.5 - 3.2	1.0 - 1.4	G / H	1090063	.01	11.9	4.85	46.7	20.8
3.2	5.4	2.0	I	1090081	.05	14.2	4.30	61.0	25.4
5	8	3.5	J	1090107	.05	14.7	5.10	75.5	30.7
7.5 - 10	11.5 - 16	5.0 - 6.5	K / L	1090125	.08	15.0	6.86	93.0	38.1
15	22	10.0	N	1090143	.18	21.1	9.90	125	48.3
20	30	--	O	1090161	.29	23.9	13.2	149	65.0
25 - 30	37 - 45	--	P / S	1090189	.51	55.5	9.90	165	97.5
40	60	--	T	1090205	.80	84.0	13.2	200	105

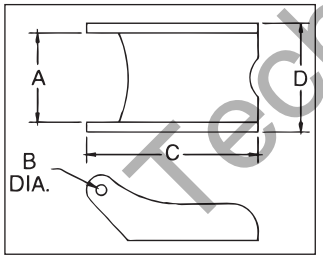
S-4088 Alloy Hook Latch Kits

LATCH ORDERING INSTRUCTIONS

1. Specify latch kit stock number.
2. Specify capacity of hook to which latch will be assembled.
3. Specify hook material (carbon or alloy).

- To be used on A-327 and A-339 Grade 8 Sling Hooks.
- Latch Kits shipped unassembled and individually packaged with instructions.

S-4088 LATCH KITS



Hook Chain (mm)	S-4088 Stock No.	Weight Each (kg)	Dimensions (mm)			
			A	B	C	D
6-7	1090250	.03	19.8	4.05	51.5	23.9
8-10	1090251	.06	26.2	4.85	68.5	31.8
13	1090252	.07	26.2	4.85	76.0	31.8
16	1090253	.07	26.2	4.85	82.5	31.8
19	1090254	.07	38.9	6.60	105	47.8
22	1090255	.07	38.9	6.60	118	51.0

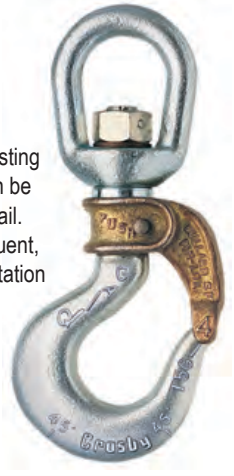
Crosby®/ Bullard® Golden Gate® Hooks

HOOK CONNECTORS

The 5 connector styles shown below make it possible for Crosby to furnish a Golden Gate Hook to fit almost any make or model of hoisting equipment including American Engineering Lo-Hed, ARO, Coffing, Electro Lift, Ingersoll-Rand, & H, Robbins and Myers, Shepard Niles, CM, Shaw-Box, Wright, Yale & Towne.

CLOSED SWIVEL BAIL

For use where hoisting line or shackle can be inserted into the bail. Suitable for infrequent, non continuous rotation under load.
Hook sizes:
1 through 14.



Style C — with self-closing gate.
Style A — with manual-closing gate.

SHANK-TYPE HOOK

(Standard Length)

For use on existing load blocks, with standard shank length.
Hook sizes:
2 through 14.

Style D — with self-closing gate.
Style B — with manual-closing gate.

SHANK-TYPE HOOK

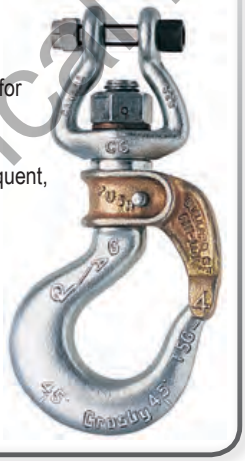
(Long Length)

For use on existing load blocks requiring extra shank length.
Hook sizes:
4 through 17.

Style K — with self-closing gate.
Style I — with manual-closing gate.

UNIVERSAL TYPE

Open swivel bail for attachment to link chain. Suitable for infrequent, non continuous rotation under load.
Hook sizes:
3, 4 and 5.



Style E — with self-closing gate.
Style G — with manual-closing gate.

LINK CHAIN NEST

With ball-bearing swivel; attaches to chain by an alloy pin. Suitable for frequent rotation under load.
Hook sizes:
4, 5 and 7.

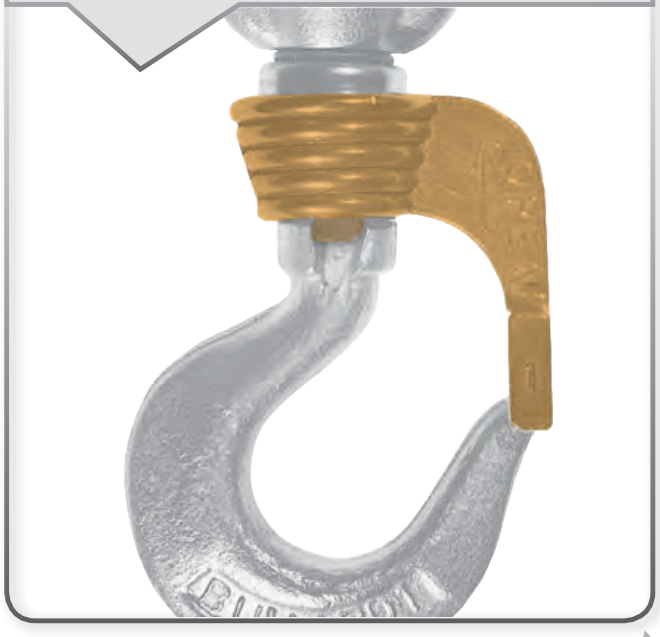
Style O — with self-closing gate.
Style P — with manual-closing gate.

Letter designations shown beneath each illustration above indicate BOTH connector style and gate type. Each connector is available with either a self-closing or manual-closing gate. (e.g.: A size 4 hook with a closed swivel bail connector and self-closing gate is 4-C; with manual-closing gate, it is 4-A.)

GATE TYPES

Brass alloy Golden Gates® are engineered for quality, easy handling and dependability. The heavy duty, corrosion resistant locking mechanism will stay locked until an operator releases it; yet, can easily be shut with one hand. Cost effective, these gates reduce down time, providing the alternative to conventional latches.

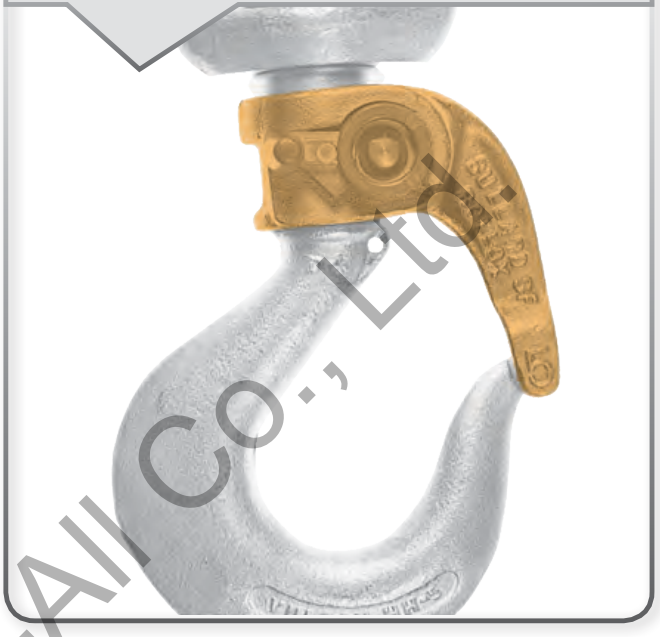
LIF-LOK® GATE - SIZE 1



To lock: Close the gate; the built-in spring locks the gate against the hook tip.

To Unlock: Lift the gate upward on the hook shank and swing open.

ROLLOX® GATE - SIZE 5 through 9



To Lock: Close the gate; a stainless steel pin is mounted in a horizontal bore which passes through the gate and engages a notch milled in the hook shank.

To Unlock: Move the lever downward a quarter-turn or until it stops, the gate can now swing open 160 ° (approx.)

PIN-LOK® GATE - SIZE 2 through 4

To Lock: Close the gate; a stainless steel pin is carried in a horizontal bore and engages a milled slot in the hook shank.

To Unlock: Simply depress the stainless steel pin which causes the pin to disengage from the milled slot.

TIP-LOK® GATE - SIZE 10 through 17

To Lock: Press the arm down until the lock trips; two arms of the gate now enclose the tip of the hook.

To Unlock: Manually depressing the locking trigger automatically raises the movable arm, allowing the gate to be rotated open.

Crosby® / Bullard® Golden Gate® Hooks

Closed Swivel Bail

- For use where hoisting line or shackle can be inserted into the bail.
  - **BL-D** - with self-closing gate.
  - **BL-B** - with manual-closing gate.
- Suitable for infrequent, non-continuous rotation under load.
- Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c).
- Crosby®/Bullard® Hooks incorporate two types of strategically placed markings forged into the product which address two (2) **QUIC-CHECK®** features:
  - Angle Indicators and Deformation Indicators (see the Bullard® **QUIC-CHECK®** table at bottom of page 129 for detailed definition)

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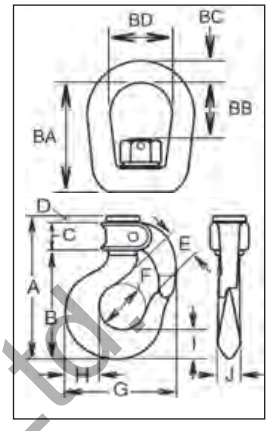


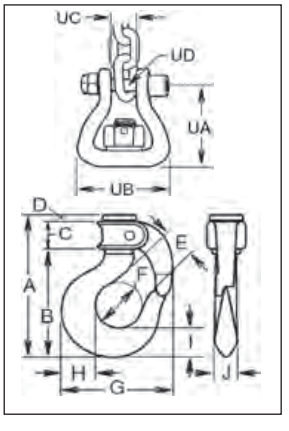
Closed Swivel Bail

Hook Size	BL-C Stock No.	BL-A Stock No.	Gate Type	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)													
						A	B	C	D	E	F	G	H	I	J	BA	BB	BC	BD
1	1050210	1050001	LIF-LOK	.45	.36	82.0	58.7	16.0	6.60	17.5	22.4	57.0	17.5	16.0	11.2	44.5	16.0	7.85	25.4
2	1050221	1050012	PIN-LOK	.90	.59	105	76.2	23.6	4.06	24.6	31.8	73.0	20.6	19.1	11.2	47.2	24.1	9.65	31.8
3	1050232	1050023	PIN-LOK	1.3	.86	114	84.0	23.9	5.58	26.9	35.1	84.0	23.9	21.3	16.0	62.0	33.3	12.7	38.1
4	1050243	1050034	PIN-LOK	1.5	1.00	124	92.2	25.4	5.58	28.7	38.1	92.0	29.5	25.4	19.1	67.5	34.3	12.7	38.1
5	1050254	1050045	ROLLOX	2.1	1.72	143	105	31.2	6.35	31.8	41.7	104	33.3	28.4	21.3	74.0	40.6	16.0	44.5
6	1050265	1050056	ROLLOX	3.6	2.09	158	119	31.8	6.35	35.3	41.7	116	39.9	34.0	24.6	78.5	35.8	16.0	44.5
7	1050276	1050067	ROLLOX	3.8	3.13	168	132	28.4	6.35	38.1	51.0	125	41.4	36.6	28.7	88.5	42.4	19.1	51.0
8	1050287	1050078	ROLLOX	5.0	4.35	182	147	26.9	7.11	44.5	57.0	148	51.0	41.9	31.2	103	51.0	22.4	57.0
9	1050298	1050089	ROLLOX	6.5	6.12	199	164	26.9	7.87	47.8	63.5	165	52.5	46.0	35.1	118	56.0	26.2	63.5
11	1050309	1050100	TIP-LOK	8.3	9.30	244	203	31.8	7.87	57.0	76.0	192	67.0	57.0	41.1	124	66.5	28.7	70.0
12	1050320	1050111	TIP-LOK	11.1	12.3	267	225	31.8	9.65	63.5	82.5	221	74.5	65.5	49.3	130	57.0	31.8	79.5
14	1050342	1050133	TIP-LOK	16.7	25.0	320	273	35.8	9.65	86.0	108	279	89.0	75.5	60.5	203	108	41.4	104

*Ultimate Load is 4 times the Working Load Limit.

Open Swivel Bail

- Open Swivel Bail for attachment to link chain.
  - **BL-E** - with Self-Closing Gate
  - **BL-G** - with Manual-Closing Gate
- Suitable for infrequent, non-continuous rotation under load.
- Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c)2014.
- Crosby®/Bullard® Hooks incorporate two types of strategically placed markings forged into the product which address two (2) **QUIC-CHECK®** features:
  - Angle Indicators and Deformation Indicators (see the Bullard® **QUIC-CHECK®** table at bottom of page 129 for detailed definition)



Open Swivel Bail

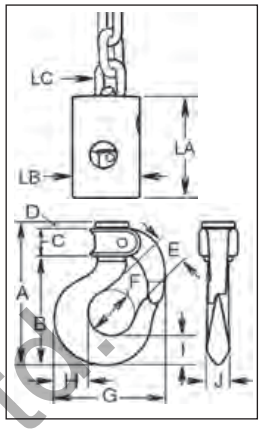
Hook Size	BL-E Stock No.	BL-G Stock No.	Gate Type	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)													
						A	B	C	D	E	F	G	H	I	J	UA	UB	UC	UD
3	1051607	1051706	PIN-LOK	1.3	.81	114	84.5	23.9	5.58	26.9	35.1	81.0	23.9	21.3	16.0	53.0	59.0	13.2	9.65
4	1051618	1051717	PIN-LOK	1.5	.95	124	92.2	25.4	5.58	28.7	38.1	92.0	29.5	25.4	19.1	54.5	59.0	13.2	9.65
5	1051629	1051728	ROLLOX	2.1	1.45	143	105	31.2	6.35	31.8	41.7	104	33.3	28.4	21.3	65.0	67.0	15.7	11.2

*Ultimate Load is 4 times the Working Load Limit.

Crosby® / Bullard® Golden Gate® Hooks

Link Chain Nest

- With ball bearing swivel; attaches to chain by an alloy pin.
  - **BL-O -** with Self-Closing Gate
  - **BL-P -** with Manual Closing Gate
- Suitable for frequent rotation under load.
- Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c).
- Crosby®/Bullard® Hooks incorporate two types of strategically placed markings forged into the product which address two (2) **QUIC-CHECK®** features:
  - Angle Indicators and Deformation Indicators (see the Bullard® **QUIC-CHECK®** table at bottom of page 129 for detailed definition)



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Load Rated

QUIC-CHECK®

Link Chain Nest

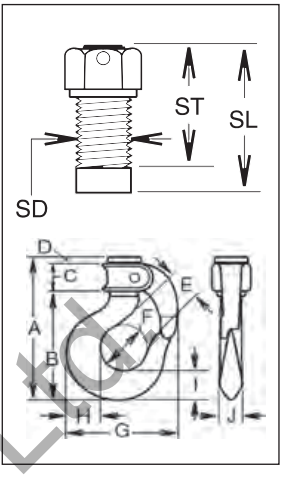
Hook Size	BL-O Stock No.	BL-P Stock No.	Gate Type	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)												
						A	B	C	D	E	F	G	H	I	J	LA	LB	LC
4:1/4-9/32	1051409	1051508	PIN-LOK	1.5	1.13	124	92.2	25.4	5.58	28.7	38.1	92.0	29.5	25.4	19.1	67.0	44.5	6.35-7.15
5:5/16-3/8	1051442	1051541	ROLLOX	2.1	2.04	143	105	31.2	6.35	31.8	41.7	104	33.3	28.4	21.3	76.0	57.0	7.95-9.50
7:3/8-7/16	1051464	1051563	ROLLOX	3.8	5.0	168	132	28.4	6.35	38.1	51.0	125	41.4	36.6	28.7	111	76.0	9.50-11.1
7:1/2-9/16	1051486	1051585	ROLLOX	3.8	5.0	168	132	28.4	6.35	38.1	51.0	125	41.4	36.6	28.7	111	76.0	12.7-14.3

*Ultimate Load is 4 times the Working Load Limit.

