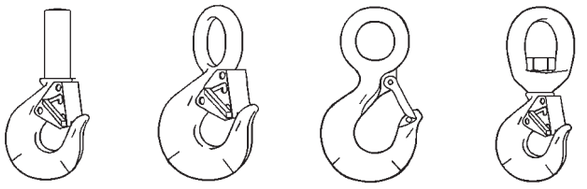
SLING AND HOIST HOOKS

WARNINGS AND APPLICATION INSTRUCTIONS



S-319 S-320 S-320N S-322

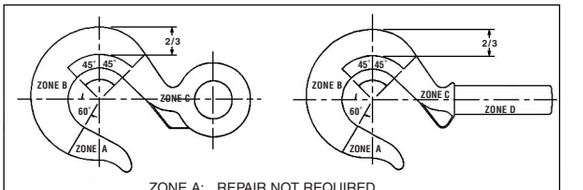
Important Safety Information — Read and Follow

- 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 ANSI B30.10.
- For hooks used in frequent load cycles or pulsating loads, the hook and threads should be periodically inspected by Magnetic Particle or Dye Penetrant.
  (Note: Some disassembly may be required.)
- Never use a hook whose throat opening has been increased, or whose tip has been bent more than 10 degrees out of plane from the hook body, or is in any other way distorted or bent. **Note: A latch will not work properly on a hook with a bent or worn tip.**
- Never use a hook that is worn beyond the limits shown in Figure 1.
- Remove from service any hook with a crack, nick, or gouge. Hooks with a crack, 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.
- Never repair, alter, rework, or reshape a hook by welding, heating, burning, or bending.
- Never side load, back load, or tip load a hook. (See Figure 2.)
- Eye hooks, shank hooks and swivel hooks are designed to be used with wire rope or chain. Efficiency of assembly may be reduced when used with synthetic material.
- Do not swivel the S-322 swivel hook while it is supporting a load.
- The use of a latch may be mandatory by regulations or safety codes; e.g., OSHA, MSHA, ANSI/ASME B30, Insurance, etc.
- Always make sure the hook supports the load. (See Figure 3). The latch must never support the load. (See Figure 4).
- When placing two (2) sling legs in hook, make sure the angle from the vertical to the outermost leg is not greater than 45 degrees, and the included angle between the legs does not exceed 90 degrees.* (See Figure 5).
- See ANSI/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.

⚠ WARNING

- **Loads may disengage from hook if proper procedures are not followed.**
- **A falling load may cause serious injury or death.**
- **See OSHA Rule 1926.550(g) for personnel hoisting by cranes or derricks. A 319, 320, or 322 hook with a PL Latch attached (when secured with the bolt, nut and pin) may be used for lifting personnel.**
- **Threads may corrode and/or strip and drop the load.**
- **Hook must always support the load. The load must never be supported by the latch.**
- **Never apply more force than the hook’s assigned Working Load Limit (WLL) rating.**
- **Read and understand these instructions before using hook.**



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

Figure 1

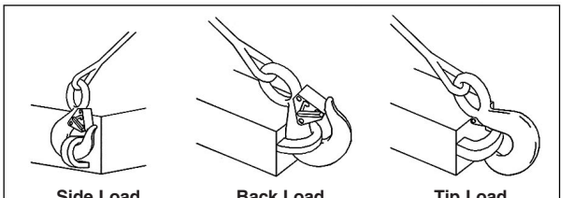


Figure 2

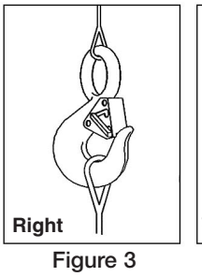


Figure 3

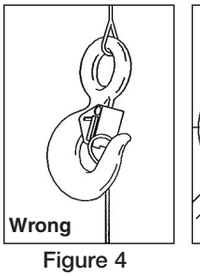


Figure 4

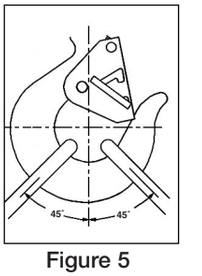


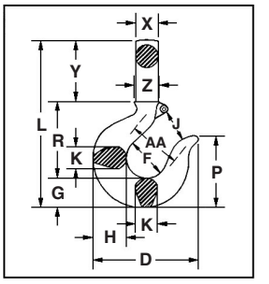
Figure 5

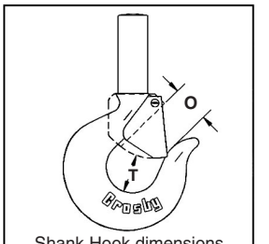
S-319

SHANK HOOKS

SEE APPLICATION AND WARNING INFORMATION

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



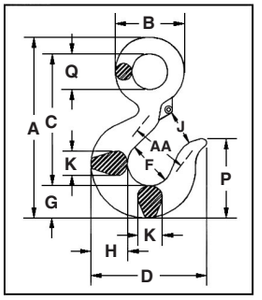


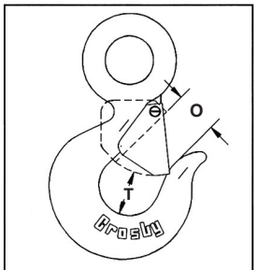
Shank Hook dimensions with PL Latch Assembled

