CHAIN & ACCESSORIES

With Product Warning and Application Information

CROSBY ELIMINATOR®

LOOK TO THE CROSBY PLATINUM LINE FOR PREMIUM SLING RIGGING

A-1361 shown with optional S-4104N Latch Pin.

A-1362 shown with optional S-4104N Latch Pin

The Top ELIMINATOR Advantages Over The Competition

- RFID-equipped: No extra tag needed when using an electronic inspection system
- Crosby QUIC-CHECK® marks forged into the bail for quick and easy overload indication
- Optional S-4104N Latch Pin keeps the shortened chain in position when sling is removed from the crane hook temporarily
- Hinged design prevents bending when fitting is against a curved object
- The Crosby Eliminator® 2-piece design allows maximum flexibility; The same bail fits either the single or double hook
- Available in five sizes, 9/32” (7mm) through 5/8” (16mm)
- Wider and longer bail accommodates more hook sizes
- Only 2 fittings needed to build any adjustable sling, from single leg to quad
- Easy assembly of triple and quad chain slings
- Use the ELIMINATOR assembly with an oblong link to fit oversize hooks
- All Crosby ELIMINATOR® fittings are made in the U.S.A.

Crosby 8/10™ Fatigue Rated® “QT” QUENCHED & TEMPERED RFID EQUIPPED QUIC-CHECK®

Crosby®

GENERAL INFORMATION

WORKING LOAD LIMIT

The "Working Load Limit" is the maximum load in pounds which should ever be applied to chain, when the chain is new or in as-new" condition, and when the load is uniformly applied in direct tension to a straight length of chain.

PROOF TEST

The "Proof Test" is a term designating the tensile test applied to new chain for the sole purpose of detecting injurious defects in the material or manufacture. It is the load that the chain has withstood under a test in which the load has been applied in direct tension to a straight length of chain.

MINIMUM ULTIMATE LOAD

The "Minimum Ultimate Load" is the minimum load at which new chain will break when tested by applying direct tension to a straight length of chain at a uniform rate of speed in a testing machine.

ATTACHMENTS

Any attachments, such as hooks or links, should have a rated "Working Load Limit" at least equal to the chain with which it is used.

SYMMETRICAL LOADING

Rated Working Load Limit assumes symmetrical loading of all sling legs.

SPECIFICATIONS: ANSI B30.9 2006

Paragraph 9-1.6.1 "Prior to initial use, all new and repaired chain and components of an alloy steel chain sling, either individually or as an assembly, shall be proof tested by the sling manufacturer or qualified person.

CAUTION

Only Crosby Alloy chain, Spectrum 8® or Spectrum 10®, should be used for overhead lifting applications.

General Usage – It must be recognized that certain factors in the usage of chain and attachments can be abusive and lessen the load that the chain or attachments can withstand. Some examples are twisting of the chain; disfigurement; deterioration by straining, usage, weathe ing and corrosion; rapid application of load or jerking; applying excessive loads; sharp corner cutting action and non-symmetrical loading effects.

When using chain slings in choker applications, the Working Load Limit must be reduced by 20%. Crosby recommends a minimum angle of choke of 120 degrees. Consult Crosby when planning to use an angle of choke of less than 120 degrees. If Crosby A-1338 cradle grab hooks are used at a minimum angle of choke of 120 degrees, the full sling rated WLL can be utilized.

In shortening applications, a 20% reduction of the Working Load Limit is required except when using the Crosby A-1338 Cradle Grab Hooks, S-1311 Chain Shortener Link, the A-1355 Chain Choker Hook in conjunction with the S-1325 Chain Coupler Link, or the Crosby ELIMINATOR® shortener link. They can be used without any reduction to the Working Load Limit.

Care should be taken to observe these derated applications or chain may fracture or permanently stretch at loads less than the advertised chain ultimate strength and proof load respectively.

Environmental Effects – Excessive high or low temperatures, or exposure to chemically active environments such as acids or corrosive liquids or fumes, can reduce the performance of the chain.

Temperature

- Extreme temperatures will reduce the performance of alloy steel chain slings.
- Normal operating temperature is -40° F to 400° F (-40° C to 204° C).
- See the temperature exposure chart (Table 1) to determine reduction of WLL due to operation at, and exposure to, elevated temperatures.

Chemically Active Environments can have detrimental effects on the performance of chain. The effects can be both visible loss of material and undetectable material degradation causing significant loss of strength.

- Usage Exposure – Exposure to chemically active environments such as acids or corrosive liquids or fumes can reduce the performance of the chain.
- Special Surface Coating/Plating/Galvanizing – Chain should not be subjected to galvanizing, or any plating process.
- If it is suspected that the chain has been exposed to chemically active environment, remove from service.

TABLE 1
Use of Crosby Alloy Chain at Elevated Temperatures

Temperature of Chain		Grade 8 (80) Chain		Grade 10 (100) Chain	
(F°)	(C°)	Temporary Reduction of Rated Load at Elevated Temperature*	Permanent Reduction of Rated Load After Exposure to Temperature**	Temporary Reduction of Rated Load at Elevated Temperature*	Permanent Reduction of Rated Load After Exposure to Temperature**
Below 400	Below 204	None	None	None	None
400	204	10%	None	15%	None
500	260	15%	None	25%	5%
600	316	20%	5%	30%	15%
700	371	30%	10%	40%	20%
800	427	40%	15%	50%	25%
900	482	50%	20%	60%	30%
1000	538	60%	25%	70%	35%
Over 1000	Over 538	OSHA 1910.184 and ASME B30.9 requires all slings exposed to temperatures over 1000° F to be removed from service.			

* Crosby does not recommend the use of Alloy Chain at temperatures above 800° F.
** When chain is used at room temperature after being heated to temperatures shown in the first column

Crosby® Grade 100 Chain Sling Configurations

TO MAKE YOUR CROSBY® GRADE 100 ALLOY CHAIN SLING

Follow these simple steps in making a sling assembly:

1. Determine the maximum load to be lifted by the sling assembly.
2. Choose the type of sling assembly suited for the shape of the load and the size of the sling assembly for the load to be lifted. The decision must take into account the angle of the sling legs in multileg slings.
3. Determine the overall reach from bearing point of master link to bearing point on hook (see Fig. 1).
4. Select components, assemble chain and components.
5. Affix sling identification tag to sling The tag is available from your Authorized Crosby Distributor.

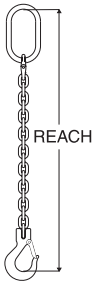


Fig. 1

Each sling shall be marked to show: name or trademark of manufacturer, grade, nominal chain size, number of legs, rated load for the type(s) of hitch(es) used and angle upon which it is based (reach).

If measurement comes in the link, cut the following link. For two leg type slings, count the links and use an even number for clevis hooks and an odd number for eye hooks. This will position hooks in the same plane. In multileg slings always use the same number of links in each leg.

When using chain slings in choker applications, the Working Load Limit must be reduced by 20%. Crosby recommends a minimum angle of choke of 120 degrees. Consult Crosby when planning to use an angle of choke of less than 120 degrees. If Crosby A-1338 cradle grab hooks are used at a minimum angle of choke of 120 degrees, the full sling rated WLL can be utilized.

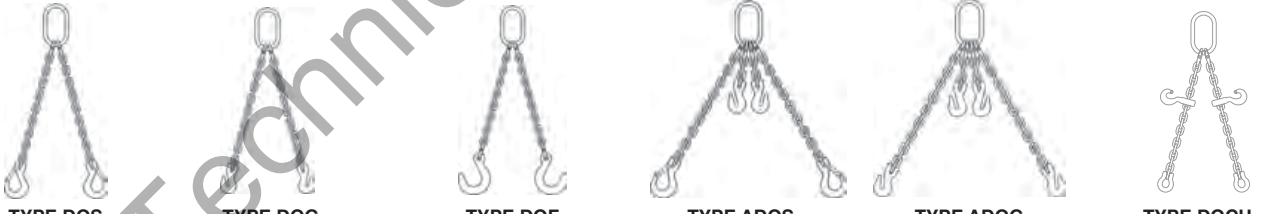
In shortening applications, a 20% reduction of the Working Load Limit is required except when using the Crosby A-1338 Cradle Grab Hooks, S-1311 Chain Shortener Link, the A-1355 Chain Choker Hook in conjunction with the S-1325 Chain Coupler Link, or the Crosby **ELIMINATOR®** shortener link. They can be used without any reduction to the Working Load Limit.

SEE APPLICATION AND WARNING INFORMATION
On Pages 266-267
Para Español: www.thecrosbygroup.com

The Slings shown here are standard assemblies that can be made from "Proof Tested" Crosby Components and Alloy Chain supplied by your authorized Crosby distributor. Assemblies must include chain sling identification tag (not sho n, see page 238).

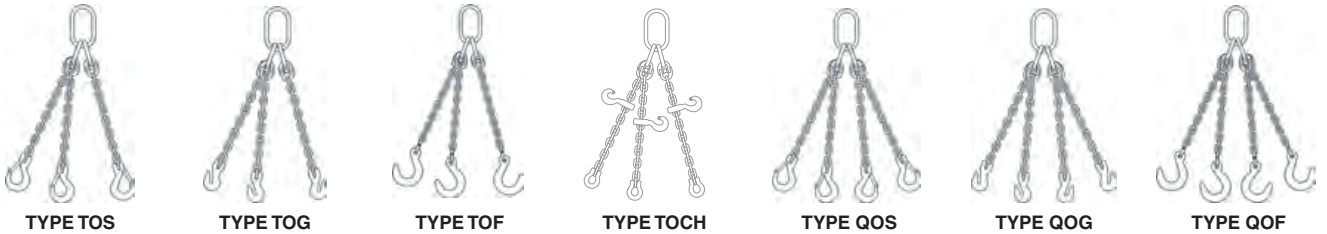
TYPE CO **TYPE SOS** **TYPE SOG** **TYPE SOF** **TYPE SSS** **TYPE SGS** **TYPE ASOS** **TYPE ASOF** **TYPE ASOG** **TYPE SOCH**

Type	Description	Type	Description
CO	Single Chain Sling with Master Link each end	SGS	Single Chain Sling with Grab Hook and Sling Hook
SOS	Single Chain Sling with Master Link and Sling Hook	ASOS	Adjustable Single Chain with Master Link and Sling Hook
SOG	Single Chain Sling with Master Link and Grab Hook	ASOF	Adjustable Single Chain Sling with Master Link and Foundry Hook
SOF	Single Chain Sling with Master Link and Foundry Hook	ASOG	Adjustable Single Chain Sling with Master Link and Grab Hook
SSS	Single Chain Sling with Sling Hook each end	SOCH	Single with 1355 Choker



TYPE DOS **TYPE DOG** **TYPE DOF** **TYPE ADOS** **TYPE ADOG** **TYPE DOCH**

Type	Description	Type	Description
DOS	Double Chain Sling with Master Link and Sling Hook	ADOS	Adjustable Double Chain Sling with Master Link and Sling Hook
DOG	Double Chain Sling with Master Link and Grab Hook	ADOG	Adjustable Double Chain Sling with Master Link and Grab Hook
DOF	Double Chain Sling with Master Link and Foundry Hook	DOCH	Double with 1355 Choker



TYPE TOS **TYPE TOG** **TYPE TOF** **TYPE TOCH** **TYPE QOS** **TYPE QOG** **TYPE QOF**

Type	Description	Type	Description
TOS	Triple Chain Sling with Master Link and Sling Hook	QOS	Quadruple Chain Sling with Master Link and Sling Hook
TOG	Triple Chain Sling with Master Link and Grab Hook	QOG	Quadruple Chain Sling with Master Link and Grab Hook
TOF	Triple Chain Sling with Master Link and Foundry Hook	QOF	Quadruple Chain Sling with Master Link and Foundry Hook
TOCH	Triple with 1355 Choker		

TO ORDER YOUR CROSBY ELIMINATOR® GRADE 100 ALLOY CHAIN SLING

Follow these simple steps to order a sling assembly:

1. Determine the maximum load to be lifted by the sling assembly.
2. Choose the type of sling assembly suited for the shape of the load and the size of the sling assembly for the load to be lifted. The decision must take into account the angle of the sling legs in multileg slings.
3. Determine the overall reach from bearing point of Eliminator Bail to bearing point on hook (see Fig. 1).
4. Select components, assemble chain and components.
5. Affix sling identification tag to sling The tag is available from your Authorized Crosby Distributor.

Fig. 1

Each sling shall be marked to show: name or trademark of manufacturer, grade, nominal chain size, number of legs, rated load for the type(s) of hitch(es) used and angle upon which it is based (reach).

When using chain slings in choker applications, the Working Load Limit must be reduced by 20%. Crosby recommends a minimum angle of choke of 120 degrees. Consult Crosby when planning to use an angle of choke of less than 120 degrees. If Crosby A-1338 cradle grab hooks are used at a minimum angle of choke of 120 degrees, the full sling rated WLL can be utilized.

IIn shortening applications, a 20% reduction of the Working Load Limit is required except when using the Crosby A-1338 Cradle Grab Hooks, S-1311 Chain Shortener Link, the A-1355 Chain Choker Hook in conjunction with the S-1325 Chain Coupler Link, or the Crosby **ELIMINATOR®** shortener link. They can be used without any reduction to the Working Load Limit.

TYPE ESO | TYPE ESOS | TYPE ESOG | TYPE ESOL | TYPE ESOF

Type	Description	Type	Description
ESOS	Crosby ELIMINATOR® Single Chain Sling with Sling Hook	ESOL	Crosby ELIMINATOR® Single Chain with SHUR-LOC® Hook
ESOG	Crosby ELIMINATOR® Single Chain Sling with Grab Hook	ESOF	Crosby ELIMINATOR® Single Chain with Foundry Hook

TYPE EDO | TYPE EDOS | TYPE EDOG | TYPE EDOL | TYPE EDOF

Type	Description	Type	Description
EDOS	Crosby ELIMINATOR® Double Chain Sling with Sling Hooks	EDOL	Crosby ELIMINATOR® Double Chain with SHUR-LOC® Hooks
EDOG	Crosby ELIMINATOR® Double Chain Sling with Grab Hooks	EDOF	Crosby ELIMINATOR® Double Chain with Foundry Hooks

TYPE ETOS | TYPE ETOG | TYPE ETOL | TYPE ETOF | TYPE EQOS | TYPE EQOG | TYPE EQOL | TYPE EQOF

Type	Description	Type	Description
ETOS	Crosby ELIMINATOR® Triple Chain Sling with Master Link and Sling Hooks	EQOS	Crosby ELIMINATOR® Quad Chain Sling with Master Link and Sling Hooks
ETOG	Crosby ELIMINATOR® Triple Chain Sling with Master Link and Grab Hooks	EQOG	Crosby ELIMINATOR® Quad Chain Sling with Master Link and Grab Hooks
ETOL	Crosby ELIMINATOR® Triple Chain Sling with Master Link and SHUR-LOC® Hooks	EQOL	Crosby ELIMINATOR® Quad Chain Sling with Master Link and SHUR-LOC® Hooks
ETOF	Crosby ELIMINATOR® Triple Chain Sling with Master Link and Foundry Hooks	EQOF	Crosby ELIMINATOR® Quad Chain Sling with Master Link and Foundry Hooks

Crosby Grade 100 Assembly Chart

SINGLE LEG SLING

Spectrum 10® Chain Size											
(mm)	(in)	Grade 100 Chain Stock No.	Master Link A-1343 Stock No.	Master Link Assembly A-1346 Stock No.	ELIMINATOR L-1361 Stock No.	LOK-A-LOY® A-1337 Stock No.	Chain Coupler S-1325A Stock No.	Chain Shortener Link S-1311N Stock No.	SHUR-LOC® Clevis Hook S-1317 Stock No.	SHUR-LOC® Eye Hook S-1316 Stock No.	SHUR-LOC® Swivel Hook S-1326 Stock No.
7	1/4 (9/32)	1210055	1247076	—	1049802	1015104	1098500	1017869	1029000	1022914	1004313
8	5/16	1210076	1247076	—	1049809	1015113	1098504	1017878	1029009	1022914	1004313
10	3/8	1210097	1247087	—	1049818	1015122	1098508	1017897	1029018	1022923	1004322
13	1/2	1210118	1247096	—	1049827	1015136	1098512	1017906	1029027	1022932	1004331
16	5/8	1210139	1247124	—	1049836	1015145	1098516	1017915	1029036	1022941	1004340
18	3/4	1210160	1247133	—	—	1015154	—	—	1029071	1022942	1004349
20	3/4	1210160	1247142	—	—	1015154	—	—	1021071	1022942	1004349
22-23	7/8	1210202	1247151	—	—	1015163	—	—	1029080	1022943	1004358
26	1	1210223	1247160	—	—	1015172	—	—	1029089	1022944	—
32	1-1/4	—	1247165		—	1015181	—	—	—	—	—

DOUBLE LEG SLING

Spectrum 10® Chain Size		Grade 100 Chain Stock No.	Master Link A-1343 Stock No.	Master Link Assembly A-1346 Stock No	ELIMINATOR L-1362 Stock No.	LOK-A-LOY® A-1337 Stock No.	Chain Coupler S-1325A Stock No.	Chain Shortener Link S-1311N Stock No.	SHUR-LOC® Clevis Hook S-1317 Stock No.	SHUR-LOC® Eye Hook S-1316 Stock No.	SHUR-LOC® Swivel Hook S-1326 Stock No.
(mm)	(in)										
7	1/4 (9/32)	1210055	1247087	—	1049913	1015104	1098500	1017869	1029000	1022914	1004313
8	5/16	1210076	1247087	—	1049922	1015113	1098504	1017878	1029009	1022914	1004313
10	3/8	1210097	1247096	—	1049931	1015122	1098508	1017897	1029018	1022923	1004322
13	1/2	1210118	1247124	—	1049940	1015136	1098512	1017906	1029027	1022932	1004331
16	5/8	1210139	1247142	—	1049949	1015145	1098516	1017915	1029036	1022941	1004340
18	3/4	1210160	1247151	—	—	1015154	—	—	1029071	1022942	1004349
20	3/4	1210160	1247151	—	—	1015154	—	—	1021071	1022942	1004349
22-23	7/8	1210202	1247160	—	—	1015163	—	—	1029080	1022943	1004358
26	1	1210223	1247165	—	—	1015172	—	—	1029089	1022944	—
32	1-1/4	—	1247172	—	—	1015181	—	—	—	—	—

TRIPLE AND QUAD LEG SLINGS

Spectrum 10® Chain Size		Grade 100 Chain Stock No.	Master Link A-1343 Stock No.	Master Link Assembly A-1346 Stock No	ELIMINATOR L-1361 Stock No.	LOK-A-LOY® A-1337 Stock No.	Chain Coupler S-1325A Stock No.	Chain Shortener Link S-1311N Stock No.	SHUR-LOC® Clevis Hook S-1317 Stock No.	SHUR-LOC® Eye Hook S-1316 Stock No.	SHUR-LOC® Swivel Hook S-1326 Stock No.
(mm)	(in)										
7	1/4 (9/32)	1210055	—	1256874	See Page 225	1015104	1098500	1017869	1029000	1022914	1004313
8	5/16	1210076	—	1256883		1015113	1098504	1017878	1029009	1022914	1004313
10	3/8	1210097	—	1256892		1015122	1098508	1017897	1029018	1022923	1004322
13	1/2	1210118	—	1256926		1015136	1098512	1017906	1029027	1022932	1004331
16	5/8	1210139	—	1256935		1015145	1098516	1017915	1029036	1022941	1004340
18	3/4	1210160	—	1256944		1015154	—	—	1029071	1022942	1004349
20	3/4	1210160	—	1256953		1015154	—	—	1021071	1022942	1004349
22-23	7/8	1210202	—	1256962		1015163	—	—	1029080	1022943	1004358
26	1	1210223	—	1256971		1015172	—	—	1029089	1022944	—
32	1-1/4	—	—	1014864*		1015181	—	—	—	—	—

*A-1345

Crosby Grade 100 Assembly Chart

SINGLE LEG SLING

Spectrum 10® Chain Size											
(mm)	(in)	SHUR-LOC® Swivel Hook w/ Bearing S-13326 Stock No.	Clevis Sling Hook L-1339 Stock No.	Eye Sling Hook L-1327 Stock No.	Cradle Grab Hook A-1338* Stock No.	Clevis Grab Hook A-1358* Stock No.	Clevis Grab Hook A-1348 Stock No.	Eye Grab Hook A-1328 Stock No.	Clevis Foundry Hook A-1359 Stock No.	Eye Foundry Hook A-1329 Stock No.	Chain Choker A-1355 Stock No.
7	1/4 (9/32)	1004413	1049112	1025869	1049417	1049610	1026200	1026169	1049907	1026280	1015204
8	5/16	1004413	1049121	1025869	1049426	1049629	1026200	1026169	1049911	1026280	1015204
10	3/8	1004422	1049130	1025878	1049435	1049638	1026209	1026187	1049916	1026289	1015213
13	1/2	1004431	1049149	1025887	1049444	1049647	1026218	1026196	1049925	1026297	1015222
16	5/8	1004440	1049158	1025896	1049453	1049656	1026227	1026205	1049934	1026306	1015231
18	3/4	—	1049167	1025915	—	—	—	1026214	1049943	1026315	—
20	3/4	—	1049167	1025915	—	—	—	1026214	1049943	1026315	—
22-23	7/8	—	1049176	1025924	—	—	—	1026223	1049952	1026324	—
26	1	—	—	1025933	—	—	—	1016232	—	—	—
32	1-1/4	—	—	1025942	—	—	—	1026241	—	—	—

DOUBLE LEG SLING

Spectrum 10® Chain Size		SHUR-LOC® Swivel Hook w/ Bearing S-13326 Stock No.	Clevis Sling Hook A-1339 Stock No.	Eye Sling Hook L-1327 Stock No.	Cradle Grab Hook A-1338* Stock No.	Clevis Grab Hook A-1358* Stock No.	Clevis Grab Hook A-1348 Stock No.	Eye Grab Hook A-1328 Stock No.	Clevis Foundry Hook A-1359 Stock No.	Eye Foundry Hook A-1329 Stock No.	Chain Choker A-1355 Stock No.
(mm)	(in)										
7	1/4 (9/32)	1004413	1049112	1025869	1049417	1049610	1026200	1026169	1049907	1026280	1015204
8	5/16	1004413	1049121	1025869	1049426	1049629	1026200	1026169	1049911	1026280	1015204
10	3/8	1004422	1049130	1025878	1049435	1049638	1026209	1026187	1049916	1026289	1015213
13	1/2	1004431	1049149	1025887	1049444	1049647	1026218	1026196	1049925	1026297	1015222
16	5/8	1004440	1049158	1025896	1049453	1049656	1026227	1026205	1049934	1026306	1015231
18	3/4	—	1049167	1025915	—	—	—	1026214	1049943	1026315	—
20	3/4	—	1049167	1025915	—	—	—	1026214	1049943	1026315	—
22-23	7/8	—	1049176	1025924	—	—	—	1026223	1049952	1026324	—
26	1	—	—	1025933	—	—	—	1016232	—	—	—
32	1-1/4	—	—	1025942	—	—	—	1026241	—	—	—

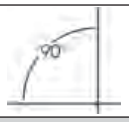
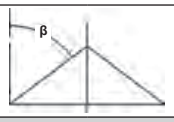
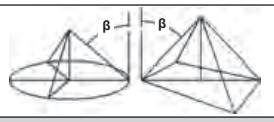
TRIPLE AND QUAD LEG SLINGS

Spectrum 10® Chain Size		SHUR-LOC® Swivel Hook w/ Bearing S-13326 Stock No.	Clevis Sling Hook L-1339 Stock No.	Eye Sling Hook L-1327 Stock No.	Cradle Grab Hook A-1338* Stock No.	Clevis Grab Hook A-1358* Stock No.	Clevis Grab Hook A-1348 Stock No.	Eye Grab Hook A-1328 Stock No.	Clevis Foundry Hook A-1359 Stock No.	Eye Foundry Hook A-1329 Stock No.	Chain Choker A-1355 Stock No.
(mm)	(in)										
7	1/4 (9/32)	1004413	1049112	1025869	1049417	1049610	1026200	1026169	1049907	1026280	1015204
8	5/16	1004413	1049121	1025869	1049426	1049629	1026200	1026169	1049911	1026280	1015204
10	3/8	1004422	1049130	1025878	1049435	1049638	1026209	1026187	1049916	1026289	1015213
13	1/2	1004431	1049149	1025887	1049444	1049647	1026218	1026196	1049925	1026297	1015222
16	5/8	1004440	1049158	1025896	1049453	1049656	1026227	1026205	1049934	1026306	1015231
18	3/4	—	1049167	1025915	—	—	—	1026214	1049943	1026315	—
20	3/4	—	1049167	1025915	—	—	—	1026214	1049943	1026315	—
22-23	7/8	—	1049176	1025924	—	—	—	1026223	1049952	1026324	—
26	1	—	—	1025933	—	—	—	1016232	—	—	—
32	1-1/4	—	—	1025942	—	—	—	1026241	—	—	—

* Available in latch version.

Crosby Grade 100 Chain Sling Components

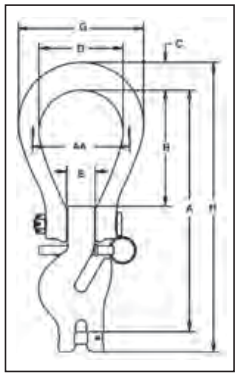
WORKING LOAD LIMIT – 4 TO 1 DESIGN FACTOR

Nominal Size of Sling							
			Two Leg Slings		Triple and Four-Leg Slings		
(in)	(mm)	Single Leg t	0°<ß≤45° t	45°<ß≤60° t	0°<ß≤45° t	45°<ß≤60° t	Choker Hitch *t
7/32	6	1,40	2,00	1,40	3,00	2,12	1,12
1/4 (9/32)	7	2,00	2,80	2,00	4,20	3,00	1,60
5/16	8	2,50	3,55	2,50	5,30	3,75	2,00
3/8	10	4,00	5,60	4,00	8,00	6,00	3,20
1/2	13	6,70	9,50	6,70	14,0	10,0	5,35
5/8	16	10,0	14,0	10,0	21,2	15,0	8,00
3/4	19	14,0	20,0	14,0	30,0	21,0	11,2
7/8	22	18,8	27,0	18,8	39,4	28,0	15,0
7/8	23	21,0	29,5	21,0	44,4	31,5	16,8
1	27	27,0	38,0	27,0	57,0	40,0	21,6
1-1/4	32	40,0	56,0	40,0	85,0	60,0	32,5

*For choker applications, the Working Load Limit must be reduced by 20%. The Crosby A-1338 cradle grab hook and S1311N chain shorten link do not require any reduction of the Working Load Limit. The design factor of 4 to 1 on Spectrum® 10 Alloy Chain agrees with the design factor used by the International Standards Organization (I.S.O.) and ANSI B30.9 and is the preferred set of Working Load Limit values to be used.