Crosby® / Bullard® Golden Gate® Hooks

Standard Length Shank Hooks

- For use on existing load blocks, with standard shank length.
- No.'s 2 through 12 style hooks are threaded approximately 80% of shank length.
  - **BL-D** - with self-closing gate.
  - **BL-B** - with manual-closing gate.
- Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c).
- Crosby®/Bullard® Hooks incorporate two types of strategically placed markings forged into the product which address two (2) **QUIC-CHECK®** features:
  - Angle Indicators and Deformation Indicators (see the Bullard® **QUIC-CHECK®** table at bottom of page 129 for detailed definition)



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Standard Length Shank Hooks

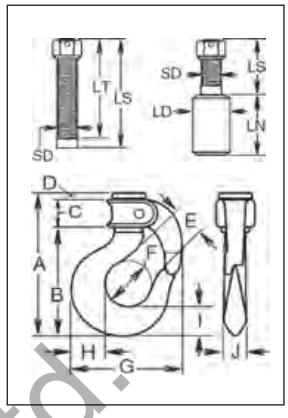
Hook Size	BL-D Stock No.	BL-B Stock No.	Gate Type	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)												
						A	B	C	D	E	F	G	H	I	J	SD	SL	ST
2	1050606	1050408	PIN-LOK	.91	.50	105	76.2	23.6	4.06	24.6	31.8	73.0	20.6	19.1	14.2	12.7	23.1	15
3	1050617	1050419	PIN-LOK	1.3	.59	114	84.1	23.9	5.58	26.9	35.1	81.0	23.9	21.3	16.0	14.2	31.8	19.1
4	1050628	1050430	PIN-LOK	1.5	.77	124	92.2	25.4	5.58	28.7	38.1	92.0	29.5	25.4	19.1	16	33.3	30.2
5	1050639	1050441	ROLLOX	2.1	1.13	143	105	31.2	6.35	31.8	41.7	104	33.3	28.4	21.3	19.1	33.3	25.4
6	1050650	1050452	ROLLOX	3.6	1.59	158	119	31.8	6.35	35.3	41.7	116	39.9	34.0	24.6	22.4	43	29.5
7	1050661	1050463	ROLLOX	3.8	2.36	168	132	28.4	6.35	38.1	51.0	125	41.4	36.6	28.7	25.4	46	35.1
8	1050672	1050474	ROLLOX	5.0	3.22	182	147	26.9	7.11	44.5	57.0	148	51.0	41.9	31.2	28.7	52.5	38.1
9	1050683	1050485	ROLLOX	6.5	4.31	199	164	26.9	7.87	47.8	63.5	165	52.5	46.0	35.1	31.8	62	46
11 †	1050694	1050496	TIP-LOK	8.3	7.08	244	203	31.8	7.87	57.0	76.0	192	67.0	57.0	41.1	38.1	68.5	47.8
12 †	1050705	1050507	TIP-LOK	11.2	9.53	267	225	31.8	9.65	63.5	82.5	221	74.5	65.5	49.3	41.4	73	54
13	1050716	1050518	TIP-LOK	13.6	13.6	285	242	31.8	9.65	76.0	95.0	245	83.5	70.0	49.3	44.5	89	56
14	1050727	1050529	TIP-LOK	16.8	18.1	320	273	35.8	9.65	86.0	108	279	89.0	75.5	60.5	51	92.5	60.5

*Ultimate Load is 4 times the Working Load Limit. If a drawing is not available, complete a Crosby/Bullard HOOK DATA FORM. Hook No.'s 2 through 12 style hooks are threaded approximately 80% of the shank length.

Crosby® / Bullard® Golden Gate® Hooks

Long Length Shank Hooks

- For use on existing load blocks requiring extra shank length.
- No.'s 4 through 9 style hooks are threaded approximately 80% of shank length.
  - BL-K - with Self-Closing Gate
  - BL-I - with Manual Closing Gate
- Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c).
- Crosby®/Bullard® Hooks incorporate two types of strategically placed markings forged into the product which address two (2) **QUIC-CHECK®** features:
  - Angle Indicators and Deformation Indicators (see the Bullard® **QUIC-CHECK®** table at bottom of this page for detailed definition)



QUIC-CHECK®

SEE APPLICATION AND WARNING INFORMATION
On Pages 146 - 147
Para Español: www.thecrosbygroup.com

Hooks & Swivels

Long Length Shank Hooks

Hook Size	BL-K Stock No.	BL-I Stock No.	Gate Type	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)													
						A	B	C	D	E	F	G	H	I	J	SD	LN	LS	LT
4 :1/2	1051002	1050804	PIN-LOK	1.45	.86	124	92.2	25.4	5.58	28.7	38.1	92.0	29.5	25.4	19.1	12.7	11.2	81.0	81.0
4 :9/16	1051013	1050815	PIN-LOK	1.5	.86	124	92.2	25.4	5.58	28.7	38.1	92.0	29.5	25.4	19.1	14.2	12.2	81.0	81.0
4 :5/8	1051024	1050826	PIN-LOK	1.5	.86	124	92.2	25.4	5.58	28.7	38.1	92.0	29.5	25.4	19.1	16.0	14.0	84.0	81.0
5	1051035	1050837	ROLLOX	2.1	1.36	143	105	31.2	6.35	31.8	41.7	104	33.3	28.4	21.3	19.1	16.0	90.5	82.5
6	1051046	1050848	ROLLOX	3.6	1.72	158	119	31.8	6.35	35.3	41.7	116	39.9	34.0	24.6	22.4	19.1	103	90.0
7	1051057	1050859	ROLLOX	3.8	2.68	168	132	28.4	6.35	38.1	51.0	125	41.4	36.6	28.7	25.4	22.4	116	105
8	1051068	1050870	ROLLOX	5.0	3.54	182	147	26.9	7.11	44.5	57.0	148	51.0	41.9	31.2	28.4	23.9	129	114
9	1051079	1050881	ROLLOX	6.5	4.90	199	164	26.9	7.87	47.8	63.5	165	52.5	46.0	35.1	31.8	26.9	141	125
12 ‡	1051101	1050903	TIP-LOK	11.2	12.7	267	225	31.8	9.65	63.5	82.5	221	74.5	65.5	49.3	41.4	39.6	137	118
13 ‡	1051112	1050914	TIP-LOK	13.6	15.9	285	242	31.8	9.65	76.0	95.5	245	83.5	70.0	49.3	44.5	38.1	187	146
14 ‡	1051123	1050925	TIP-LOK	16.8	20.4	320	273	35.8	9.65	86.0	108	279	89.0	75.5	60.5	51.0	50.8	137	102
16	1051134	1050936	TIP-LOK	30.0	46.7	388	332	38.1	16.0	102	127	346	118	92.0	76.0	70.0	70.0	406	178
17	1051156	1050958	TIP-LOK	60.0	168	615	522	66.8	23.9	146	178	470	165	152	113	102	100	578	356

*Ultimate Load is 4 times the Working Load Limit. If a drawing is not available, complete a Crosby/Bullard HOOK DATA FORM. Hook No.'s 4 through 9 are threaded approximately 80% of the shank length. ‡ Hook will have the shank extended by use of a Coupling Nut.Customer is required to complete and approve side 2 of a Crosby/Bullard HOOK DATA FORM.

Crosby® / Bullard Golden Gate Hooks Service Parts

Hook Size	Gate Type	BL-GA Gate Assemblies		BL-RK Gate Repair Kit Stock No.
		Manual Close Stock No.	Self Close Stock No.	
2	PIN-LOK	1100298	1100309	1100100
3	PIN-LOK	1100320	1100331	1100100
4	PIN-LOK	1100342	1100353	1100100
5	ROLLOX	1100364	1100375	1100111
6	ROLLOX	1100386	1100397	1100111
7	ROLLOX	1100408	1100419	1100122
8	ROLLOX	1100430	1100441	1100122
9	ROLLOX	1100452	1100463	1100122
10	TIP-LOK	1100474	1100485	1100133
11	TIP-LOK	1100496	1100507	1100144
12	TIP-LOK	1100518	1100529	1100155
13	TIP-LOK	1100540	1100551	1100166
14	TIP-LOK	1100562	1100573	1100177
15	TIP-LOK	1100584	1100595	1100188
16	TIP-LOK	1100606	1100617	1100199
17	TIP-LOK	1100639	1100628	1100210

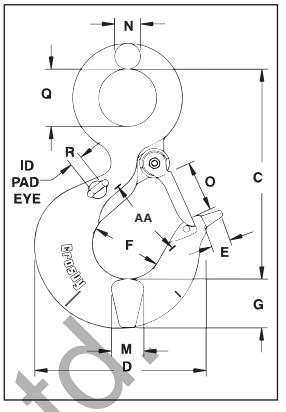
Bullard® QUIC-CHECK® Deformation Indicator Table

Hook Size	Hook ID Code	AA (mm)
1	1	38.1
2	D	38.1
3	F	38.1
4	G	50.8
5	H	50.8
6	6	63.5
7	I	63.5
8	8	76.2
9	J	101.6
11	K	101.6
12	L	101.6
13	13	127.0
14	N	127.0
16	O	165.1
17	T	254.0

Crosby® ROV Eye Hooks

L-320R
ROV EYE HOOK

- Hook identification code stamped on each hook
- Quenched and Tempered.
- QUIC-CHECK® deformation and angle indicators forged on the hook.
- Fluorescent yellow finish for high "subsea" visibilit .
- Tip extension allows for easy handling.
- Sizes 3.2t through 31.5t utilize new integrated latch (S-4320) that meets the world-class standard for lifting.
  - Heavy duty stamped latch interlocks with the hook tip.
  - High cycle, long life spring.
- Pad eyes are provided on either side of hook as cable guides. The cable is passed through a hole drilled in the latch that assists in allowing the "remotely operated" cable to open latch.
- Crosby supplies latches with drilled holes for sizes 5.4t through 31.5t. Other sizes can be fitted by your local Authorized Crosby Dealer. Cables are not provided by Crosby.



Fatigue Rated® Load Rated® CE QUIC-CHECK®

SEE APPLICATION AND WARNING INFORMATION
On Pages 153 - 154
Para Español: www.thecrosbygroup.com

L-320R ROV Hooks

Working Load Limit (t)	Hook ID Code	L-320R Stock No.	Weight Each (kg)	Dimensions (mm)											Replacement Latch Stock No.
				C	D	E	F	G	M	N	O	Q	R	AA**	
†3.2	HA	1298427	1.01	119	101	25	41	29	24	15	28	32	6	50.8	1096468
†5.4	IA	1298497	2.04	147	122	25	51	37	33	18	35	40	6	63.5	1096515
†8	JA	1298567	3.92	187	159	35	64	46	42	23	41	51	10	76.2	1096562
†11.5	KA	1298637	7.02	230	189	35	76	57	41	28	53	62	10	102	1096611
†16	LA	1298707	10.1	256	211	35	83	66	49	32	58	72	10	102	1096657
†22	NA	1298777	18.4	318	262	45	108	76	60	40	77	89	19	127	1096704
†31.5	OA	1298847	28.1	357	346	-	127	92	76	44	93	89	19	165	1090161
37	PA	1298857	48.5	462	357	-	137	116	81	51	95	114	19	178	1090189
45	SA	1298867	62.1	511	392	-	152	129	82	55	114	125	19	203	1090189
60	TA	1298877	102	602	470	-	178	152	99	64	130	145	19	254	1090205

*Minimum Ultimate Load is 4 times the Working Load Limit. ** Deformation Indicators. † Utilizes Crosby S320N style hook.

ROV PRODUCTS

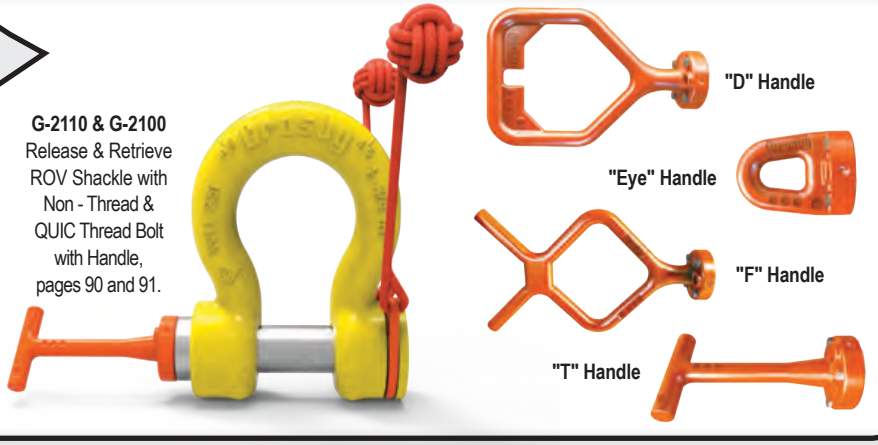
Developed in conjunction with major North Sea subsea operators.

For efficient load handling and attachment for Remote Operating Vehicles in subsea and other hard-to-reach applications.

Pad eyes are placed on either side of hook as cable guides which allows the "remotely operated" cable to open latch.

Available also on pages: 90, 91.

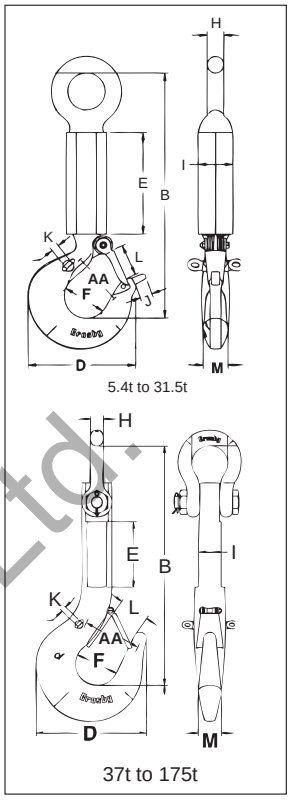
G-2110 & G-2100
Release & Retrieve ROV Shackle with Non - Thread & QUIC Thread Bolt with Handle, pages 90 and 91.



Crosby® ROV Eye Shank Hooks

- Hook identification code stamped on each hook
- Quenched and Tempered.
- QUIC-CHECK® angle indicators forged into the top eye; and deformation and angle indicators forged on the hook.
- Fluorescent yellow finish for high “subsea” visibilit .
- Tip extension allows for easy handling.
- Sizes 5.4t through 31.5t utilize new integrated latch (S-4320) that meets the world-class standard for lifting.
  - Heavy duty stamped latch interlocks with the hook tip.
  - High cycle, long life spring.
- Pad eyes are provided on either side of hook as cable guides. The cable is passed through a hole drilled in the latch that assists in allowing the “remotely operated” cable to open latch.
- Crosby supplies latches with drilled holes for sizes 5.4t through 31.5t. Other sizes can be fitted by your local Authorized Crosby Dealer. Cables are not provided by Crosby.

L-562A
ROV EYE
SHANK HOOK



SEE APPLICATION AND WARNING INFORMATION
On Pages 153 - 154
Para Español: www.thecrosbygroup.com

Fatigue Rated® Load Rated® CE QT QUIC-CHECK®

L-562A ROV Eye Shank Hooks

Working Load Limit (t)	Hook ID Code	L-562A Stock No.	Weight Each (kg)	Dimensions (mm)											Replacement Latch Stock No.
				I	E	B	D	J	F	M	H	L	K	AA**	
†5.4	IA	1297722	9.5	65	250	421	123	9.9	51	29	22	35	6.4	63.5	1096515
†11.5	KA	1297792	15	65	250	518	192	30	76	41	32	53	9.7	101	1096611
†16	LA	1297806	18	65	250	550	212	30	83	49	35	58	9.7	101	1096657
†22	NA	1297862	31	85	250	608	263	45	108	60	40	77	19	127	1096704
31.5	OA	1298042	44	85	250	660	346	-	127	76	48	106	19	165	1090161
‡37	PA	1298049	44	80	235	828	357	-	137	76	47	95	19	177	1090189
‡45	SA	1298057	90	80	235	865	392	-	152	83	47	108	19	203	1090189
‡60	TA	1298087	131	90	215	941	470	-	178	99	53	130	19	254	1090205
‡100	WA	1298103	303	140	300	1185	584	-	173	140	69	124	19	305	1090241
‡150	XA	1298117	395	150	230	1233	619	-	171	152	92	137	19	330	1090241
**175	YA	1298130	515	170	255	1326	678	-	191	178	102	-	19	330	143062

Minimum Ultimate Load is 4 times the Working Load Limit. ** Deformation Indicators. ‡Utilize Crosby G-2140 shackle as eye. † Utilizes Crosby S319N style hook.

Did You Know...

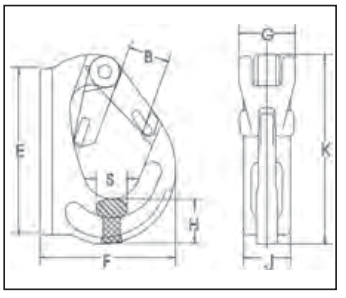
there are three indicators built into almost every Crosby hook?

- ***Deformation Indicator:*** *for abuse and overload.*
- ***Angle Indicators:*** *insure the maximum include angle which is allowed between two (2) sling legs.*
- ***Two Letters Code:*** *One letter represents the size and weight of the hook. The other letter tells you what material the hook is made of.*

Crosby® Choker Hooks

BH-313 Weld-On Hook

- Wide range of sizes available: 1-10 metric ton capacity.
- Forged Alloy Steel.
- Designed for attachment to mobile lifting equipment to provide a pick point for easy sling attachment.
- Large weld pad.
- Heavy duty latch interlocks with the hook tip. Replacement latches available.
- Detailed installation and application instructions included with each hook.



SEE APPLICATION AND WARNING INFORMATION
On Pages 148 - 149
Para Español: www.thecrosbygroup.com

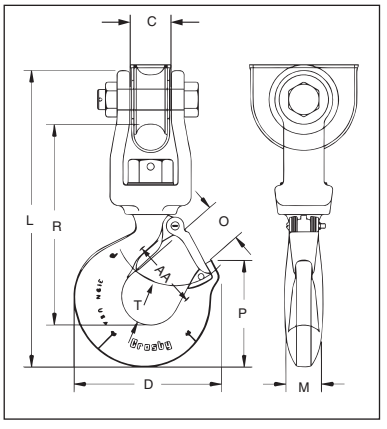
BH-313 Weld-On Hooks

Working Load Limit (t)*	BH-313 Stock No.	Weight Each (kg)	Dimensions (mm)								Replacement Latch Stock No.
			B	E	F	G	H	J	K	S	
1	1029105	.52	23.1	97.0	71.0	36.1	26.9	25.9	107	18.0	1092104
2	1029114	.84	23.1	82.0	91.0	36.1	24.9	34.0	115	21.1	1092104
3	1029123	1.18	29.0	117	105	36.1	31.0	36.1	131	23.9	1092104
4	1029132	1.90	34.0	131	114	46.0	36.1	42.9	147	29.0	1092105
5	1029141	2.55	34.0	161	133	47.0	45.0	43.9	173	29.0	1092105
8	1029150	3.30	35.1	166	135	47.0	52.0	52.0	178	39.1	1092105
10	1029169	5.00	49.0	205	168	47.0	57.0	54.0	222	39.1	1092106

*Ultimate Load is 5 times the Working Load Limit.