Working Load Limit* (tons)			Shank‡ Length Type	Hook Identification Code			Dimensions (in.)						
Carbon	Alloy	Bronze		319-C 320-C 322-C	319-A 320-A 322-A	319-B	A	B	C	D	F	G	H
3/4**	1	.5	Std.	DC	DA	DB	4.42	1.47	3.34	2.86	1.25	.73	.81
1**	1 1/2	.6	Std.	FC	FA	FB	5.05	1.75	3.80	3.15	1.38	.84	.94
1 1/2**	2	1.0	Std.	GC	GA	GB	5.74	2.13	4.24	3.55	1.50	1.00	1.16
2**	3	1.4	Std.	HC	HA	HB	6.53	2.41	4.82	3.97	1.63	1.13	1.32
3**	4 1/2	2.0	Std.	IC	IA	IB	8.07	3.00	5.91	4.87	2.00	1.44	1.63
5**	7	3.5	Std.	JC	JA	JB	10.19	3.81	7.47	6.27	2.50	1.81	2.06
7 1/2**	11	5.0	Std.	KC	KA	KB	12.52	4.66	9.16	7.50	3.00	2.25	2.63
10**	15	6.5	Std.	LC	LA	LB	14.05	5.38	10.19	8.37	3.25	2.59	2.94
15**	22	10.0	Std.	NC	NA	NB	17.38	6.63	12.82	10.34	4.25	3.00	3.50
20	30	—	Std.	OC	OA	—	19.47	7.00	14.06	13.62	5.00	3.62	4.62
20	30	—	Long	OC	OA	—	—	—	—	13.62	5.00	3.62	4.62
25	37	—	Std.	PC	PA	—	24.81	8.50	18.19	14.06	5.38	4.56	5.00
25	37	—	Long	PC	PA	—	—	—	—	14.06	5.38	4.56	5.00
30	45	—	Std.	SC	SA	—	27.44	9.31	20.12	15.44	6.00	5.06	5.50
30	45	—	Long	SC	SA	—	—	—	—	15.44	6.00	5.06	5.50
40	60	—	Std.	TC	TA	—	32.31	10.75	23.72	18.50	7.00	6.00	6.50
40	60	—	Long	TC	TA	—	—	—	—	18.50	7.00	6.00	6.50
50†	75†	—	Std.	UC	UA	—	—	—	—	20.62	7.75	6.69	7.25
50†	75†	—	Long	UC	UA	—	—	—	—	20.62	7.75	6.69	7.25
—	100†	—	Std.	—	WA	—	—	—	—	23.00	6.81	8.59	9.88
—	100†	—	Long	—	WA	—	—	—	—	23.00	6.81	8.59	9.88
—	150†	—	Std.	—	XA	—	—	—	—	24.38	6.75	9.12	10.94
—	200†	—	Std.	—	YA	—	—	—	—	26.69	7.50	9.75	11.81
—	300†	—	Std.	—	ZA	—	—	—	—	30.12	9.50	10.62	12.94

**Available hot dip galvanized. ‡See column "Y" for actual shank length.
†Cams on these hook sizes fit PL Latch only.
Hook I.D. Codes: A - Alloy Steel, B - Bronze, C - Carbon Steel.

***NOTE: Proof load is 2 times Working Load Limit. All carbon hooks – average straightening load (ultimate load) is 5 times Working Load Limit. Alloy eye hooks 1 ton thru 22 tons – average straightening load (ultimate load) is 5 times Working Load Limit. Alloy eye hooks 30 tons through 60 tons – average straightening load (ultimate load) is 4.0 times the Working Load Limit. Alloy shank hooks 1 ton through 22 tons – average straightening load (ultimate load) is 4.0 times the Working Load Limit. Alloy shank hooks 30 tons through 300 tons (ultimate load is All Bronze hooks – average straightening load (ultimate load) is 4 times Working Load Limit.**





Eye Hook dimensions with PL Latch Assembled

EYE HOOKS

SEE APPLICATION AND WARNING INFORMATION

- The most complete line of eye hoist hooks. Available 3/4 to 60 tons.
- Proper design, careful forging and precision controlled quench and tempering give maximum strength without excessive weight and bulk.
- Every Crosby Eye Hook has a pre-drilled cam which can be equipped with a latch. Simply purchase the latch assemblies. Even years after purchase of the original hook, latch assemblies can be added.
- Eye hooks are load rated.
- Available in carbon steel and alloy steel.