Crosby ELIMINATOR® Fittings

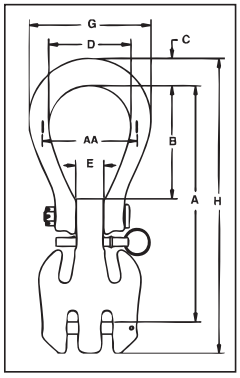
A-1361
Single Hook



The Crosby ELIMINATOR® combines selected features and functionality of a master link, connecting link, grab hook and adjuster legs to provide you with one fitting that is suitable for applications that require an adjustable length chain sling.

- Forged Alloy Steel - Quenched and Tempered.
- Innovative two piece design allows for maximum flexibility.
- Individually Proof Tested with certification.
- The Crosby ELIMINATOR®, 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).
- Suitable for use with Grade 100 and Grade 80 chain.
- Engineered to accommodate optional locking pins that can be inserted to "lock" the shortened chain legs into place.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- Use the A-1361 and A-1362 in combination to make 3 leg chain slings.
- Load pin assembly instructions on page 276.
- "Look for the Platinum Color - Crosby Grade 100 Alloy Products."
- All sizes are **RFID EQUIPPED.**

A-1362
Single Hook



SEE APPLICATION AND WARNING INFORMATION
On Pages 269-270
Para Español: www.thecrosbygroup.com

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

A-1361 Crosby ELIMINATOR® Single Hook

Chain Size (in)	Chain Size (mm)	Frame Size	Working Load Limit (t)*	A-1361 Stock No.	L-1361 Stock No.	Weight Each (kg)	Dimensions (mm) A	B	C	D	E	G	H	AA	S-4104N Replacement Latch Pin Stock No.
1/4	7	2	2.0	1049797	1049802	1.76	208	99.0	22.9	76.2	23.9	89.0	112	248	1092983
5/16	8	2	2.6	1049804	1049809	1.76	208	99.0	22.9	76.2	23.9	89.0	112	248	1092983
3/8	10	3	4.0	1049813	1049818	2.94	255	122	29.5	88.9	28.7	102	132	306	1092992
1/2	13	4	6.8	1049822	1049827	6.12	327	152	41.4	105	33.3	127	162	395	1093001
5/8	16	5	10.3	1049831	1049836	10.9	388	175	49.8	121	41.4	152	188	472	1093010

* Proof tested at 2.5 times the Working Load Limit. Minimum Ultimate Load is 4 times the Working Load Limit.

A-1362 Crosby ELIMINATOR® Double Hook

Chain Size (in)	Chain Size (mm)	Frame Size	Working Load Limit (t)*	A-1362 Stock No.	L-1362 Stock No.	Weight Each (kg)	Dimensions (mm) A	B	C	D	E	G	H	AA	S-4104N Replacement Latch Pin Stock No.
1/4	7	2	3.9	1049859	1049913	2.13	208	99.0	22.9	76.2	23.9	89.0	112	257	1092983
5/16	8	2	5.0	1049868	1049922	2.13	208	99.0	22.9	76.2	23.9	89.0	112	257	1092983
3/8	10	3	8.0	1049877	1049931	3.67	255	122	29.5	88.9	28.7	102	132	319	1092992
1/2	13	4	13.6	1049886	1049940	7.84	327	152	41.4	105	33.3	127	162	413	1093001
5/8	16	5	20.5	1049895	1049949	14.3	388	175	49.8	121	41.4	152	188	491	1093010

* Proof tested at 2 times the Working Load Limit. Minimum Ultimate Load is 4 times the Working Load Limit.

Using Crosby ELIMINATOR® in 3 and 4 Leg Slings

See page 222-223 for basic chain sling components.

Spectrum 10® Chain Size (in)	Spectrum 10® Chain Size (mm)	Master Link A-342 Stock No.	Master Link A-1342 Stock No.	Crosby ELIMINATOR® Single A-1361 Stock No.	Crosby ELIMINATOR® Double A-1362 Stock No.
1/4 (9/32)	7	1014285	1011412	1049797	1049859
5/16	8	1014319	1011421	1049804	1049868
3/8	10	1014331	1011430	1049813	1049877
1/2	13	1014348	1011449	1049822	1049886
5/8	16	1014365	1011458	1049831	1049895

Use one of either A-342 or A-1342 master link.
Use one of each when making three leg sling.

Spectrum 10® Chain Size (in)	Spectrum 10® Chain Size (mm)	Master Link A-342 Stock No.	Master Link A-1342 Stock No.	Crosby ELIMINATOR® Single A-1361 Stock No.	Crosby ELIMINATOR® Double A-1362 Stock No.
1/4 (9/32)	7	1014285	1011412	–	1049859
5/16	8	1014319	1011421	–	1049868
3/8	10	1014331	1011430	–	1049877
1/2	13	1014348	1011449	–	1049886
5/8	16	1014365	1011458	–	1049895

Use one of either A-342 or A-1342 master link.
Use two A-1362 fittings when making quad leg sling.

Make Sure Crosby is on Your Lifting Team.

WHO MADE YOUR MASTER LINK?

It's More Than a Certification; Know Who's Standing Behind You.

- As a critical part of your sling set assembly, it is important to know who manufactures and stands behind your Master Links.
- When you buy Crosby Master Links you lift with Crosby by your side.
- Crosby's name on your certification
- Full range of welded and forged Master Links manufactured by Crosby and sold through authorized distributors.
- Working through your Authorized Distributor, you are never more than one step away from Crosby, which ensures accountability, confidence and support
  - More rigging experts closer to the point of use than any other rigging hardware manufacturer.
  - Access to world class training.
  - Legendary performance and durability.
  - Crosby is more than just a manufacturer, we are part of your lifting team.

"Master Links are the "most" critical part of your sling set assembly, using Crosby links was always reassuring."

- Jim McClellon
Technical Authority Lifting, Shell E&P (Retired)

A-1346
Welded Master Links
with Engineered Flat

CROSBY LINKS OFFER:

- DNV Type approval directly from Crosby.
- An Industry leading 5/1 safety factor.
- DNV Certification Note 2.7-1 Offsho e Containers, 100% proof tested, MPI and impact tested.
- Large inside width and length to allow additional room for sling hardware and crane hook.
- Engineered flat t better suit thimbles and other fittings
- A larger opening for easier and faster rigging connections.

Crosby®

thecrosbygroup.com

"QT" QUENCHED & TEMPERED®

Grade 100 Alloy Chain

Spectrum 10®
Grade 100
Alloy Chain

- Alloy Steel.
- Heat Treated.
- 25% stronger than Grade 80 Alloy Chain.
- Permanently embossed with CG (Crosby Group) and 10 (Grade).
- Finish - Black rust preventative coating.
- Proof Tested at 2 times the Working Load Limit with certification
- Standard container - fiber drum

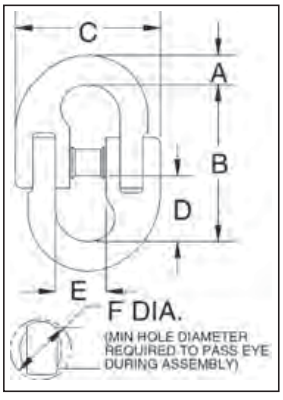
Grade 100 Alloy Chain Recommended for overhead lifting applications

Chain Size (in)	Chain Size (mm)	Gr. 100 Stock No.	Meters Per Drum	Dimensions (mm)	Working Load Limit (t)*	Weight Per Meter (kg)
9/32 (1/4)	7	1210055	200	7 x 21	2.0	1.05
5/16	8	1210076	200	8 x 24	2.5	1.25
3/8	10	1210097	200	10 x 30	4.0	2.20
1/2	13	1210118	150	13 x 39	6.7	3.80
5/8	16	1210139	100	16 x 48	10.0	5.70
3/4	19	1210160	50	19 x 57	14.0	8.03
7/8	22	273867	50	23 x 69	21.0	10.9
7/8	23	1210202	50	23 x 69	21.0	10.9
1	26	1210232	50	26 x 78	26.5	15.2
1-1/4	32	1210250	20	32 x 96	40.0	23.0

* Proof tested at 2 times Working Load Limit. Ultimate Load is 4 times the Working Load Limit.

A-1337
10 Alloy
Connecting Link

- Suitable for use with both Grade 80 and Grade 100 chain.
- Individually Proof Tested at 2-1/2 times Working Load Limit with certification.
- Locking system that provides for simple assembly and disassembly - no special tools needed.
- 25% stronger than Grade 80.
- Meets ASTM A-952 standards for Grade 100 chain fittings.
- Forged Alloy Steel - Quenched and Tempered.
- Sizes 9/32 through 1 inch are fatique rated.
- "Look for the Platinum Color - Crosby Grade 100 Alloy Products."



Crosby 8/10™ "CT" Fatigue Rated®

LOK-A-LOY® 10 Alloy Connecting Link

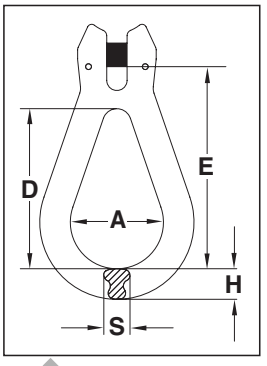
Chain Size (in)	Chain Size (mm)	A-1337 Stock No.	Pkg. Qty.	Weight Each (kg)	Working Load Limit (t)*	Dimensions (mm) A	B	C	D	E	F
9/32 (1/4)	7	1015104	60	.12	2.0	9.7	49.3	48.3	20.6	17.5	14.5
5/16	8	1015113	50	.16	2.5	9.40	59.7	52.6	25.1	18.3	16.3
3/8	10	1015122	40	.34	4.0	12.2	68.6	62.7	28.4	22.9	19.8
1/2	13	1015136	12	.73	6.8	17.3	87.6	84.1	36.6	28.4	24.6
5/8	16	1015145	10	1.30	10.2	20.6	105	99.1	43.7	34.3	29.0
3/4	20	1015154	1	2.26	16.0	23.6	118	118	53.1	40.4	32.5
7/8	22	1015163	1	3.41	19.4	26.9	140	143	58.7	50.0	36.6
1	25	1015172	1	5.00	27.1	31.0	152	157	63.5	56.4	47.8
1-1/4	32	1015181	1	9.25	41.0	38.1	189	194	78.5	64.3	55.6

*Ultimate Load is 4 times the Working Load Limit. For Grade 6 **LOK-A-LOY®**, see page 252.

Grade 100 Alloy Master Links

A-1370
Reeving Link

- Alloy Steel - Quenched and Tempered.
- Individually proof tested to 2.5 times the Working Load Limit.
- Proof test certification shipped with each link.
- Each link has a Product Identification Code (PIC) for material traceabilit , along with the size and the name Crosby in raised letters.
- Suitable for use with Grade 100 and Grade 80 chain.
- "Look for the Platinum Color - Crosby Grade 100 Alloy Products."

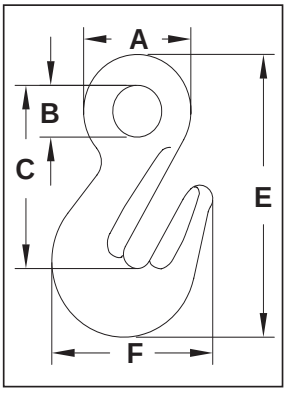


A-1370 Reeving Link

Chain Size		Working Load Limit	A-1370 Stock No.	Weight Each	Dimensions (mm)				
(in)	(mm)	(t)		(kg)	A	D	E	H	S
1/4-5/16	7-8	2.5	1012000	.26	39.0	67.5	90.0	16.0	10.0
3/8	10	4.0	1012009	.50	49.0	85.5	108	17.0	14.0
1/2	13	6.8	1012018	1.10	62.5	108	138	21.0	18.0
5/8	16	10.3	1012027	2.55	79.0	139	180	30.5	25.5

A-1348
Eye Cradle
Grab Hook

- Alloy Steel - Quenched and Tempered.
- Forged Alloy Steel - Quenched and Tempered.
- Innovative cradle design allows for 100% efficiency of Grade 100 chain
- Individually Proof Tested to 2-1/2 times the Working Load Limit with certification
- Each hook has a Product Identification Code (PIC) for material traceabilit , along with the size and the name Crosby in raised letters.
- Suitable for use with Grade 100 and Grade 80 chain.
- The use of A-1348 Cradle Grab Hook will allow 100% percent of the chain sling capacity. When used to hook back to chain leg to form a choker, the angle of the choke must be 120 degrees or greater. When used as a chain shortener, minimize twist of chain and ensure chain is fully engaged in hook.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- "Look for the Platinum Color - Crosby Grade 100 Alloy Products."



A-1348 Eye Cradle Grab Hook

Chain Size		Working Load Limit	A-1348 Stock No.	Weight Each	Dimensions (mm)				
(in)	(mm)	(t)*		(kg)	A	B	C	E	F
1/4-5/16	7-8	2.5	1026200	.35	36.3	16.5	64.0	98.2	58.2
3/8	10	4.0	1026209	.64	49.5	26.0	78.0	120	68.8
1/2	13	6.8	1026218	.87	62.0	29.0	97.0	146	82.4
5/8	16	10.3	1026227	2.83	79.0	36.0	126.5	196	111.8

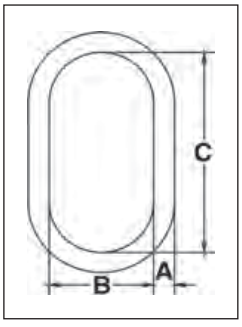
* Minimum Ultimate Load is 4 times the Working Load Limit based on single leg sling.

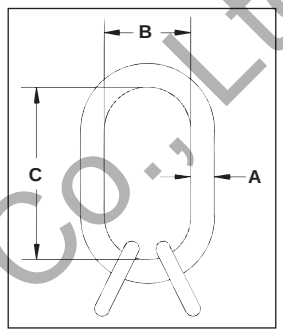
Grade 100 Welded Master Links

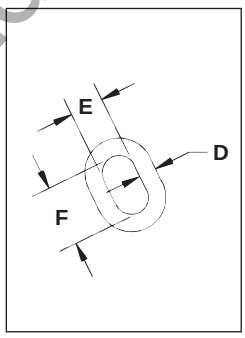
A-1343
Welded Master Link

- Ratings below are for use with chain slings fabricated in accordance with ASTM B30.9.
- Alloy Steel - Quenched and Tempered.
- Design Factor of 4 to 1.
- Individually Proof Tested to values shown.
- Meets or exceed all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these master links meet other critical performance requirements including fatique life, impact properties and material traceability, not addressed by ASME B30.26.
- Each link has a Product Identification Code (PIC) for material traceabilit , along with the size and "CG" stamped into it.

A-1346
Welded Master Link Assembly







A-1343 Welded Master Link

Size	A-1343 Stock No. S.C.	Weight Each (kg)	For use as Grade 100 Chain Sling		For use as Grade 80 Chain Sling		WLL (t)	Proof Load (t)	Dimensions (mm)		
			Single Leg Chain Size (mm)	Double Leg Chain Size (mm)	Single Leg Chain Size (mm)	Double Leg Chain Size (mm.)			A	B	C
12X1	1247069	0.30	6	–	6-7	6	1.6	4	12	60	120
13X2	1247076	0.36	7-8	6	8	7	2.5	6.3	13	60	120
17X3	1247087	0.86	10	7-8	10	8	4.1	10.3	17	90	160
19X4A	1247096	1.08	13	10	13	10	6.7	16.8	19	90	160
22X4B	1247115	1.59	13	10	16	13	8.5	21.3	22	90	170
25X5	1247124	2.43	16	13	18-19	16	11.5	28.8	25	115	210
28X6	1247133	3.91	16-18	13	18-20	16	13	32.5	28	145	275
31X7	1247142	4.86	19-20	16	22-23	18-20	17	42.5	31	145	275
36X8	1247151	6.87	22-23	18-20	26	22-23	24	60	36	155	285
38X9	1247160	7.63	26	22-23	32	26	31.5	78.8	38	140	270
50X10A	1247165	17.6	32	26	–	32	45	112.5	50	200	380
57X10B	1247172	24.5	–	32	–	–	65.3	163.3	57	203	406

See chart on page 206 for other sling angles.

A-1346 Welded Master Link Assembly

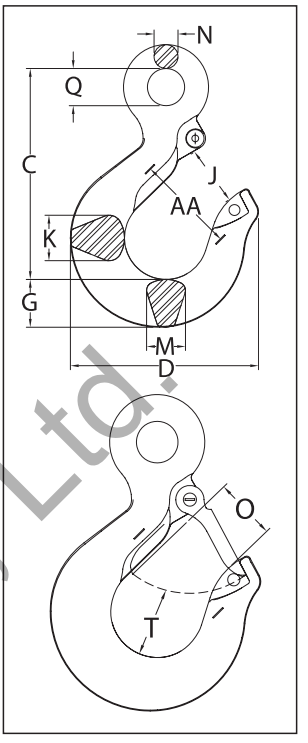
Size	A-1346 Stock No.	Weight Each (kg)	For use as Grade 100 Chain Sling Three Four Legs Chain Size (mm)	For use as Grade 80 Chain Sling Three Four Legs Chain Size (mm)	WLL (t)	Proof Load (t)	Dimensions (mm)					
							A	B	C	D	E	F
17X1	1256868	1.58	6	7	4.1	10.3	17	90	160	13	60	120
19X2A	1256874	1.8	7	8	4.3	10.6	19	90	160	13	60	120
22X2B	1256883	3.35	8	10	6.7	16.8	22	100	180	17	90	160
25X3	1256892	5.51	10	10	8.9	22.3	25	146	275	19	90	160
28X4A	1256917	7.17	13	13	14.5	36.3	28	145	275	22	100	180
31X4B	1256926	9.72	13	16	17	42.5	31	145	275	25	115	210
36X5	1256935	12.2	16	18-19	23.6	59	36	146	275	28	100	190
40X6	1256944	18.68	18	19-20	28.1	70.3	40	160	300	31	145	275
45X7	1256953	26.56	19-20	22-23	38.3	95.8	45	180	340	36	155	285
50X8	1256962	32.86	22-23	26	45	112.5	50	200	380	38	140	370
57X9	1256971	59.7	26	32	67	167.5	57	203	406	50	200	380

* A-1345. See chart on page 206 for other sling angles.

Crosby® Grade 100 Eye Sling Hooks

L-1327
Eye Sling Hook

- Forged Alloy Steel - Quenched and Tempered.
- Each hook has a Product Identification Code (PIC) for material traceabilit , along with the size and the name Crosby.
- 25% stronger than Grade 80.
- Eye Sling hooks incorporate two types of strategically placed markings forged into the product which address two (2) **QUIC-CHECK®** features: Deformation Indicators and Angle Indicators.
- Low profile hook tip
- Utilizes S-4320 integrated latch which meets the world standard for lifting.
  - Heavy duty stamped latch interlocks with the hook tip.
  - High cycle, long life spring.
  - When secured with the 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 lifting.
- Individually Proof Tested to 2-1/2 times the Working Load Limit with certification
- Suitable for use with Grade 100 and Grade 80 chain.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- "Look for the Platinum Color - Crosby Grade 100 Alloy Products."



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

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

L-1327 Eye Sling Hook

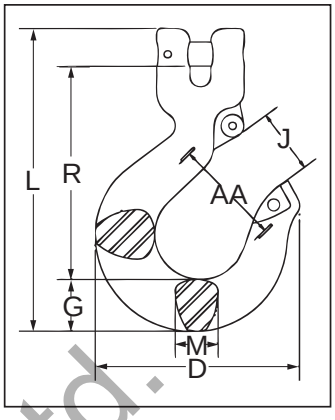
Grade 100 Alloy Chain Size		Working Load Limit (t)*	Hook ID Code	L-1327 Stock No.	Weight Each (kg)	Dimensions (mm)											Replacement Latch Stock No.
(in)	(mm)					C	D	G	J	K	M	N	O	Q	T	AA	
-	6	1.45	DA	1025860	.23	84.8	72.9	18.5	22.9	16.0	16.0	9.1	22.6	19.1	22.1	38.1	1096325
1/4-5/16	7 - 8	2.6	HA	1025869	.59	107	99.1	26.2	30.0	19.1	19.1	12.7	29.2	19.1	29.5	50.8	1096468
3/8	10	4.0	IA	1025878	1.04	127	110	30.2	38.9	30.2	25.4	14.2	35.6	23.9	31.2	63.5	1096515
1/2	13	6.8	JA	1025887	2.04	161	144	36.6	45.2	34.8	29.7	18.3	42.4	28.4	47.8	76.2	1096562
5/8	16	10.3	KA	1025896	3.81	189	172	47.8	60.5	42.2	36.6	22.4	56.1	33.3	51.6	102	1096609
3/4	18-20	16.0	KA	1025915	6.80	230	189	57.2	58.2	47.8	41.4	28.2	52.8	62.0	62.7	102	1096609
7/8	22-23	21.0	LA	1025924	9.39	256	211	65.8	63.5	55.6	49.3	32.3	57.7	72.1	66.5	102	1096657
1	26	27.1	NA	1025933	17.9	326	262	76.2	83.8	68.3	60.5	39.6	76.7	88.9	71.9	127	1096704
1 1/4	32	41.0	PA	1025942	47.6	462	357	116	108	95.3	81.0	50.8	76.2	114	98.6	178	1093717

* Ultimate Load is 4 times the Working Load Limit.

Crosby® Grade 100 Clevis Sling Hooks

L-1339
Clevis Sling Hook

- Forged Alloy Steel - Quenched and Tempered.
- Individually Proof Tested to 2-1/2 times the Working Load Limit with certification
- Each hook has a Product Identification Code (PIC) for material traceabilit , along with the size and the name Crosby.
- 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.
- Low profile hook tip
- New integrated latch (S-4320/S-4339) meets the world standard for lifting.
  - Heavy duty stamped latch interlocks with the hook tip.
  - High cycle, long life spring.
  - When secured with the 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 lifting.
- Suitable for use with Grade 100 and Grade 80 chain.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- "Look for the Platinum Color - Crosby Grade 100 Alloy Products."



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

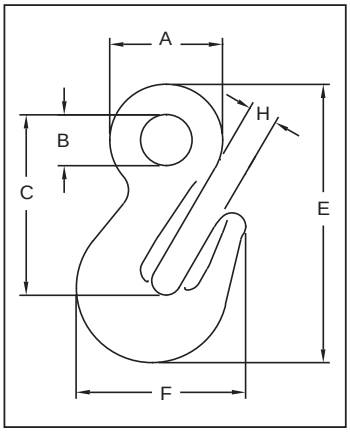
L-1339 Clevis Sling Hook

Chain Size (in)	Chain Size (mm)	Working Load Limit (t)*	Hook ID Code	L-1339 Stock No.	Weight Each (kg)	Dimensions (mm) D	G	J	L	M	R	AA	S-4320 Rep. Latch Stock No.	S-4339 Rep. Latch Stock No.
-	6	1.5	DA	1049103	0.29	72.6	18.5	23.6	107	16.0	74.9	38.1	1096325	-
1/4	7	2.0	HA	1049112	0.72	98.0	26.4	30.2	144	19.1	101	50.8	1096468	-
5/16	8	2.6	HA	1049121	0.71	98.0	26.4	30.2	144	19.1	100	50.8	1096468	-
3/8	10	4.0	IA	1049130	1.17	111	30.2	38.9	171	25.4	120	63.5	1096515	-
1/2	13	6.8	JA	1049149	2.39	142	36.6	45.2	213	29.7	150	76.2	1096562	-
5/8	16	10.3	KA	1049158	4.45	172	48.0	61.2	259	36.6	177	102	1096609	-
3/4	18-20	16.0	-	1049167	8.30	211	71.9	68.3	332	50.0	203	114	-	1048714
7/8**	22-23**	21.0	-	1049176	11.2	233	78.0	77.5	355	50.0	223	127	-	1048732

* Ultimate Load is 4 times the Working Load Limit. ** 7/8 in (22-23 mm) size does not have cam, latch attaches to unique pin.

A-1328
Eye Grab Hook

- Forged Alloy Steel - Quenched and Tempered.
- Individually Proof Tested to 2-1/2 times the Working Load Limit with certification
- Each hook has a Product Identification Code (PIC) for material traceability, along with the size and the name Crosby.
- Suitable for use with Grade 100 and Grade 80 chain.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- "Look for the Platinum Color – Crosby Grade 100 Alloy Products."



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

A-1328 Eye Grab Hook

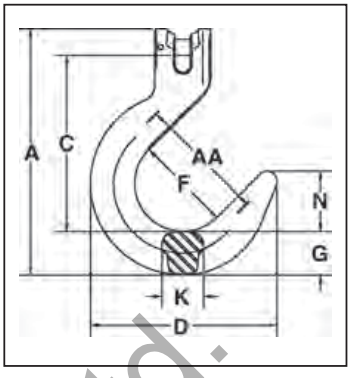
Chain Size (in)	Chain Size (mm)	Working Load Limit (t)*	A-1328 Stock No.	Weight Each (kg)	Dimensions (mm) A	B	C	E	F	H
1/4 - 5/16	7 - 8	2.6	1026169	.45	44.5	19.1	70.9	109	66.3	11.2
3/8	10	4.0	1026187	.73	52.3	23.9	84.6	130	78.5	13.5
1/2	13	6.8	1026196	1.5	65.0	28.4	104	162	97.3	16.8
5/8	16	10.3	1026205	2.7	78.0	33.3	125	194	115	20.0
3/4	18-20	16.0	1026214	4.5	82.6	38.1	137	223	152	23.9
7/8	22-23	20.0	1026223	6.0	100	46.0	165	257	166	27.7
1	26	27.1	1026232	8.6	113	50.8	183	291	197	30.2
1 1/4	32	41.0	1026241	18.0	143	60.5	231	371	241	38.1

* Ultimate Load is 4 times the Working Load Limit.

Crosby® Grade 100 Foundry Hooks

A-1359
Clevis Foundry Hook

- Forged Alloy Steel - Quenched and Tempered.
- Individually Proof Tested to 2-1/2 times the Working Load Limit with certification
- Each hook has a Product Identification Code (PIC) for material traceabilit , along with the size and the name Crosby.
- Suitable for use with Grade 100 and Grade 80 chain.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- "Look for the Platinum Color - Crosby Grade 100 Alloy Products."
- Hook can be tip loaded at the reduced Working Load Limit, see below. Operator must ensure the load is retained properly in the hook.