S-3319 Utility Swivel Hook

- Capacities of 1.63, 2.50 and 4.50 metric tons
- Synthetic Rope sizes: 14mm - 27mm
- Hook is forged Alloy Steel - Quenched and Tempered.
- Can be proof tested to 2 times the Working Load Limit.
- Designed for utility applications using synthetic rope.
- Design of hook provides needed overhaul weight.
- Utilizes spool & shield designed to:
  - Protect rope
  - Keep rope positioned correctly on spool.
  - Provide wider rope bearing surface resulting in an increased area for load distribution and reduces rope abrasion.
- Low profile hook tip designed to utilize Crosby integrated latch (S-4320), that meets the world-class standard for lifting.



Suitable for infrequent, non-continuous rotation under load. Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c)2009.

SEE APPLICATION AND WARNING INFORMATION
On Pages 142 - 143
Para Español: www.thecrosbygroup.com

S-3319 Utility Swivel Hook

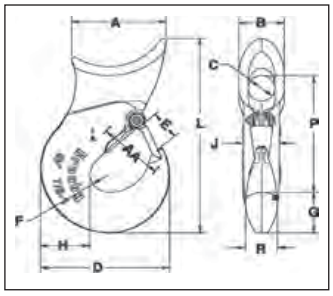
Working Load Limit (t)*	S-3319 Stock No.	Weight Each (kg)	Hook ID Code	Synthetic Rope Size (mm)	Dimensions (mm)									Replacement Latch Kit Stock No.
					C	D	L	M	O	P	R	T	AA**	
1.63	1002054	1.90	H	14 - 16	27.7	101	222	23.9	29.5	70.6	151	29.5	2.00	1096468
2.50	1002063	3.62	I	19 - 21	33.2	123	268	30.2	35.8	88.1	179	38.9	2.50	1096515
4.50	1002072	6.80	J	22 - 27	45.2	160	324	36.6	45.2	117	221	49.3	3.00	1096562

*Ultimate Load is 5 times the Working Load Limit. ** Deformation Indicators.

Crosby® Forged Hooks

A-350L
SLIDING CHOKER HOOK

- New style incorporates throat opening equal to or larger than old style hooks.
- Each product has a Product Identification Code (PIC) for material traceabilit , along with a Working Load Limit, and the name Crosby or "CG" forged into it.
- All hooks incorporate Crosby's patented QUIC-CHECK® marks to help in determining if throat opening dimension has changed.
- Each hook is equipped with a Crosby S-4320 heavy duty stamped latch with the high cycle, long life spring.
- Forged Alloy Steel -- Quenched and Tempered.



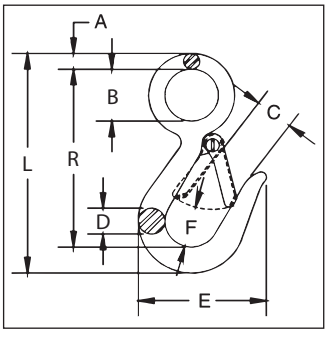
A-350L Sliding Choker Hook

Single Part Rope Size (in.-mm)	Eight Part Rope Size (mm)	A-350L Stock No.	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)												Hook Frame Code	Replacement Latch Kit Stock No.
					A	B	C	D	E	F	G	H	L	P	R	AA**		
3/8 - 10	-	1011802	1.13	.35	52.5	28.7	16.0	61.0	16.0	9.65	21.3	23.1	109	66.0	16.0	38.1	D	1096325
1/2 - 13	3	1011811	1.50	.54	57.0	33.3	19.1	75.5	19.8	12.7	24.6	26.9	126	78.5	19.1	38.1	F	1096374
† 5/8 - 16	-	1011820	2.27	1.31	77.5	41.4	19.1	90.5	23.9	14.2	28.7	33.3	162	98.5	25.4	50.8	G	1096421
† 5/8 - 16	4	1011839	2.27	1.22	77.5	41.4	25.4	90.5	23.9	14.2	28.7	33.3	162	102	28.7	50.8	G	1096421
† 3/4 - 20	-	1011848	3.63	2.35	86.0	54.0	25.4	108	29.5	16.0	36.6	41.4	195	116	28.7	63.5	H	1096468
† 3/4 - 20	6-7	1011857	3.63	2.27	86.0	54.0	36.6	108	29.5	16.0	36.6	41.4	195	121	28.7	63.5	H	1096468
†† 22-25	-	1028177	6.75	4.40	112	53.8	31.8	154	35.8	22.4	51.0	59.2	243	145	38.1	76.2	I	1096515

*Ultimate Load is 5 times the Working Load Limit. ** Deformation Indicators. † Determine EYE diameter "C", before ordering. †† 7/8-1" is Cast Steel.

G-3315
SNAP HOOK

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



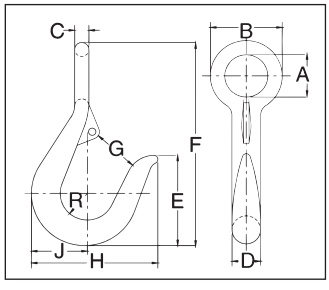
G-3315 Snap Hook

Hook Size (mm)	G-3315 Stock No.	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)							
				A	B	C	D	E	F	L	R
12	1023056	.34	.11	6.35	19.1	19.1	11.2	57.0	19.1	100	82.5
14	1023074	.45	.22	8.65	28.4	20.6	14.2	68.5	22.4	120	97.5

*Ultimate Load is 4 times the Working Load Limit.

1210 Round
REVERSE
EYE HOOK

- Forged Carbon Steel -- Galvanized.



1210 Round Reverse Eye Hook

Size (mm)	1210 Stock No.	Working Load Limit (Tons)*	Weight Each (kg)	Latch Stock No.	Dimensions (mm)									
					A	B	C	D	E	F	G	H	J	R
13	919019	.14	.18	1090027	20.6	35.1	7.10	12.7	41.1	102	19.1	57.0	24.6	11.9
16	919037	.18	.27	1090027	23.9	39.6	7.85	15.7	51.0	114	23.9	70.0	31.0	15.0
19	919055	.31	.50	1090045	28.4	47.8	9.65	19.1	57.0	133	26.9	76.0	36.6	17.5
22	919073	.54	.73	1096468	30.2	52.5	11.2	22.4	76.0	165	31.8	86.0	41.4	19.1
26-28	919091	.82	.91	1090081	38.1	70.0	15.7	28.4	89.0	203	38.1	111	51.0	23.9
31-36	919135	1.2	2.49	1090081	47.8	89.0	20.6	35.1	102	232	41.1	127	60.5	26.9

*Ultimate Load is 4 times the Working Load Limit.

Crosby® Forged Hooks

S-377
BARREL HOOKS

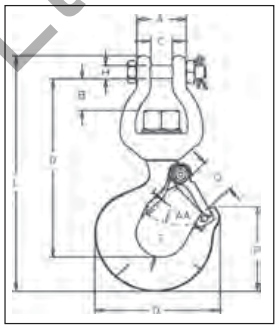
- Forged Carbon Steel - Quenched and Tempered.
- Meets the performance requirements of Federal Specification RR-C-271G, Type V, Class 6, except for those provisions required of the contractor.

S-377 Barrel Hooks

Working Load Limit Per Pair (t)*	S-377 Stock No. Per Pair	Weight Each Per Pair (kg)	Dimensions (mm)			
			I.D. of Eye	O.D. of Eye	Overall Length	Width of Lip
1	1028248	1.61	39.6	71.4	127	73.2

S-3316
REPLACEMENT HOOK

- 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 B30.10-1.10.4(b)(5)(c).



SEE APPLICATION AND WARNING INFORMATION
On Pages 142 - 143
Para Español: www.thecrosbygroup.com

S-3316 Replacement Hook

Working Load Limit (t)*	Frame Code	S-3316 Stock No	Weight Each (kg)	Dimensions (mm)										Replacement Latch Kit Stock No.
				A	B	C	D	H	L	O	P	R	T	
.45	F	1023029	.57	33.3	19.3	14.2	81.0	9.65	155	24.6	57.0	117	20.6	1096374
.91	H	1023047	1.18	39.6	25.4	17.5	104	11.2	195	28.4	72.0	148	30.2	1096468

*Ultimate Load is 5 times the Working Load Limit.

A-378
SORTING HOOK

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

A-378
SORTING HOOK

A-378 Sorting Hook

Working Load Limit at tip of Hook (t)*	Working Load Limit at bottom of Hook (t)*	A-378 Stock No	Style	Weight Each (kg)	Dimensions (mm)			
					I.D. of Eye	Overall Length	Opening at top of Hook	Radius at bottom of Hook
1.8	6.8	1028024	No Handle	2.91	35.0	246	71.4	15.9
1.8	6.8	1028033	With Handle	2.91	35.0	246	71.4	15.9

*Ultimate Load is 4 times the Working Load Limit.

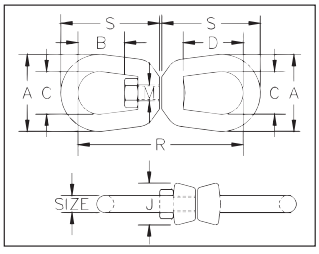
Forged Swivels

- Hot dip Galvanized
- Quenched & Tempered
- Crosby products meet or exceed all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, Crosby products meet other critical performance requirements, including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.

402 and 403 swivels are positioning devices and are not intended to rotate under load. For load swivels see pages 136-140. Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c).

13 - 32mm size

38mm size

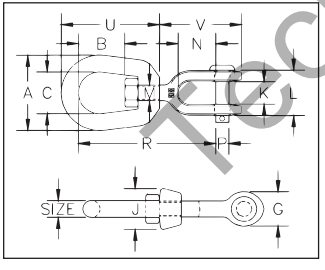


G-402 Regular Swivels

Meets the performance requirements of Federal Specification RR- -271G, Type VII, Class 2, except for those provisions required of the contractor. For more information, see page 452.

Size (mm)	G-402 Stock No.	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)							
				A	B	C	D	J	M	R	S
13	1016073	1.63	.60	63.5	33.3	38.1	51.0	33.3	16.0	138	81.0
16	1016091	2.36	1.13	76.0	39.5	44.5	60.5	38.1	19.1	167	98.5
19	1016117	3.27	1.82	89.0	44.5	51.0	67.0	47.8	22.4	183	109
22	1016135	4.54	2.83	102	52.0	57.0	77.5	54.0	25.4	213	127
25	1016153	5.67	4.06	114	58.5	63.5	89.0	60.5	28.7	245	146
32	1016199	8.16	7.42	143	68.5	79.5	93.5	76.0	38.1	291	172
38	1016215	20.5	20.8	180	98.5	104	98.5	95.2	57.0	424	252

*Ultimate Load is 5 times the Working Load Limit. + Manufactured with two 38mm bails connected by a stud with a nut on each side.



G-403 Jaw End Swivels

Meets the performance requirements of Federal Specification RR- -271G, Type VII, Class 3, except for those provisions required of the contractor. For more information, see page 452.

Size (mm)	G-403 Stock No.	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)													
				A	B	C	G	J	K	L	M	N	P	R	U	V	
6	1016395	.39	.10	31.8	17.5	19.1	17.5	17.5	11.9	26.2	7.85	22.4	6.35	67.0	42.9	42.9	
8	1016411	.57	.15	41.4	20.6	25.4	20.6	20.6	12.7	28.7	9.65	22.4	7.85	74.5	52.0	46.0	
10	1016439	1.02	.30	51.0	23.9	31.8	25.4	25.4	16.0	35.8	12.7	26.9	9.65	92.0	63.5	57.0	
13	1016457	1.63	.61	63.5	33.3	38.1	33.3	33.3	19.1	44.5	16.0	33.3	12.7	114	81.0	73.0	
16	1016475	2.36	1.12	76.0	39.5	44.5	41.4	38.1	23.9	52.0	19.1	38.1	16.0	135	98.5	87.5	
19	1016493	3.27	1.76	89.0	44.5	51.0	47.8	47.8	28.7	64.5	22.4	44.5	19.1	154	109	102	
22	1016518	4.54	2.66	102	52.0	57.0	54.0	54.0	34.0	70.9	25.4	52.0	22.4	178	127	115	
25	1016536	5.67	4.46	114	58.5	63.5	67.0	60.5	44.5	94.5	28.7	71.5	28.7	217	146	151	
32	1016572	8.16	7.14	145	68.5	79.5	79.5	76.0	52.0	109	41.4	71.5	35.1	248	179	162	
38+	1016590	20.5	24.8	178	98.5	102	143	102	73.0	152	57.0	113	57.0	362	254	275	

*Ultimate Load is 5 times the Working Load Limit.

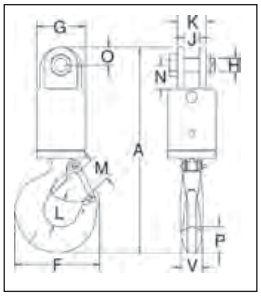
Crosby® Swivels

Equipped with Tapered Roller Thrust Bearing

- Suitable for frequent rotation under load.
- All swivels individually proof tested with labeled documentation.
- All hooks furnished with latches assembled.
- All jaws complete with bolts, nuts and cotter pins.
- Pressure lube fitting provided.
- **NOT TO BE USED ON DEMOLITION (WRECKING) BALLS.**
- Other types and capacities up to 1250t, available to meet your requirements.
- **IMPORTANT - Crosby Swivels should only be used with the recommended wire rope. Contact the wire rope manufacturer for the proper wire rope to be used with Crosby Swivels.**

Load Rated® QUIC-CHECK® CE

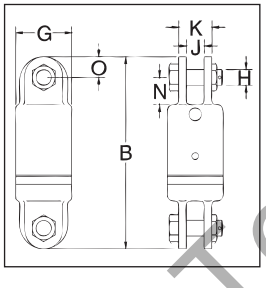
S-1 Jaw & Hook



Swivel No.	S-1 Stock No.	Working Load Limit (t)*	Wire Rope Size (mm)	Weight Each (kg)	Dimensions (mm)											
					A	F	G	H	J	K	L	M	N	O	P	V
3-S-1	297011	3	13	4.45	291	123	70.0	19.1	22.4	41.1	38.9	35.8	33.3	25.4	36.6	28.4
5-S-1	297217	5	16	7.04	339	160	76.0	22.4	25.4	57.0	49.3	42.9	41.1	28.4	46.0	36.6
8-S-1	297413	8-1/2	19	13.3	418	192	102	25.4	39.5	71.5	62.5	56.5	54.0	35.1	57.0	41.1
10-S-1	297618	10	22	21.2	502	212	114	38.1	44.5	86.0	66.0	61.0	89.0	44.5	66.0	49.3
15-S-1	297814	15	26	33.5	565	263	127	38.1	44.5	86.0	71.5	81.0	89.0	44.5	76.0	60.5
25-S-1	298118	25	-	64	680	346	152	51.0	51.0	117	87.5	92.0	93.5	60.5	93.0	76.0
35-S-1	298216	35	-	100	760	357	165	51.0	51.0	117	98.5	95.5	93.5	60.5	116	81.0
45-S-1	298314	45	-	114	891	392	178	57.0	63.5	127	121	108	102	76.0	129	82.5

*Individually Proof Tested to 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit.

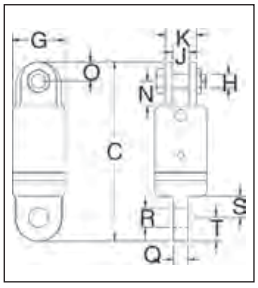
S-2 Jaw & Jaw



Swivel No.	S-2 Stock No.	Working Load Limit (t)*	Wire Rope Size (mm)	Weight Each (kg)	Dimensions (mm)						
					B	G	H	J	K	N	O
3-S-2	297020	3	13	4.37	236	70.0	19.1	22.4	41.1	33.3	25.4
5-S-2	297226	5	16	6.21	262	76.0	22.4	25.4	57.0	41.1	28.4
8-S-2	297422	8-1/2	19	11.9	321	102	25.4	39.5	71.5	54.0	35.1
10-S-2	297627	10	22	20.8	426	114	38.1	44.5	86.0	89.0	44.5
15-S-2	297823	15	26	28.5	435	127	38.1	44.5	86.0	89.0	44.5
25-S-2	298127	25	-	64	527	152	51.0	51.0	117	93.5	60.5
35-S-2	298225	35	-	70	527	165	51.0	51.0	117	93.5	60.5
45-S-2	298323	45	-	107	641	178	57.0	63.5	127	102	76.0

*Individually Proof Tested to 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit.

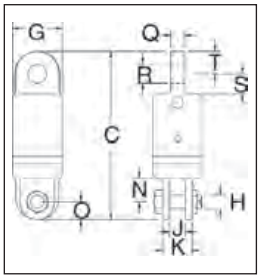
S-3 Jaw & Eye



Swivel No.	S-3 Stock No.	Working Load Limit (t)*	Wire Rope Size (mm)	Weight Each (kg)	Dimensions (mm)										
					C	G	H	J	K	N	O	Q	R	S	T
3-S-3	297039	3	13	4.14	237	70.0	19.1	22.4	41.1	33.3	25.4	19.1	26.2	28.4	31.8
5-S-3	297235	5	16	6.12	256	76.0	22.4	25.4	57.0	41.1	28.4	25.4	32.5	31.8	31.8
8-S-3	297431	8-1/2	19	11.3	311	102	25.4	39.5	71.5	54.0	35.1	31.8	35.8	41.1	38.1
10-S-3	297636	10	22	19.7	409	114	38.1	44.5	86.0	89.0	44.5	42.9	42.9	70.0	47.8
15-S-3	297832	15	26	27.7	425	127	38.1	44.5	86.0	89.0	44.5	49.3	51.5	70.0	54.0
25-S-3	298136	25	-	61	546	152	51.0	51.0	117	93.5	60.5	57.0	58.5	98.5	60.5
35-S-3	298234	35	-	68	546	165	51.0	51.0	117	93.5	60.5	57.0	58.5	98.5	60.5
45-S-3	298332	45	-	102	657	178	57.0	63.5	127	102	76.0	63.5	64.5	102	76.0

*Individually Proof Tested to 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit.

