

# Safety Flash

## Near Miss: Improper Rigging Practices

On Saturday September 10, 2011 a safety audit was being performed and poor rigging practices were observed while rigging on pipe using shackles and nylon slings. The pictures below show improper examples of attaching nylon slings to shackles. The left picture would lead to the load pulling to one side and compromise the slings and shackles rated capacity and the picture on the right demonstrates a compromise to the slings rated capacity.



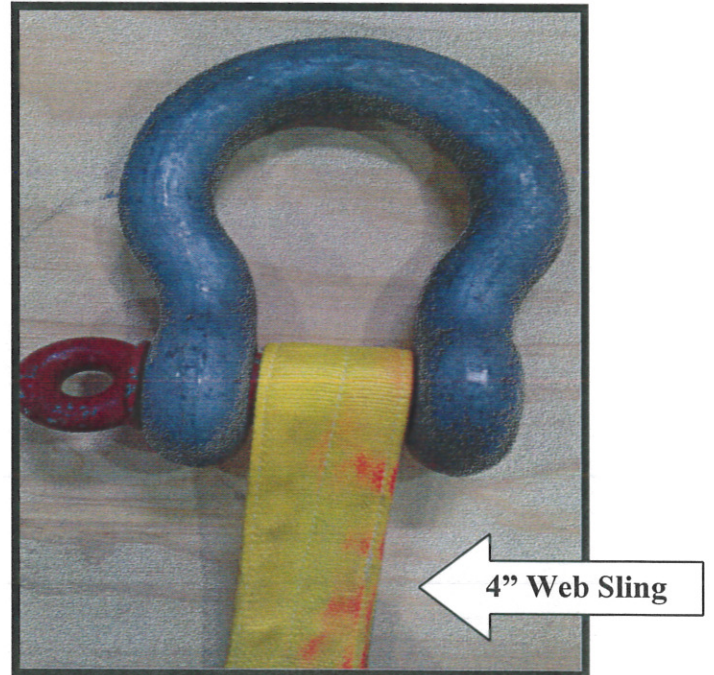
When issues such as improper rigging, or for that matter, any issue is brought up during safety audits, the issue should be discussed and corrected. **“That’s the way we’ve always done it” is not an acceptable response to any safety issue, and is not in line with Wyatt’s Safety Values.**

Wyatt Field Service will start purchasing slings that have the 2 inch eyes sewn in halves so smaller shackles can be used, but until these slings are available ensure that the shackle being used is the right size for the size of the nylon sling.

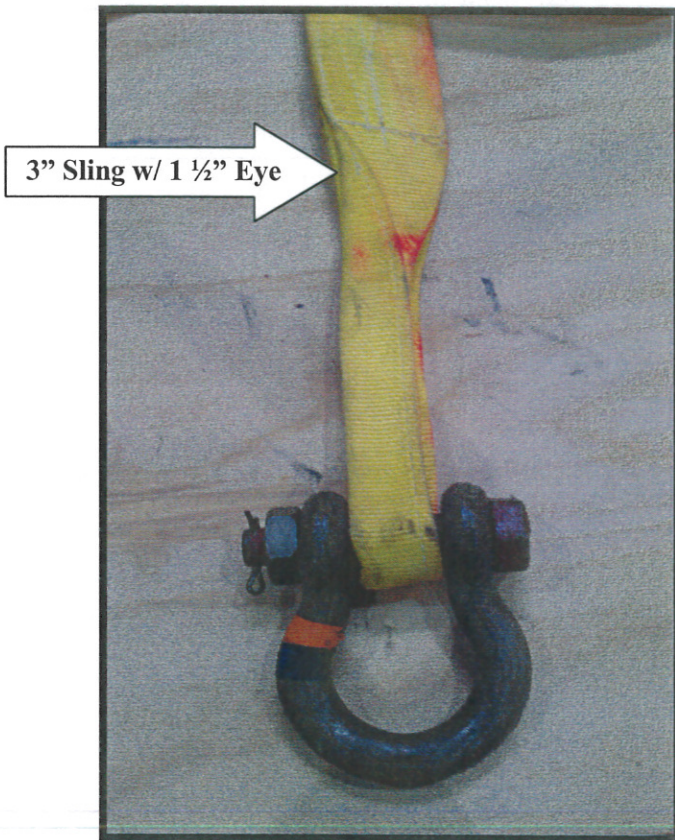


All slings should be seated flat on the pin; if the nylon sling is too wide for the shackle then a larger shackle needs to be used. The picture to the right shows the proper way to seat a nylon sling on a shackle.