A-1359 Clevis Foundry Hook

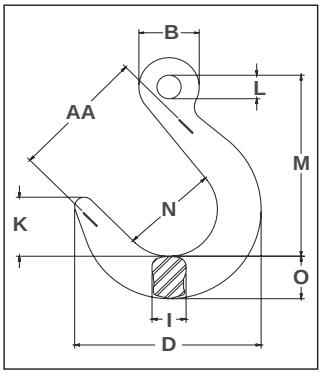
Chain Size		A-1359 Stock No.	Working Load Limit at Saddle of Hook (t)*	Working Load Limit at Tip of Hook (t)*	Weight Each (kg)	Dimensions (mm)							
(in)	(mm)					A	C	D	F	G	K	N	Deformation Indicators AA
1/4	7	1049907	2.0	1.0	0.98	159.0	111.3	122.4	63.5	28.7	22.4	39.9	88.9
5/16	8	1049911	2.6	1.3	0.93	159.0	111.0	122.4	63.5	28.7	22.4	39.9	88.9
3/8	10	1049916	4.0	2.0	1.95	197.1	140.7	147.8	76.2	35.1	33.0	47.8	101.6
1/2	13	1049925	6.8	3.4	3.62	238.3	169.4	178.8	88.9	41.4	38.1	57.2	114.3
5/8	16	1049934	10.3	5.1	6.44	285.8	195.1	207.5	101.6	55.6	44.5	64.3	127.0
3/4	18-20	1049943	16.0	8.0	11.2	366.5	248.7	245.1	127.0	61.0	55.9	86.1	152.4
7/8	22-23	1049952	21.0	10.0	19.9	412.8	279.9	280.2	139.7	78.0	69.1	95.0	165.1

* Ultimate Load is 4 times the Working Load Limit.

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

A-1329
Eye Foundry Hook

- Forged Alloy Steel - Quenched and Tempered.
- Individually Proof Tested to 2-1/2 times the Working Load Limit with certification
- Each hook has a Product Identification Code (PIC) for material traceabilit , along with the size and the name Crosby.
- Suitable for use with Grade 100 and Grade 80 chain.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- "Look for the Platinum Color - Crosby Grade 100 Alloy Products."
- Hook can be tip loaded at the reduced Working Load Limit, see below. Operator must ensure the load is retained properly in the hook.



A-1329 Eye Foundry Hook

Chain Size		A-1329 Stock No.	Working Load Limit at Saddle of Hook (t)*	Working Load Limit at Tip of Hook (t)*	Weight Each (kg)	Dimensions (mm)								
(in)	(mm)					B	D	I	K	L	M	N	O	Deformation Indicators AA
1/4 - 5/16	7-8	1026280	2.6	1.3	.91	39.6	122.4	22.4	39.9	16.0	122.2	63.5	28.7	89
3/8	10	1026289	4.0	2.0	1.72	52.6	147.8	33.0	47.8	20.6	139.7	76.2	35.1	102
1/2	13	1026297	6.8	3.4	3.27	64.3	178.8	38.1	57.2	26.2	180.6	88.9	41.4	114
5/8	16	1026306	10.3	5.1	5.58	76.2	207.5	44.5	64.3	31.8	202.2	101.6	55.6	127
3/4	18-20	1026315	16.0	8.0	10.4	104.9	245.1	55.9	86.1	50.0	273.1	127.0	61.0	165
7/8	22-23	1026324	21.0	10.0	18.4	121.2	280.2	69.1	95.0	57.9	311.2	139.7	78.0	178
1	26	1026333	27.1	13.5	23.5	135.4	302.3	71.9	99.8	65.0	339.6	152.4	84.1	191
1 1/4	32	1026342	41.0	20.5	38.3	167.9	336.6	88.9	110.0	80.0	387.4	165.1	97.5	203

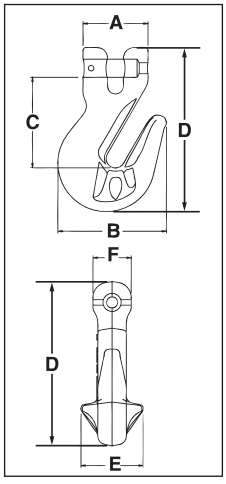
* Ultimate Load is 4 times the Working Load Limit.

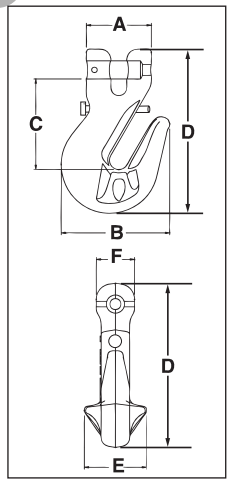
Crosby® Grade 100 Clevis Grab Hooks

A -1338
Cradle Grab Hook

- Forged Alloy Steel - Quenched and Tempered.
- Innovative cradle design allows for 100% efficiency of Grade 100 chain
- Individually Proof Tested to 2-1/2 times the Working Load Limit with certification
- Each hook has a Product Identification Code (PIC) for material traceabilit , along with the size and the name Crosby.
- Suitable for use with Grade 100 and Grade 80 chain.
- The use of A-1338 Cradle Grab Hook will allow 100 percent of the chain sling capacity. When used to hook back to chain leg to form a choker, the angle of the choke must be 120 degrees or greater. When used as a chain shortener, minimize twist of chain and ensure chain is fully engaged in hook.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- "Look for the Platinum Color - Crosby Grade 100 Alloy Products."

L-1338
Cradle Grab Hook





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On Pages 265
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QUIC-CHECK® Crosby 8/10™ "QT" Fatigue Rated®

A/L-1338 Cradle Grab Hook

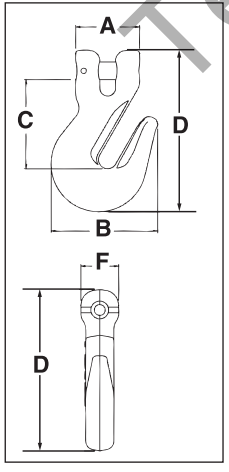
Chain Size		Working Load Limit (t)*	A-1338 Stock No.	L-1338 Stock No.	Weight Each (kg)	Dimensions (mm)						S-4338 Replacement Latch Kit Stock No.
(in)	(mm)					A	B	C	D	E	F	
1/4	7	2.0	1049417	1049480	.45	43.7	64.5	55.9	98.5	38.1	22.4	1048426
5/16	8	2.6	1049426	1049489	.45	43.7	64.5	55.4	98.5	38.1	22.4	1048426
3/8	10	4.0	1049435	1049498	.82	47.0	78.5	65.5	119	46.5	27.7	1048435
1/2	13	6.8	1049444	1049507	1.78	60.7	97.3	83.3	149	57.2	36.1	1048444
5/8	16	10.3	1049453	1049516	3.18	67.8	115	97.8	179	74.5	44.5	1048453

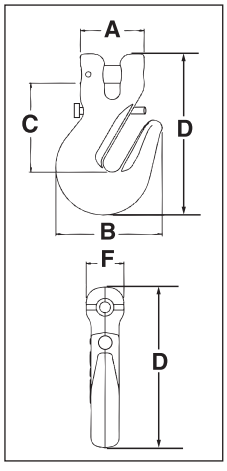
* Ultimate Load is 4 times the Working Load Limit.

A -1358
Grab Hook

- Forged Alloy Steel - Quenched and Tempered.
- Individually Proof Tested to 2-1/2 times the Working Load Limit with certification
- Each hook has a Product Identification Code (PIC) for material traceabilit , along with the size and the name Crosby.
- Suitable for use with Grade 100 and Grade 80 chain.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- "Look for the Platinum Color - Crosby Grade 100 Alloy Products."

L -1358
Grab Hook





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

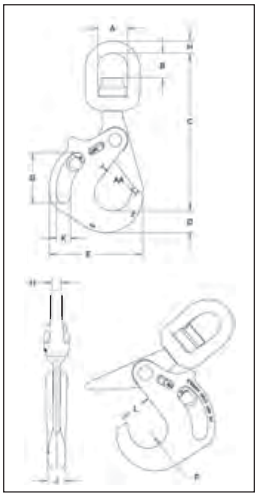
A/L-1358 Grab Hook

Chain Size		Working Load Limit (t)*	A-1358 Stock No.	L-1358 Stock No.	Weight Each (kg)	Dimensions (mm)					S-4338 Replacement Latch Kit Stock No.
(in)	(mm)					A	B	C	D	F	
1/4	7	2.0	1049610	1049605	.45	43.7	64.5	55.9	98.5	22.4	1048426
5/16	8	2.6	1049629	1049614	.45	43.7	64.5	55.4	98.5	22.4	1048426
3/8	10	4.0	1049638	1049623	.82	47.0	78.5	65.5	119	27.7	1048435
1/2	13	6.8	1049647	1049634	1.78	60.7	97.3	83.3	149	36.1	1048444
5/8	16	10.3	1049656	1049643	3.18	67.8	115	97.8	179	44.5	1048453

* Ultimate Load is 4 times the Working Load Limit.

Crosby® Grade 100 Eye Grab Hooks

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

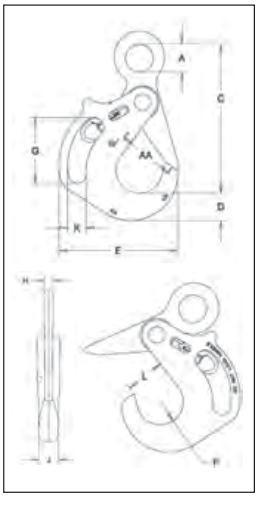


- The SHUR-LOC® Handle Hook allows the user to get a confident grip on a load with ease and comfort.
- Designed with a handle opening big enough to comfortably fit a gloved hand.
- The replaceable pull-trigger allows the user to easily open the SHUR-LOC's positive self-locking latch.
  - Ergonomically 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 4:1 Working Load Limit with certification.
- Rated for both Wire Rope and use with Grade 80/100 Chain.
- G-414 Heavy 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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On Pages 272 - 273
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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. ** 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	B	C	D	E	F	G	H	J	K	L	AA**
5/8	16	10.3	8.2	JA	1023579	8.2	2.01	10.69	1.97	8.54	1.67	4.69	0.79	1.73	2.80	4.00	2.80	4.00
3/4	18/20	16.0	12.8	KA	1023599	12.7	2.76	12.03	2.60	10.03	1.99	4.72	0.87	2.05	3.31	5.00	3.31	5.00
7/8	22	19.4	15.5	LA	1023607	17.7	3.15	13.46	2.72	11.48	2.24	5.35	3.58	2.44	3.66	6.00	3.66	6.00
1	26	27.1	21.7	NA	1023625	27.2	3.54	15.55	3.11	12.77	2.52	6.46	1.18	2.76	4.09	6.50	4.09	6.50

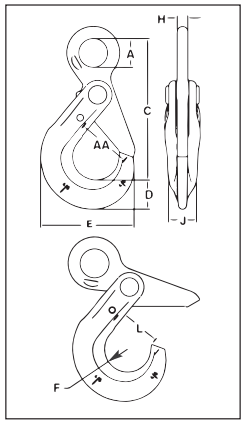
*Ultimate Load is 4 times the Working Load Limit. ** Deformation Indicators.

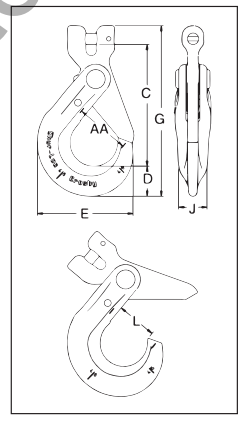
Crosby® Grade 100 SHUR-LOC® Hooks

S-1316
Eye Hook

- Forged Alloy Steel - Quenched and Tempered.
- 25% stronger than Grade 80.
- Individually Proof Tested to 2-1/2 times the 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.
- Eye style is designed with “Engineered Flat” to connect to S-1325 chain coupler.
- Suitable for use with Grade 100 and Grade 80 chain.
- 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).
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- “Look for the Platinum Color - Crosby Grade 100 Alloy Products."
- Forged Alloy Steel - Quenched and Tempered.

S-1317
Clevis Hook





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On Pages 271-272
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QUIC-CHECK®

Crosby 8/10™

“QT”

Fatigue Rated

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

Chain Size		Working Load Limit (t)*	S-1316 Stock No.	Weight Each (kg)	Dimensions (mm)								
(in)	(mm)				A	C	D	E	F	H	J	L	AA
-	6	1.5	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	2.6	1022914	.82	27.4	135	27.9	88.9	22.1	9.91	20.6	37.6	51.0
3/8	10	4.0	1022923	1.54	33.0	167	29.7	112	27.9	12.9	23.9	46.5	63.5
1/2	13	6.8	1022932	2.72	41.9	209	42.4	139	32.0	17.0	29.5	56.4	76.2
5/8	16	10.3	1022941	6.85	55.9	256	51.8	167	38.1	22.1	38.1	67.3	89.0
3/4	18-20	16.0	1022942	8.62	66.0	274	56.4	197	51.1	22.1	51.6	89.4	-
7/8	22	20.0	1022943	12.7	72.9	317	62.2	222	57.7	24.9	55.9	97.3	-
1	26	27.1	1022944	22.5	80.0	371	81.5	251	62.5	32.0	68.1	104	-

* Minimum Ultimate Load is 4 times the Working Load Limit.

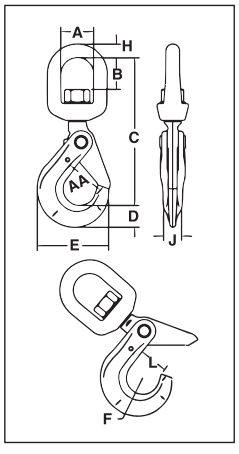
S-1317 Clevis Hook

Chain Size		Working Load Limit (t)*	S-1317 Stock No.	Weight Each (kg)	Dimensions (mm)						
(in)	(mm)				C	D	E	G	J	L	AA
-	6	1.5	1028991	.35	87.4	20.1	66.0	121	16.0	29.0	38.1
1/4	7	2.0	1029000	.82	114	27.9	89.0	159	20.6	35.1	51.0
5/16	8	2.6	1029009	.82	114	27.9	89.0	159	20.6	35.1	51.0
3/8	10	4.0	1029018	1.66	140	29.7	112	192	24.1	46.5	63.5
1/2	13	6.8	1029027	3.08	173	42.4	139	242	29.5	56.4	76.2
5/8	16	10.3	1029036	5.40	209	51.8	167	295	38.1	67.3	89.0
3/4	18-20	16.0	1029071	6.80	239	56.4	197	336	51.6	89.4	-
7/8	22	20.0	1029080	12.7	283	62.2	222	392	55.9	97.3	-
1	26	27.1	1029089	22.5	319	81.5	251	468	68.1	104	-

* Minimum Ultimate Load is 4 times the Working Load Limit.

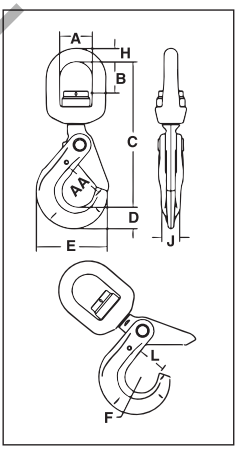
Crosby® Grade 100 SHUR-LOC® Hooks

S-1326
SHUR-LOC® Swivel Hook



- Forged Alloy Steel - Quenched and Tempered.
- Individually Proof Tested at 2-1/2 times the 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, (reference page 117 for Wire Rope), and use with Grade 80/100 Chain.
- G-414 Heavy 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."
- U.S. Patent 5,381,650 and foreign equivalents. Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c)2009.

S-13326
SHUR-LOC® Swivel Hook



QUIC-CHECK®

Crosby 8/10™

"QT"

Fatigue Rated

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On Pages 271-272
Para Español: www.thecrosbygroup.com

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*	Weight Each	Dimensions (mm)									
(in)	(mm)	S-1326 Stock No.		(kg)	A	B	C	D	E	F	H	J	L	AA
–	6	1004304	1.5	.57	38.1	33.5	189	20.1	66.0	17.0	12.7	16.0	28.7	38.1
1/4-5/16	7-8	1004313	2.6	1.18	44.5	40.4	235	27.9	88.9	22.1	16.0	20.6	35.1	51.0
3/8	10	1004322	4.0	2.13	50.8	43.9	274	29.7	112	27.9	19.1	23.9	44.5	63.5
1/2	13	1004331	6.8	3.92	63.5	60.5	351	42.4	139	32.0	25.4	29.5	53.6	76.2
5/8	16	1004340	10.3	7.71	69.9	68.6	410	51.8	167	38.1	28.7	38.1	63.2	89.0
3/4	18-20	1004349	16.0	10.9	71.9	64.0	442	56.4	197	51.1	27.9	51.6	89.4	127
7/8	22	1004358	20.0	13.2	87.4	81.0	418	62.2	222	57.4	33.0	55.9	97.3	152

* Ultimate Load is 4 times the Working Load Limit.

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

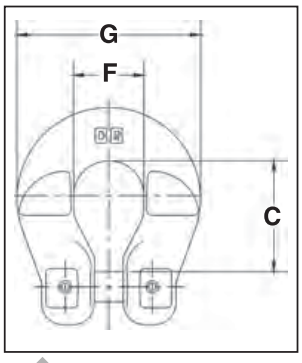
Chain Size			Grade 100 Alloy Chain Working Load Limit (t.) 4:1*	Weight Each	Dimensions (mm)									
(in)	(mm)	S-13326 Stock No.		(kg)	A	B	C	D	E	F	H	J	L	AA
–	6	1004404	1.5	.57	38.1	29.0	157	20.1	66.0	17.0	12.7	16.0	28.7	38.1
1/4-5/16	7-8	1004413	2.6	1.18	44.5	38.6	192	27.9	89.0	22.1	16.0	20.6	35.1	51.0
3/8	10	1004422	4.0	2.13	51.0	40.9	226	29.7	112	27.9	19.1	23.9	46.5	63.5
1/2	13	1004431	6.8	3.92	63.5	51.6	282	42.4	138	32.0	25.4	29.5	53.5	76.2
5/8	16	1004440	10.3	7.71	70.0	57.2	320	52.0	167	38.1	28.7	38.1	63.0	89.0

* Ultimate Load is 4 times the Working Load Limit.

Crosby® Grade 100 Chain Fittings

S-1325A
Chain Coupler

- Designed to connect Grade 100 chain fittings produced with “Engineered Flat” to Grade 100 chain.
- Forged Alloy Steel - Quenched and Tempered.
- Suitable for use with Grade 100 and Grade 80 chain.
- Individually Proof Tested to 2-1/2 times the Working Load Limit with certification
- Locking system that provides for simple assembly and disassembly – no special tools required.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- “Look for the Platinum Color – Crosby Grade 100 Alloy Products.”



Crosby 8/10™ "QT" Fatigue Rated®

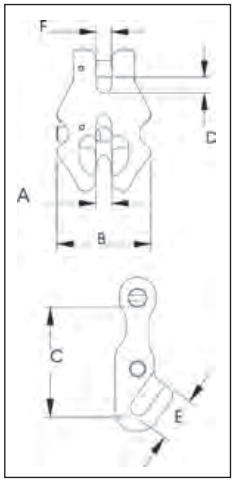
S-1325A Grade 100 Chain Coupler

Chain Size (in)	Chain Size (mm)	S-1325A Stock No.	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm) C	F	G
-	6	1098496	1.5	.11	26.2	19.3	44.7
1/4	7	1098500	2	.23	35.8	22.4	59.0
5/16	8	1098504	2.5	.23	35.6	22.4	59.0
3/8	10	1098508	4	.34	46.7	30.0	69.0
1/2	13	1098512	6.8	.75	55.6	38.1	94.5
5/8	16	1098516	10.3	.86	71.4	49.8	112

* Minimum Ultimate Load is 4 times the Working Load Limit.

S-1311N
Chain Shortener Link

- Alloy Steel - Quenched and Tempered.
- Individually Proof Tested to 2-1/2 times the Working Load Limit with certification
- Suitable for use with Grade 100 and Grade 80 chain.
- Spring loaded chain locking system keeps chain in place under slack conditions.
- The use of S-1311N Chain Shortener will allow 100 percent of the chain sling capacity.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- “Look for the Platinum Color - Crosby Grade 100 Alloy Products.”



Crosby 8/10™ "QT" Fatigue Rated®

S-1311N Grade 100 Chain Shortener Link

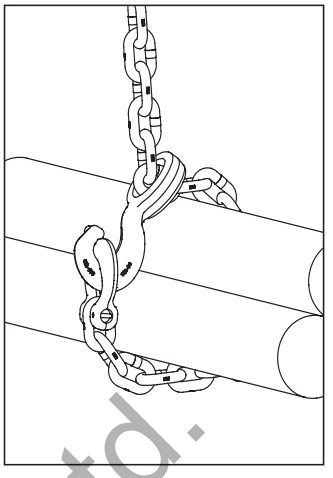
Chain Size (in)	Chain Size (mm)	S-1311N Stock No.	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm) A	B	C	D	E	F
-	6	1017860	1.5	.34	7.61	44.7	46.5	7.37	19.3	7.37
1/4	7	1017869	2.0	.45	8.64	51.8	55.1	8.64	22.4	8.38
5/16	8	1017878	2.6	.45	10.2	59.9	64.3	9.91	25.7	9.65
3/8	10	1017897	4.0	.68	12.2	72.1	78.0	12.2	31.2	11.7
1/2	13	1017906	6.8	1.47	15.7	90.4	95.8	15.5	39.9	15.0
5/8	16	1017915	10.3	2.54	18.5	108	118	18.5	48.5	17.8

* Minimum Ultimate Load is 4 times the Working Load Limit.

Crosby® Grade 100 Chain Fittings

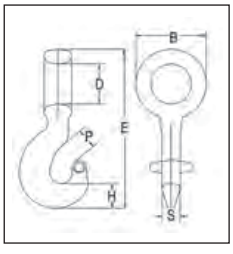
A-1355
Chain Choker Hook

- Forged Alloy Steel - Quenched and Tempered.
- Individually Proof Tested with certification
- Rated for Grade 100 chain in choker applications.
- Each hook has a Product Identification Code (PIC) for material traceabilit , along with the size and the name Crosby.
- 25% stronger than Grade 80.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- "Look for the Platinum Color - Crosby Grade 100 Alloy Products."
- For use with S-1325 Chain Coupler Link.



Crosby 8/10™ "QT" Fatigue Rated®

A-1355 Chain Choker Hook



Grade 100 Alloy Chain Size		Working Load Limit (t)*	A-1355 Stock No.	Weight Each (kg)	Dimensions (mm)					
(in)	(mm)				B	D	E	H	P	S
1/4-5/16	7-8	2.6	1015204	.34	52.1	30.0	123	20.1	17.5	16.5
3/8	10	4.0	1015213	.74	67.6	39.9	154	23.6	23.6	17.5
1/2	13	6.8	1015222	1.42	85.1	51.6	193	30.0	32.0	23.8
5/8	16	10.3	1015231	3.16	107	64.0	246	39.1	28.4	30.0

* Ultimate Load is 4 times the Working Load Limit.

SLING IDENTIFICATION TAG KITS

Stamped ID Tag

RFID Equipped Tags

Forged ID Tags

Stamped RFID Tag

Wire Rope

RFID QUIC Tag

Stamped ID Tags

- Octagonal metal sling tag.
- Prestamped - easy to add sling length, Working Load Limit, name, etc.
- Front side is shown - reverse is blank.
- Available with or without welded attached ring.
- Attaching ring size is 5mm x 50mm.
- Available completely blank for wire rope sling applications.
- Gold painted.

ID Tag Stock No. with Ring	ID Tag Stock No. without Ring	Application
1152445	1200829	For single leg sling: 90°
1152444	1200830	For multi-leg sling: 45°/60°
1152514	1200837	Blank Tag

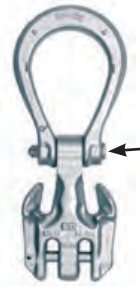
ID Tags

- Heavy Duty tags.
- 1-5/16" diameter ring opening (will fit 1/4" - 5/8" A-1337).
- Chain tags meet requirements of ASME B30.9 for Sling Identification
- Raised edge and recessed pads to protect lettering.
- Raised lettering for quick reference.