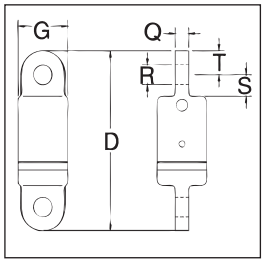
S-4 Eye & Jaw



Swivel No.	S-4 Stock No.	Working Load Limit (t)*	Wire Rope Size (mm)	Weight Each (kg)	Dimensions (mm)										
					C	G	H	J	K	N	O	Q	R	S	T
3-S-4	297048	3	13	4.08	237	70.0	19.1	22.4	41.1	33.3	25.4	19.1	26.2	28.4	31.8
5-S-4	297244	5	16	5.60	256	76.0	22.4	25.4	57.0	41.1	28.4	25.4	32.5	31.8	31.8
8-S-4	297440	8-1/2	19	13.2	311	102	25.4	39.5	71.5	54.0	35.1	31.8	35.8	41.1	38.1
10-S-4	297645	10	22	20.0	409	114	38.1	44.5	86.0	89.0	44.5	42.9	42.9	70.0	47.8
15-S-4	297841	15	26	27.7	425	127	38.1	44.5	86.0	89.0	44.5	49.3	51.5	70.0	54.0
25-S-4	298145	25	-	61	546	152	51.0	51.0	117	93.5	60.5	57.0	58.5	98.5	60.5
35-S-4	298243	35	-	68	546	165	51.0	51.0	117	93.5	60.5	57.0	58.5	98.5	60.5
45-S-4	298341	45	-	102	657	178	57.0	63.5	127	102	76.0	63.5	64.5	102	76.0

*Individually Proof Tested to 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit.

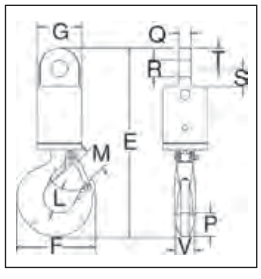
S-5 Eye & Eye



Swivel No.	S-5 Stock No.	Working Load Limit (t)*	Wire Rope Size (mm)	Weight Each (kg)	Dimensions (mm)					
					D	G	Q	R	S	T
3-S-5	297057	3	13	3.86	239	70.0	19.1	26.2	28.4	31.8
5-S-5	297253	5	16	5.13	249	76.0	25.4	32.5	31.8	31.8
8-S-5	297459	8-1/2	19	13.3	302	102	31.8	35.8	41.1	38.1
10-S-5	297654	10	22	19.1	394	114	42.9	42.9	70.0	47.8
15-S-5	297850	15	26	22.2	416	127	49.3	51.5	70.0	54.0
25-S-5	298154	25	-	59	565	152	57.0	58.5	98.5	60.5
35-S-5	298252	35	-	66	565	165	57.0	58.5	98.5	60.5
45-S-5	298350	45	-	98	673	178	63.5	64.5	102	76.0

*Individually Proof Tested to 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit.

S-6 Eye & Hook



Swivel No.	S-6 Stock No.	Working Load Limit (t)*	Wire Rope Size (mm)	Weight Each (kg)	Dimensions (mm)										
					E	F	G	L	M	P	Q	R	S	T	V
3-S-6	297066	3	13	4.23	292	123	70.0	38.9	35.8	36.6	19.1	26.2	28.4	31.8	28.4
5-S-6	297262	5	16	6.46	332	160	76.0	49.3	42.9	46.0	25.4	32.5	31.8	31.8	36.6
8-S-6	297468	8-1/2	19	14.5	408	192	102	62.5	56.5	57.0	31.8	35.8	41.1	38.1	41.1
10-S-6	297663	10	22	20.6	486	212	114	66.0	61.0	66.0	42.9	42.9	70.0	47.8	49.3
15-S-6	297869	15	26	28.6	540	263	127	71.5	81.0	76.0	49.3	51.5	70.0	54.0	60.5
25-S-6	298163	25	-	61	699	346	152	87.5	92.0	93.0	57.0	58.5	98.5	60.5	76.0
35-S-6	298261	35	-	98	780	357	165	98.5	95.5	116	57.0	58.5	98.5	60.5	81.0
45-S-6	298369	45	-	122	907	392	178	121	108	129	63.5	64.5	102	76.0	82.5

*Individually Proof Tested to 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit.

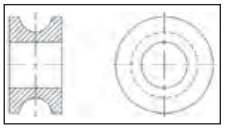
NOTE: For swivels larger than 45 metric tons, or designed to meet the requirements of demanding applications such as subsea applications, please contact the Crosby Engineered Solutions. For additional information concerning custom design products, contact:
In U.S.A. - Crosby's Engineered Solutions at 1-800-777-1555, Fax (918) 834-5035.
In Europe - N.V. Crosby Europe at +32 15 75 71 25.

Crosby® Angular Contact Bearing Swivels

Angular Contact Bearing Swivels

- Wide range of product available.
  - Capacity: 0.40 through 31.5 tonnes
  - Wire Rope Sizes: 2mm through 38mm
- Individually Proof Tested to 2 times the Working Load Limit with certification
- Design Factor of 5 to 1.
- Entire swivel is Zinc plated to resist corrosion.
- Angular contact bearings maximize efficienc , reliability and service life of swivel and extend the life of the wire rope.
- Designed for high rotation speed: Lower torque required to initiate rotation.
- Hook models utilize genuine Crosby hooks which are forged alloy steel, Quenched and Tempered and contain patented QUIC-CHECK® markings.
- Each swivel, 7.65 tonnes and larger is furnished with a pressure lubrication fitting
- For swivels larger than those listed, contact Engineered Solutions.

Wire Rope Size (mm)	AS-20 Stock No.
13	1038200
16	1038209
19	1038218
22-25	1038227
28-32	1038236
38	1038245

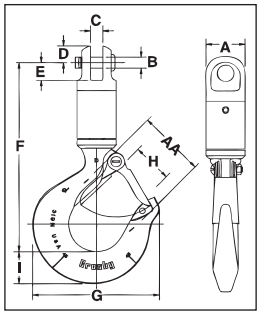


AS-20 Thimble Insert

- When terminating with wire rope clips, we recommend the use of the Thimble Insert. The result will be extended wire rope life.
- Allows standard swivel to be used in application requiring a thimble fitting.
- For use with our Bullet Style (AS-7) and Jaw Style (AS-1, AS-2, AS-3 & AS-4) swivels.
- Machined from carbon steel. Zinc plated.

Load Rated® QUIC-CHECK® CE

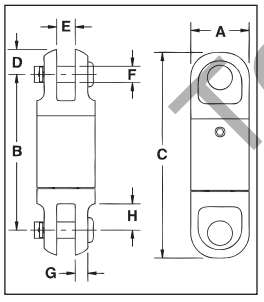
AS-1 Jaw & Hook



AS-1 JAW & HOOK				Dimensions (mm)										
Working Load Limit (t)*	Wire Rope Size (mm)	AS-1 Stock No.	Weight Each (kg)	A	B	C	D	E	F	G	H	I	Deformation Indicator AA	Replacement Latch Kit Stock No.
.40	3	1016001	.32	22.4	6.35	6.35	9.65	10.4	110	72.5	23.6	18.5	38.1	1096325
.68	6	1016010	.68	33.3	9.65	7.85	11.2	14.2	138	80.0	24.6	21.3	38.1	1096374
1.35	10	1016025	1.04	41.4	12.7	12.7	17.5	19.8	161	102	29.5	29.0	38.1	1096374
2.70	13	1016026	2.95	51.0	19.1	19.1	23.9	30.2	221	123	35.8	36.6	63.5	1096374
4.50	16	1016040	5.85	63.5	22.4	25.4	28.7	38.9	272	160	42.9	46.2	76.0	1096562
7.65	19	1016045	12.0	76.0	30.2	39.5	34.0	53.0	347	212	61.0	66.0	102	1096657
9.00	22	1016056	24.0	102	38.1	44.5	44.5	89.0	456	263	81.0	76.0	127	1096704
13.5	25	1016064	24.0	102	38.1	44.5	44.5	89.0	456	263	81.0	76.0	127	1096704
22.5	32	1016075	44.0	127	51.0	51.0	60.5	93.5	530	346	82.5	92.0	165	1090161
31.5	38	1016082	63.5	127	51.0	51.0	60.5	93.5	610	357	76.0	116	178	1090189

*Ultimate Load is 5 times the Working Load Limit. Individually Proof Tested to 2 times the Working Load Limit.

AS-2 Jaw & Jaw

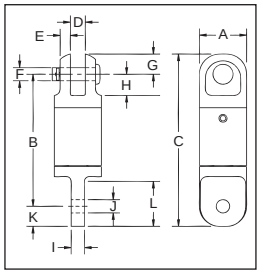


AS-2 JAW & JAW				Dimensions (mm)							
Working Load Limit (t)*	Wire Rope Size (mm)	AS-2 Stock No.	Weight Each (kg)	A	B	C	D	E	F	G	H
.40	3	1016103	.18	22.4	60.5	79.5	9.65	6.35	6.35	4.80	10.4
.68	6	1016114	.41	33.3	90.0	113	11.2	7.85	9.65	5.60	14.2
1.35	10	1016122	.91	41.4	103	138	17.5	12.7	12.7	7.10	19.8
2.70	13	1016131	2.22	51.0	159	207	23.9	19.1	19.1	9.65	30.2
4.50	16	1016139	4.35	63.5	197	270	28.7	25.4	22.4	13.5	38.9
7.65	19	1016148	7.17	76.0	245	313	34.0	39.5	30.2	14.2	53.0
9.00	22	1016157	18.1	102	356	445	44.5	44.5	38.1	20.6	89.0
13.5	25	1016166	18.1	102	356	445	44.5	44.5	38.1	20.6	89.0
22.5	32	1016175	35.4	127	405	526	60.5	51.0	51.0	28.7	93.5
31.5	38	1016184	35.4	127	405	526	60.5	51.0	51.0	28.7	93.5

*Ultimate Load is 5 times the Working Load Limit. Individually Proof Tested to 2 times the Working Load Limit.

NOTE: For swivels larger than 35 metric tons, or designed to meet the requirements of demanding applications such as subsea applications, please contact the Crosby Engineered Solutions. For additional information concerning custom design products, contact:
In U.S.A. - Crosby's Engineered Solutions at 1-800-777-1555, Fax (918) 834-5035.
In Europe - N.V. Crosby Europe at +32 15 75 71 25.

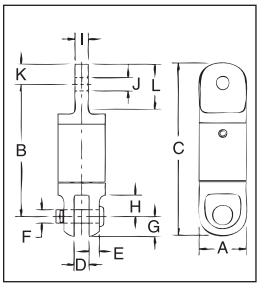
AS-3 Jaw & Eye



AS-3 JAW & EYE				Dimensions (mm)											
Working Load Limit (t)*	Wire Rope Size (mm)	AS-3 Stock No.	Weight Each (kg)	A	B	C	D	E	F	G	H	I	J	K	L
.40	3	1016205	.14	22.4	63.5	82.5	6.35	4.80	6.35	9.65	10.4	6.35	6.35	9.65	21.3
.68	6	1016216	.41	33.3	93.5	116	7.85	5.60	9.65	11.2	14.2	7.85	9.65	11.0	22.4
1.35	10	1016224	.86	41.4	106	138	12.7	7.10	12.7	17.5	19.8	12.7	16.8	16.0	35.1
2.70	13	1016232	2.09	51.0	157	207	19.1	9.65	19.1	23.9	30.2	19.1	23.1	25.0	51.0
4.50	16	1016243	4.13	63.5	200	259	25.4	13.5	22.4	28.7	38.1	25.4	31.8	30.0	67.0
7.65	19	1016250	7.08	76.0	241	311	39.5	14.2	31.8	34.0	53.0	31.8	35.8	38.0	79.5
9.00	22	1016259	17.7	102	349	440	44.5	20.6	38.1	44.5	89.0	43.7	41.4	46.0	119
13.5	25	1016268	18.1	102	341	440	44.5	20.6	38.1	44.5	89.0	51.0	51.0	54.0	119
22.5	32	1016277	35.4	127	406	527	51.0	28.7	51.0	60.5	93.5	57.0	58.5	61.0	133
31.5	38	1016286	35.4	127	406	527	51.0	28.7	51.0	60.5	93.5	57.0	58.5	61.0	133

*Ultimate Load is 5 times the Working Load Limit. Individually Proof Tested to 2 times the Working Load Limit.

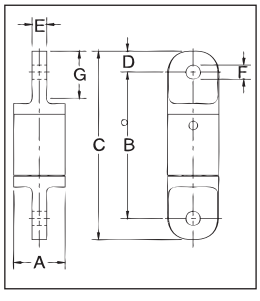
AS-4 Eye & Jaw



AS-4 EYE & JAW				Dimensions (mm)											
Working Load Limit (t)*	Wire Rope Size (mm)	AS-4 Stock No.	Weight Each (kg)	A	B	C	D	E	F	G	H	I	J	K	L
.40	3	1016306	.14	22.4	63.5	82.5	6.35	4.80	6.35	9.65	10.4	6.35	6.35	9.65	20.6
.68	6	1016314	.41	33.3	92.0	116	7.85	5.60	9.65	11.2	14.2	7.85	9.65	11.0	22.4
1.35	10	1016325	.86	41.4	106	140	12.7	7.10	12.7	17.5	19.8	12.7	16.8	16.0	34.0
2.70	13	1016332	2.09	51.0	157	207	19.1	9.65	19.1	23.9	30.2	19.1	23.1	25.4	51.0
4.50	16	1016343	4.13	63.5	200	259	25.4	13.5	22.4	28.7	36.6	25.4	31.8	30.2	67.0
7.65	19	1016352	7.12	76.0	240	311	39.5	14.2	30.2	34.0	53.0	31.8	35.8	38.1	79.5
9.00	22	1016361	17.7	102	359	451	44.5	20.6	38.1	44.5	89.0	43.7	42.2	46.0	119
13.5	25	1016370	18.1	102	351	451	44.5	20.6	38.1	44.5	89.0	51.0	51.5	54.0	119
22.5	32	1016375	34.0	127	405	527	51.0	28.7	51.0	60.5	93.5	57.0	58.5	60.5	133
31.5	38	1016379	34.0	127	405	527	51.0	28.7	51.0	60.5	93.5	57.0	58.5	60.5	133

*Ultimate Load is 5 times the Working Load Limit. Individually Proof Tested to 2 times the Working Load Limit.

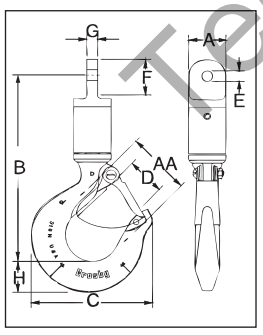
AS-5 Eye & Eye



AS-5 EYE & EYE				Dimensions (mm)						
Working Load Limit (t)*	Wire Rope Size (mm)	AS-5 Stock No.	Weight Each (kg)	A	B	C	D	E	F	G
.40	3	1016409	.14	22.4	67.0	86.0	9.65	6.35	6.35	20.6
.68	6	1016418	.41	33.3	95.0	118	11.2	7.85	9.65	22.4
1.35	10	1016427	.82	41.4	110	141	16.0	12.7	16.8	34.0
2.70	13	1016436	1.95	51.0	156	207	25.4	19.1	23.1	51.0
4.50	16	1016445	3.90	63.5	197	270	30.2	25.4	31.8	67.0
7.65	19	1016454	7.00	76.0	237	313	38.1	31.8	35.8	79.5
9.00	22	1016463	16.8	102	353	445	46.0	43.7	41.4	119
13.5	25	1016472	17.7	102	337	445	54.0	51.0	54.0	119
22.5	32	1016481	32.7	127	406	527	60.5	57.0	58.5	133
31.5	38	1016490	32.7	127	406	527	60.5	57.0	58.5	133

*Ultimate Load is 5 times the Working Load Limit. Individually Proof Tested to 2 times the Working Load Limit.

AS-6 Eye & Hook



AS-6 EYE & HOOK				Dimensions (mm)									
Working Load Limit (t)*	Wire Rope Size (mm)	AS-6 Stock No.	Weight Each (kg)	A	B	C	D	E	F	G	H	Deformation Indicator AA	Replacement Latch Kit Stock No.
.40	3	1016502	.32	22.4	111	72.5	23.6	6.35	20.6	6.35	18.5	38.1	1096325
.68	6	1016513	.68	33.3	141	80.0	24.6	9.65	22.4	7.85	21.3	38.1	1096374
1.35	10	1016520	1.32	41.4	158	102	29.5	16.8	34.0	12.7	29.0	51.0	1096374
2.70	13	1016529	2.81	51.0	219	123	35.8	23.1	51.0	19.1	36.6	63.5	1096374
4.50	16	1016538	5.62	63.5	274	160	42.9	31.8	67.0	25.4	46.2	76.0	1096562
7.65	19	1016547	10.7	76.0	343	212	61.0	35.6	79.5	31.8	66.0	102	1096657
9.00	22	1016556	23.6	102	459	263	81.0	42.2	119	43.7	76.0	127	1096704
13.5	25	1016565	24.0	102	448	263	81.0	51.5	119	51.0	76.0	127	1096704
22.5	32	1016574	42.6	127	530	346	82.5	59.0	133	57.0	92.0	165	1090161
31.5	38	1016583	62.6	127	610	357	76.0	59.0	133	57.0	116	178	1090189

*Ultimate Load is 5 times the Working Load Limit. Individually Proof Tested to 2 times the Working Load Limit.