S-320

Load Rated "QT" QUENCHED & TEMPERED

Dimensions (in.)												Weight Each (lbs.)	
J	K	L	O	P	Q	R	T††	X††	Y	Z	Deformation Indicator AA	319	320
.93	.63†	5.14	.89	2.00	.75	2.35	.87	.59	2.06	.69	1.50	.50	.61
.97	.71†	5.68	.91	2.24	.91	2.59	.98	.66	2.25	.78	2.00	.75	.75
1.06	.88†	6.35	1.00	2.45	1.13	2.76	1.03	.72	2.59	.88	2.00	1.00	1.00
1.19	.94†	7.14	1.09	2.82	1.25	3.16	1.16	.88	2.84	1.00	2.00	1.82	1.85
1.50	1.31	8.63	1.36	3.51	1.56	3.85	1.53	1.16	3.34	1.25	2.50	3.69	3.85
1.78	1.66	10.43	1.61	4.52	2.00	4.77	1.96	1.41	3.84	1.56	3.00	7.25	7.25
2.41	1.88	12.52	2.08	5.32	2.44	5.88	2.47	1.81	4.38	1.94	4.00	13.49	13.00
2.62	2.19	13.47	2.27	6.00	2.84	6.37	2.62	2.00	4.50	2.19	4.00	18.00	17.25
3.41	2.69	16.65	3.02	6.90	3.50	8.14	2.83	2.56	5.50	2.63	5.00	35.33	33.00
4.00	3.00	23.09	3.25	8.78	3.50	9.44	3.44	3.12	10.00	3.12	6.50	72.00	53.00
4.00	3.00	31.09	3.25	8.78	—	9.44	3.44	3.12	18.00	3.12	6.50	85.50	85.50
4.25	3.62	31.12	3.00	11.38	4.50	12.56	3.88	4.00	15.00	4.00	7.00	134.00	134.00
4.25	4.00	41.12	3.00	11.38	—	12.56	3.88	4.00	24.00	4.00	7.00	172.00	172.00
4.75	3.72	34.12	3.38	12.63	4.94	14.00	4.75	4.00	15.00	4.00	8.00	182.00	182.00
4.75	4.50	43.12	3.38	12.63	—	14.00	4.75	4.00	24.00	4.00	8.00	214.00	214.00
5.75	4.44	36.06	4.12	14.81	5.69	15.50	5.69	4.50	14.50	4.50	10.00	268.00	268.00
5.75	5.50	47.56	4.12	14.81	—	15.50	5.69	4.50	26.00	4.50	10.00	312.00	312.00
6.50	6.25	41.16	5.38	16.53	—	19.38	6.00	5.00	15.00	5.00	11.50	390.00	390.00
6.50	6.25	49.16	5.38	16.53	—	19.38	6.00	5.00	23.00	5.00	11.50	426.00	426.00
5.88	5.50	42.12	4.50	17.38	—	18.41	7.00	7.00	15.00	7.00	12.00	610.00	610.00
5.88	5.50	48.12	4.50	17.38	—	18.41	7.00	7.00	21.00	7.00	12.00	675.00	675.00
6.00	6.00	45.75	4.50	18.00	—	18.38	7.00	7.25	18.00	7.25	13.00	735.00	735.00
6.60	7.00	50.50	5.00	19.25	—	20.50	8.00	8.00	20.00	8.00	13.00	1020.00	1020.00
8.00	7.25	54.69	6.25	22.69	—	23.50	8.25	9.50	20.00	9.50	15.00	1390.00	1390.00

† Dimensions shown are for S-4320 latch kits. Dimensions for sizes 20 ton carbon and larger are for PL Latch Kits.
††Dimension before machining (as forged).

***NOTE: Proof load is 2 times Working Load Limit. All carbon hooks – average straightening load (ultimate load) is 5 times Working Load Limit. Alloy eye hooks 1 ton thru 22 tons – average straightening load (ultimate load) is 5 times Working Load Limit. Alloy eye hooks 30 tons through 60 tons – average straightening load (ultimate load) is 4.0 times the Working Load Limit. Alloy shank hooks 1 ton through 22 tons – average straightening load (ultimate load) is 4.0 times the Working Load Limit. Alloy shank hooks 30 tons through 300 tons (ultimate load is All Bronze hooks – average straightening load (ultimate load) is 4 times Working Load Limit.**