RFID EQUIPPED Crosby

Stock No.	Style	Mateiral Type	RFID Equipped	Tag Size (mm)	Weight Each (kg)
115369	Chain	Cast Stainless Steel	Yes	160 x 42	.21
115350	Wire Rope	Cast Stainless Steel	Yes	43 x 33.3	.03
115217	Chain	Forged Steel	No	146 x 48	.18
115353	Chain	Stamped Zinc Plated Steel	Yes	5-3/4 x 1-5/8	.29
115355	Wire Rope	Stamped Zinc Plated Steel	Yes	1-11/16 x 1-5/16	.04
1224692	Zip Tie	High Crystalline Polyamide	Yes	193.675	1.4

Crosby Red-Pin® Shackles



Crosby Eliminator®

McKissick® Blocks

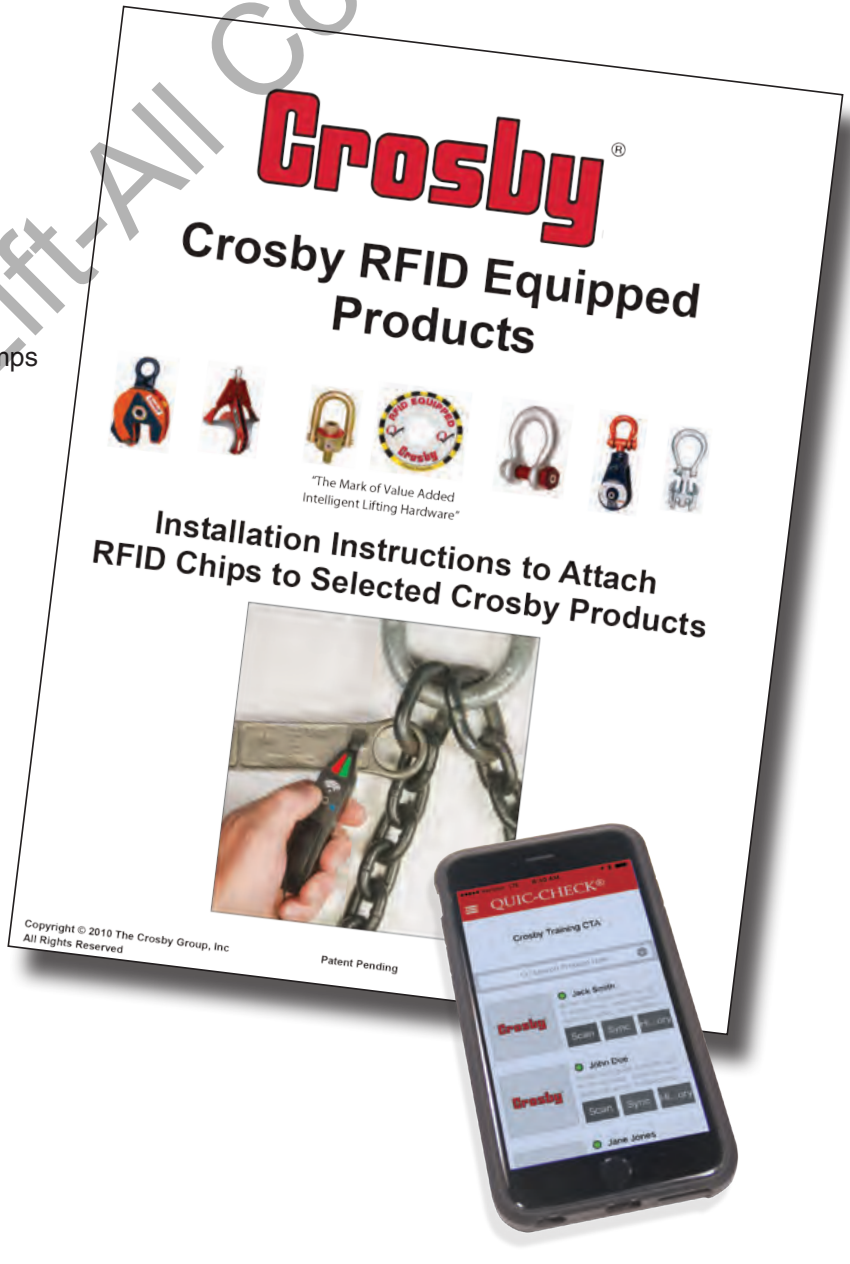
CrosbyIP® Lifting Clamps

Crosby Clamp-Co® Lifting Clamps

Crosby® Hoist Rings

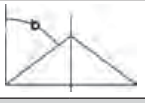
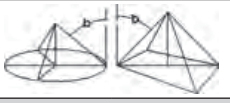
RFID Field Installation Instruction Manual

Many standard Crosby products come from the factory, equipped with RFID chips that you can program and utilize in your inspection efforts. However, what if you want to retrofit an RFID chip to a Crosby product in the field? No problem! We now have a NEW installation instruction manual available to attach RFID chips to selected Crosby products. The installation instructions will show you the step-by-step process to add an RFID chip to the products to the left.



Crosby Grade 80 Chain Sling Components

WORKING LOAD LIMIT – 4 TO 1 DESIGN FACTOR

Nominal Size of Sling							
			Two Leg Slings		Triple and Four-Leg Slings		
(in)	(mm)	Single Leg t	0°<ß≤45° t	45°<ß≤60° t	0°<ß≤45° t	45°<ß≤60° t	Choker Hitch * t
7/32	6	1,12	1,60	1,12	2,36	1,70	0,90
1/4 (9/32)	7	1,50	2,12	1,50	3,15	2,24	1,20
5/16	8	2	2,80	2	4,25	3	1,60
3/8	10	3,15	4,25	3,15	6,70	4,75	2,50
1/2	13	5,30	7,50	5,30	11,20	8	4,25
5/8	16	8	11,20	8	17	11,80	6,40
3/4	19-20	11,20	16	11,20	23,60	17	9
7/8	22	15	21,20	15	31,50	22,40	12
1	26	21,20	30	21,20	45	31,50	17
1-1/4	32	31,50	45	31,50	67	47,50	25,20

* For choker applications, the Working Load Limit must be reduced by 20%. The Crosby A-1338 cradle grab hook and S1311N chain shortener link does not require any reduction of the Working Load Limit. The design factor of 4 to 1 on Spectrum® 8 Alloy Chain agrees with the design factor used by the International Standards Organization (I.S.O.) and ANSI B30.9 and is the preferred set of Working Load Limit values to be used.

SINGLE LEG SLING

Spectrum 8 Chain Size (in)	(mm)	 Grade 8 Chain Stock No.	 Master Link A-342 Stock No.	 Master Link Assembly A-345 Stock No.	 Master Link with Flat A-344 Stock No.	 Master Link Assembly A-347 Stock No.	 LOK-A-LOY® A-1337 Stock No.	 Chain Coupler S-1325 Stock No.	 + Clevis Sling Hook L-1339 Stock No.	 + SHUR-LOC® Clevis Hook S-1317 Stock No.	 + Latching Clevis Chain Hook S-314A Stock No.	 + Clevis Grab Hook A-338 Stock No.	 Cradle Grab Hook A-1338 Stock No.	 Eye Sling Hook L-1327 Stock No.	 Eye Foundry Hook A-1329 Stock No.
1/4	7	273527	1014266	—	1256862	—	1015104	1098500	1049112	1029000	1225021	1027659	1049417	1025869	1026280
5/16	8	273536	1014266 1014280 1014285	—	1256932	—	1015113	1098504	1049121	1029009	1225021	—	1049426	1025869	1026280
3/8	10	273545	1014285 1014319	—	1257002	—	1015122	1098508	1049130	1029018	1225091	1027677	1049435	1025878	1026289
1/2	13	273554	1014319 1014331	—	1257072	—	1015136	1098512	1049149	1029027	1225161	1027686	1049444	1025887	1026297
5/8	16	273563	1014331 1014348	—	1257212	—	1015145	1098516	1049158	1029036	1225162	1027695	1049453	1025896	1026306
3/4	20	273572	1014348 1014365	—	1257382	—	1015154	—	1049167	—	—	1027702	—	1025915	1026315
7/8	22	273581	1014365 1014388	—	1257422	—	1015163	—	1049176	—	—	1027711	—	1025924	1026324
1	26	273590	1014388 1014404	—	1257492	—	1015172	—	—	—	—	—	—	1025933	—
1-1/4	32	273599	1014404 1014422	—	1257632	—	1015181	—	—	—	—	—	—	1025942	—

+ Available in eye style. ** Old style A-339

DOUBLE LEG SLING

Spectrum 8 Chain Size (in)	(mm)	Grade 8 Chain Stock No.	Master Link A-342 Stock No.	Master Link Assembly A-345 Stock No.	Master Link with Flat A-344 Stock No.	Master Link Assembly A-347 Stock No.	LOK-A-LOY® A-1337 Stock No.	Chain Coupler S-1325 Stock No.	Clevis Sling Hook L-1339 Stock No.	SHUR-LOC® Clevis Hook S-1317 Stock No.	Latching Clevis Chain Hook S-314A Stock No.	Clevis Grab Hook A-338 Stock No.	Cradle Grab Hook A-1338 Stock No.	Eye Sling Hook L-1327 Stock No.	Eye Foundry Hook A-1329 Stock No.
1/4	7	273527	1014266	—	1256932	—	1015104	1098500	1049112	1029000	1225021	1027659	1049417	1025869	1026280
5/16	8	273536	1014280	—	1257002	—	1015113	1098504	1049121	1029009	1225021	—	1049426	1025869	1026280
3/8	10	273545	1014319	—	1257072	—	1015122	1098508	1049130	1029018	1225091	1027677	1049435	1025878	1026289
1/2	13	273554	1014331	—	1257282	—	1015136	1098512	1049149	1029027	1225161	1027686	1049444	1025887	1026297
5/8	16	273563	1014348	—	1257422	—	1015145	1098516	1049158	1029036	1225162	1027695	1049453	1025896	1026306
3/4	20	273572	1014365	—	1257492	—	1015154	—	1049167	—	—	1027702	—	1025915	1026315
7/8	22	273581	1014388	—	1257562	—	1015163	—	1049176	—	—	1027711	—	1025924	1026324
1	26	273590	1014404	—	1257632	—	1015172	—	—	—	—	—	—	1025933	—
1-1/4	32	273599	1014422	—	—	—	1015181	—	—	—	—	—	—	1025942	—

+ Available in eye style.

TRIPLE AND QUADRUPLE LEG SLING

Spectrum 8® Chain Size (in)	(mm)	Grade 8 Chain Stock No.	Master Link A-342 Stock No.	Master Link Assembly A-345 Stock No.	Master Link with Flat A-344 Stock No.	Master Link Assembly A-347 Stock No.	LOK-A-LOY® A-1337 Stock No.	Chain Coupler S-1325 Stock No.	Clevis Sling Hook L-1339 Stock No.	SHUR-LOC® Clevis Hook S-1317 Stock No.	Latching Clevis Chain Hook S-314A Stock No.	Clevis Grab Hook A-338 Stock No.	Cradle Grab Hook A-1338 Stock No.	Eye Sling Hook L-1327 Stock No.	Eye Foundry Hook A-1329 Stock No.
1/4	7	273527	—	1014739	—	1257832	1015104	1098500	1049112	1029000	1225021	1027659	1049417	1025869	1026280
5/16	8	273536	—	1014742	—	1257972	1015113	1098504	1049121	1029009	1225021	—	1049426	1025869	1026280
3/8	10	273545	—	1014766	—	1258142	1015122	1098508	1049130	1029018	1225091	1027677	1049435	1025878	1026289
1/2	13	273554	—	1014779	—	1258182	1015136	1098512	1049149	1029027	1225161	1027686	1049444	1025887	1026297
5/8	16	273563	—	1014807	—	1258332	1015145	1098516	1049158	1029036	1225162	1027695	1049453	1025896	1026306
3/4	20	273572	—	1014810	—	1258402	1015154	—	1049167	—	—	1027702	—	1025915	1026315
7/8	22	273581	—	1014845	—	1258462	1015163	—	1049176	—	—	1027711	—	1025924	1026324
1	26	273590	—	1014845	—	—	1015172	—	—	—	—	—	—	1025933	—
1-1/4	32	273599	—	1014986	—	—	1015181	—	—	—	—	—	—	1025942	—

+ Available in eye style.

Crosby® Grade 80 Chain Sling Configurations

HOW TO MAKE YOUR CROSBY® GRADE 80 ALLOY CHAIN SLING

Follow these simple steps in making a sling assembly:

1. Determine the maximum load to be lifted by the sling assembly.
2. Choose the type of sling assembly suited for the shape of the load and the size of the sling assembly for the load to be lifted. The decision must take into account the angle of the sling legs in multileg slings.
3. Determine the overall reach from bearing point of master link to bearing point on hook (see Fig. 1).
4. Select components, assemble chain and components.
5. Affix sling identification tag to sling The tag is available from your Authorized Crosby Distributor.

Fig. 1

Each sling shall be marked to show: name or trademark of manufacturer, grade, nominal chain size, number of legs, rated load for the type(s) of hitch(es) used and angle upon which it is based (reach).

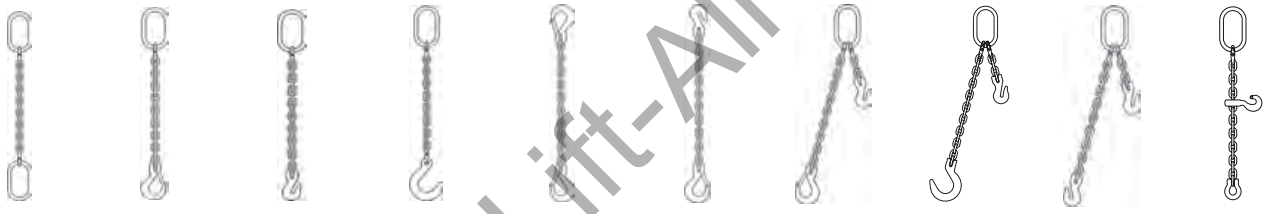
If measurement comes in the link, cut the following link. For two leg type slings, count the links and use an even number for clevis hooks and an odd number for eye hooks. This will position hooks in the same plane. In multileg slings always use the same number of links in each leg.

When using chain slings in choker applications, the Working Load Limit must be reduced by 20%. Crosby recommends a minimum angle of choke of 120 degrees. Consult Crosby when planning to use an angle of choke of less than 120 degrees. If Crosby A-1338 cradle grab hooks are used at a minimum angle of choke of 120 degrees, the full sling rated WLL can be utilized.

IIn shortening applications, a 20% reduction of the Working Load Limit is required except when using the Crosby A-1338 Cradle Grab Hooks, S-1311 Chain Shortener Link, the A-1355 Chain Choker Hook in conjunction with the S-1325 Chain Coupler Link, or the Crosby **ELIMINATOR®** shortener link. They can be used without any reduction to the Working Load Limit.

SEE APPLICATION AND WARNING INFORMATION
On Pages 265-267
Para Español: www.thecrosbygroup.com

The Slings shown here are standard assemblies that can be made from "Proof Tested" Crosby Components and Alloy Chain supplied by your authorized Crosby distributor. Assemblies must include chain sling identification tag (not sho n, see page 238).

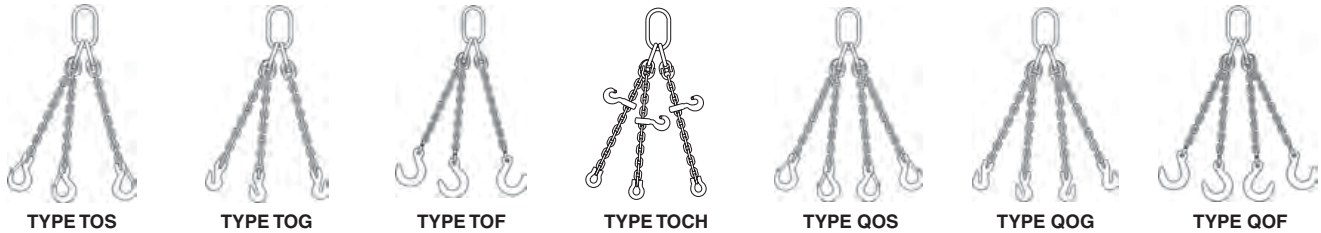


TYPE CO TYPE SOS TYPE SOG TYPE SOF TYPE SSS TYPE SGS TYPE ASOS TYPE ASOF TYPE ASOG TYPE SOCH

Type	Description	Type	Description
CO	Single Chain Sling with Master Link each end	SGS	Single Chain Sling with Grab Hook and Sling Hook
SOS	Single Chain Sling with Master Link and Sling Hook	ASOS	Adjustable Single Chain with Master Link and Sling Hook
SOG	Single Chain Sling with Master Link and Grab Hook	ASOF	Adjustable Single Chain Sling with Master Link and Foundry Hook
SOF	Single Chain Sling with Master Link and Foundry Hook	ASOG	Adjustable Single Chain Sling with Master Link and Grab Hook
SSS	Single Chain Sling with Sling Hook each end	SOCH	Single with 1355 Choker

TYPE DOS TYPE DOG TYPE DOF TYPE ADOS TYPE ADOG TYPE DOCH

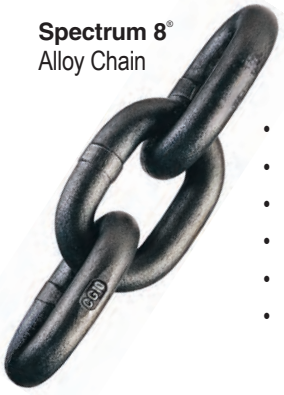
Type	Description	Type	Description
DOS	Double Chain Sling with Master Link and Sling Hook	ADOS	Adjustable Double Chain Sling with Master Link and Sling Hook
DOG	Double Chain Sling with Master Link and Grab Hook	ADOG	Adjustable Double Chain Sling with Master Link and Grab Hook
DOF	Double Chain Sling with Master Link and Foundry Hook	DOCH	Double with 1355 Choker



TYPE TOS TYPE TOG TYPE TOF TYPE TOCH TYPE QOS TYPE QOG TYPE QOF

Type	Description	Type	Description
TOS	Triple Chain Sling with Master Link and Sling Hook	QOS	Quadruple Chain Sling with Master Link and Sling Hook
TOG	Triple Chain Sling with Master Link and Grab Hook	QOG	Quadruple Chain Sling with Master Link and Grab Hook
TOF	Triple Chain Sling with Master Link and Foundry Hook	QOF	Quadruple Chain Sling with Master Link and Foundry Hook
TOCH	Triple Chain Sling with 1355 Choker		

Grade 80 Alloy Chain



Spectrum 8®
Alloy Chain

- Alloy Steel.
- Heat Treated.
- Finish – Black rust preventative coating.
- Permanently embossed with CG (Crosby Group) and 8 (Grade).
- Proof Tested at 2 times the Working Load Limit with certification
- Standard container – fiber drum

Grade 80 Alloy Chain (Recommended for overhead lifting applications)

Chain Size (mm)	Spec. 8 Drum Stock No.	Meters Per Drum	Dimensions (mm)	Working Load Limit (t)*	Weight Per Meter (kg)
6	1244915	200	6 x 18	1.1	.80
7	1244985	200	7 x 21	1.5	1.05
8	1245055	200	8 x 24	2.0	1.25
10	1245125	200	10 x 30	3.2	2.20
13	1245195	150	13 x 39	5.3	3.80
16	1245265	100	16 x 48	8.0	5.70
18	1245305	50	18 x 54	10.0	7.30
19	1245356	50	19 x 57	11.2	8.03
20	1245396	50	20 x 60	12.5	9.00
22	1245426	50	22 x 66	15.0	10.90
23	1245453	50	23 x 69	16.0	10.90
26	1245496	50	26 x 78	21.2	15.20
32	1245514	20	32 x 96	31.5	23.00

* Proof loaded at 2 times Working Load Limit. Ultimate Load is 4 times the Working Load Limit.

Crosby provides two methods of attaching Spectrum 8® chain to Crosby fittings.

CONNECTING AND COUPLER CHAIN LINKS

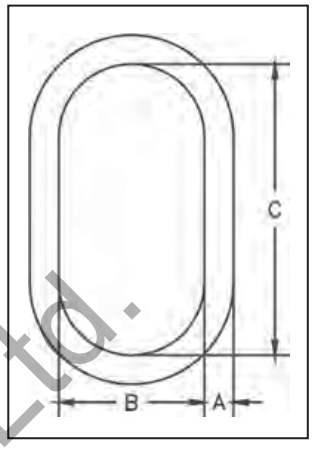
A-1337
LOK-A- LOY®
Connecting Link
Refer to page 227

S-1325
Grade 100
Coupler Link
Refer to page 237

A-342
Alloy Master Link

Ratings below are for use with chain slings fabricated in accordance with ASME B30.9. For other applications, see pages 160.

- Alloy Steel – Quenched and Tempered.
- Proof Tested with special fixtures sized to prevent localized point loading. ee pages 160 and 276 for proof test values and fixtures
- Crosby 7/8" to 2" 342 master links are type approved to DNV GL-ST-E271-2.7-1 Offshore Containers. These Crosby master links are 100% proof tested, MPI and impact tested. The tests are conducted by Crosby and 3.1 test certification is available upon request. Refer to page 164 for Crosby COLD TUFF® master links that meet the additional requirements of DNV rules for certification of lifting appliances - Loose Gear.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these links meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Forgings have a Product Identification Code (PIC) for material traceabilit , along with the size, the name Crosby and USA in raised lettering.
- Selected sizes designated with "W" in the size column have enlarged inside dimensions to allow additional room for sling hardware and crane hook.
- Incorporates patented **QUIC-CHECK®** deformation indicators.



QUIC-CHECK®

Crosby 8/10™

"QT"

A-342 Alloy Master Links

Size		A-342 Stock No.	Weight Each (kg)	Chain Size		Single Leg		Double Leg		Dimensions (mm)			
(mm)	(in)			(mm)	(in)	WLL Based on Grade 80 Chain (t)*	WLL Based on Grade 100 Chain (t)*	WLL Based on Grade 80 Chain 60° Sling Angle (t)*	WLL Based on Grade 100 Chain 60° Sling Angle (t)*	A	B	C	Deformation Indicator
13W	1/2W	1014266	0.59	7	1/4	1.50	2.00	2.12	2.80	15.7	71.1	127	89
				8	5/16	2.00	2.50	2.80	-				
16	5/8	1014280	0.69	8	5/16	2.00	2.50	2.80	3.55	15.7	76.2	152	89
19W	3/4W			10	3/8	3.15	-	-	-				
		1014285	0.91	10	3/8	3.15	4.00	4.25	-	18.5	81.3	152	102
22W	7/8W	3522213	1.50	10	3/8	3.15	4.00	4.25	5.60	22.4	95.3	162	114
				13	1/2	5.30	6.70	-	-				
26W	1W	3522214	2.77	13	1/2	5.30	6.70	7.50	9.50	27.9	109	191	140
				16	5/8	8.00	10.0	11.2	-				
32W	1-1/4W	3522215	5.44	16	5/8	8.00	10.0	11.2	14.0	33.8	140	241	178
				19	3/4	11.2	14.0	16.0	-				
38W	1-1/2W	3522216	8.44	19	3/4	11.2	14.0	16.0	20.0	40.9	150	267	191
				22	7/8	15.0	18.8	21.2	26.5				
44	1-3/4	3522217	11.4	22	7/8	15.0	18.8	21.2	26.5	44.5	152	305	191
				26	1	21.2	27.0	-	-				
51	2	3522218	16.8	26	1	21.2	27.0	30.0	38.0	50.8	178	356	229
				32	1-1/4	31.5	-	-	-				
57	2-1/4	1014422	24.5	32	1-1/4	31.5	40.0	45.0	56.0	57.2	203	406	254
63	2-1/2	1014468	68.5	1-1/4	32	72300	90400	125200	156600	2.5	8.38	16.00	11.00

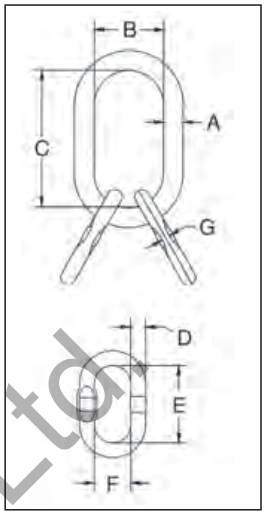
* Chain slings require that the Minimum Ultimate Load be 4 times the Working Load Limit. Refer to page 160 to determine products actual Ultimate Load. Proof Test Load equals or exceeds the requirement of ASTM A952(8.1) and ASME B30.9-1.4 for the chain size and number of legs. See chart on page 240 for other sling angles.

Alloy Master Link Assembly with Engineered Flat

A-345
Master Link Assembly
with Engineered Flat

Ratings below are for use with chain slings fabricated in accordance with ASME B30.9. For other applications, see pages 161.

- Alloy Steel – Quenched and Tempered.
- Individually Proof Tested with certification. (See pages 161 for Proo Test values.)
- Proof Tested with 60% inside width special fixtures sized to prevent localized point loading per ASTM A-952. Reference page 276.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these links meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Forgings have a Product Identification Code (PIC) for material traceabilit , along with the size, the name Crosby and USA in raised lettering.
- Selected sizes designated with "W" in the size column have enlarged inside dimensions to allow additional room for sling hardware and crane hook.
- Incorporates patented **QUIC-CHECK®** deformation indicators.



A-345 Master Link Assembly with Engineered Flat (for use with S-1325A coupler link)

Size		A-345 Stock No.	Weight Each (kg)	Chain Size		Three and Four Leg Sling		Dimensions (mm)								Engineered Flat for S-1325 (mm) – (in)
(mm)	(in)			(mm)	(in)	WLL Based on Grade 80 Chain 0-45° Sling Angle (t)*	WLL Based on Grade 100 Chain 0-45° Sling Angle (t)*	A	B	C	D	E	F	G	Deformation Indicator	
19W	3/4W	1014739	1.59	7	1/4	3.15	4.20	19	81.3	152	14.2	85.1	45.0	7.62	102	7-8mm – 1/4-5/16"
				8	5/16	4.25	-									
22W	7/8W	1014742	2.18	8	5/16	4.25	5.30	22	95.3	162	14.2	85.1	45.0	7.62	114	-
				10	3/8	6.70	-									
26W	1W	1014766	4.22	10	3/8	6.70	8.00	26	109	191	19.1	100	59.9	8.38	140	10mm – 3/8"
32W	1-1/4W	1014779	7.17	13	1/2	11.2	14.0	32	140	241	25.4	160	89.9	13.0	178	13mm – 1/2"
				16	5/8	17.0	21.2									
38W	1-1/2W	1014807	15.47	16	5/8	17.0	21.2	38	150	267	31.8	180	100	16.5	191	16mm – 5/8"
				19	3/4	23.6	-									
44	1-3/4	1014810	20.87	20	3/4	23.6	30.0	44	152	305	38	152	102	-	190	No Flat
57	2-1/4	1014845	44.00	22	7/8	31.5	39.4	57	203	406	48	203	140	-	254	No Flat
				26	1	45.0	57.0	57	203	406	48	203	140	-	254	No Flat
83	3-1/4	1014986	116	32	1-1/4	67.0	85.0	83	254	508	63	286	203	-	343	No Flat

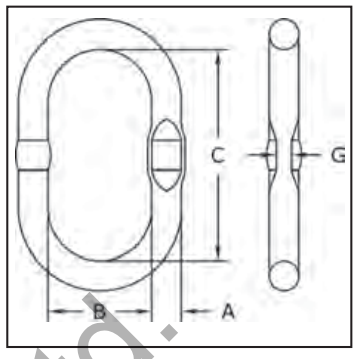
* Chain slings require that the Minimum Ultimate Load be 4 times the Working Load Limit. Refer to page 161 to determine products actual Ultimate Load. Proof Test Load equals or exceeds the requirement of ASTM A952(8.1) and ASME B30.9-1.4 for the chain size and number of legs. See chart on page 240 for other sling angles.

Welded Master Links Assembly with Engineered Flat

A-344
Welded Master Link

Ultimate Load is 5 times the Working Load Limit. Applications with wire rope and synthetic sling generally require a design factor of 5. Based on single leg sling (in-line load), or resultant load on multiple legs with an included angle less than or equal to 120 degrees. ** Proof Test Load equals or exceeds the requirement of ASTM A952(8.1) and ASME B30.9. **For use with chain slings, refer to page 245 for sling ratings and page 240 for proper master link selection.**

- Alloy Steel - Quenched and Tempered.
- Individually Proof Tested to values shown, with certification
- Proof Tested with 70% inside width special fixtures sized to prevent localized point loading per EN 1677-4, reference page 276.
- Each link has a Product Identification Code (PIC) for material traceability, along with the size and the name Crosby® or "CG".
- Large inside width and length to allow additional room for sling hardware and crane hook.
- Engineered Flat for use with S-1325A coupler link.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these links meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Master links are type approved to DNV Certification Notes 2.7-1-Offshore Containers. These Crosby master links are 100% proof tested and impact tested. The tests are conducted by Crosby and 3.1 test certification is available upon request.
- 12mm through 32mm have Engineered Flat.