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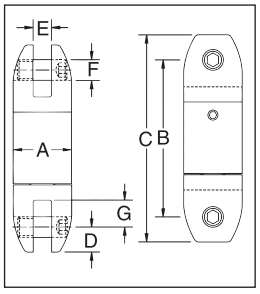
In Europe - N.V. Crosby Europe at +32 15 75 71 25.

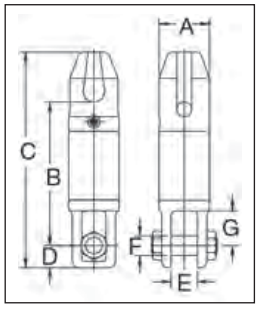
Crosby® Angular Contact Bearing Swivels

AS-7 Bullet Style Jaw & Jaw



AS-7 BULLET STYLE JAW & JAW				Dimensions (mm)						
Working Load Limit (t)*	WireRope Size (mm)	AS-7 Stock No.	Weight Each (kg)	A	B	C	D	E	F	G
.40	3	1016604	.18	22.4	60.5	79.5	9.65	6.35	7.85	10.2
.68	6	1016611	.50	33.3	90.0	113	11.2	7.85	9.65	14.2
1.35	10	1016622	.82	41.4	103	132	14.2	12.7	11.2	20.6
2.70	13	1016631	1.72	51.0	138	179	20.6	19.1	16.0	23.9
4.50	16	1016640	3.63	63.5	197	256	28.7	25.4	22.4	39.5
7.65	19	1016649	6.58	76.0	251	314	31.8	33.3	25.4	54.0
9.00	22	1016652	18.1	102	334	425	44.5	44.5	38.1	82.5
13.5	25	1016658	18.1	102	334	425	44.5	44.5	38.1	82.5
22.5	32	1016662	38.1	127	405	527	60.5	51.0	51.0	93.5
31.5	38	1016667	38.1	127	405	527	60.5	51.0	51.0	93.5

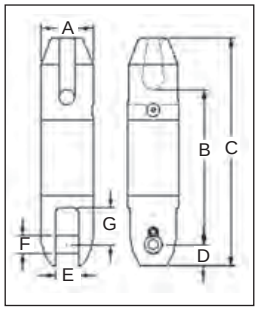
*Ultimate Load is 5 times the Working Load Limit. Individually Proof Tested to 2 times the Working Load Limit.



AS-11 Thimble & Jaw

AS-11 THIMBLE & JAW				Dimensions (mm)						
Working Load Limit (t)*	WireRope Size (mm)	AS-11 Stock No.	Weight Each (kg)	A	B	C	D	E	F	G
7.65	19	1017020	12.0	76.2	22.0	330	34.0	39.6	30.2	53.1
13.5	25	1017029	24.0	102	296	445	44.5	45.0	38.1	89.0

*Ultimate Load is 5 times the Working Load Limit. Individually Proof Tested to 2 times the Working Load Limit.

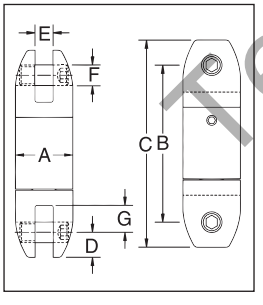


AS-14 Thimble & Bullet

AS-14 THIMBLE & BULLET				Dimensions (mm)						
Working Load Limit (t)*	WireRope Size (mm)	AS-14 Stock No.	Weight Each (kg)	A	B	C	D	E	F	G
7.7	20	1017255	9.0	76.2	229	337	31.8	33.3	25.4	54.1
13.6	26	1017258	18.0	102	292	441	44.5	44.5	38.1	82.6
22.7	32	1017261	37.0	127	363	538	60.5	50.8	50.8	93.7

*Ultimate Load is 5 times the Working Load Limit. Individually Proof Tested to 2 times the Working Load Limit.

AS-17 Bullet Style Jaw & Jaw Slurry Swivel



The Crosby AS-17 Slurry Swivel is a zinc plated Bullet Type Swivel (AS-7), designed with two rubber lip style seals about the shaft. The threaded cap is sealed with a silicone sealant and secured with a set screw. The swivels are provided with an Alemite grease fitting for easy lubrication

AS-17 BULLET JAW SLURRY SWIVEL				Dimensions (mm)						
Working Load Limit (t)*	WireRope Size (mm)	AS-17 Stock No.	Weight Each (kg)	A	B	C	D	E	F	G
7.65	19	8013342	6.57	76.2	257	321	31.8	33.3	25.4	54.1
13.5	25	8013343	18.1	102	343	432	44.5	44.5	38.1	82.5
22.5	32	8013376	38.1	127	410	531	60.5	51.0	51.0	93.7
31.5	38	8013344	38.1	127	410	531	60.5	51.0	51.0	93.7
40.5	-	2016585	68.0	152	514	666	76.2	64.3	57.2	69.9

*Ultimate Load is 5 times the Working Load Limit. Individually Proof Tested to 2 times the Working Load Limit.

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In Europe - N.V. Crosby Europe at +32 15 75 71 25.

S-4320 HOOK LATCH KIT

WARNINGS & APPLICATION INSTRUCTIONS

(For Crosby 319N, 320N, and 322N, S-1327, and A-1339 Hooks)

Important Safety Information - Read & Follow

- Always inspect hook and latch before using.
- Never use a latch that is distorted or bent.
- Always make sure spring will force the latch against the tip of the hook.
- Always make sure hook supports the load. The latch must never support the load (See Figures 1 & 2).
- When placing two (2) sling legs in hook, make sure the angle between the legs is less than 90° and if the hook or load is tilted, nothing bears against the bottom of this latch (See Figures 3 & 4).
- Latches are intended to retain loose sling or devices under slack conditions.
- Latches are not intended to be an anti-fouling device.
- When using latch for personnel lifting, select proper cotter pin (See Figure 5). See Step 7 below for proper installation instructions.
  - Never reuse a bent cotter pin.
  - Never use a cotter pin with a smaller diameter or different length than recommended in Figure 5.
  - Never use a nail, a welding rod, wire, etc., in place of recommended cotter pin.
  - Always ensure cotter pin is bent so as not to interfere with sling operation.
  - Periodically inspect cotter pin for corrosion and general adequacy.

⚠ WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **Hook must always support the load. The load must never be supported by the latch.**
- **See OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B) for Personnel Hoisting by crane or derricks. A Crosby S-319N, S-320N, S-322N, S-1327, and A-1339 Hook with an S-4320 latch attached (when secured with cotter pin) may be used for lifting personnel.**
- **An S-4320 Latch is only to be used with a Crosby S-319N, S-320N, S-322N, S-1327, and A-1339 Hook.**
- **DO NOT use this latch in applications requiring non-sparking.**
- **Read and understand these instructions before using hook and latch.**

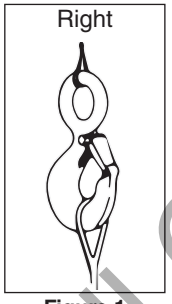


Figure 1

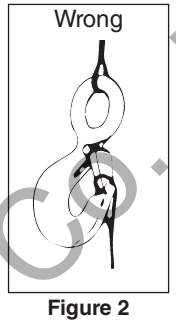


Figure 2

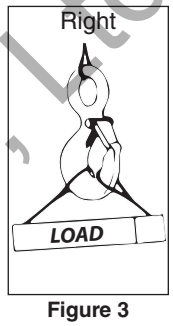


Figure 3

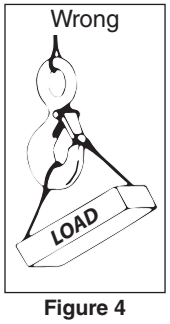


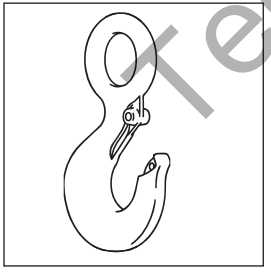
Figure 4

Figure 5

Hook Identification Code	Recommended Cotter Pin Dimensions (mm)	
	Diameter	Length
D	3.19	19.1
F	3.19	19.1
G	3.19	25.4
H	4.76	31.8
I	6.35	38.1
J	23.8	50.8
K	23.8	50.8
L	9.53	76.2
N	9.53	76.2

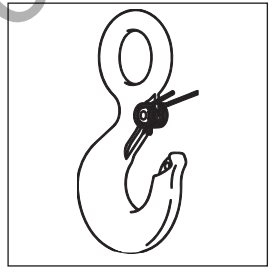
† The current SS-4055 latch kit and the PL latch will not fit new 319N, 320N, or 322N hooks. They will continue to be offered in both styles to service existing hooks. Important – The new S4320 latch kit will not fit the old 319, 320, or 322 hooks.

IMPORTANT – Instructions for Assembling S-4320 Latch on Crosby 320N Hooks



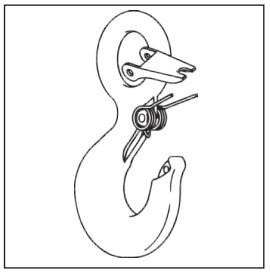
Step 1

1. Place hook at approximately a 45 degree angle with the cam up.



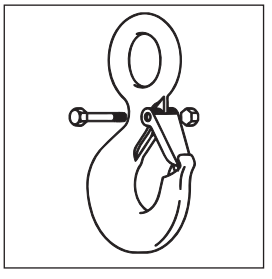
Step 2

2. Position coils of spring over cam with legs of spring pointing toward point of hook and loop of spring positioned down and lying against the hook.



Step 3

3. Position latch to side of hook points. Slide latch onto spring legs between lockplate and latch body until latch is partially over hook cam. Then depress latch and spring until latch clears point of hook.

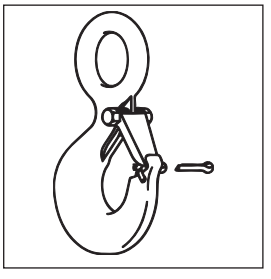


Steps 4, 5, & 6

4. Line up holes in latch with hook cam.

5. Insert bolt through latch, spring, and cam.

6. Tighten self-locking nut on one end of bolt.



Step 7 – For Personnel Lifting

7. With latch in closed position and rigging resting in bowl of hook, insert cotter pin through hook tip and secure by bending prongs.

Crosby® HOIST HOOKS

WARNINGS & APPLICATION INSTRUCTIONS

S-3319 Series Positioning Only | S-319 Series | S-3316 Series | L-320 Series | L-322 Series Positioning Only | L-3322B

⚠WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **See OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B) for personnel hoisting by cranes and derricks, and OSHA Directive CPL 2-1.36 - Interim Inspection Procedures During Communication Tower Construction Activities. A Crosby 319, L-320 or L-322 hook with a PL latch attached and secured with a bolt, nut and cotter pin (or toggle pin) may be used for lifting personnel. A Crosby 319N, L-320N or L-322N hook with an S-4320 latch attached and secured with cotter pin or bolt, nut and pin; or a PL-N latch attached and secured with toggle pin may be used for lifting personnel. A hook with a Crosby SS-4055 latch attached shall NOT be used for personnel lifting.**
- **See OSHA Directive CPL 2-1.36 - Crosby does not recommend the placement of lanyards directly into the positive locking Crosby hook when hoisting personnel. Crosby requires that all suspension systems (vertical lifelines / lanyard) shall be gathered at the positive locked load hook by use of a master link, or a bolt-type shackle secured with cotter pin.**
- **Threads may corrode and/or strip and drop the load.**
- **Remove securement nut to inspect or to replace L-322, S-3316, and S-3319 bearing washers (2).**
- **Hook must always support the load. The load must never be supported by the latch.**
- **Never apply more force than the hook's assigned Working Load Limit (WLL) rating.**
- **Read and understand these instructions before using hook.**

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

1. **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. **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 criteria, the hook should be inspected further for possible damage.

QUIC-CHECK®

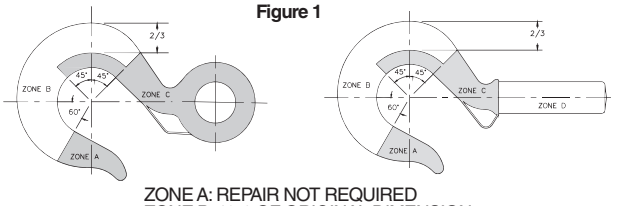
2. **Angle Indicators** – Indicates the maximum included angle which is allowed between two (2) sling legs in the hook. These indicators also provide the opportunity to approximate other included angles between two sling legs.

IMPORTANT SAFETY INFORMATION - READ & FOLLOW

A visual periodic inspection for cracks, nicks, wear, gouges and deformation as part of a comprehensive documented inspection program, should be conducted by trained personnel in compliance with the schedule in ASME B30.10.

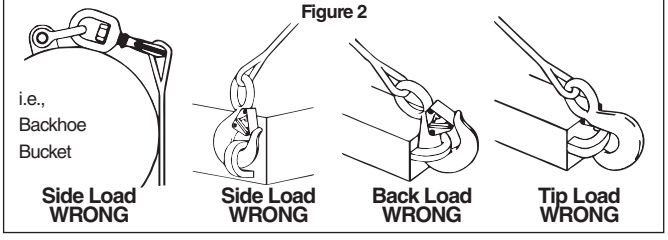
- For hooks used in frequent load cycles or pulsating loads, the hook and threads should be periodically inspected by Magnetic Particle or Dye Penetrant. (Note: Some disassembly may be required.)
- Never use a hook whose throat opening has been increased, or whose tip has been bent more than 10 degrees out of plane from the hook body, or is in any other way distorted or bent. Note: A latch will not work properly on a hook with a bent or worn tip.
- Never use a hook that is worn beyond the limits shown in Figure 1.
- Remove from service any hook with a crack, nick, or gouge. Hooks with a nick or gouge shall be repaired by grinding lengthwise, following the contour of the hook, provided that the reduced dimension is within the limits shown in Figure 1. Contact Crosby Engineering to evaluate any crack.
- Never repair, alter, rework, or reshape a hook by welding, heating, burning, or bending.
- Never side load, back load, or tip load a hook.(Side loading, back loading and tip loading are conditions that damage and reduce the capacity of the hook). (See Figure 2.)
- Eye hooks, shank hooks and swivel hooks are designed to be used with wire rope or chain. Efficiency of assembly may be reduced when used with synthetic material.
- Do not swivel the L-322, S-3316, or S-3319 swivel hooks while supporting a load. These hooks are distinguishable by hex nuts and flat washers.
- The L-3322 swivel hook is designed to rotate under load. The L-3322 is distinguishable from the L-322 by use of a round nut designed to shield bearing.
- The frequency of bearing lubrication on the L-3322 depends upon frequency and period of product use as well as environmental conditions, which are contingent upon the user's good judgment.
- The use of a latch may be mandatory by regulations or safety codes; e.g., OSHA, MSHA, ANSI/ASME B30, Insurance, etc. (Note: When using latches, see instructions in "Understanding The Crosby Group Warnings" for further information.)
- Always make sure the hook supports the load. (See Figure 3). The latch must never support the load (See Figure 4).
- When multileg slings are placed in the base (bowl/saddle) of the hook, the maximum included angle between sling legs shall be 90 deg. The maximum sling leg angle with respect to the hook centerline for any rigging arrangement shall be 45 degrees. A collector ring, such as a link or shackle, should be used to maintain in-line load when more than two legs are placed in a hook or for angles greater than 45 degrees with respect to hook centerline. When more than two legs are placed in the hook bunching of the legs shall be avoided.
- See ASME B30.10 "Hooks" for additional information.

Figure 1



ZONE A: REPAIR NOT REQUIRED
ZONE B: 10% OF ORIGINAL DIMENSION
ZONE C: 5% OF ORIGINAL DIMENSION
ZONE: D: SEE MINIMUM THREAD SIZE CHART

Figure 2



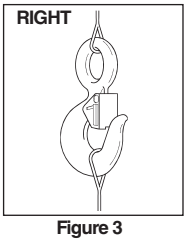


Figure 3

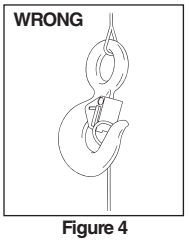


Figure 4

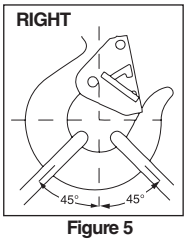
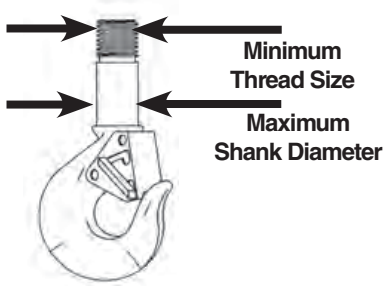


Figure 5

READ AND UNDERSTAND THESE INSTRUCTIONS BEFORE USING HOOKS
IMPORTANT – BASIC MACHINING AND THREAD INFORMATION

- Wrong thread and/or shank size can cause stripping and loss of load.
- The maximum diameter is the largest diameter, after cleanup, that could be expected after allowing for straightness, pits, etc.
- All threads must be Class 2 or better.
- The minimum thread length engaged in the nut should not be less than one (1) thread diameter. Install a properly sized retention device to secure the nut to the hook shank after the nut is properly adjusted at assembly. Nut retention devices such as set screws or roll pins are suitable for applications using anti-friction thrust bearings or bronze thrust washers. If the hook is intended for other applications that introduce a higher torque into the nut, a more substantial retaining device may be required.
- Hook shanks are not intended to be swaged on wire rope or rod. See S319SWG for hook designed for swaging.
- Hook shanks are not intended to be drilled (length of shank) and internally threaded.
- Crosby can not assume responsibility for, (A) the quality of machining, (B) the type of application, or (C) the means of attachment to the power source or load.
- Consult the Crosby Hook Identification & Working Load Limit Chart (See below) for the minimum thread size for assigned Working Load Limits (WLL).†
- Remove from service any Hook which has threads corroded more than 20% of the nut engaged length.