A-344 Welded Master Link with Engineered Flat

Size				Single Leg			Double Leg			Dimensions (mm)				
				Chain Size			Chain Size							
(mm)	(in)	A-344 Stock No.	Weight Each (kg)	(mm)	(in)	WLL Based on Grade 8 Chain (t)*	(mm)	(in)	WLL Based on Grade 8 Chain 0-45° Sling Angle (t)*	A	B	C	G	Engineered Flat Size for S-1325A (mm)
12	7/16	1256862	.30	6	-	1.12	6	-	1.60	12.0	60.0	120	6.50	6
				7	1/4	1.50	-	-	-					
13	1/2	1256932	.36	8	5/16	2.00	7	1/4	2.12	13.0	60.0	120	6.50	7-8
17	11/16	1257002	.86	10	3/8	3.15	8	5/16	2.80	17.0	90.0	160	8.50	10
19	3/4	1257072	1.08	13	1/2	5.30	10	3/8	4.25	19.0	90.0	160	8.50	10
20	3/4	1257082	1.17							20.0	80.0	150	–	–
22	7/8	1257214	1.59							22.0	90.0	170	–	–
22	7/8	1257212	1.63	16	5/8	8.00	13	1/2	7.50	22.0	100	180	10.5	13
22	7/8	1257215	2.39							22.0	145	275	–	–
25	1	1257282	2.43	18	-	10.0	-	-	-	25.0	115	210	13.5	16
				19	-	11.2	16	5/8	11.2					
25	1	1257302	2.31							25.0	100	190	–	–
25	1	1257332	3.35							25.0	145	275	–	–
28	1-1/8	1257352	3.22							28.0	110	210	–	–
28	1-1/8	1257382	3.91	20	3/4	12.5	-	-	-	28.0	145	275	13.5	16
31	1-7/32	1257422	4.86	22	7/8	15.0	18	-	14.0	31.0	145	275	15.5	–
				-	-	-	19	-	16.0					
32	1-1/4	1257442	5.30							32.0	140	270	–	–
36	1-7/16	1257492	6.87	25	-	20.0	20	3/4	17.0	36.0	155	285	–	–
				26	1	21.2	22	7/8	21.2					
38	1-1/2	1257502	7.63							38.0	140	270	–	–
40	1-9/16	1257532	8.96	28	-	25.0	-	-	-	40.0	160	300	–	–
45	1-3/4	1257569	10.31							45.0	140	250	–	–
45	1-3/4	1257564	12.70							45.0	170	320	–	–
45	1-3/4	1257562	12.82	32	1-1/4	31.5	25	-	28.0	45.0	180	340	–	–
				-	-	-	26	1	30.0					
50	1-31/32	1257582	17.60							50.0	200	380	–	–
51	2	1257632	17.26	-	-	-	32	1-1/4	45.0	51.0	215	390	–	–
57	2-1/4	1257652	18.72							57.0	203	406	–	–

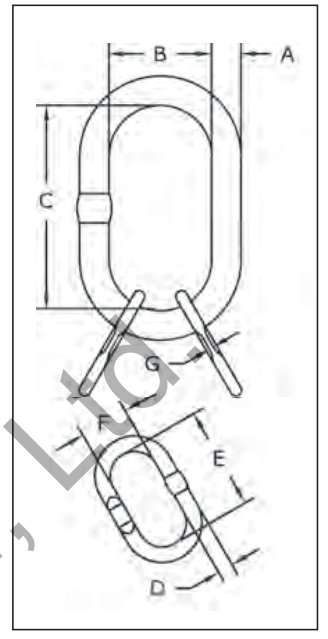
* Chain slings require that the Minimum Ultimate Load be 4 times the Working Load Limit. Refer to page 162 to determine products actual Ultimate Load. **See chart on page 240 for other sling angles.**
*There are no manufactured flats on links over 31mm (1 1/4)

Welded Master Link Assembly with Engineered Flat

A-347
Welded Master Link

Ultimate Load is 5 times the Working Load Limit. Applications with wire rope and synthetic sling generally require a design factor of 5. Based on single leg sling (in-line load), or resultant load on multiple legs with an included angle less than or equal to 120 degrees. ** Proof Test Load equals or exceeds the requirement of ASTM A952(8.1) and ASME B30.9. **For use with chain slings, refer to page 240 for sling ratings and page 245 for proper master link selection.**

- Alloy Steel — Quenched and Tempered.
- Individually Proof Tested to values shown, with certification
- Proof Tested with 70% inside width special fixtures sized to prevent localized point loading per EN 1677-4, reference page 276.
- Forgings have a Product Identification Code (PIC) for material traceability, along with the size, the name Crosby or "CG".
- 347 master links are type approved to DNV Certification Notes 2.7-1- Offshore Containers. These Crosby master links are 100% proof tested and impact tested.The tests are conducted by Crosby and 3.1 test certification is available upon request.
- Engineered Flat for use with S-1325A coupler link.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these links meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.



A-347 Welded Master Link Assembly with Engineered Flat

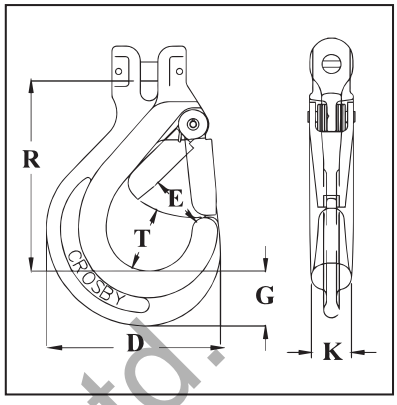
Size		A-347 Stock No.	Weight Each (kg.)	Three and Four Leg Sling Chain Size		WLL Based on Grade 8 0-45° Sling Angle (t)*	Dimensions (mm)							Engineered Flat Size for S-1325 (mm)
(mm)	(in)			(mm)	(in)		A	B	C	D	E	F	G	
13/12	1/2	1257692	.82	6	7/32	2.36	13.0	60.0	120	12.0	85.0	45.0	6.00	6
17/13	11/16	1257762	1.58	7	1/4	3.15	17.0	90.0	160	13.0	120	60.0	6.50	7
19/13	3/4	1257832	1.80	8	5.16	4.25	19.0	90.0	160	13.0	120	60.0	6.50	8
22/20		1257977	3.93				22.0	90.0	170	20.0	150	80.0	–	–
22/17	7/8	1257972	3.35	10	3.8	6.70	22.0	100	180	17.0	160	90.0	8.50	10
22/16		1257979	3.53				22.0	145	275	16.0	120	60.0	–	–
25/20		1258122	4.65				25.0	100	190	20.0	150	80.0	–	–
25/19		1258102	5.51				25.0	145	275	19.0	160	90.0	–	–
28/22		1258162	6.40				28.0	110	210	22.0	170	90.0	–	–
28/22	1-1/8	1258142	7.17	13	1/2	11.2	28.0	145	275	22.0	180	100	10.5	13
31/25	1-7/32	1258182	9.72	16	5.8	17.0	31.0	145	275	25.0	210	115	13.5	16
32/25		1258202	9.92				32.0	140	270	25.0	190	100	–	–
36/28		1258222	12.20				36.0	145	275	28.0	190	100	–	–
38/32		1258224	18.23				38.0	140	270	32.0	270	140	–	–
40/31	1-9/16	1258332	18.68	19	3.4	23.6	40.0	160	300	31.0	275	145	–	–
45/38		1258422	27.96				45.0	170	320	38.0	270	140	–	–
45/36	1-3/4	1258402	26.56	22	7/8	31.5	45.0	180	340	36.0	285	155	–	–
50/38		1258442	32.86				50.0	200	380	38.0	270	140		–
51/45	2	1258462	42.92	26	1	45.0	51.0	190	350	45.0	340	180	-	–
57/50		1258482	59.70				57.0	203	406	50.0	380	200		–

* Chain slings require that the Minimum Ultimate Load be 4 times the Working Load Limit. Refer to page 163 to determine products actual Ultimate Load. **See chart on page 240 for other sling angles.** **There are no manufactured flats on links over 31mm (1 1/4)

Grade 80 Latch Hooks

S-314A
Clevis Chain Hook

- Hook is Forged Alloy Steel - Quenched and Tempered.
- Individually Proof Tested at 2-1/2 times the Working Load Limit with certification
- Integrated heavy duty latch.
- Large throat opening.
- Anti-fouling due to carefully designed contours.
- Meets ASTM A-952 for Grade 80 chain fittings
- Fatigue rated.
- "Look for the color Gold – Crosby Alloy Hooks."



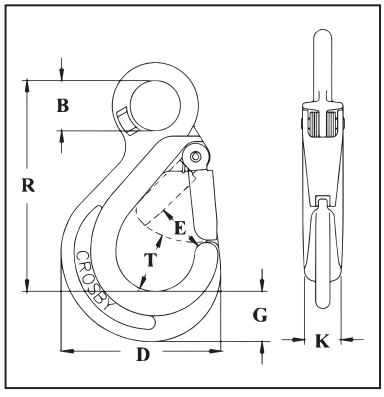
S-314A Clevis Chain Hook with Integrated Latch

Chain Size		S-314A Stock No.	Grade 8 Alloy Chain Working Load Limit (t) 4:1*	Weight Each (kg)	Dimensions (mm)						Replacement Latch Stock No.
(mm)	(in)				D	E	G	K	R	T	
6	–	1225020	1.12	.32	66.0	20.6	20.0	16.0	72.3	26.0	1291332
7 - 8	1/4 - 5/16	1225021	2	.70	89.0	27.4	28.0	20.5	98.0	32.6	1291402
10	3/8	1225091	3.15	1.29	110.5	36.1	29.3	24.0	125.3	42.2	1291472
13	1/2	1225161	5.3	2.34	138.5	38.6	42.1	29.5	144.5	49.2	1291542
16	5/8	1225162	8	3.67	166.5	48.5	52.0	38.0	172.6	58.9	1291612

* Ultimate Load is 4 times the Working Load Limit.

S-315A
Eye Chain Hook

- Hook is Forged Alloy Steel - Quenched and Tempered.
- Individually Proof Tested at 2-1/2 times the Working Load Limit with certification
- Crosby recommends grinding the WLL (which is 5:1 Design Factor) off the hook when using with Grade 80 chain.
- Integrated heavy duty latch.
- Large throat opening.
- Anti-fouling due to carefully designed contours.
- "Engineered Flat" for use with S-1325A Coupler Link.
- Meets ASTM A-952 for Grade 80 chain fittings
- Fatigue rated.
- "Look for the color Gold – Crosby Alloy Hooks."



S-315A Eye Chain Hook with Integrated Latch

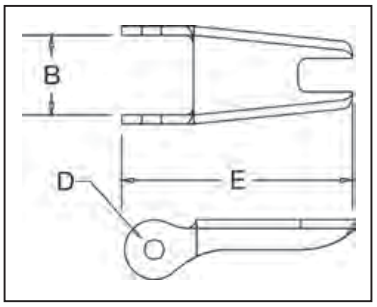
Chain Size		S-315A Stock No.	Grade 80 Alloy Chain Working Load Limit (t) 4:1*	Working Load Limit for Wire Rope (t) 5:1	Weight Each (kg)	Dimensions (mm)							Replacement Latch Stock No.
(mm)	(in)					B	D	E	G	K	R	T	
6	–	1029820	1.12	1	.25	20.1	66.0	20.6	20.1	16.0	84.5	25.9	1291332
7 - 8	1/4 - 5/16	1029825	2	2	.59	27.9	89.0	27.4	27.9	20.6	117	32.5	1291402
10	3/8	1029830	3.15	3	1.18	36.1	110	36.1	29.5	23.9	157	42.2	1291472
13	1/2	1029835	5.3	5	2.13	46.0	138	38.6	42.4	29.5	186	49.3	1291542
16	5/8	1029840	8	7	3.88	56.0	167	48.5	52.0	38.1	227	59.0	1291612

* Ultimate Load is 4 times the Working Load Limit.

Crosby® Hook Latch Kits

S-4320
Replacement Latch Kit

- 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.



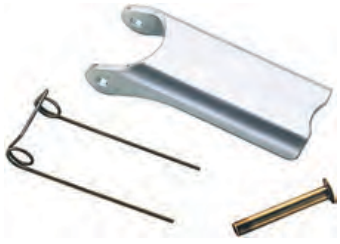
IMPORTANT: The new S-4320 Latch Kit will not fit the old style 319, 320 and 322 hooks

SEE APPLICATION AND WARNING INFORMATION
On Pages 141
Para Español: www.thecrosbygroup.com

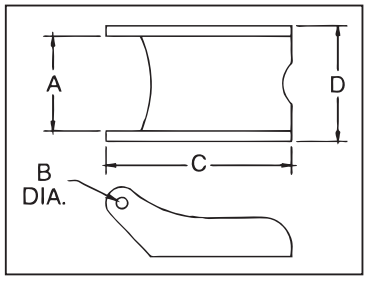
S-4320 Replacement Latch Kit for 319N (new), 320N, 322N and 339N Hooks

Hook Size (t)			Hook ID Code	S-4320 Stock No.	SS-4320 Stock No.*	Weight Each (kg)	Dimensions (mm)		
Carbon	Alloy	Bronze					B	D	E
.75	1.25	.5	D	1096325	1097100	.01	12.7	3.80	36.6
1	1.6	.6	F	1096374	1097109	.02	13.7	4.30	39.6
1.6	2	1	G	1096421	1097118	.02	16.0	4.30	42.2
2	3.2	1.4	H	1096468	1097127	.03	16.8	4.30	48.5
3.2	5.4	2	I	1096515	1097136	.05	21.1	5.10	58.5
5	8	3.5	J	1096562	1097145	.07	26.4	5.10	73.2
7.5	11.5	5	K	1096609	1097154	.13	31.8	6.85	90.5
10	16	6.5	L	1096657	1097163	.15	34.3	6.85	97.0
15	22	10	N	1096704	1097172	.38	42.2	9.90	132

* SS-4320 is Stainless Steel construction with cad plated steel nuts.



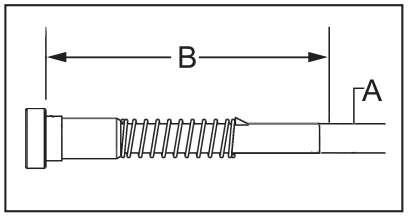
- To be used on A-327 and A-339 Grade 8 Sling Hooks.
- Latch Kits shipped unassembled and individually packaged with instructions.



S-4088 Alloy Hook Latch Kits

Hook Chain Size (mm)	S-4088 Stock No.	Weight Each (kg)	Dimensions (mm)			
			A	B	D	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

- Latch Kits shipped unassembled and individually packaged with instructions.
- For use only with Crosby L-1338 and L-1358 Grab Hooks (page 233).



S-4338 Grab Hook Latch Kits

Hook Size		S-4338 Stock No.	Weight Each (kg)	Dimensions (mm)	
(mm)	(in)			A	B
7	1/4	1048426	.01	4.7	40.4
8	5/16				
10	3/8	1048435	.01	4.7	45.2
13	1/2	1048444	.02	6.3	57.2
16	5/8	1048453	.03	7.9	65.2

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As the leading innovator in the cargo handling industry, Crosby® continues to bowl over the competition with top-notch service, in-depth training, and time-tested expertise. Our unrivaled customer service and extensive product line encompass all aspects of cargo handling, such as:

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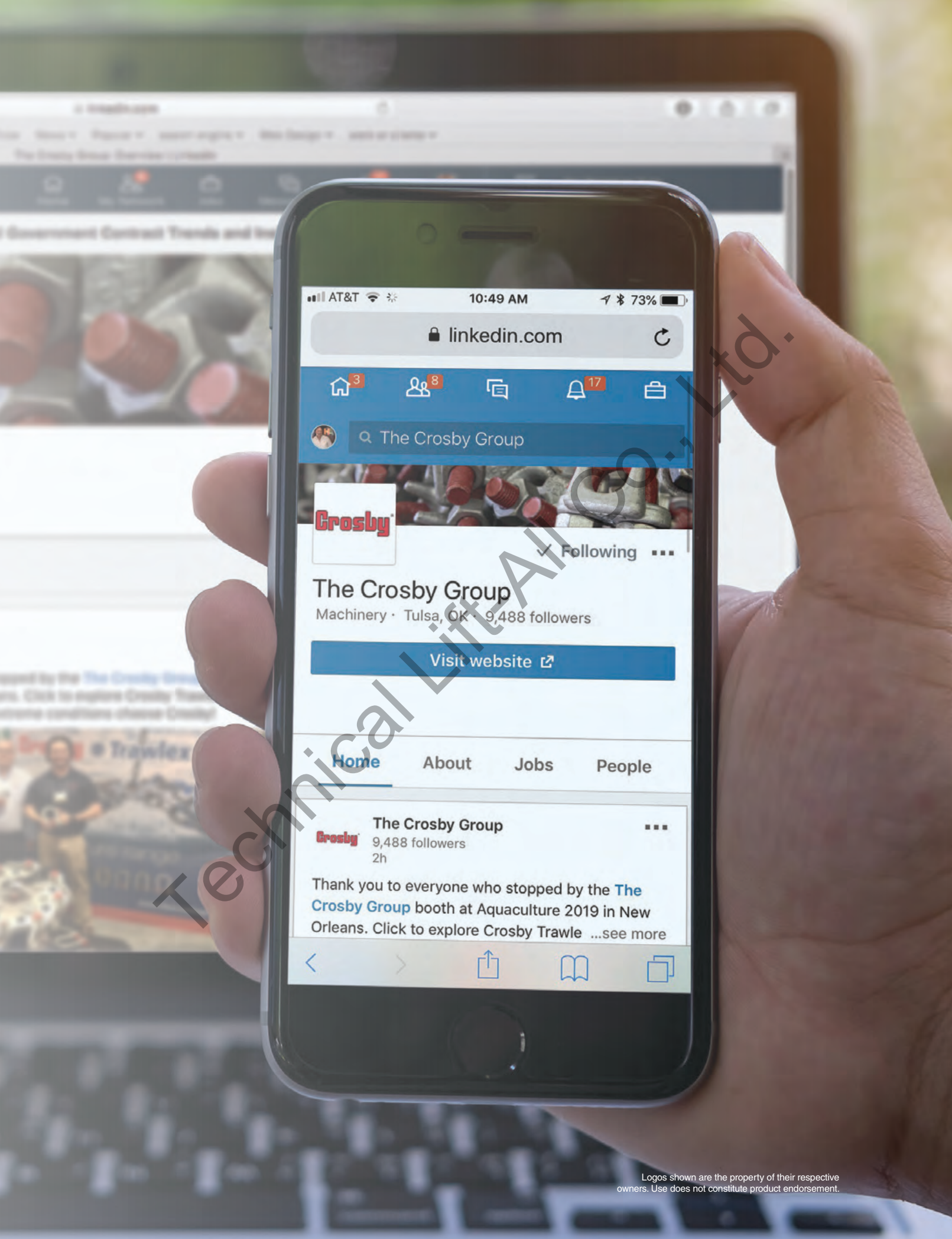
#knowtheload



YOU ASKED FOR IT —
CROSBY DELIVERED

The Painting of Our Platinum Line of Chain Fittings is Now Complete

The platinum color of the Crosby Lok-A-Loy® visually identifies the chain connector as Grade 100. The new finish extends the life of the product by providing added protection from exposure to harsh environments such as salt water and other corrosive substances. Adding a durable hard finish to our industry leading Lok-A-Loy® design is one more reason Crosby should be your choice for premium chain fittings and accessories.

Painted Crosby A-1337 Lok-A-Loys

- Improved corrosion resistance
- All sizes, 9/32" (7 mm) through 1-1/4" (32 mm) are Grade 100
- Locking system that provides for simple assembly and disassembly – no special tools needed
- Meets ASTM A-952-96 standards for Grade 100 fittings
- Individually proof tested at 2-1/2 times Working Load Limit with certification
- Forged alloy steel – Quenched and Tempered
- Fatigue rated

Crosby® 8/10™ Fatigue Rated® "QT" QUENCHED & TEMPERED

Crosby®

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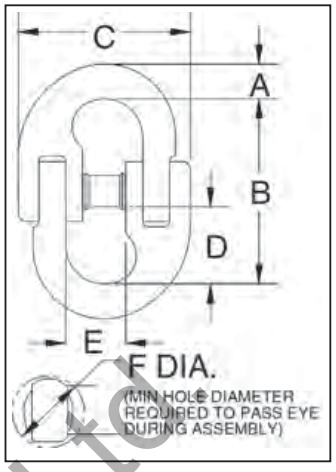
Crosby® Connecting Links

A-336
Connecting Link

- Forged Alloy Steel - Quenched and Tempered.
- Individually Proof Tested at 2-1/2 times the Working Load Limit with certification
- Easy to assemble - see instructions on page 276.



A-336 LOK-A-LOY® 6 Connecting Link

Chain Size (mm)	A-336 Stock No.	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)					Diameter of Hole to Accept Link (mm)
				A	B	C	D	E	
6-7	1014397	1.47	.11	7.85	52.5	42.9	19.8	19.8	12.7
8-10	1014413	3.00	.27	11.4	69.0	58.5	26.9	27.7	16.8
13	1014431	5.10	.54	14.7	85.0	80.5	32.5	35.8	22.4
16	1014459	7.48	1.10	19.8	99.5	100	39.6	42.9	26.9
19	1014477	10.45	1.76	22.6	123	113	50.0	51.0	30.2
22	1014495	13.04	2.75	25.4	148	135	60.5	64.0	35.1
26	1014510	17.58	3.19	27.4	165	154	72.0	65.0	37.3
32	1014538	26.00	6.00	35.1	215	194	96.0	96.0	44.0

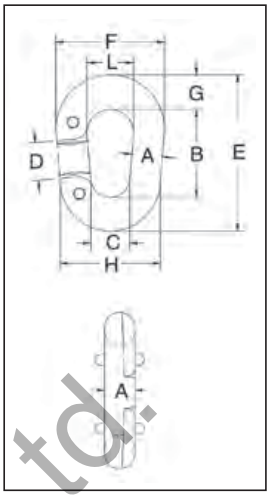
* Ultimate Load is 4 times the Working Load Limit.

NOTE: The WLL of the A-336 is less than Grade 80 chain ratings. When using in Grade 80 chain slings, ASME B30.9c requires that the Working Load Limit of a sling must not exceed the lowest Working Load Limit of the components in the system.

Crosby® Connecting Links

G-334
Replacement Link

- Forged Steel - Quenched and Tempered.
- Has larger inside dimensions making it easier to attach hooks or other fittings to the chain
- An exclusive Crosby product.
- After making connections, rivets must be peened.



G-334 Pear Shape "Missing Link"® Replacement Links

Chain Size (mm)	Stock No. G-334 Galv.	Working Load Limit (t)*	Weight Per 100 (kg)	Dimensions (mm) A	B	C	D	E	F	G	H	L
10	1013432	.84	11.3	10.4	51.0	14.2	20.6	74.5	41.4	11.9	35.1	20.6
13	1013450	1.50	22.7	12.7	63.5	17.5	25.4	92.0	51.0	14.2	42.9	25.4
16	1013478	2.27	34.0	16.0	70.0	20.6	26.9	102	60.5	16.0	52.5	28.7
19	1013496	3.22	56.7	19.1	79.5	25.4	28.7	121	70.0	20.6	63.5	31.8
22	1013511	4.35	90.7	22.4	93.5	31.8	35.1	141	82.5	23.9	76.0	38.1

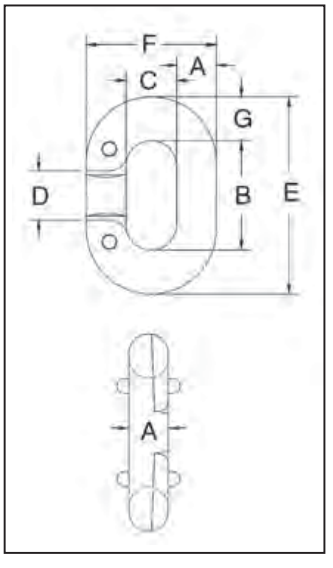
* Ultimate Load is 4 times the Working Load Limit.

Not Suitable for use with Grade 80 or Grade 100 chain and chain slings used in overhead lifting.

G-335
Replacement Link

Meets or exceeds the performance requirements of Federal Specifications RR-C-271G, ype II, except for those provisions required of the contractor. For additional information, see page 476.

- Forged Steel - Quenched and Tempered.
- Integral rivets join the two halves.
- After making connections, rivets must be peened.



G-335 "Missing Link"® Replacement Links

Chain Size (mm)	Stock No. G-335 Galv.	Working Load Limit (t)*	Links Per Box	Weight Per 100 (kg)	Dimensions (mm) A	B	C	D	E	F	G
** 7	1013110	.60	10	2.83	7.10	22.4	11.2	11.2	38.1	25.4	7.85
** 8	1013138	.89	10	5.67	8.65	23.9	11.9	11.9	42.9	29.5	9.65
10	1013156	1.25	10	9.07	10.4	28.7	14.2	14.2	52.5	35.1	11.9
11	1013174	1.65	10	12.5	11.9	32.5	15.0	15.0	59.5	38.9	13.5
13	1013192	2.15	10	17.0	13.5	37.3	16.8	16.8	67.5	43.7	15.0
16	1013236	3.30	10	32.9	16.8	46.0	19.8	20.6	84.0	53.0	19.1
19	1013254	4.65	10	55.5	19.8	54.0	23.9	26.9	98.5	63.5	22.4
22	1013272	5.45	Bulk	79.5	23.1	63.5	28.7	28.7	114	74.5	25.4
† 26	1013290	7.00	Bulk	113	26.2	70.0	31.8	31.8	127	84.0	28.7

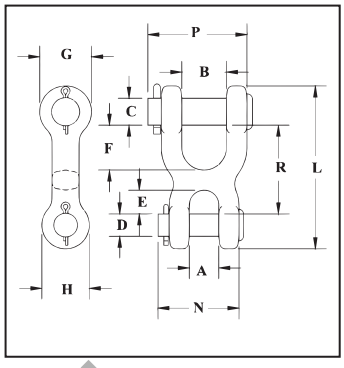
* Ultimate Load is 4 times the Working Load Limit. ** Rivets Only - No interlocking lugs. † Has reinforced rivet holes. All sizes have countersunk rivet holes.