CROSBY HOOK IDENTIFICATION & WORKING LOAD LIMIT CHART†

Hook Identification			Working Load Limit (t)					Frame Size	Maximum Shank Diameter after Machining (mm)	Minimum Thread Size	
319C 319CN L-320C L-320CN L-322C L-322CN	319AN L-320A L-320AN L-322A L-322AN 3319 L-3322B	319BN	319C 319CN L-320C L-320CN L-322C L-322CN	319A 319AN L-320A L-320AN L-322A L-322AN L-3322B	319BN	S-3319	S-3316			319C 319CN (Carbon)	319A 319AN (Alloy)
DC	DA	DB	.75	1	.5	—	—	D	13.5	M12 x 1.25	M12 x 1.25
FC	FA	FB	1	1.5	.6	—	.45	F	15.7	M16 x 2	M16 x 2
GC	GA	GB	1.5	2	1	—	—	G	16.8	M16 x 2	M16 x 2
HC	HA	HB	2	3	1.4	1.63	.91	H	20.6	M18 x 1.5	M18 x 1.5
IC	IA	IB	3	*4.5 / 5	2.0	2.5	—	I	26.2	M22 x 2.5	M22 x 2.5
JC	JA	JB	5	7	3.5	4.5	—	J	32.3	M27 x 2	M27 x 2
KC	KA	KB	7.5	11	5.0	—	—	K	38.6	M30 x 1.5	M30 x 1.5
LC	LA	LB	10	15	6.5	—	—	L	44.5	M40 x 1.5	M40 x 1.5
NC	NA	NB	15	22	10	—	—	N	50.8	M50 x 1.5	M50 x 1.5
OC	OA	—	20	30	—	—	—	O	63.5	M56 x 2	M56 x 2
PC	PA	—	25	37	—	—	—	P	88.9	M70 x 1.5	M70 x 1.5
SC	SA	—	30	45	—	—	—	S	88.9	M75 x 1.5	M75 x 1.5
TC	TA	—	40	60	—	—	—	T	101.6	M85 x 2	M90 x 2
UC	UA	—	50	75	—	—	—	U	114.3	M95 x 2	M100 x 2
—	WA	—	—	100	—	—	—	W	155.4	—	M120 x 2
—	XA	—	—	150	—	—	—	X	162.1	—	M140 x 2
—	YA	—	—	200	—	—	—	Y	177.8	—	M160 x 2
—	ZA	—	—	300	—	—	—	Z	218.9	—	M190 x 2

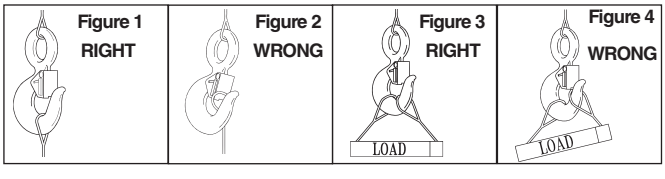
* 319AN, L-320AN, L-3322 and L-322AN are rated at 5 tons.

† Working Load Limit - The maximum mass or force which the product is authorized to support in general service when the pull is applied in-line, unless noted otherwise, with respect to the centerline of the product. This term is used interchangeably with the following terms: 1. WLL, 2. Rated Load Value, 3. SWL, 4. Safe Working Load, 5. Resultant Safe Working Load.

Warning and Application Instructions For Crosby® Hook Latch Kit

IMPORTANT SAFETY INFORMATION - READ & FOLLOW

- Always inspect hook and latch before using.
- Never use a latch that is distorted or bent.
- Always make sure spring will force the latch against the tip of the hook.
- Always make sure hook supports the load. The latch must never support the load (See Figures 1 & 2).
- When placing two (2) sling legs in hooks, make sure the angle between the legs is less the 90° and if the hook or load is tilted, nothing bears against the bottom of this latch (See Figures 3 & 4).
- Latches are intended to retain loose sling or devices under slack conditions.
- Latches are not intended to be an anti-fouling device.



⚠ WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **See OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B) for personnel hoisting for cranes and derricks. Only a Crosby or McKissick hook with a PL Latch attached and secured with bolt, nut and cotter (or Crosby Toggle Pin) or a Crosby hook with a S-4320 Latch attached and secured with a cotter pin, or a Crosby SHUR-LOC® hook in the locked position may be used for any personnel hoisting. A hook with a Crosby SS-4055 latch attached shall NOT be used for personnel lifting.**
- **Hook must always support the load. The load must never be supported by the latch.**
- **DO NOT use this latch in applications requiring non-sparking.**
- **Read and understand these instructions before using hook and latch.**

McKissick® HOIST HOOKS

WARNINGS & APPLICATION INSTRUCTIONS


L-320N Series


S-319 Series


L-322 Series Positioning Only


L-3322B Series

⚠ WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **See OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B) for personnel hoisting by cranes and derricks, and OSHA Directive CPL 2-1.36 - Interim Inspection Procedures During Communication Tower Construction Activities. A Crosby 319, L-320 or L-322 hook with a PL latch attached and secured with a bolt, nut and cotter pin (or toggle pin) may be used for lifting personnel. A Crosby 319N, L-320N or L-322N hook with an S-4320 latch attached and secured with cotter pin or bolt, nut and pin; or a PL-N latch attached and secured with toggle pin may be used for lifting personnel. A hook with a Crosby SS-4055 latch attached shall NOT be used for personnel lifting.**
- **See OSHA Directive CPL 2-1.36 - Crosby does not recommend the placement of lanyards directly into the positive locking Crosby hook when hoisting personnel. Crosby requires that all suspension systems (vertical lifelines / lanyard) shall be gathered at the positive locked load hook by use of a master link, or a bolt-type shackle secured with cotter pin.**
- **Threads or Split-Nut may corrode and/or strip and drop the load.**
- **Remove securement nut to inspect or to replace S-322 and S-3319 bearing washers (2).**
- **Hook must always support the load. The load must never be supported by the latch.**
- **Never apply more force than the hook's assigned Working Load Limit (WLL) rating.**
- **Read and understand these instructions before using hook.**

QUIC-CHECK® 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 tip, which allows for a **QUIC-CHECK®** measurement to determine if the throat opening has changed, thus indicating abuse or overload.

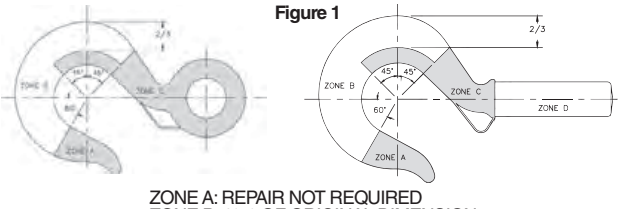
QUIC-CHECK®

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 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.

IMPORTANT SAFETY INFORMATION - READ & FOLLOW

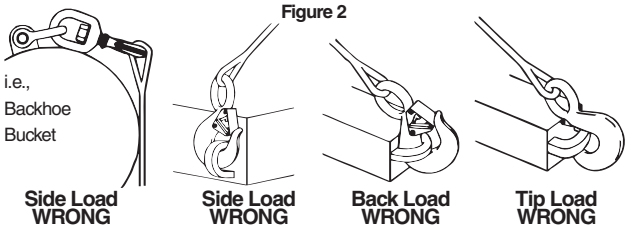
- A visual periodic inspection for cracks, nicks, wear, gouges and deformation as part of a comprehensive documented inspection program, should be conducted by trained personnel in compliance with the schedule in ASME B30.10.
- For hooks used in frequent load cycles or pulsating loads, the hook and threads should be periodically inspected by Magnetic Particle or Dye Penetrant. (Note: Some disassembly may be required.)
- Never use a hook whose throat opening has been increased, or whose tip has been bent more than 10 degrees out of plane from the hook body, or is in any other way distorted or bent. **Note: A latch will not work properly on a hook with a bent or worn tip.**
- Never use a hook that is worn beyond the limits shown in Figure 1.
- Remove from service any hook with a crack, nick, or gouge. Hooks with a nick or gouge shall be repaired by grinding lengthwise, following the contour of the hook, provided that the reduced dimension is within the limits shown in Figure 1. Contact Crosby Engineering to evaluate any crack.
- Remove from service any hook which has threads corroded more than 20% of the nut engagement length.
- Never repair, alter, rework, or reshape a hook by welding, heating, burning, or bending.
- Never side load, back load, or tip load a hook.(Side loading, back loading and tip loading are conditions that damage and reduce the capacity of the hook). (See Figure 2.)
- Eye hooks, shank hooks and swivel hooks are designed to be used with wire rope or chain. Efficiency of assembly may be reduced when used with synthetic material.
- Do not swivel the L-322 or S-3319 swivel hooks while supporting a load. These hooks are distinguishable by hex nuts and flat washers.
- The L-3322 swivel hook is designed to rotate under load. The L-3322 is distinguishable from the L-322 by use of a round nut designed to shield bearing.
- The frequency of bearing lubrication on the L-3322 depends upon frequency and period of product use as well as environmental conditions, which are contingent upon the user's good judgment.
- The use of a latch may be mandatory by regulations or safety codes; e.g., OSHA, MSHA, ASME B30, Insurance, etc.. (Note: When using latches, see instructions in "Understanding: The Crosby Group Warnings" for further information.)
- Always make sure the hook supports the load (See Figure 3). The latch must never support the load (See Figure 4).
- When multileg slings are placed in the base (bowl/saddle) of the hook, the maximum included angle between sling legs shall be 90 deg. The maximum sling leg angle with respect to the hook centerline for any rigging arrangement shall be 45 degrees. A collector ring, such as a link or shackle, should be used to maintain in-line load when more than two legs are placed in a hook or for angles greater than 45 degrees with respect to hook centerline. When more than two legs are placed in the hook bunching of the legs shall be avoided.
- Reference Crosby's Hoist Hook Warning and Application Information for basic machining and minimum thread size.
- See ASME B30.10 "Hooks" for additional information.

Figure 1



ZONE A: REPAIR NOT REQUIRED
ZONE B: 10% OF ORIGINAL DIMENSION
ZONE C: 5% OF ORIGINAL DIMENSION
ZONE: D: SEE MINIMUM THREAD SIZE CHART

Figure 2



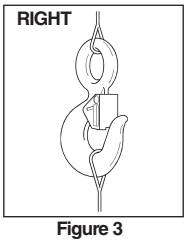


Figure 3

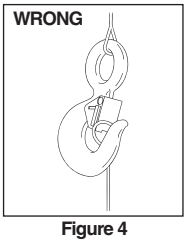


Figure 4

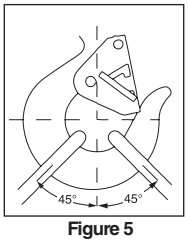


Figure 5

Removal of Split-Nut assembly (Reference Figure A):

- Remove vinyl cover.
- Remove spring retaining ring.
- Slide steel keeper ring off split nuts **⚠(CAUTION: Removal of keeper ring will allow split nut halves to fall from hook shank).**
- Remove split nut halves.

Inspection of split nut assembly and hook shank interface area (Reference Figure B):

- Inspect hook shank and split nut for signs of deformation on and adjacent to the load bearing surfaces.
- Inspect outside corner of hook shank load bearing surface to verify the corner is sharp.
- Verify retaining ring groove will allow proper seating of the retaining ring.
- Inspect retaining ring for corrosion or deformation. Remove from service any retaining ring that has excessive corrosion or is deformed.
- Use fine grit emery or crocus cloth to remove any corrosion from machined hook shank and split nut assembly.
- Follow inspection recommendations listed in this document under IMPORTANT SAFETY INFORMATION.
- If corrosion is present on the nut / shank interface area and deterioration or degradation of the metal components is evident, further inspection is required.
  - The use of a feeler gauge is required to properly measure the maximum allowable gap width between the split nut inside diameters and shank outside diameters.
  - With one split nut half seated against the hook shank, push the nut to one side and measure the maximum gaps as shown in Figure B. The hook should be measured in four places, 90-degrees apart.
  - Repeat above inspection procedure with other half of split nut.
  - Remove from service any hook and split nut assembly that exhibits a gap greater than 0.030".

Installation of split nut assembly (Reference Figure A):

- Coat hook shank and inside of split nut with an anti-seize compound or heavy grease.
- Install split nut halves onto shank. The flanged bottom of the split nut should be closest to the hook shoulder.
- Slide steel keeper ring over split nut halves. Verify the split nut halves properly seat against the load bearing surface of the hook shank and the steel keeper ring seats against the flange of the split nut.
- Install retaining ring onto split nut halves. Verify the retaining ring seats properly in the retaining ring groove on the outside diameter of the split nut assembly.
- Install vinyl cover over split nut and hook shank assembly.
- Verify all fasteners are correctly installed.
- Always use Genuine Crosby replacement parts.

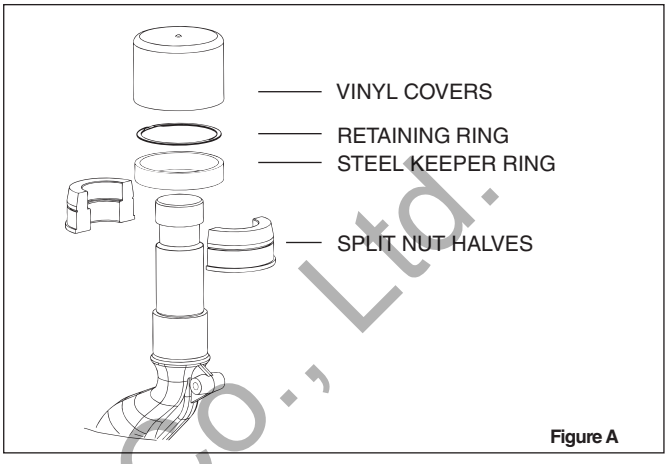


Figure A

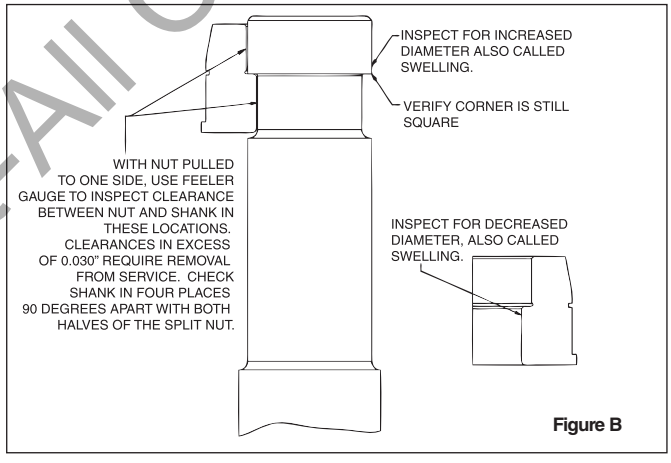
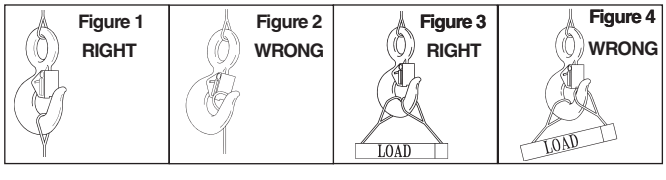


Figure B

Warning and Application Instructions For McKISSICK® Hook Latch Kit

IMPORTANT SAFETY INFORMATION - READ & FOLLOW

- Always inspect hook and latch before using.
- Never use a latch that is distorted or bent.
- Always make sure spring will force the latch against the tip of the hook.
- Always make sure hook supports the load. The latch must never support the load. (See Figures 1 & 2)
- When placing two (2) sling legs in hooks, make sure the angle between the legs is less the 90° and if the hook or load is tilted, nothing bears against the bottom of this latch. (See Figures 3 & 4)
- Latches are intended to retain loose sling or devices under slack conditions.
- Latches are not intended to be an anti-fouling device.



⚠ WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **See OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B) for personnel hoisting for cranes and derricks. Only a Crosby or McKissick hook with a PL Latch attached and secured with bolt, nut and cotter (or Crosby Toggle Pin) or a Crosby hook with a S-4320 Latch attached and secured with a cotter pin, or a Crosby SHUR-LOC® hook in the locked position may be used for any personnel hoisting. A hook with a Crosby SS-4055 latch attached shall NOT be used for personnel lifting.**
- **Hook must always support the load. The load must never be supported by the latch.**
- **Do not use this latch in applications requiring non-sparking.**
- **Read and understand these instructions before using hook and latch.**

Crosby® / BULLARD® GOLDEN GATE® HOOKS

WARNINGS & APPLICATION INSTRUCTIONS

QUIC-CHECK® 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 tip, 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 criteria, the hook should be inspected further for possible damage.

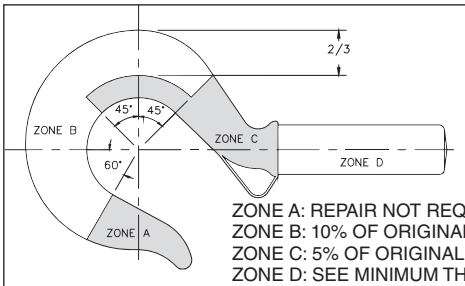
Angle Indicators – Indicates the maximum included angle which is allowed between two (2) sling legs in the hook. These indicators also provide the opportunity to approximate other included angles between two sling legs.

IMPORTANT SAFETY INFORMATION - READ & FOLLOW

- A visual periodic inspection for cracks, nicks, wear, gouges and deformation as part of a comprehensive documented inspection program, should be conducted by trained personnel in compliance with the schedule in ANSI B 30.10.
- For hooks used in frequent load cycles or pulsating loads, the hook and threads should be periodically inspected by Magnetic Particle or Dye Penetrant. (Note: Some disassembly may be required.)
- See WARNING box and Figure 6 for special instructions for securing the nut to the shank at assembly.
- Never use a hook whose throat opening has been increased, or whose tip has been bent more than 10 degrees out of plane from the hook body, or is in any other way distorted or bent. **Note: A gate will not work properly on a hook with a bent or worn tip.**
- Manual - closing gates must be completely closed for the lock to work.
- Never use a hook that is worn beyond the limits shown in Figure 1.
- Remove from service any hook with a crack, nick, or gouge. Hooks with a nick or gouge shall be repaired by grinding lengthwise, following the contour of the hook, provided that the reduced dimension is within the limits shown in Figure 1. Contact Crosby Engineering to evaluate any crack.
- Never repair, alter, rework, or reshape a hook by welding, heating, burning, or bending.
- Never side load, back load, or tip load a hook. Side loading, back loading and tip loading are conditions that damage and reduce the capacity of the hook (See Figure 2).
- Eye hooks, shank hooks and swivel hooks are designed to be used with wire rope or chain. Efficiency of assembly may be reduced when used with synthetic material.

⚠ WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **Before using, inspect the hook and gate daily to ensure it is in proper operating condition.**
- **Failure to properly insert the pin could result in the load falling.**
- **All Golden Gate® Hooks with threaded shanks require a pin to secure the nut to the shank. This pin prevents the nut from backing off or unscrewing from the threads and causing the load to drop.**
- **If the pin and nut are removed from the shank to replace any hook components, the pin and nut must be installed before use.**
  NOTE: 1. If a solid pin was used, the old pin "must"be discarded and a new pin inserted to secure the nut to the shank.
  2. If a spring pin (coil type) was used, it may be reused provided that the spring pin and / or the drill hole was not damaged.
- **The gate is not a load-bearing device. Do not allow the sling or other loads to bear against the gate.**
- **Threads may corrode and / or strip and drop the load.**
- **Hands, fingers and body should be kept away from the hook and load whenever possible.**
- **Never apply more force than the hook's assigned Working Load Limit (WLL) rating.**
- **Read and understand these instructions before using.**



ZONE A: REPAIR NOT REQUIRED
ZONE B: 10% OF ORIGINAL DIMENSIONS
ZONE C: 5% OF ORIGINAL DIMENSIONS
ZONE D: SEE MINIMUM THREAD SIZE CHART

Figure 1

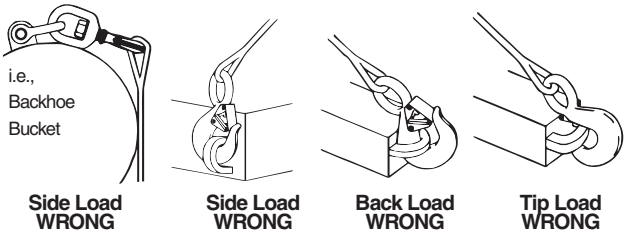
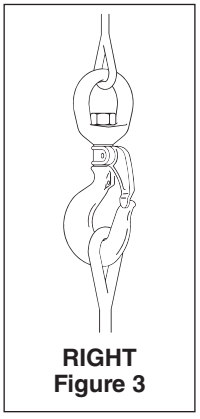
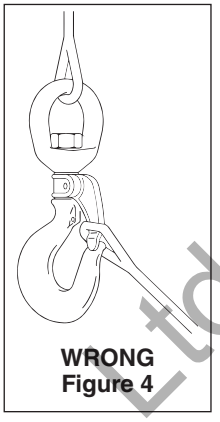


Figure 2

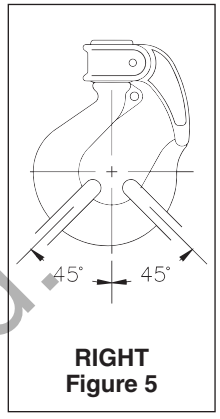
- The use of a latch may be mandatory by regulations or safety codes: e.g., OSHA, MSHA, ASME B30, Insurance etc.
- Always make sure the hook supports the load (See Figure 3). The gate must never support the load (See Figure 4).
- When multileg slings are placed in the base (bowl/saddle) of the hook, the maximum included angle between sling legs shall be 90 deg. The maximum sling leg angle with respect to the hook centerline for any rigging arrangement shall be 45 degrees. A collector ring, such as a link or shackle, should be used to maintain in-line load when more than two legs are placed in a hook or for angles greater than 45 degrees with respect to hook centerline. When more than two legs are placed in the hook bunching of the legs shall be avoided.
- See ASME B30.10 “Hooks” for additional information.
- If any of the following conditions exist, remove hook from service immediately and repair with genuine Crosby / Bullard Golden Gate® hook parts or replace the hook.
  - The gate does not lock in the closed position.
  - The gate is worn, deformed, inoperative, or fails to bridge the hook throat opening.
  - Load pins or bolts in the chain connectors are worn or bent.
- When hook is used to support a hoist, the weight of the hoist must be deducted from the assigned hook Working Load Limit.
- The rated capacity of chain connector hook assemblies must equal or exceed the capacity of the hoist.



RIGHT
Figure 3



WRONG
Figure 4



RIGHT
Figure 5

Important – Basic Machining and Thread Information – Read and Follow

- Wrong thread and/or shank size can cause stripping and loss of load.
- The maximum diameter is the largest diameter that will fit into the gate.
- All threads must be Class 2 or better.
- The minimum thread length engaged in the nut should not be less than one (1) thread diameter.
- All nuts must be secured to the shank by cross drilling the nut and threaded shank and inserting the appropriate coil type spring pin (See WARNING box and Figure 6 for special instructions).
- Coil type spring pin must be as long as the distance across the nut flats or diameter (See Figure 6).
- Consult the Crosby / Bullard Golden Gate® Hook Identification and Working Load Limit Chart (See below) for the coil type spring pin diameter.
- Remove any hook from service that requires a larger coil type spring than that shown in the chart below.
- Hook shanks are not intended to be swaged on wire rope or rod.
- Hook shanks are not intended to be drilled and internally threaded.
- Crosby cannot assume responsibility for:
  (A) the quality of machining,
  (B) the type of application, or
  (C) the means of attachment to the power source or load.

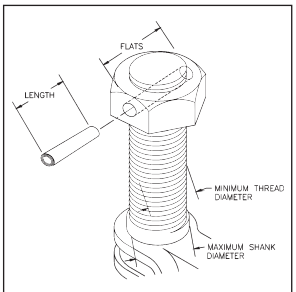


Figure 6

- Consult the Crosby/Bullard Golden Gate® Hook Identification & Working Load Limit Chart (below) for the minimum thread size for assigned Working Load Limits (WLL). +
- Remove from service any hook which has threads corroded more than 20% of the nut engaged length.

Crosby / Bullard Golden Gate® Hook Identification and Working Load Limit Chart

Hook / Gate Size	Working Load Limit ** + (t)	Maximum Shank Diameter (mm)	Minimum Thread Size	Spring* Pin Size (mm)	Drilled Hole Size (mm)	Hook / Gate Size	Working Load Limit (t)	Maximum Shank Diameter (mm)	Minimum Thread Size	Spring* Pin Size (mm)	Drilled Hole Size (mm)
1	.45	—	—	—	—	11	8.35	38	1-1/2 - 6 UNC	7.9	7.8/8.10
2	.90	12.70	1/2 - 13 UNC	3.2	3.15/3.30	12	11.15	41.2	1-5/8 - 5-1/2 UNC	7.9	7.8/8.10
3	1.27	14.20	9/16 - 12 UNC	3.2	3.15/3.30	13	13.6	44.4	1-3/4 - 5 UNC	9.5	9.40/9.7
4	1.54	15.80	5/8 - 11 UNC	3.2	3.15/3.30	14	16.8	50.7	2 - 4-1/2 UNC	9.5	9.40/9.7
5	2.09	19.00	3/4 - 10 UNC	4.0	3.94/4.05	16	22.4	69.8	2-3/4 - 4 UNC	12.7	12.5/12.95
6	3.63	22.20	7/8 - 9 UNC	4.75	4.70/4.90	16-A	29.9	69.8	2-3/4 - 4 UNC	12.7	12.5/12.95
7	3.81	25.30	1 - 8 UNC	4.75	4.70/4.90	17	44.9	101.5	4 - 4 UNC	19.1	18.9/19.30
8	5.00	28.50	1-1/8 - 7 UNC	6.35	6.25/6.50	17-A	59.9	101.5	4 - 4 UNC	19.1	18.9/19.30
9	6.53	31.70	1-1/4 - 7 UNC	6.35	6.25/6.50	—	—	—	—	—	—

* Heavy Duty Coil Type Spring Pin.

** Minimum ultimate strength is 4 times the Working Load Limit.

+ Working Load Limit - The maximum mass or force which the product is authorized to support in general service when the pull is applied in-line, unless noted otherwise with respect to centerline of the product. This term is used interchangeably with the following terms: 1. WLL, 2. Rated Load Value, 3. SWL, 4. Safe Working Load, 5. Resultant Safe Working Load. Ultimate Load is 4 times the Working Load.

Crosby® WELD-ON HOOKS

WARNINGS & APPLICATION INSTRUCTIONS

BH-313

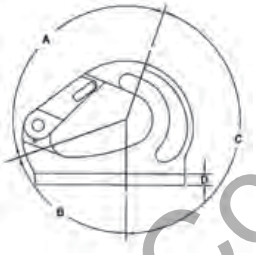
IMPORTANT SAFETY INFORMATION - READ & FOLLOW

- Weld-On hooks are to only be welded to a structure, equipment or machinery in an area (load point) approved by the original equipment manufacturer. (Some manufacturers may not approve the modification of their product.)
- For hydraulic excavator lift capacity rating, refer to SAE standard J1097.
- A visual periodic inspection for cracks, nicks, wear, gouges and deformation as part of a comprehensive documented inspection program, should be conducted by trained personnel.
- A visual periodic inspection of the weld should be performed. Check the weld visually, or use a suitable NDE method if required.
- As excavator buckets are not specifically designed for constant use with excavator hooks, we recommend regular and very thorough inspection of the excavator bucket welding area to ensure no distortion has been made to the work area.
- Never use a hook whose throat opening has been increased, or whose tip has been bent more than 10 degrees out of plane from the hook body, or is in any other way distorted or bent.

  Note: A latch will not work properly on a hook with a bent or worn tip.
- Never use a hook that is worn beyond the limits shown in Figure 1.
- Remove from service any hook with a crack, nick, or gouge. Hooks with a nick or gouge shall be repaired by grinding lengthwise, following the contour of the hook, provided that the reduced dimension is within the limits shown in Figure 1. Contact Crosby Engineering to evaluate any crack.
- Never repair, alter, rework, or reshape a hook by welding, heating, burning, or bending.
- Always make sure the hook supports the load. The load is to be applied within the range shown in Figure 2. The latch must never support the load (See Figure 3).
- Never side load (See Figure 4), or tip load (See Figure 5) a hook.
- The use of a latch may be mandatory by regulations or safety codes; e.g., OSHA, MSHA, ANSI/ASME B30, Insurance, etc. (Note: When using latches, see instructions in "Understanding: The Crosby Group Warnings" for further information).
- Ensure latch functions properly. Use only genuine Crosby replacement parts.
- Never attach more than one sling directly in hook. For collecting two or more slings to the hook, use proper hardware.
- See ANSI/ASME B30.10 "Hooks" for additional information.

⚠ WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **Hook must always support the load. The load must never be supported by the latch.**
- **Never apply more force than the hook's assigned Working Load Limit (WLL) rating.**
- **Do not use Crosby weld-on hook for personnel hoisting. See OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B).**
- **Read and understand these instructions before welding on, or using hook.**



ZONE A: REPAIR NOT REQUIRED (LATCH EXCLUDED)
ZONE B: 10% OF ORIGINAL DIMENSION
ZONE C: 5% OF ORIGINAL DIMENSION
ZONE D: ONLY AREA ALLOWED TO BE WELDED

Figure 1

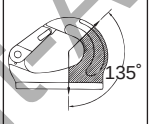
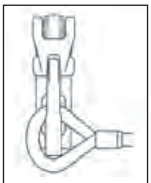
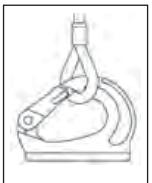


Figure 2

WRONG Figure 3



WRONG Figure 4



WRONG Figure 5

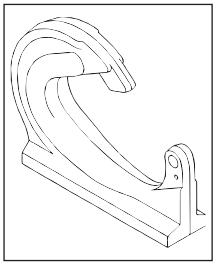
- The strength of the weld-on hook depends upon the method of attachment. Extreme care must be used in choice of support as well as during the attachment process.
- The support structure that the hook is attached to must be of suitable size, composition and quality to support the anticipated loads of all operating positions. The required support structure material thickness for a given application is dependent on variables such as unsupported length and material strength, and should be determined by a qualified individual. Minimum plate thickness required to support the welds are shown in Table 1.

TABLE 1

Working Load Limit (t)	Minimum Plate Thickness (in)	Minimum Fillet Size All Around (in)	Minimum Plate Thickness (mm)	Minimum Fillet Size All Around (mm)
1	3/16	3/16	5	5
2	1/4	1/4	6	6
3	5/16	5/16	8	8
4	5/16	5/16	8	8
5	3/8	3/8	10	10
8	1/2	1/2	13	13
10	1/2	1/2	13	13

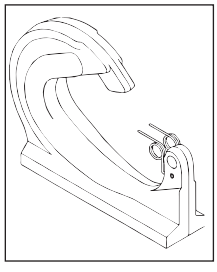
- Position the hook to ensure that the load is applied in the plane of the hook, and the load is supported by the hook in all operating positions. Ensure that the hook does not interfere with the operation of other mechanisms or cause pinch points.
- Ensure that the maximum gap between hook base and support does not exceed 1/8". Modify the support structure if required to reduce gap.
- When welding hook to carbon or low alloy steels (less than .40% carbon), the following welding recommendations are to be followed. For welding hook to other grades of steel, a qualified weld procedure must be developed. Crosby hook material is AISI 8622 modified.
- Welding is to be performed by a qualified welder using qualified procedure in accordance with American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) requirements.
- Welding electrode to be in accordance with AWS A5.4 E-312-16. Observe the electrode manufacturer's recommendations.
- Welding preheat range outlined below.
  - – Minimum preheat temperature: 212° F (100° C)
  - – Maximum temperature: 716° F (380° C)
- Before welding, the surface to be welded on, including the hook and support structure, must be clean and free from rust, grease and paint.
- Fillet weld leg size should be of minimum shown in Table 1, page 148. Weld profiles to be in accordance with AWS. Weld size is measured by length of leg.
- Welding should be carried out completely around base in a minimum of two passes to ensure adequate root penetration at the base of the hook.
- Do not rapidly cool the weld.
- After welding, a visual inspection of the weld should be performed prior to painting.
- No cracks, pitting, inclusions, notches or undercuts are allowed. if doubt exists, use a suitable NDE method, such as Magnetic Particle or Liquid Penetrant to verify.
- If repair is required on weld, grind out defect and re-weld using original qualified procedure.
- After welding, the assembly should be proof tested before putting into service.

Important – Instructions for Assembling S-4313 Latch on BH-313 Weld-On Hook



Step 1

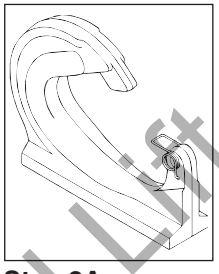
1. Place hook flat on work surface as shown.



Step 2

Hook sizes 1 to 3 tons

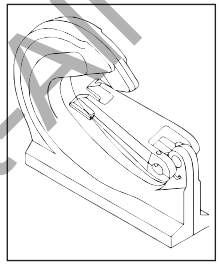
2. Position coils of spring over hook cam, with legs of spring pointing towards hook tip and coil of spring positioned down as shown.



Step 2A

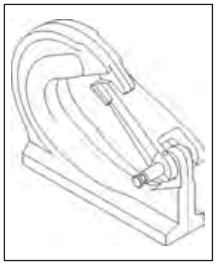
Hook sizes 4 to 10 tons

2A. Spread legs of spring and place into drilled hole. Position coils of spring over hook cam, with end of spring pointing toward hook tip as shown.



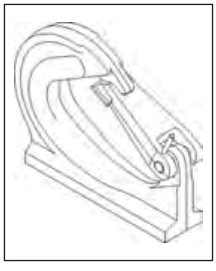
Step 3

3. Position latch over spring, aligning latch ears and spring coil. On pin hole side of latch, insert non-grooved end of latch pin through hole in latch and through spring until contact is made with hook body (a small punch may be required for proper alignment).



Step 4

4. Align holes in latch with holes in cam of hook. Continue pushing the pin through hook, spring and latch.



Step 5

5. Insert roll-pin into latch, driving it in with a hammer, while ensuring that latch pin groove is in alignment.

Crosby® HOOK LATCH KIT

WARNINGS & APPLICATION INSTRUCTIONS

SS-4055

⚠ WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **See OSHA Rule 1926.1431(g)(1)(i)(A) and 1962.1501(g)(4)(iv)(B) A hook and this style latch must not be used for lifting personnel.**
- **Hook must always support the load. The load must never be supported by the latch.**
- **Read and understand these instructions before using hook and latch.**

IMPORTANT SAFETY INFORMATION - READ & FOLLOW

- Always inspect hook and latch before using.
- Never use a latch that is distorted or bent.
- Always make sure spring will force the latch against the tip of the hook.
- Always make sure hook supports the load. The latch must never support the load (See Figures 1 & 2).
- When placing two (2) sling legs in hook, make sure the angle between legs is small enough and the legs are not tilted so that nothing bears against the bottom of the latch (See Figures 3 & 4).
- Latches are intended to retain loose sling or devices under slack conditions.
- Latches are not intended to be an anti-fouling device.