Not Suitable for use with Grade 80 or Grade 100 chain and chain slings used in overhead lifting.

Crosby® Connecting Links

S-247
Double Clevis Link

- All pins Alloy Steel - Quenched and Tempered.
- Body is forged and heat treated carbon steel.
- Designed for linking all popular sizes of Grade 3 and Grade 4 chain to rings, end links, eye hooks, pad eyes, tractor eye bolts, etc.
- Features quick and easy assembly.



S-247 Double Clevis Link

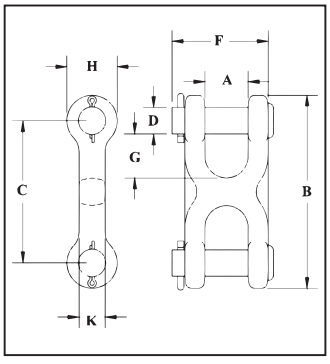
Chain Size (mm)	S-247 Stock No.	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)											
				A	B	C	D	E	F	G	H	L	N	P	R
7	1013021	1.18	.17	12.7	19.1	12.7	7.85	9.65	19.1	25.4	20.6	71.5	35.1	42.2	38.1
8-10	1013049	2.45	.37	14.2	25.4	16.0	11.2	11.9	25.4	30.2	25.4	89.5	44.5	57.0	48.5
11	1013067	3.27	.57	17.5	28.7	17.5	14.2	15.0	27.7	33.3	30.2	103	51.0	63.5	55.5
13	1013085	4.17	.71	20.6	31.8	19.1	16.0	17.3	31.8	36.6	33.3	115	57.0	70.0	62.5

* Ultimate Load is 4 times the Working Load Limit.

Not Suitable for use with Grade 80 or Grade 100 chain and chain slings used in overhead lifting.

S-249
Twin Clevis Link

- Available in three popular sizes.
- Body is forged and heat treated carbon steel.
- All pins Alloy Steel - Quenched and Tempered.
- Features quick and easy assembly.
- Twin Clevis design provides a variety of uses and can be used with Grade 3, Grade 4 and Grade 7 chain.



S-249 Twin Clevis Link

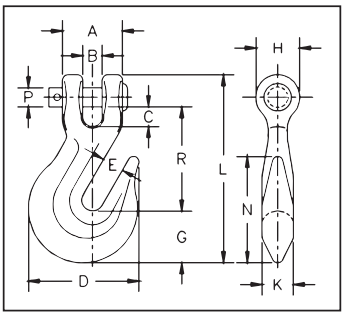
Chain Size (mm)	S-249 Stock No.	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)							
				A	B	C	D	F	G	H	K
7-8	1012861	2.13	.14	11.9	63.5	39.6	9.65	33.3	10.9	23.9	12.7
10	1012889	3.00	.20	13.5	71.5	46.0	11.2	38.9	12.7	25.4	14.2
11-13	1012905	5.10	.44	16.5	92.0	58.5	14.2	48.5	16.0	33.3	20.6

* Ultimate Load is 4 times the Working Load Limit.

Not Suitable for use with Grade 80 or Grade 100 chain and chain slings used in overhead lifting.

H-330 / A-330
Clevis Grab Hook

- Forged Steel - Quenched and Tempered.
- Design factor is 4:1.
- Features quick and easy assembly.
- H-330 designed for Grade 4 chain.
- A-330 designed for Grade 7 chain.



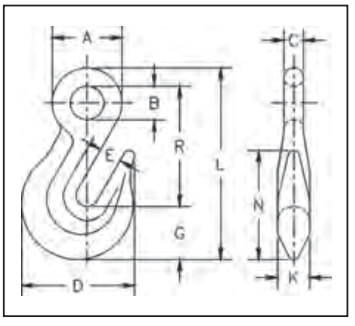
H-330 / A-330 Clevis Grab Hooks

Chain Size (mm)	Stock No.		Working Load Limit (t)		Weight Each (kg)	Dimensions (mm)											
	H-330 Carbon	A-330 Alloy*	H-330 Carbon	A-330 Alloy		A	B	C	D	E	G	H	K	L	N	P	R
7	1027105	1027249*	1.18	1.59	.16	25.4	8.15	7.85	46.0	8.65	22.4	18.3	11.9	77.5	44.5	7.85	41.7
8	1027123	1027267*	1.77	2.04	.29	30.2	9.90	9.15	54.0	11.2	24.6	23.1	15.0	93.0	52.5	9.65	61.5
10	1027141	1027285*	2.45	3.22	.45	35.1	11.4	11.4	64.5	12.7	29.7	25.4	18.3	109	59.5	11.2	61.0
11	1027169	1027301	3.27	4.54	.59	42.2	16.8	15.7	78.5	14.2	33.3	28.7	17.5	125	67.5	14.2	70.0
13	1027187	1027329*	4.17	5.44	.95	47.8	14.5	17.8	90.5	16.8	38.9	31.8	19.8	145	75.5	16.0	81.0
16	1027203	1027347	5.90	8.2	1.91	58.0	23.1	21.3	112	19.8	45.2	39.6	27.7	179	109	19.1	104
19	1027221	1027365	9.16	11.2	2.95	66.5	23.9	23.9	133	23.9	54.0	47.8	33.3	207	129	22.4	118

*** These A-330 hooks are forged with an "8" designating Grade 80, and are suitable for use with Grade 8 chain in overhead lifting applications as long as hook is proof-tested as part of the chain sling assembly or as an individual component per ASME B30.9. We recommend the use of the A-338 which is proof tested and supplied with a proof test certificate**

H-323 / A-323
Eye Grab Hook

- Forged Steel - Quenched and Tempered.
- Design Factor is 4:1.
- H-323 designed for Grade 4 chain.
- A-323 designed for Grade 7 chain.



H-323 / A-323 Eye Grab Hooks

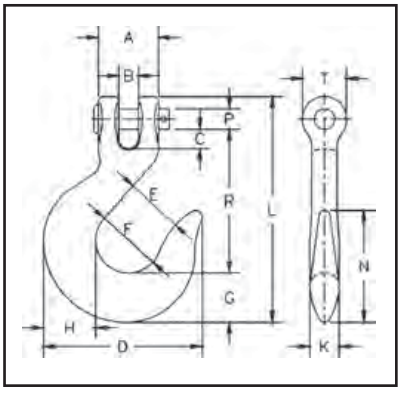
Chain Size (mm)	Stock No.		Working Load Limit (t)		Weight Each (kg)	Dimensions (mm)									
	H-323 Carbon	A-323 Alloy*	H-323 Carbon	A-323 Alloy		A	B	C	D	E	G	K	L	N	R
7	1026204	1026384*	1.18	1.59	.13	27.7	13.5	7.85	46.0	8.65	22.4	11.9	77.5	44.5	47.8
8	1026222	1026400*	1.77	2.04	.20	33.3	15.7	9.65	54.0	11.2	24.6	15.0	91.0	52.5	58.0
10	1026240	1026428*	2.45	3.22	.36	39.6	19.1	11.2	64.5	12.7	29.7	18.3	109	59.5	68.5
13	1026286	1026464*	4.17	5.44	.79	49.3	22.4	13.5	90.5	16.8	38.9	19.5	138	75.5	86.0
16	1026302	1026482*	5.90	8.21	1.47	60.5	26.9	16.8	112	19.8	48.0	25.4	169	96.0	104
19	1026320	1026507	9.16	11.2	2.69	73.0	35.1	19.1	133	23.9	54.0	33.3	205	129	131

*** These A-330 hooks are forged with an "8" designating Grade 80, and are suitable for use with Grade 8 chain in over head lifting applications as long as hook is proof-tested as part of the chain sling assembly or as an individual component per ASME B30.9. We recommend the use of the A-338 which is proof tested and supplied with a proof test certificate**

Crosby® Slip Hooks

H-331 / A-331
Clevis Slip Hook

- Forged Carbon Steel or Forged Alloy Steel – Quenched and Tempered.
- All pins are Alloy Steel – Quenched and Tempered.
- Not suitable for use with Grade 80 chain and chain slings used in overhead lifting. For slings or lifting chains, Grade 80 or 100 alloy components are recommended.

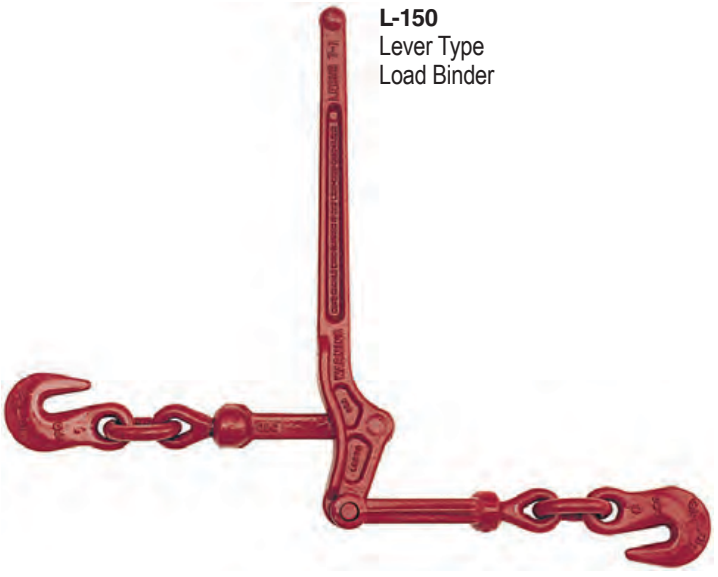


H-331 / A-331 Clevis Slip Hooks

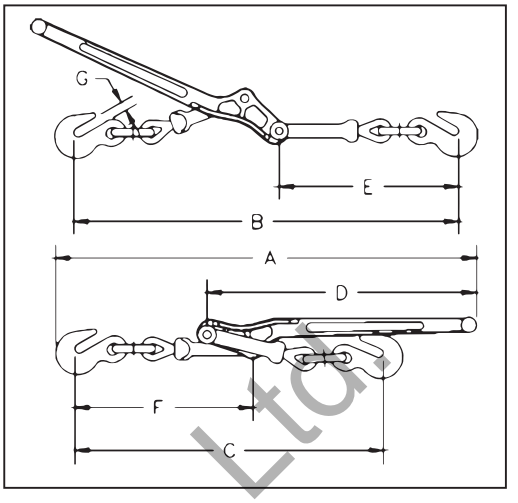
Chain Size (mm)	Stock No.		Working Load Limit (t)*		Weight Each (kg)	Dimensions (mm)													
	H-331 Carbon	A-331 Alloy	H-331 Carbon	A-331 Alloy		A	B	C	D	E	F	G	H	K	L	N	P	R	T
7	1027383	1027524	.89	1.25	.25	26.9	8.15	7.35	70.0	23.9	30.2	20.6	22.4	12.7	100	54.0	7.87	65.5	18.3
8	1027409	1027542	1.30	1.95	.36	31.0	10.9	8.65	77.5	26.9	31.8	23.9	25.4	14.2	115	57.0	9.65	73.0	24.6
10	1027427	1027560	1.81	2.38	.55	35.1	11.4	11.2	92.0	33.3	38.1	28.7	30.2	16.8	131	65.0	11.2	82.5	26.9
11	1027445	1027588	2.27	3.18	.93	43.9	15.0	15.2	110	39.6	46.0	35.1	36.6	20.6	152	77.5	14.2	94.0	30.2
13	1027463	1027604	2.95	4.08	1.25	47.8	14.5	13.5	122	42.9	49.3	39.6	41.4	23.1	166	87.5	16.0	102	33.3
16	1027481	1027622	4.20	6.12	2.15	58.5	18.0	18.0	143	51.0	60.5	46.0	49.3	27.7	200	102	19.1	125	39.6
19	–	1027640	–	8.73	5.12	81.0	30.0	32.8	187	63.5	76.2	60.5	63.5	36.6	255	129	25.4	155	53.0

* Ultimate Load is 4 times the Working Load Limit.

Lebus® Load Binders



L-150
Lever Type
Load Binder



- Extra heavy construction at leverage point to prevent spreading. Heel of binder toggles away from load, permitting easy release.
- Ball and socket swivel joints at hook assemblies permit a straight line pull.
- Binders shown with Proof Loads have been individually proof tested to values shown, prior to shipment.
- Meets or exceeds requirements of US DOT FMCSA Part 393 Subpart I.

Load Rated®

"DOT"

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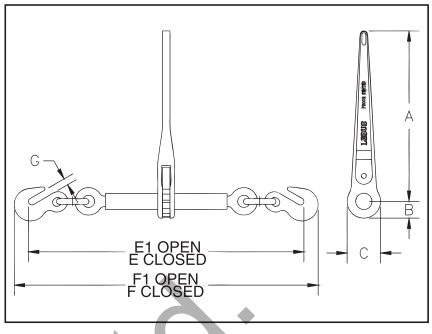
L-150 Standard Lever Type Load Binders

Model	Stock No.	Std. Pkg.	Min-Max Chain Size (mm)	Working Load Limit (t)	Proof Load (kN)	Ultimate Load (t)	Weight Each (kg)	Handle Length (mm)	Take Up (mm)	Dimensions (mm)						
										A	B	C	D	E	F	G
7-1	1048128	4	8 - 10	2.45	48	8.63	3.18	406	114	613	562	454	406	264	264	12.7
A-1	1048146	4	10 - 13	4.17	82	15.0	5.66	475	114	730	654	540	475	313	314	16.0
C-1	1048164	4	13 - 16	5.90	116	20.9	8.93	533	121	794	756	635	533	372	349	18.3

L-140
Ratchet Type
Load Binder



- Upgraded for use with Grades 70, 80 and 100 Chain.
- Utilizes standard Crosby A-323 Alloy Eye Grab Hooks.
- New design "one piece" forged handle.
- Continuous take-up feature provides finite adjustment to tie down load.
- One piece assembly, no bolts or nuts to loosen.
- Ratchet spring is rust proofed.
- All load bearing or holding parts forged.
- Easy operating positive ratchet.
- Binders shown with Proof Loads have been individually proof tested to values shown, prior to shipment.
- Meets or exceeds requirements of US DOT FMCSA Part 393 Subpart I.

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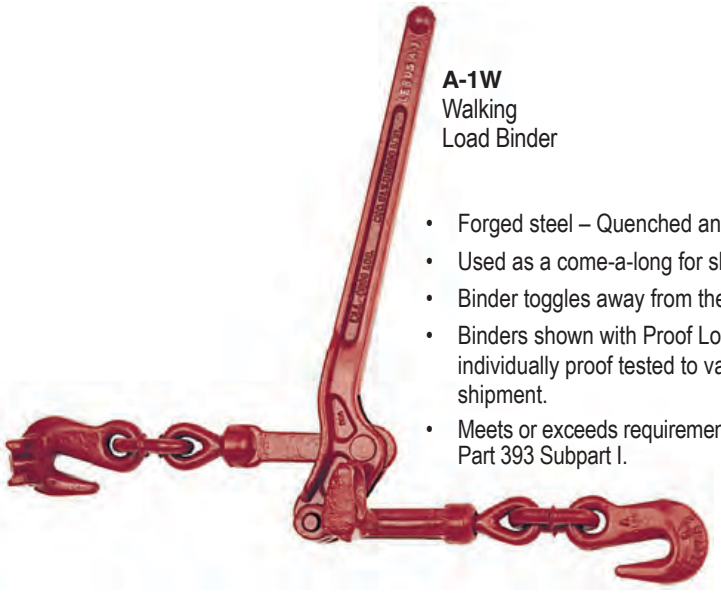
Load Rated®

L-140 Standard Ratchet Type Load Binders (Meets or exceeds requirements of US DOT FMCSA Part 393 Subpart I.)

Model	Stock No.	Min-Max Chain Size (mm)	Working Load Limit (t)*	Proof Load (kN)	Weight Each (kg)	Handle Length (mm)	Barrel Length (mm)	Take Up (mm)	Dimensions (mm)							
									A	B	C	E	E1	F	F1	G
R-7 **	1048404	8 - 10	4.00	79	5.49	356	254	203	356	35.1	70.0	583	786	638	842	12.7
R-A **	1048422	10 - 13	6.80	134	6.66	356	254	203	356	35.1	70.0	641	845	702	905	16.0
R-C ***	1048440	13 - 16	7.26	143	6.60	356	254	203	356	35.1	70.0	670	873	748	951	18.3

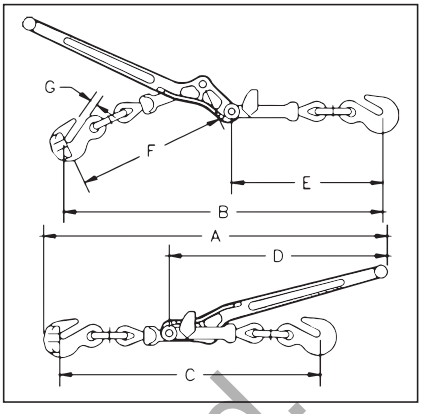
* Ultimate Load is 3 times the Working Load Limit. ** Matches the Working Load Limit of Grade 100 chain for both sizes. *** Matches the Working Load Limit of Grade 100 chain for 13mm size.

Lebus® Load Binders



A-1W
Walking
Load Binder

- Forged steel – Quenched and Tempered.
- Used as a come-a-long for short take-up on chain.
- Binder toggles away from the load.
- Binders shown with Proof Loads have been individually proof tested to values shown, prior to shipment.
- Meets or exceeds requirements of US DOT FMCSA Part 393 Subpart I.



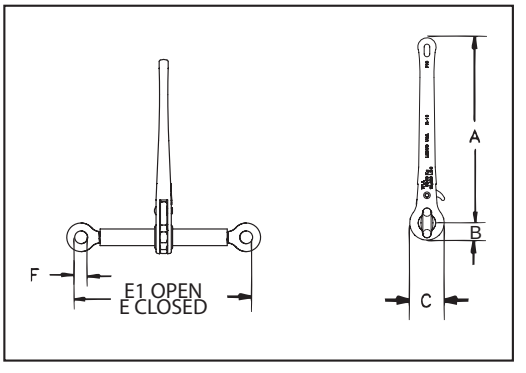
SEE APPLICATION AND WARNING INFORMATION
On Pages 271
Para Español: www.thecrosbygroup.com

A-1W Walking Load Binders

Model	Stock No.	Chain Size (mm)	Working Load Limit (t)	Proof Load (kN)	Ultimate Load (t)	Weight Each (kg)	Handle Length (mm)	Dimensions (mm)						
								A	B	C	D	E	F	G
A-1W	1048388	13 only	4.17	82	15.0	5.94	475	730	654	540	475	313	314	16.0

R-10
Binder without
Links and Hooks

- Meets or exceeds requirements of US DOT FMCSA Part 393 Subpart I.

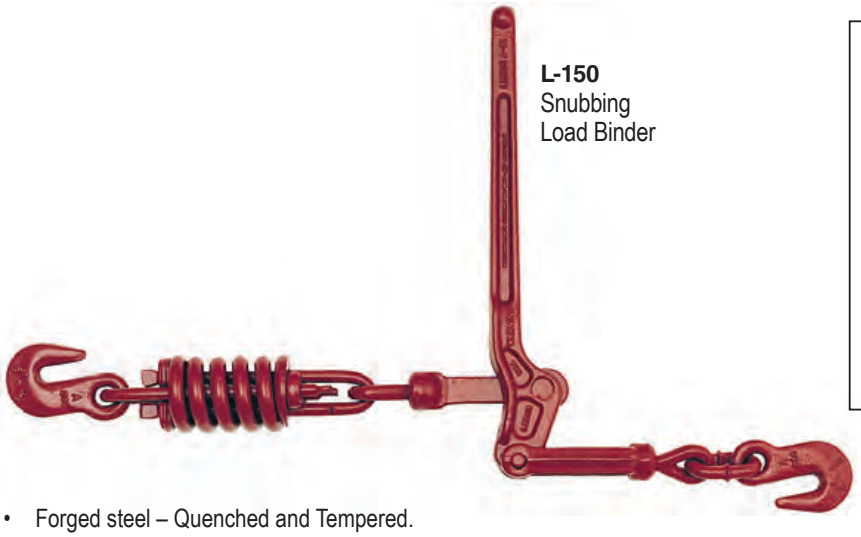


R-10 Binder without Links and Hooks

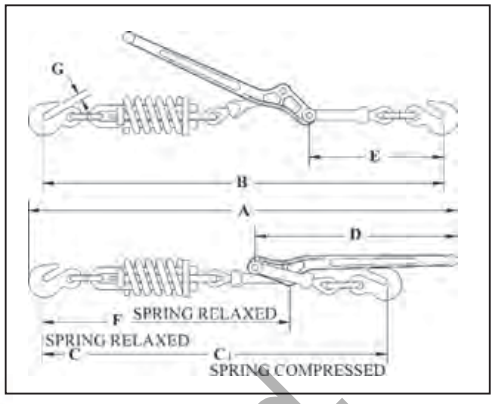
Model	Stock No.	Working Load Limit (t)*	Weight Each (kg)	Handle Length (mm)	Barrel Length (mm)	Take Up (mm)	Dimensions (mm)					
							A	B	C	E	E1	F
R-10	1048468	7.26	3.65	356	254	203	356	35.1	70.0	356	559	25.4

* Ultimate Load is 3 times the Working Load Limit.

Lebus® Load Binders



L-150
Snubbing
Load Binder



- Forged steel – Quenched and Tempered.
- Spring cushion for load protection, cushions shock and sway.
- Binder toggles away from the load.

L-150 Snubbing Load Binders

Model	Stock No.	Min-Max Chain Size (mm)	Working Load Limit (t)	Ultimate Load (t)	Weight Each (kg)	Handle Length (mm)	Take Up (mm)	Compression Strength of Spring (kg)	Dimensions (mm)							
									A	B	C	C1	D	E	F	G
7-12	1048280	8 - 10	2.45	7.27	5.10	406	108	1040	832	781	711	673	406	264	483	12.7
A-12	1048306	10 - 13	4.17	9.09	8.48	470	114	1500	945	864	749	773	475	313	530	16.0

Boomer and Tail Chains

C-188 Spectrum 8®
Alloy Boomer Chain

- Heat treated alloy steel.
- Ends fitted with Crosby A-330 Quenched and Tempered alloy clevis grab hook.
- Finish – Self Colored.
- Meets or exceeds requirements of US DOT FMCSA Part 393 Subpart I.

C-188 Spectrum 8® Alloy Boomer Chains

Chain Size (mm)	C-188 Stock No.	Working Load Limit (kg)	Standard Length (mm)	Weight Each (kg)
10	279889	3200	6.10	13.7
13	279898	5400	6.10	24.5

SEE APPLICATION AND WARNING INFORMATION
On Pages 274-275
Para Español: www.thecrosbygroup.com

L-180
Winchline Tail Chain

- Hooks are Forged – Quenched and Tempered.
- Individually Proof Tested.
- Spectrum 8® Alloy Steel from 3/4" through 1-1/4" (20 - 32mm).
- Meets or exceeds requirements of US DOT FMCSA Part 393 Subpart I.

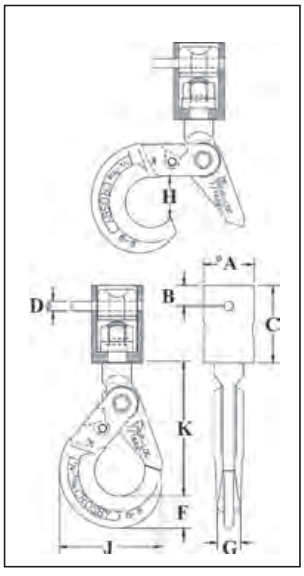
L-180 Winchline Tail Chain

Wire Rope Diameter (mm)*	L-180 Stock No.	Working Load Limit (kg)†	Length (mm)	No. of Links	Weight Each (kg)
8 - 10	1091473	2450	457	11	1.36
13 - 16	1091482	5900	457	7	2.81
19 - 22	1091511	15510	610	8	8.25
25 - 29	1091516	21640	457	5	9.60
25 - 29	1091525	21640	610	7	10.6
32	1091532	32795	610	5	18.1

* Recommended for IPS or XIP (EIP), RRL, FC or IWRC wire rope. † Ultimate Load is 3.5 times the Working Load Limit.

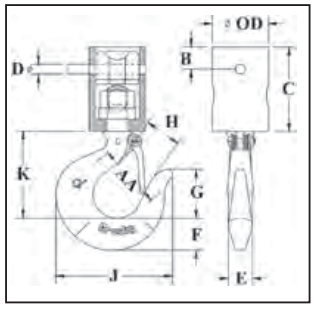
Replacement Hooks for Chain Hoists

O-318
Chain Nest Hook



- Available in Working Load Limits of 1.7, 2.3, and 4.2 Tons.
- Fits 1/4" thru 9/16" hoist chain.
- Hooks are forged alloy steel – Quenched and Tempered.
- Chain connecting pin is alloy.
- A Product Identification Code (PIC) for material traceabilit , the size, and the name Crosby or "CG" are forged or stamped onto each hook and swivel assembly (chain nest).
- Entire assembly is zinc plated.
- Fitted with ball bearings and is suitable for frequent rotation under load.
- Repair kit available consisting of bearing and spring pin.
- O-318 Hooks utilize Crosby SHUR-LOC® "Positive Locking" hooks. Latch is Self-Locking when hook is loaded.
- O-319 Hooks utilize Crosby® standard 319 Shank Hooks with the registered **QUIC-CHECK®** marking.
- Replacement latch kits are available.
- Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c).

O-319
Chain Nest Hook



QUIC-CHECK®

SEE APPLICATION AND WARNING INFORMATION
0-318 On Pages 272-273
0-319 On Pages 146-147
Para Español: www.thecrosbygroup.com

O-318 Chain Nest Hooks

Chain Size (mm)	O-318 Stock No.	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)								
				A	B	C	D	F	G	H	J	K
6 - 7	1098409	1.5	1.59	44.5	17.8	66.5	7.87	27.9	20.6	37.1	89.0	117
8 - 10	1098427	2.1	2.72	54.0	17.8	81.0	9.65	29.2	23.9	46.5	110	144
10 - 11	1098445	3.8	6.24	76.0	25.4	111	12.7	42.2	29.5	53.5	138	179
13 - 14	1098463	3.8	6.24	76.0	25.4	111	16.0	42.2	29.5	53.5	138	179

* Ultimate Load is 4 times the Working Load Limit.