RIGHT

Figure 1

WRONG

Figure 2

RIGHT

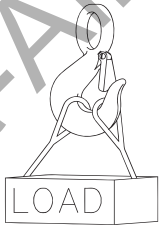


Figure 3

WRONG

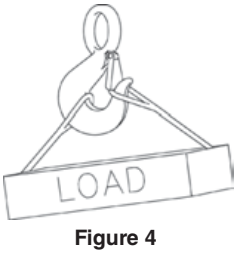
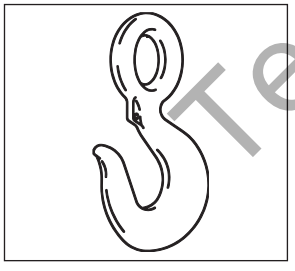


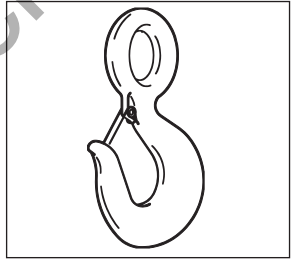
Figure 4

IMPORTANT – Instructions for Assembling Model SS-4055 Latch on Crosby Hooks



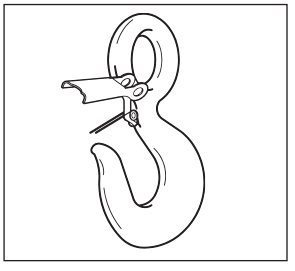
Step 1

1. Place hook at approximately a 45 degree angle with the cam up.



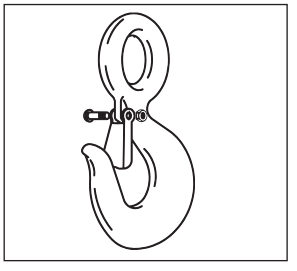
Step 2

2. Position coils of spring over cam with tines of spring pointing toward point of hook and loop of spring positioned down and lying against the hook.



Step 3

3. Position latch over tines of spring with ears partially over hook cam. Swing latch to one side of hook, point and depress latch and spring until latch clears point of hook.



Steps 4, 5, & 6

4. Line up holes in latch with hook cam.

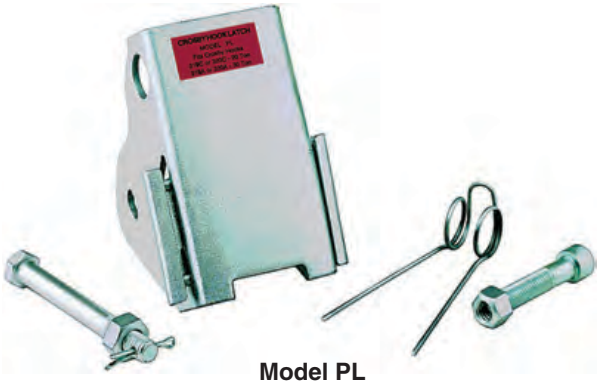
5. Insert bolt through latch, spring, and cam.

6. Tighten self-locking nut on one end of bolt.

rev. 1

Crosby® MODEL PL HOOK LATCH KIT

WARNINGS & APPLICATION INSTRUCTIONS



Model PL

⚠ WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **See OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B) for Personnel Hoisting by Cranes or Derricks. A Crosby or McKissick Hook with a positive Locked PL or S-4320 Latch may be used to Lift Personnel.**
- **Hook must always support the load. The load must never be supported by the latch.**
- **DO NOT use this latch in applications requiring non-sparking.**
- **Read and understand these instructions before using hook and latch.**

IMPORTANT SAFETY INFORMATION - READ & FOLLOW

(Pat. USA & Canada)

- Always inspect hook and latch before using.
- Never use a latch that is distorted or bent.
- Always make sure spring will force the latch against the tip of the hook.
- Always make sure hook supports the load. The latch must never support the load (See Figures 1 & 2).
- When placing two (2) sling legs in hook, make sure the angle between the legs is less than 90° and if the hook or load is tilted, nothing bears against the bottom of this latch (See Figures 3 & 4).
- Latches are intended to retain loose sling or devices under slack conditions.
- Latches are not intended to be an anti-fouling device.

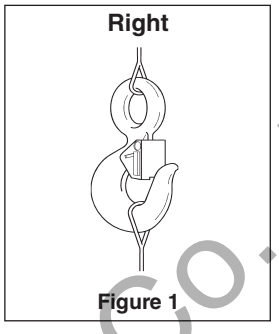


Figure 1

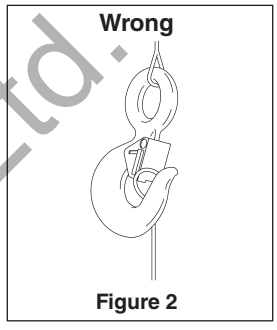


Figure 2

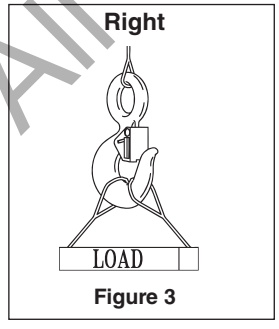


Figure 3

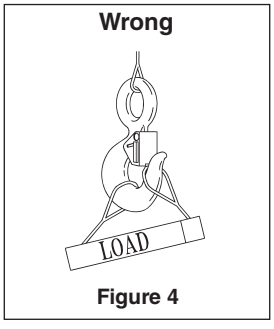
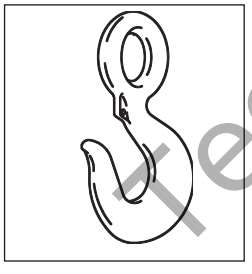


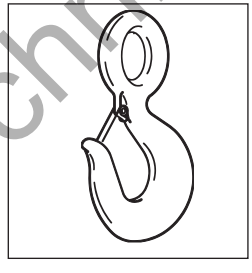
Figure 4

IMPORTANT - Instructions for Assembling Model PL Latch on Crosby or McKissick Hooks



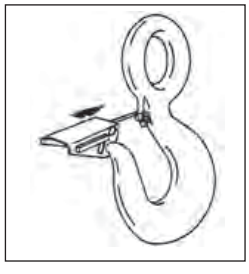
Step 1

1. Place hook at approximately a 45 degree angle with the cam up.



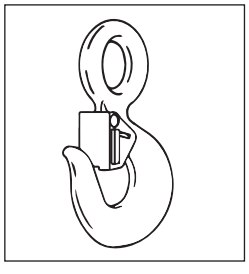
Step 2

2. Position coils of spring over cam with legs of spring pointing toward point of hook and loop of spring positioned down and lying against the hook.



Step 3

3. Position latch to side of hook points. Slide latch onto spring legs between lockplate and latch body until latch is partially over hook cam. Then depress latch and spring until latch clears point of hook.

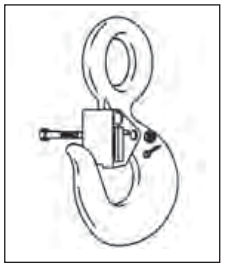


Steps 4, 5, & 6

4. Line up holes in latch with hook cam.

5. Insert bolt through latch, spring, and cam.

6. Tighten self-locking nut on one end of bolt.



Step 7 — For Personnel Lifting

7. With latch in closed position and rigging resting in bowl of hook, insert bolt through latch and secure with nut and cotter pin. When bolt, nut and cotter pin are not being used, store them in a designated place upon the personnel platform.

Crosby® MODEL PL-N/O HOOK LATCH KIT

WARNINGS & APPLICATION INSTRUCTIONS

Model PL-N/O

⚠ WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **See OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B) for Personnel Hoisting by Crane or Derricks. A Crosby or McKissick Hook with a Positive Locked PL-N/O or S-4320 Latch may be used to Lift Personnel.**
- **Hook must always support the load. The load must never be supported by the latch.**
- **DO NOT use this latch in applications requiring non-sparking.**
- **Read and understand these instructions before using hook and latch.**

IMPORTANT SAFETY INFORMATION - READ & FOLLOW

- Always inspect hook and latch before using.
- Never use a latch that is distorted or bent.
- Always make sure spring will force the latch against the tip of the hook.
- Always make sure hook supports the load. The latch must never support the load (See Figures 1 & 2).
- When placing two (2) sling legs in hook, make sure the angle between the legs is less than 90° and if the hook or load is tilted, nothing bears against the bottom of this latch (See Figures 3 & 4).
- Latches are intended to retain loose sling or devices under slack conditions.
- Latches are not intended to be an anti-fouling device.

RIGHT

Figure 1

WRONG

Figure 2

RIGHT

Figure 3

WRONG

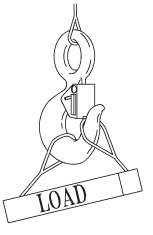
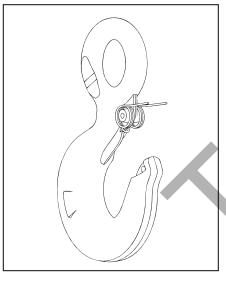


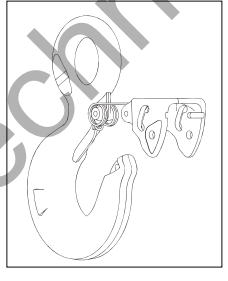
Figure 4

IMPORTANT - Instructions for Assembling Model PL-N/O Latch on Crosby or McKissick Hooks



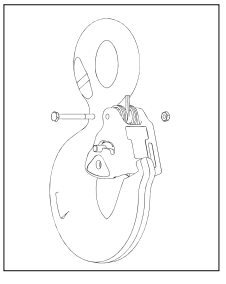
Step 1

1. Place hook in upright position. Position coils of spring over cam with legs of spring pointing toward tip of hook, and loop of spring positioned down and lying against the hook.



Step 2

2. Slip the latch over the spring until the two spring legs are positioned into the grooves located on the inside of the latch housing (legs of spring should fit between the gate and the housing).



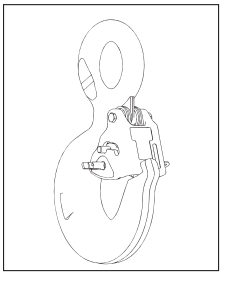
Step 3 4, 5, & 6

3. Slide latch housing up the spring legs until latch clears hook tip.

4. Resting latch on interlocking hook tip, line up holes in latch with hook cam.

5. Insert bolt through latch spring & cam.

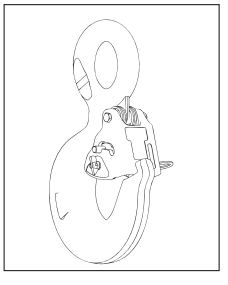
6. Tighten self-locking nut on one end of bolt.



Step 7, 8 - For Personnel Lifting

7. Rigging should be resting in bowl of hook, with latch in closed position and gate locked.

8. Insert toggle lock pin through hole and depress spring until toggle clears hole on other side of latch.



Step 9 - For Personnel Lifting

9. Rotate toggle 90 degrees to secure pin (ensure toggle is in closed position as shown).

Crosby® ROV HOOKS

WARNINGS & APPLICATION INSTRUCTIONS

QUIC-CHECK® 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 tip, 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 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.

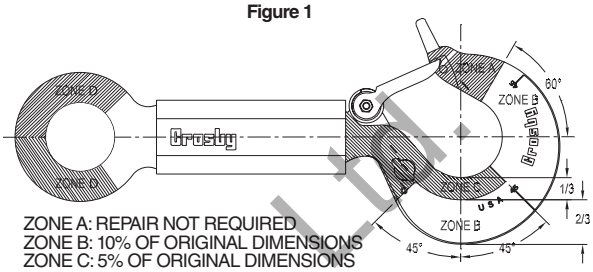
IMPORTANT SAFETY INFORMATION - READ & FOLLOW

- A visual periodic inspection for cracks, nicks, wear, gouges and deformation as part of a comprehensive documented inspection program, should be conducted by trained personnel in compliance with the schedule in ASME B30.10 and/or regulations governing your industry or jurisdiction.
- For ROV hooks used in frequent load cycles or pulsating loads, the ROV hook components (hoist hook, eye bolt and hexagon body) and their threads should be periodically inspected by Magnetic Particle or Dye Penetrant (Disassembly will be required).
- Disassemble the eye bolt and shank hook from hexagon body (sizes up to and including 31.5t WLL). This requires removing the 2 spiral pins and unscrewing the eye bolt and hoist hook.
- Always use new spiral pins when re-assembling the ROV Hook.
- After reassembly, Crosby recommends a proof test equal to 2 times the ROV hook's stated WLL.
- Never use a hoist hook whose throat opening has been increased, or whose tip has been bent more than 10 degrees out of plane from the hook body, or is in any other way distorted or bent. Note: A latch will not work properly on a hook with a bent or worn tip.
- Never use a hoist hook that is worn beyond the limits shown in Figure 1.
- Remove from service any hoist hook with a crack, nick or gouge. Hoist hooks with a nick or gouge shall be repaired by grinding lengthwise, following the contour of the hook, provided that the reduced dimension is within the limits shown in Figure 1. Contact Crosby Engineering to evaluate any cracks.
- Never repair, alter, rework, or reshape an ROV hook by welding, heating, burning, or bending.
- Remove from service a hoist hook or eye bolt which has threads corroded more than 20% of the hexagon body engagement length.
- Never side load, back load, or tip load the hoist hook, eye bolt or hexagon body. (Side loading, back loading and tip loading are conditions that damage and reduce the capacity of the ROV hook). (See Figure 2.)
- The use of a latch may be mandatory by regulations or safety codes. Follow the regulations governing your industry or jurisdiction.

⚠ WARNING

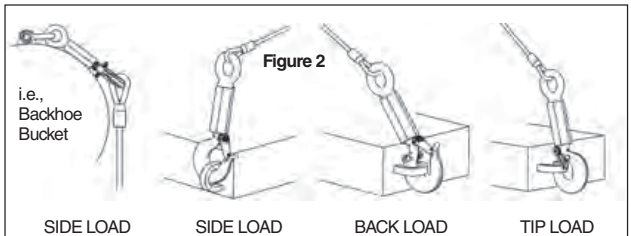
- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **Hook must always support the load. The load must never be supported by the latch.**
- **Read and understand these instructions before using hook and latch.**

Figure 1



ZONE A: REPAIR NOT REQUIRED
ZONE B: 10% OF ORIGINAL DIMENSIONS
ZONE C: 5% OF ORIGINAL DIMENSIONS
ZONE D: 5% OF ORIGINAL DIMENSIONS

Figure 2



- Always make sure the hook supports the load. (See Figure 3 on page 156). The latch must never support the load (See Figure 4 on page 156).
- When multileg slings are placed in the base (bowl/saddle) of the hook, the maximum included angle between sling legs shall be 90 deg. The maximum sling leg angle with respect to the hook centerline for any rigging arrangement shall be 45 degrees. A collector ring, such as a link or shackle, should be used to maintain in-line load when more than two legs are placed in a hook or for angles greater than 45 degrees with respect to hook centerline. When more than two legs are placed in the hook bunching of the legs shall be avoided.
- See ASME B30.10 "Hooks" for additional information.
- Remove from service any eye bolt with a crack, nick or gouge. Eye bolt with a nick or gouge shall be repaired by grinding lengthwise, following the contour of the eye bolt, provided that the reduced dimension is no greater than 5% of original dimension. Contact Crosby Engineering to evaluate any cracks.

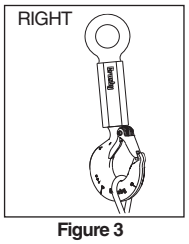


Figure 3

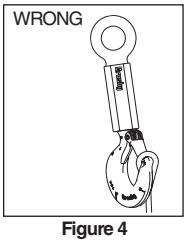


Figure 4

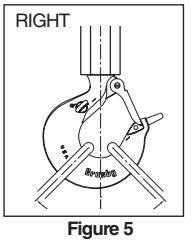


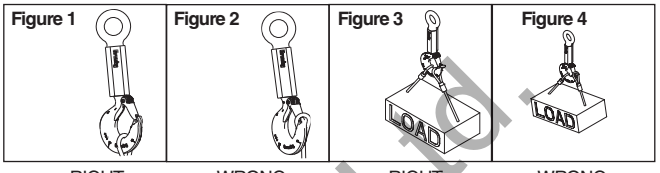
Figure 5

- Never use an eye bolt if eye or shank is bent or elongated.
- Remove from service the hexagon body if internal threads are corroded beyond 20% of the eye bolt or hoist hook shank's threaded engagement lengths.
- Hexagon body with nicks or gouges may be repaired by grinding lengthwise.
- Inspect the spiral pin holes on the hoist hook, hexagon body and eye bolt. At assembly, the spiral pin must engage with a press fit.

Warning and Application Instructions for Crosby® Hook Latch

Important Safety Information – Read & Follow

- Always inspect hook and latch before using.
- Never use a latch that is distorted or bent.
- Always make sure spring will force the latch against the tip of the hook.
- Always make sure hook supports the load. The latch must never support the load. (See Figures 1 & 2)
- When placing two (2) sling legs in hooks, make sure the angle between the legs is less the 90° and if the hook or load is tilted, nothing bears against the bottom of this latch. (See Figures 3 & 4)
- Latches are intended to retain loose sling or devices under slack conditions.
- Latches are not intended to be an anti-fouling device.



⚠ WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **See OSHA Rule 1926.550 (g)(4)(iv)(B) for personnel hoisting for cranes and derricks. Only a Crosby or McKissick hook with a PL Latch attached and secured with bolt, nut and cotter (or Crosby Toggle Pin) or a Crosby hook with a S-4320 Latch attached and secured with a cotter pin, or a Crosby SHUR-LOC® hook in the locked position may be used for any personnel hoisting. A hook with a Crosby SS-4055 latch attached shall NOT be used for personnel lifting.**
- **Hook must always support the load. The load must never be supported by the latch.**
- **Read and understand these instructions before using hook and latch.**