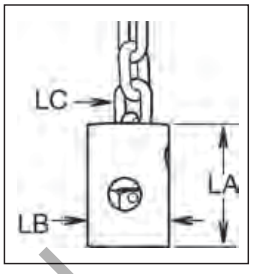
O-319 Chain Nest Hooks

Chain Size (mm)	O-319 Stock No.	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)										
				OD	AA	B	C	D	E	F	G	H	J	K
6 - 7	1098312	1.5	1.16	44.5	51.0	17.8	66.5	7.87	19.1	25.4	38.9	25.4	92.0	68.5
8 - 10	1098334	2.1	1.81	54.0	51.0	17.8	81.0	9.65	21.3	28.4	43.7	28.4	104	77.5
10 - 11	1098356	3.8	4.54	76.0	63.5	25.4	111	12.7	28.4	36.6	54.0	34.0	123	96.0
13 - 14	1098378	3.8	4.54	76.0	63.5	25.4	111	16.0	28.4	36.6	54.0	34.0	123	96.0

* Ultimate Load is 4 times the Working Load Limit.

Replacement Hooks for Chain Hoists

- Available in Working Load Limits of 1.7, 2.3, and 4.2 Tons.
- Fits 1/4" through 9/16" hoist chain.
- Hooks are forged alloy steel - Quenched and Tempered.
- A Product Identification Code (PIC) for material traceabilit , the size, and the name Crosby or "CG" are forged or stamped onto each hook and swivel assembly (chain nest).
- Hooks utilize Crosby standard 319 Shank Hooks with the registered **QUIC-CHECK®** marking.
- 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).



Link Chain Nest

• **BL-O** – with self-closing gate. • **BL-P** – with manual-closing gate. • With ball-bearing swivel; attaches to chain by alloy pin.

Hook Size	BL-O Stock No.	BL-P Stock No.	Gate Type	Working Load Limit (t)*	Weight Each (kg)	Dimensions (mm)		
						LA	LB	LC
4: 1/4 - 9/32	1051409	1051508	PIN-LOK	1.5	1.13	67.0	44.5	6.35 - 7.15
5: 5/16 - 3/8	1051442	1051541	ROLLOX	2.1	2.04	76.0	57.0	7.95 - 9.50
7: 3/8 - 7/16	1051464	1051563	ROLLOX	3.8	5.0	111	76.0	9.50 - 14.3
7: 1/2 - 9/16	1051486	1051585	ROLLOX	3.8	5.0	111	76.0	9.50 - 14.3

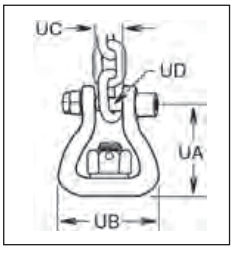
* Ultimate Load is 4 times the Working Load Limit.

QUIC-CHECK®

"QT"

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

- 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).



Open Swivel Bail

Hook Size	BL-E Stock No.	BL-G Stock No.	Gate Type	Working Load Limit (t)*	Weight Each (kg)	Dimensions (in)			
						UA	UB	UC	UD
3	1051607	1051706	PIN-LOK	1.3	.81	53.0	59.0	13.2	9.65
4	1051618	1051717	PIN-LOK	1.5	.95	54.5	59.0	13.2	9.65
5	1051629	1051728	ROLLOX	2.1	1.45	65.0	67.0	15.7	11.2

* Ultimate Load is 4 times the Working Load Limit.

Crosby® S-4338 Pin Latch

WARNING & APPLICATION INSTRUCTIONS

Important Safety Information Read and Follow

- Always inspect hook and pin latch before using.
- Never use a pin latch that is distorted or bent.
- Always make sure internal spring will force the pin latch forward closing throat opening of grab hook. (See Figure 1).
- When a Pin Latch is provided, it is designed to retain loose chain under slack condition.
- Always make sure hook supports the load. The pin latch must never support the load. (See Figure 1, 2, 3 and 4).
- Pin latch is not intended to be an anti-fouling device.
- Recommended for use with Crosby L-1338 or L-1358 Grab Hooks.

⚠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 pin latch.**
- **See OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B). A hook and this style latch must not be used for lifting personnel.**
- **Read and understand these instructions before using hook and pin latch.**

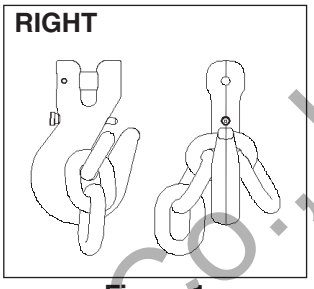


Figure 1

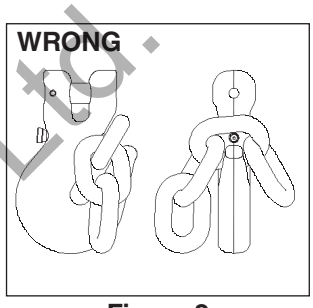


Figure 2

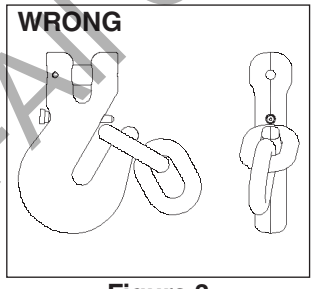


Figure 3

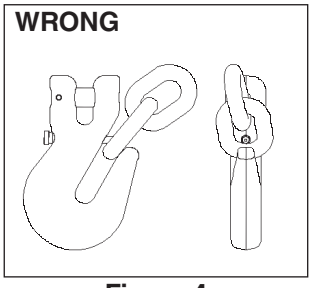
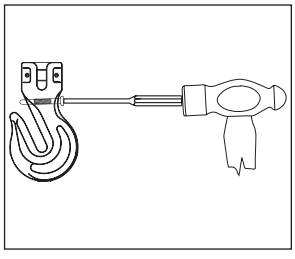
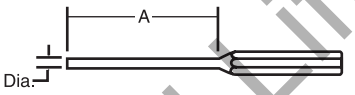


Figure 4

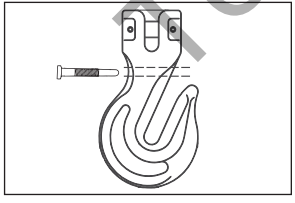
Important – Instructions for Assembling



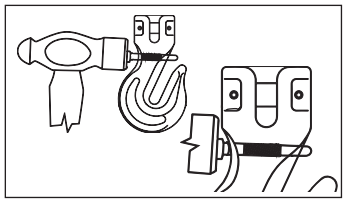
Step 1: Using a hammer and the correct roll-pin punch per chart on the right, drive the old latch pin assembly out of hook.



Hook Size (in)	Hook Size (mm)	Punch Dia. (in)	A (in)
1/4	7	7/32	3
5/16	8	7/32	3
3/8	10	7/32	3
1/2	13	5/16	4
5/8	16	3/8	4



Step 2: Insert new S-4338 pin assembly into hook.



Step 3: Using hammer, tap lightly on latch pin head until guide bushing shoulder touches hook.

ALLOY STEEL CHAIN SLINGS AND CROSBY ELIMINATOR®

WARNING SELECTION, USE & APPLICATION INFORMATION

⚠ WARNING

- **Loads may disengage from sling if proper rigging procedures and inspection are not followed.**
- **A falling load may cause serious injury or death.**
- **Inspect sling for damage before each use.**
- **Do not attempt to use sling above rated load and angle upon which it is based.**
- **Consult sling load chart for capacity reduction due to sling angle or type of hitch used.**
- **Read and understand these instructions before using sling.**

IMPORTANT SAFETY INFORMATION
Read and Follow

These warnings and instructions are applicable to alloy chain slings produced from Crosby Grade 8 (80) and Grade 10 (100) chain and components.

- Only alloy chain, grade 80 (Crosby Spectrum 8®), or grade 100 (Crosby Spectrum 10®), should be used for overhead lifting applications.
- Working Load Limit (WLL) is the maximum load in pounds which should ever be applied to chain, when the chain is new or in "as new" condition, and when the load is uniformly applied in direct tension to a straight length of chain.
- Working Load Limit (WLL) is the maximum working load for a specific minimum sling angle, measured from the horizontal plane. The minimum sling angle and Working Load Limit is identified on the sling.
- The Working Load Limit or Design factor may be affected by wear, misuse, overloading, corrosion, deformation, intentional alterations, sharp corner cutting action diameter of curvature over which the sling is used (D/d) and other use conditions.
- Shock loading and extraordinary conditions must be taken into account when selecting alloy chain slings.
- See OSHA Regulation for Slings 1910.184, ASME B30.9-"SLINGS", ASME B30.10-"HOOKS", and ASME B30.26 "RIGGING HARDWARE" for additional information.

ASME B30.9 requires a designated person inspect each new sling and attachments prior to initial use, as well as the user or other designated person perform a visual inspection on a sling each day it is used. In addition, a periodic inspection shall be performed by a designated person at least annually, and shall maintain a record of the last inspection. For further inspection information, see Chain Inspection section of this document, or refer to ASME B30.9-1.9.

CAUSE FOR REMOVAL FROM SERVICE

A sling shall be removed from service if any of the following are visible on chain or attachments:

- Wear, nicks, cracks, breaks, gouges, stretch, bend, weld splatter, discoloration from excessive temperature, throat openings of hooks.
- Chain links and attachments that do not hinge freely to adjacent links.
- Latches on hooks, if present, that do not hinge freely, seat properly or show evidence of permanent distortion.
- Excessive pitting or corrosion.
- Missing or illegible sling identification.
- Makeshift fasteners, hooks, or links formed from bolts, rods, etc.
- Mechanical coupling links in the body of the chain.
- Other damage that would cause a doubt as to the strength of the chain.

OPERATING PRACTICES

- The weight of the load must be known, calculated, estimated or measured. The loading on the slings will depend on where the center of gravity is located.
- Select sling having suitable characteristics for the type of load, hitch and environment.
- Slings shall not be loaded in excess of the rated capacity.
- Consideration shall be given to the sling load angle which affects rated capacity. (See load chart Table 4 for Grade 100 (SPECTRUM 10®) and Table 5 for Grade 80 (SPECTRUM 8®).
- Never rig a sling with an angle less than 30 degrees to horizontal.
- Slings in a basket hitch should have the load balanced to prevent slippage.
- The sling shall be hitched in a manner providing control of the load.
- Never side load, back load, or tip load a hook.
- Always make sure the hook supports the load. The latch must never support the load.
- Read and understand Crosby hook and hook latch Warnings and Application Instructions.
- For two legged slings with angles greater than 90 degrees, use an intermediate link such as a master link or bolt type shackle to collect the legs of the slings. The intermediate link can be placed over the hook to provide an in-line load on the hook. This approach must also be used when using slings with three or more legs.
- When using chain slings in choker applications, the Working Load Limit must be reduced by 20%. Crosby recommends a minimum angle of choke of 120 degrees (see Figure 1). Consult the manufacturer when planning to use an angle of choke less than 120 degrees. If Crosby A-1338 Cradle Grab hooks are used at the minimum angle of choke of 120 degrees, the full sling rated WLL can be utilized.

Figure 1

- When using chain slings in basket applications where the D/d (see figure 2) is less than 6, the rated load must be reduced by the values given in Table 1. This reduction does not eliminate the need to protect chain slings against damage caused by contact with edges, corners, or protrusions. Do not use a chain sling with a D/d that is less than two.

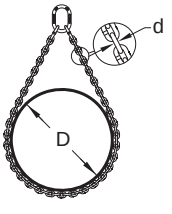


Figure 2

- In shortening applications, a 20% reduction of the Working Load Limit is required except when using the Crosby A-1338 Cradle Grab Hooks, S-1311 Chain Shortener Link, the A-1355 Chain Choker Hook in conjunction with the S-1325 Chain Coupler Link, or the Crosby ELIMINATOR® shortener link. They can be used without any reduction to the Working Load Limit.

- Slings should always be protected from being damaged by sharp corners.
- Slings should not be dragged on the floor or over abrasive surfaces.
- Chain sling links should not be twisted or kinked.
- Slings should not be pulled from under loads if the load is nesting on the sling.
- Slings that appear to be damaged should not be used unless inspected and accepted by designated person.
- All personnel, including portions of the human body should be kept from between the sling and the load, and from between the sling and the crane hook or hoist hook.
- Personnel shall stand clear of the suspended load.
- Personnel shall not ride the sling.
- Shock loading should be avoided.
- Twisting or kinking the legs (branches) should be avoided.
- During lifting, with or without the load, personnel should be alert for possible snagging.
- When using a basket hitch, the legs of the sling should contain or support the load from the sides, above the center of gravity, so that the load remains under control.
- Sling shall be long enough so that the rated capacity of the sling is adequate when the angle of the legs (branches) is taken into consideration. (See Table 4 for Grade 100 Chain and Table 5 for Grade 80 Chain).

General Usage

It must be recognized that certain factors in the usage of chain and attachments can be abusive and lessen the load that the chain or attachments can withstand. Some examples are twisting of the chain; disfigurement; deterioration by straining, usage, weathering and corrosion; rapid application of load or jerking; applying excessive loads; sharp corner cutting, D/d, action and non-symmetrical loading effects.

Environmental Effects

- Excessive high or low temperatures or exposure to chemically active environments such as acid or corrosive liquids or fumes can reduce the performance of the chain and components.
- Extreme temperature will reduce the performance of alloy steel chain slings.
- Normal operating temperature is –40°F to 400°F (-40°C to 204°C).
- Reference temperature exposure chart to determine reduction of WLL due to operating at, and after exposure to, elevated temperatures (see Table 2 for Grade 80 Chain and Table 3 for Grade 100 chain).
- Chemically active environments can have detrimental affects on the performance of chain. The effects can be both visible loss of material and undetectable material degradation causing significant loss of strength.

Special Surface Coating/Plating/Galvanizing

- Chain should not be subjected to galvanizing, or any plating process. If it is suspected the chain has been exposed to chemically active environment, remove from service.

Table 1
Use of Crosby Chain with Diameter of Curvature Less Than 6

D/d	Reduction of Basket Hitch Rated Load
2	40%
3	30%
4	20%
5	10%
6 and above	none

Table 2
Use of Crosby Grade 80 Chain At Elevated Temperatures

Temperature of Chain (F°)	Temperature of Chain (C°)	Temporary Reduction of Rated Load at Elevated Temperature*	Permanent Reduction of Rated Load After Exposure to Temperature**
Below 400	Below 204	None	None
400	204	10%	None
500	260	15%	None
600	316	20%	5%
700	371	30%	10%
800	427	40%	15%
900	482	50%	20%
1000	538	60%	25%
Over 1000	Over 538	OSHA 1910.184 requires all slings exposed to temperatures over 1000° F to be removed from service.	

* Crosby does not recommend the use of Alloy Chain at temperatures above 800° F.
** When chain is used at room temperature after being heated to temperatures shown in the first column.

Table 3
Use of Crosby Grade 100 Chain At Elevated Tempertures

Temperature (F°)	Temperature (C°)	Temporary Reduction of Rated Load at Elevated Temperature*	Permanent Reduction of Rated Load After Exposure to Temperature**
Below 400	Below 204	None	None
400	204	15%	None
500	260	25%	5%
600	316	30%	15%
700	371	40%	20%
800	427	50%	25%
900	482	60%	30%
1000	538	70%	35%
Over 1000	Over 538	OSHA 1910.184 requires all slings exposed to temperatures over 1000 F to be removed from service.	

* Crosby does not recommend the use of Alloy Chain at temperatures above 800° F.
** When chain is used at room temperature after being heated to temperatures shown in the first column.

CHAIN INSPECTION
INSPECTION AND REMOVAL FROM SERVICE PER ASME B30.9

Refer to ASME B30.9-1.9 for further information

Frequent Inspection

a. A visual inspection for damage shall be performed by the user or designated person each day the sling is used.
b. Conditions such as those listed in ASME B30.9-1.9.4 Removal Criteria, or any other condition that may result in a hazard, shall cause the sling to be removed from service. Slings shall not be returned to service until approved by a qualified person.
c. Written records are not required for frequent inspections.

Periodic Inspection

a. A complete inspection for damage of sling shall be periodically performed by a designated person. Each link and component shall be examined individually, taking care to expose and examine all surfaces including the inner link surface. The sling shall be examined for conditions such as those listed in ASME B30.9-1.9.4 Removal Criteria, and a determination made as to whether they constitute a hazard.
b. Periodic Inspection Frequency: Periodic inspection intervals shall not exceed one year. The frequency of periodic inspections should be based on:
   1. Frequency of sling use.
   2. Severity of service conditions.
   3. Nature of lifts being made.
   4. Experience gained on the service life of slings used in similar circumstances.

Guidelines for the interval are:
1. Normal Service – yearly
2. Severe Service – monthly to quarterly
3. Special Service – as recommended by a qualified person

c. Written records of the most recent periodic inspection shall be maintained, and shall include the condition of the sling.

Removal Criteria

An alloy sling chain shall be removed from service if conditions such as the following are present:

a. Missing or illegible sling identification.
b. Cracks or breaks.
c. Excessive wear, nicks, or gouges. Minimum thickness on chain link shall not be below the values listed in Table 6.
d. Stretched chain links or components.
e. Bent, twisted, or deformed chain links or components
f. Evidence of heat damage.
g. Excessive pitting or corrosion.
h. Lack of ability of chain or components to hinge (articulate) freely.
i. Weld spatter.
j. For hooks, removal criteria as stated in ASME B30.10.
k. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.

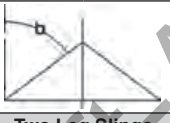
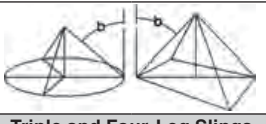
Repair

a. Slings shall be repaired only by the sling manufacturer or a qualified person.
b. A repaired sling shall be marked to identify the repairing agency per ASME B30.9 Section 9-1.7.
c. Chain and components used for sling repair shall comply with the provisions of ASME B30.9.
d. Repair of hooks shall comply with ASME B30.10.
e. Cracked, broken or bent chain links or components other than hooks shall not be repaired; they shall be replaced.
f. Mechanical coupling links shall not be used within the body of an alloy chain sling to connect two pieces of chain.
g. Modifications or alterations to the sling or components shall be considered as repairs and shall conform to all other provisions of ASME B30.9.
h. All repairs shall comply with the proof test requirements of ASME B30.9 Section 9-1.6.

Table 6
Minimum Allowable Chain Link Thickness at Any Point

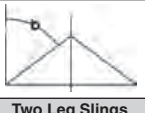
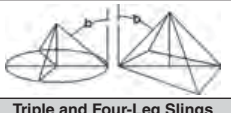
Nominal Chain Size		Minimum Thickness	
(in)	(mm)	(in)	(mm)
7/32	5.5	0.189	4.80
9/32	7	0.239	6.07
5/16	8	0.273	6.93
3/8	10	0.342	8.69
1/2	13	0.443	11.26
5/8	16	0.546	13.87
3/4	20	0.687	17.45
7/8	22	0.750	19.05
1	26	0.887	22.53
1-1/4	32	1.091	27.71
Refer to ASME B30.9			

Table 4
Grade 100 (Spectrum 10®) Alloy Chain Working Load Limit – 4 to 1 Design Factor

Nominal Size of Sling							
		Single Leg	Two Leg Slings		Triple and Four-Leg Slings		Choker
(mm)	(in)	t	0°<ß≤45° t	45°<ß≤60° t	0°<ß≤45° t	45°<ß≤60° t	Hitch *t
6	7/32	1,40	2,00	1,40	3,00	2,12	1,12
7	1/4 (9/32)	2,00	2,80	2,00	4,20	3,00	1,60
8	5/16	2,50	3,55	2,50	5,30	3,75	2,00
10	3/8	4,00	5,60	4,00	8,00	6,00	3,20
13	1/2	6,70	9,50	6,70	14,0	10,0	5,35
16	5/8	10,0	14,0	10,0	21,2	15,0	8,00
19	3/4	14,0	20,0	14,0	30,0	21,0	11,2
22	7/8	18,8	26,5	18,8	39,4	28,0	15,0
23	7/8	21,0	29,5	21,0	44,4	31,5	16,8
26	1	27,0	38,0	27,0	57,0	40,0	21,2
32	1-1/4	40,0	56,0	40,0	85,0	60,0	32,5

* For choker applications, the Working Load Limit must be reduced by 20%. The Crosby A-1338 cradle grab hook and S1311N chain shortener link do not require any reduction of the Working Load Limit. The design factor of 4 to 1 on Spectrum® 10 Alloy Chain agrees with the design factor used by the International Standards Organization (I.S.O.) and ASME B30.9 and is the preferred set of Working Load Limit values to be used. Do not use sling angles of less than 30°.

Table 5
Grade 80 (Spectrum 8®) Alloy Chain Working Load Limit – 4 to 1 Design Factor

Nominal Size of Sling							
		Single Leg	Two Leg Slings		Triple and Four-Leg Slings		Choker
(in)	(in)	t	0°<ß≤45° t	45°<ß≤60° t	0°<ß≤45° t	45°<ß≤60° t	Hitch * t
6	7/32	1,12	1,60	1,12	2,36	1,70	0,90
7	1/4 (9/32)	1,50	2,12	1,50	3,15	2,24	1,20
8	5/16	2	2,80	2	4,25	3	1,60
10	3/8	3,15	4,25	3,15	6,70	4,75	2,50
13	1/2	5,30	7,50	5,30	11,20	8	4,25
16	5/8	8	11,20	8	17	11,80	6,40
19-20	3/4	11,20	16	11,20	23,60	17	9
22	7/8	15	21,20	15	31,50	22,40	12
26	1	21,20	30	21,20	45	31,50	17
32	1-1/4	31,50	45	31,50	67	47,50	25,20

* For choker applications, the Working Load Limit must be reduced by 20%. The Crosby A-1338 cradle grab hook and S1311N chain shortener link do not require any reduction of the Working Load Limit. The design factor of 4 to 1 on Spectrum® 8 Alloy Chain agrees with the design factor used by the International Standards Organization (I.S.O.) and ASME B30.9 and is the preferred set of Working Load Limit values to be used. Do not use sling angles of less than 30°.

CROSBY ELIMINATOR®

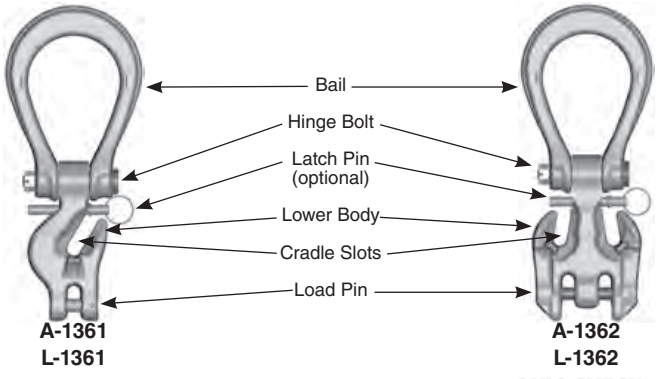
WARNING & APPLICATION INSTRUCTIONS

⚠ WARNING

- **Failure to read, understand, and follow these instructions may cause death or serious injury.**
- **Read and understand these instructions before using the Crosby ELIMINATOR®.**
- **Incorrectly rigging or terminating exerts additional force or loading, which the Crosby ELIMINATOR® is not designed to accommodate.**

Crosby ELIMINATOR® Definitions

The **Crosby ELIMINATOR®** consists of a bail, hinge bolt, latch pin, and lower body with cradle slot/slots.



The **Crosby ELIMINATOR®** incorporates markings forged into the product which address a **QUIC-CHECK®** feature:

QUIC-CHECK®

Deformation Indicators – Two strategically placed marks on each leg of the bail, which allows for a **QUIC-CHECK®** measurement to determine if the bail 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 **Crosby ELIMINATOR®** bail should be inspected further for possible damage.

Important Safety Information Read and 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 ANSI B30.9.
- Remove from service any **Crosby ELIMINATOR®** components with a crack, nick, or gouge. The bail and body of a **Crosby ELIMINATOR®** with nick or gouge shall be repaired by a qualified person. The qualified person shall repair by grinding longitudinally following the contour of the forging, provided that the reduced dimension is within the limits shown in (Fig. A).

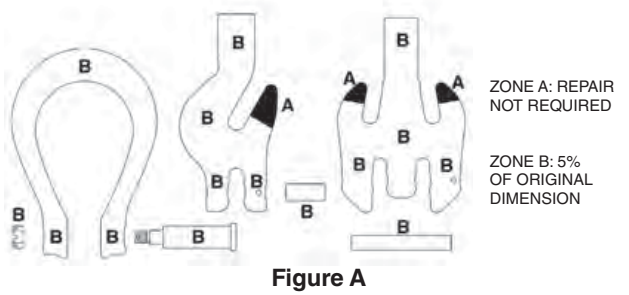


Figure A

- Never repair, alter, rework, or reshape a **Crosby ELIMINATOR®** by welding, heating, burning, or bending.
- **Crosby ELIMINATOR®** combination master link and chain shortener shall not be used in a manner other than that for which it is intended.
- The sling may be shortened by use of the cradle slot/slots (see Fig. C).
- In shortening applications, the **Crosby ELIMINATOR®** can be used without any reduction to the Working Load Limit.
- Never terminate (i.e. place a load bearing chain sling hook), or reeve load bearing chain through **Crosby ELIMINATOR®** bail. (see Fig. B).
- Never exceed the rated capacity shown on sling's identification tag.
- Attach lifting device to ensure free fit of **Crosby ELIMINATOR®** bail (see Fig. D). Never allow lifting device to apply forces on side of bail (see Fig. E), as this condition will damage and reduce the capacity of the **Crosby ELIMINATOR®.**
- The **Crosby ELIMINATOR®** is intended for tension or pull. Side loading must be avoided, as it exerts additional force or loading which the product is not designed to accommodate. (see Fig. F).

Figure B

Figure C

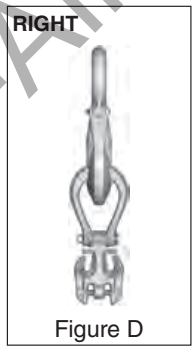


Figure D

Figure E

Figure F

- Never use a **Crosby ELIMINATOR®** where the bail shows signs of deformation or overloading (see Table 1).
- Read and understand the other sections of the ALLOY STEEL CHAIN SLINGS Warning, Selection, Use & Maintenance Information.

TABLE 1
Crosby ELIMINATOR® Bail Dimensions

Chain Size (in)	Chain Size (mm)	Frame I.D. Code	Inside Length (mm)	Inside Width (mm)	Jaw Width (mm)	QUIC-CHECK® Dim (mm)
1/4 - 5/16	7 - 8	2	98.6	76.2	23.9	88.9
3/8	10	3	122	88.9	28.7	102
1/2	13	4	152	105	33.3	127
5/8	16	5	174	121	41.4	152

- A **Crosby ELIMINATOR®** under load shall be allowed to self-align itself about the hinge pin.
- The use of a latch may be mandatory by regulations or safety codes; e.g. OSHA, MSHA, ASME B30.10 and B30.9.
- If Crosby latch pin is present, it should fit and function properly, and show no signs of distortion or bending.
- Always make sure the chain is seated in the cradle slot, and the cradle supports the load. The latch pin must never support the load.
- Latch pins are not intended to be an anti-fouling device.
- Use only genuine Crosby repair and latch pins parts.

A-1361 Single Leg Crosby ELIMINATOR®

- The A-1361 single leg **Crosby ELIMINATOR®** is designed to support a single leg vertical load. The cradle slot may be used to make a loop in the leg (see Fig. G). However, the Working Load Limit is still limited to the single leg values shown in Table 4 (Grade 100) and Table 5 (Grade 80).
- To produce a single basket hitch and achieve the full Working Load Limit, use only one length of chain with both ends terminated into the load pins of two A-1361 single leg **Crosby ELIMINATOR®** fittings (see Fig. H). Basket may be shortened with cradle slot.
- Never exceed the single leg Working Load Limit shown in Table 4 (Grade 100) and Table 5 (Grade 80) for an individual A-1361 **Crosby ELIMINATOR®** fitting.

Figure G

Figure H

A-1362 Double Leg Crosby ELIMINATOR®

- The A-1362 double leg **Crosby ELIMINATOR®** is designed to support symmetrically loaded double leg slings at 60, 45, and 30 degree horizontal angles. The cradle slots may be used to make loops in the legs (see Fig. J). However, the Working Load Limit is limited to the double leg values shown in Table 4 (Grade 100) and Table 5 (Grade 80).
- To produce a single basket hitch, and achieve the full Working Load Limit, use only one length of chain with both ends terminated into the load pin (see Fig. K). Basket may be shortened with the cradle slot or slots.
- To produce a double basket hitch and achieve the full Working Load Limit, two A-1362 double leg **Crosby ELIMINATOR®** fittings must be used, with both being terminated at their load pin (see Fig. L).
- Never exceed the double leg / single basket Working Load Limit on an individual A-1362 **Crosby ELIMINATOR®** fitting.

Figure J

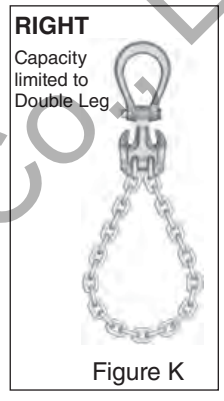


Figure K

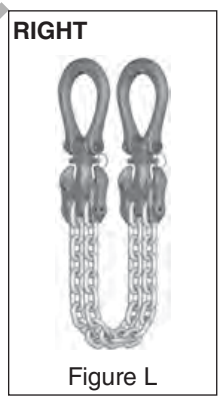


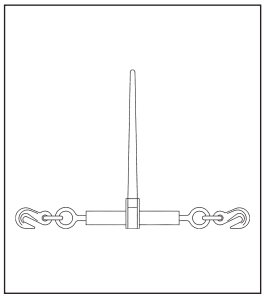
Figure L

Lebus® LOAD BINDER

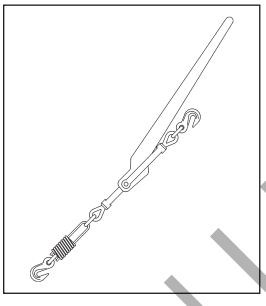
WARNINGS & APPLICATION INSTRUCTIONS

⚠ WARNING

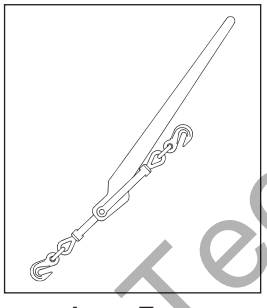
- **Failure to use this load binder properly may result in serious injury or even death to you or others.**
- **Do not operate load binder while standing on the load.**
- **Move handle with caution. It may whip – Keep body clear.**
- **Keep yourself out of the path of the moving handle and any loose chain laying on the handle.**
- **You must be familiar with state and federal regulations regarding size and number of chain systems required for securing loads on trucks.**
- **Always consider the safety of nearby workers as well as yourself when using load binder.**
- **While under tension, load binder must not bear against an object, as this will cause side load.**
- **Do not throw these instructions away. Keep them close at hand and share them with any others who use this load binder.**
- **Do not use handle extender – see instructions.**
- **Do not attempt to close or open the binder with more than one person.**



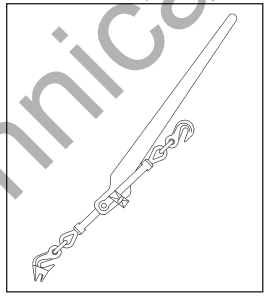
Ratchet Type



Lever Snubbing Type



Lever Type



Lever Walking Type

Mechanical Advantage

Lever Type Binder = 25 : 1
Ratchet Type Binder = 50 : 1

Example: 50 kilograms of effort applied to the binder results in the following force on the binder.

Lever Type:
50kg. x 25 = 1250 kg of force

Ratchet Type:
50kg. x 25 = 2500 kg of force

Instructions – Lever Type Load Binders

- Hook load binder to chain so you can operate it while standing on the ground. Position load binder so its handle can be pulled downward to tighten chain (see photo). **Be aware of ice, snow, rain, oil, etc. that can affect your footing. Make certain your footing is secure.**
- The Crosby Group LLC specifically recommends AGAINST the use of a handle extender (cheater pipe). If sufficient leverage cannot be obtained using the lever type load binder by itself, a ratchet type binder should be used.

- If the above recommendation is disregarded and a cheater pipe is used, it must closely fit the handle and must slide down the handle until the handle projections are contacted. The pipe should be secured to the handle, for example, by a pin, so that the pipe cannot fly off the handle if you lose control and let go. The increased leverage, by using a cheater pipe, can cause deformation and failure of the chain and load binder.
- During and after tightening chain, check load binder handle position. **Be sure** it is in the locked position and that its bottom side touches the chain link.
- Chain tension may decrease due to load shifting during transport. To be sure the load binder remains in proper position: Secure handle to chain by wrapping the loose end of chain around the handle and the tight chain, or tie handle to chain with soft wire.
- When releasing load binder, remember there is a great deal of energy in the stretched chain. This will cause the load binder handle to move very quickly with great force when it is unlatched. **Move handle with caution. It may whip – Keep body clear.**
- **Never use a cheater pipe or handle extender to release handle.** Use a steel bar and pry under the handle and stay out of the path of handle as it moves upward.
- If you release the handle by hand, use an open hand under the handle and push upward. **Do not close your hand around the handle. Always keep yourself out of the path of the moving handle.**

Instructions - Ratchet Load Binders

- Position ratchet binder so it can be operated from the ground.
- **Make sure your footing is secure.**

Maintenance of All Load Binders

- Routinely check load binders for wear, bending, cracks, nicks, or gouges. **If visual wear bending or cracks are present - Do not use load binder.**
- Routinely lubricate pivot and swivel points of Lever Binders, and pawl part and screw threads of Ratchet Binders to extend product life and reduce friction wear.

Crosby® SHUR-LOC® HOOKS

WARNING & APPLICATION INSTRUCTIONS

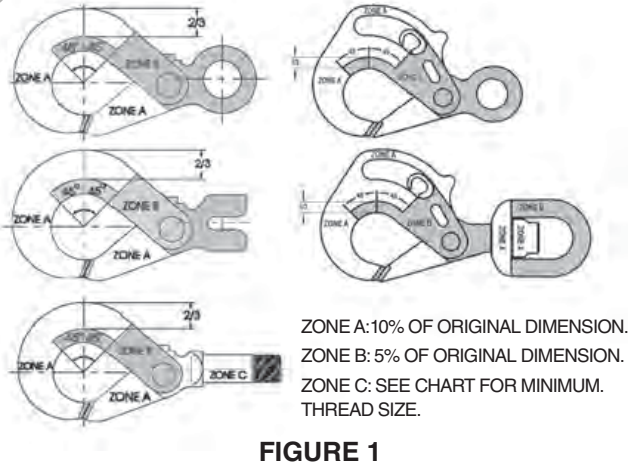
Important Safety Information - Read and Follow

- 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, pulsating loads, or severe duty as defined by ASME B30.10, 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 5%, not to exceed 1/4",(6mm) or shows any visible apparent bend or twist from the plane of the unbent hook, 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)
- S-1326A can be used for limited rotations under load (infrequent, noncontinuous).
- Efficiency of synthetic sling material may be reduced when used in eye or bowl of hook.
- Always make sure the hook supports the load. (See Figure 3).

Do not use hook tip for lifting (See Figure 4).

⚠WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **Positive locking latch will unlock when trigger is depressed. Never use hook unless hook and latch are fully closed and locked.**
- **Keep body parts clear of pinch point between hook tip and hook latch when closing.**
- **Keep hand(s) from between throat of hook and sling or other device.**
- **Do not use hook tip for lifting.**
- **Do not use hook handle for lifiting.**
- **Do not rig the finger pull open, place objects in the finger pull area, or in any way inhibit complete and full operation of the finger pull mechanism.**
- **Shank threads may corrode and/or strip and drop the load.**
- **Remove securement nut to inspect threads for corrosion or to replace S-1326A bearing washers (2) and or S-13326 thrust bearing.**
- **Never apply more force than the hook's assigned Working Load Limit (WLL) rating.**
- **See OSHA Rule 1926.1431(g) and 1926.1501(g) for personnel hoisting by cranes or derricks. A Crosby 1318A, 1326A, 13326, 1316A, or 1317A hook may be used for lifting personnel.**
- **Use only genuine Crosby parts as replacements.**
- **Read and understand these instructions before using hook.**



ZONE A:10% OF ORIGINAL DIMENSION.
ZONE B: 5% OF ORIGINAL DIMENSION.
ZONE C: SEE CHART FOR MINIMUM. THREAD SIZE.

FIGURE 1

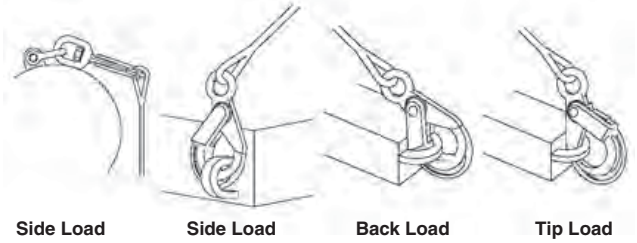
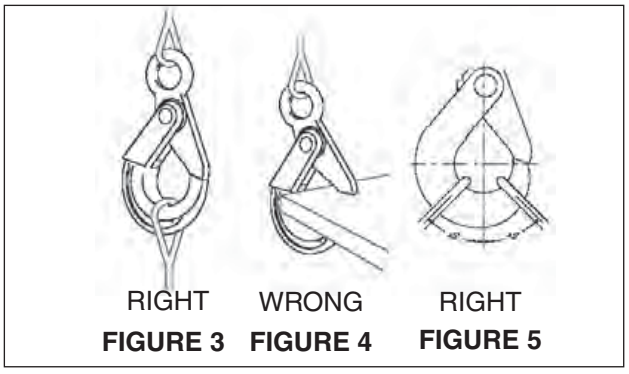


FIGURE 2

- When placing two (2) sling legs in hook, make sure the angle from vertical to the leg nearest the hook tip is not greater than 45 degrees, and the included angle between the legs does not exceed 90 degrees* (See Figure 5).
- See ASME B30.10 “Hooks” for additional information.

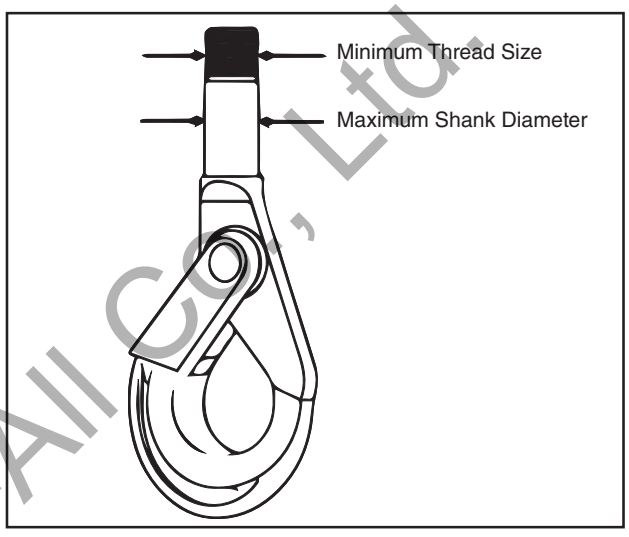
* For two legged slings with angles greater than 90°, use an intermediate link such as a master link or bolt type shackle to collect the legs of the slings. The intermediate link can then be placed over the hook to provide an in-line load on the hook. This approach must also be used when using slings with three or more legs.



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, 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.
- Hook shanks are not intended to be swaged on wire rope or rod.
- Hook shanks are not intended to be drilled (length of shank) 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.
- 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†

S-1316A & S-1317A Only Grade 100 Chain			S-1318AH ††, S-1326A, S-13326						S-1318A Only		
Chain Size		Working Load Limit (t)** 4:1	Grade 100 Chain			Wire Rope XXIP Mechanical Splice			Maximum Shank Diameter		Minimum Thread Size (in)
			Chain Size		Working Load Limit (t)** 4:1	Wire Rope Size (mm)		Working Load Limit (t)* 5:1			
(mm)	(in)		(mm)	(in)		(mm)	(in)		(mm)	(in)	
6	—	1.45	6	—	1.45	8	5/16	1.00	18	.72	5/8 - 11 UNC
7	1/4	1.95	7 - 8	1/4	1.95	11	3/8	1.91	24	.94	5/8 - 11 UNC
8	5/16	2.59	8	5/16	2.59	11	1/2	1.91	24	.94	3/4 - 10 UNC
10	3/8	3.99	10	3/8	3.99	13	5/8	3.90	27	1.06	3/4 - 10 UNC
13	1/2	7	13	1/2	7	16	3/4	5.62	30	1.19	1-1/8 - 7 UNC
16	5/8	10	16	5/8	10	22	7/8	7.53	35	1.38	1-3/8 - 6 UNC
18/20	3/4	16	18-20	3/4	16	26	1	9.98	—	—	—
22	7/8	19	22	7/8	19	29	1-1/8	12.02	—	—	—
26	1	27	26	1	27	32	1-1/4	14.74	—	—	—

* Ultimate Load is 5 times the Working Load Limit based on XXIP Wire Rope.

** Ultimate Load is 4 times the Working Load Limit based on Grade 100 Chain.

† Working Load Limit - The maximum mass of 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. † † Based on minimum thread size for assigned WLL.

Lebus® L-180 WINCHLINE TAIL CHAIN

WARNING & APPLICATION INSTRUCTIONS

L-180

⚠ WARNING

- **Loads may disengage from winchline tail chain if proper procedures are not followed.**
- **A falling load or disengaged winchline tail chain may cause serious injury or death.**
- **Inspect winchline tail chain for damage before each use.**
- **Wire rope should not be terminated to tail chain by the use of a knot.**
- **Do not attach slings or other devices in hook for overhead lifting – see operating practices.**

Important Safety Information – Read & Follow

- Only winchline tail chains made from alloy chain, Grade 80 or Grade 100, should be used for overhead lifting applications.
- Working Load Limit (WLL) is the maximum load in pounds which should ever be applied to winchline tail chain.
- The Working Load Limit or Design Factor may be affected by wear, misuse, overloading, corrosion, deformation, intentional alterations, sharp corner cutting action and other use conditions.
- Never repair, alter, rework, or reshape a hook or chain by welding, heating, burning or bending.
- Recommended for IPS or XIP (EIP), RRL, FC or IWRC wire rope.
- Shock loading and extraordinary conditions must be taken into account when selecting winchline tail chains.

CAUSE FOR REMOVAL FROM SERVICE

A winchline tail chain shall be removed from service if any of the following are visible on chain or hook:

- Wear, nicks, cracks, breaks, gouges, stretch, bend, weld splatter and discoloration from excessive temperature. Minimum thickness on chain link shall not be below the values listed on Table 1.
- Chain links and hook that do not hinge freely to adjacent links.
- Excessive pitting or corrosion on chain, hook or termination fitting.
- Makeshift fasteners, hooks, or links formed from bolts, rods, etc.

Table 1

L-180 Stock No.	Wire Rope Diameter (mm)	Nominal Chain Size (mm)	Nominal Chain Size (in)
1091482	13 - 16	16	5/8
1091511	19 - 22	22	7/8
1091516	25 - 29	26	1
1091525	25 - 29	26	1
1091532	32	32	1-1/4

- Mechanical coupling links in the body of the chain.
- Other damage that would cause a doubt as to the strength of the chain.
- Winchline tail chain should not be subjected to galvanizing or any plating process. If it is suspected the chain has been exposed to chemically active environment, remove from service.
- Termination end attachments that are cracked, deformed, or worn.
- For wire rope inspection procedures and removal from service criteria refer to manufacturer's recommendations.

OPERATING PRACTICES

- Know the winch lifting/pulling systems capacity rating.
- Know the applied load on tail chain. In dragging applications, the applied load may be greater or less than its weight due to friction.
- During lifting/dragging with or without the load, personnel should be alert for possible snagging.
- WORKING LOAD LIMIT (WLL) is the maximum load in pounds which should ever be applied to winchline tail chain when the chain is new or in as-new condition, and when the load is uniformly applied in direct tension to a straight length of chain.

Wire Rope Diameter (mm)	L-180 Stock No.	Working Load Limit 3.5 to 1 Design Factor (kg)
13 - 16	1091482	5900
19 - 22	1091511	15510
25 - 29	1091516	21640
25 - 29	1091525	21640
32	1091532	33200

10mm through 16mm made from Grade 40 High Test carbon steel.
22mm through 32mm made from Grade 80 or Grade 100 alloy steel. Only alloy tail chain should be used for overhead lifting applications.

- Wire rope termination efficiency and tail chain Working Load Limit (WLL) must be considered when selecting termination fitting and tail chain.
- Efficiency of wire rope end termination is based on the catalog breaking strength of wire rope.

Typical Termination Method & Efficiency	
Termination	**Efficiency**
S-409 Swage Button	80%

- The winchline tail chain hook is designed to fit the winchline diameter when hooked or connected back to winchline (See Figure 1).
- When used to pull or drag a load, the winchline tail chain may be wrapped around the load and the hook connected to the winchline. Also, when used to pull or drag a load over the tail board roller, the tail chain hook may be attached directly to the load at a connection point authorized by a competent rigger (See Figure 5). In either case, a visual verification of proper hook engagement is required during the entire operation.
- When used in overhead lifting applications, the winchline tail chain may be wrapped around the load and the hook connected to the winchline (See Figure 1). Used in this manner, this connection provides the same load control advantages and limitations as a single leg wire rope sling basket or choker hitch. The winchline tail chain should

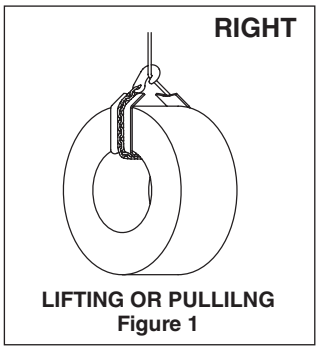
contain and support the load from the sides, above center of gravity, so load remains under control. A visual verification of proper hook engagement is required during the entire operation.

- The tail chain hook has no provision for a latch; therefore, The Crosby Group, LLC. specifically recommends AGAINST placing the load, slings or other devices directly into the tail chain hook for the purpose of overhead lifting. A latch may be mandatory by regulations or safety codes: e.g. OSHA, MSHA, ASME B30, insurance, etc. (See Figure 2).

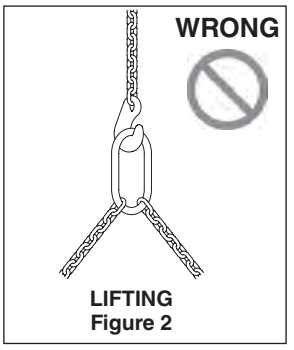
If the above Crosby recommendation is disregarded and slings or other devices are placed directly into the tail chain hook, as a minimum ensure:

  - Personnel shall stand clear of the suspended load.
  - Visual verification of proper hook engagement is required in all cases.
  - The sling or device should be centered in the base (bowl/saddle) of the hook.
  - The user must assure connection to the hook is secure throughout the movement of the load.
  - A designated competent rigger must verify that all appropriate rigging practices are followed for attachment and control of load.

- The winchline and tail chain links should always be protected from being damaged by sharp corners (See Figure 3).
- Chain links should not be twisted or kinked.
- Winchline or tail chain should not be pulled from under loads if the load is resting on winchline or tail chain.
- Winchline or tail chain that appears to be damaged should not be used unless inspected and accepted by a designated person.
- Never side load, back load, or tip load hook (See Figure 4).
- All portions of the human body should be kept from between the winchline / tail chain and load.
- Personnel shall stand clear of the suspended load.
- Shock loading should be avoided.
- Extreme temperature will reduce the performance of winchline tailchain.
- Normal operating temperature is -40°F to 400°F (-40°C to 204°C).



LIFTING OR PULLILNG
Figure 1



LIFTING
Figure 2

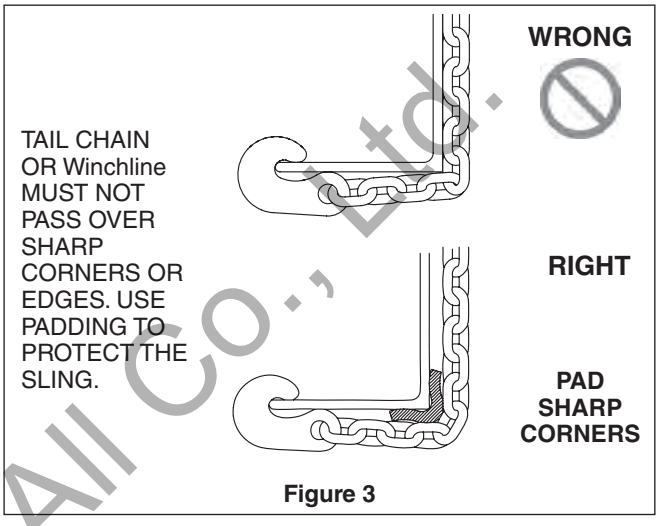


Figure 3

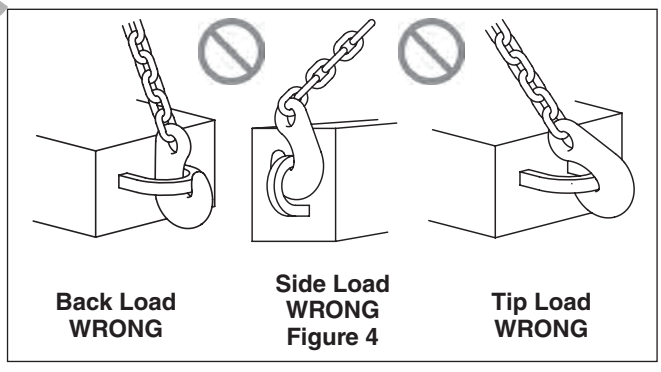
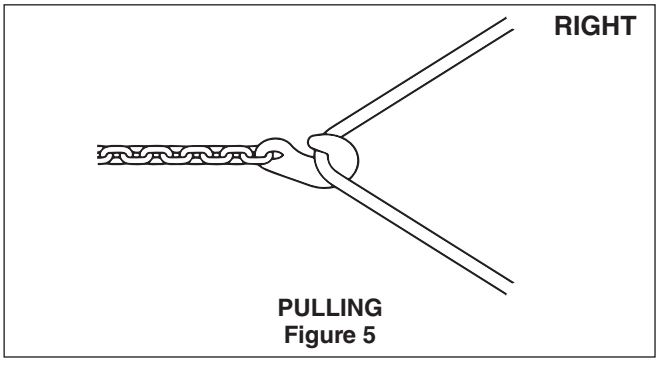


Figure 4



PULLING
Figure 5

Alloy Fittings Application and Information

HOW TO ASSEMBLE AN S-1325 COUPLER LINK ONTO MASTER LINK

1. Slide Coupler Link over Engineered Flat of Master Link.

2. Rotate Coupler Link so that clevis fitting is to the outside of Master Link and attach to chain sling.

HOW TO ASSEMBLE A CROSBY CLEVIS TYPE FITTING

1. Place chain link into clevis of chain coupler. Insert pin fully into the clevis ears.

2. Place the coupler link on its side and using a hammer, drive the locking pin into the clevis ear until it is flush with the outside surface.

HOW TO ASSEMBLE A LOK-A-LOY® CONNECTING LINK

1. Place the locking sleeve between the assembled half link forgings.

2. Drive the pin through the assembled link ends and sleeve until the end of the pin is flush with the outside of the connecting link halves.

HOW TO ASSEMBLE LOAD PIN IN CROSBY ELIMINATOR® FITTINGS

1. Place both chain links into clevis slots of fitting, insert pin fully into the two-leg clevis.

2. Place Eliminator assembly on a firm surface. Using a hammer, drive the locking pin into the two-leg clevis until it is flush with the top of the hole.

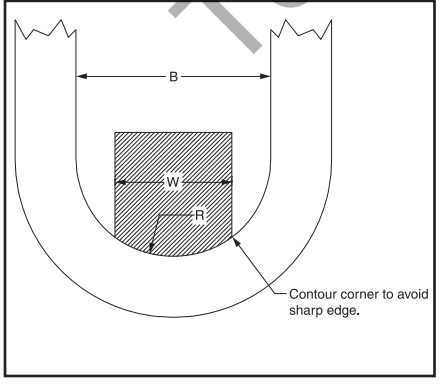


Figure 1

Crosby master links and master link assemblies are proof tested with special fixtures in accordance with ASTM A952 and EN-1677-4. The purpose of the special fixture is to prevent localized point loading during the proof test. Point loading at the proof test load may result in permanent deformation. ASTM A952 allows for a maximum proof test fixture width (W) of 60% of the inside width (B) of the master link. EN 1677-4 allows for a maximum proof test fixture width (W) of 70% of the inside width (B) of the master link. The radius of the fixture (R) is one-half of inside width of the master link. A sketch showing an example of the special fixture is shown in Figure 1. Note that the corner of the fixture should be contoured so that a sharp edge does not make contact with the master link during the loaded condition.

Over the years some master links and master link assemblies have changed dimensions and working load limits. Special consideration should be given to the actual inside width of the master link being tested and its correct allowable proof load value. If the correct allowable proof load value is in question, then Crosby Engineering should be consulted for the appropriate proof load value.