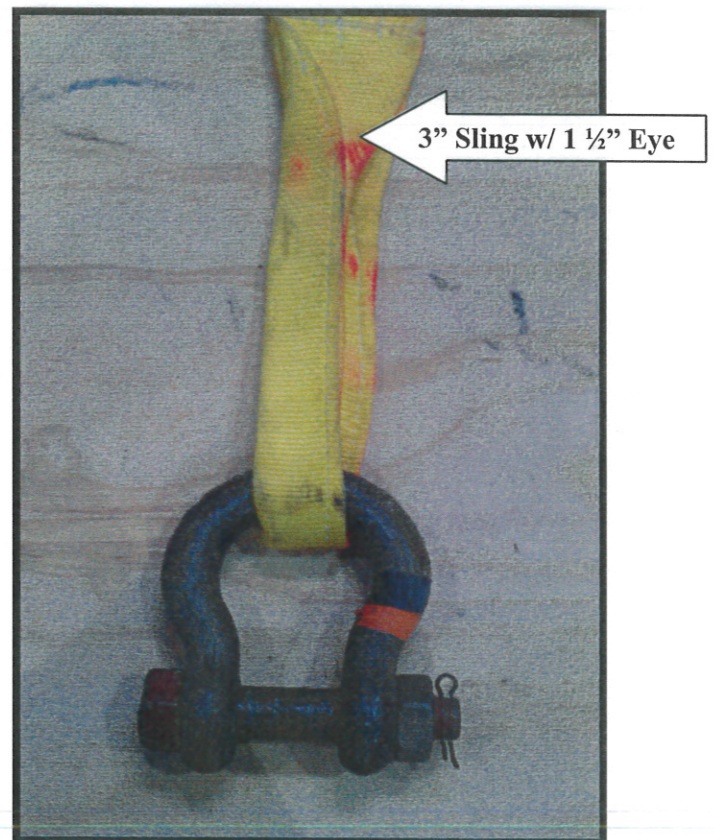
If you are unsure about the proper way to perform any rigging, stop and contact the supervisor or site safety representative. The pictures below are examples of Web Sling connections



55 ton with 4" sling seated body to pin



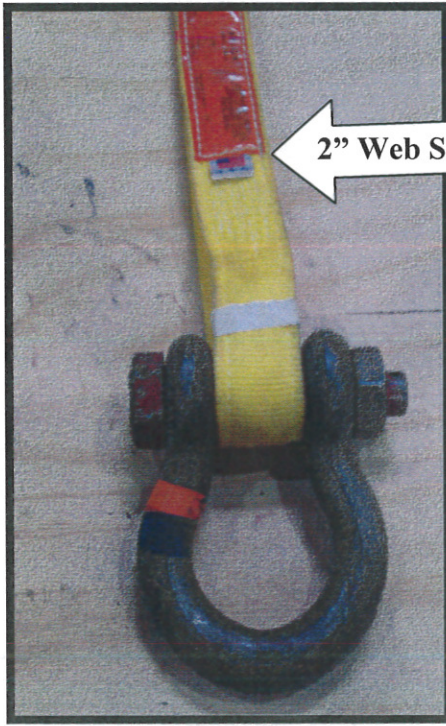
12 Ton with 3" sling seated on pin of shackle



12 Ton with 3" sling seated in bow of shackle

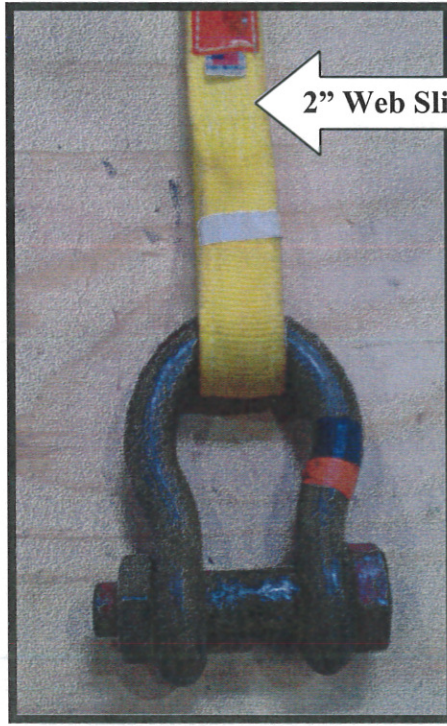


When using synthetic slings (Web or Round) the proper fitting must be used. The "Synthetic Web Sling Use Table" must be used for web slings up to 4" in width. Engineering must be consulted for any sling over 4". Also included is Table 4-6, and 4-7 for the proper fitting to use with round slings.



2" Web Sling

12 Ton with 2" eye to pin

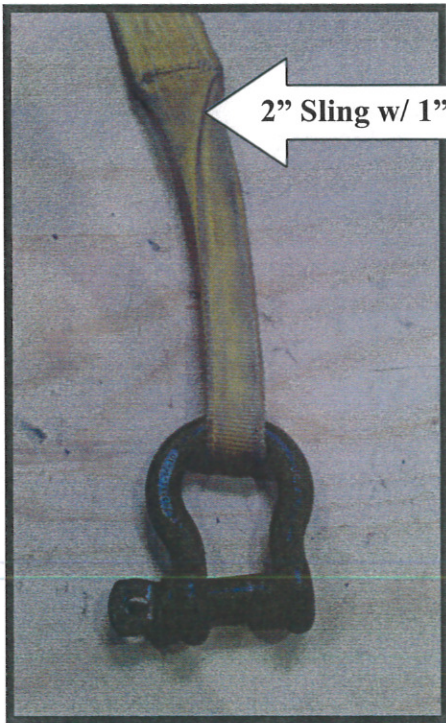


2" Web Sling

12 Ton with 2" eye to bow



2" nylon sling with eye sewn & w/o eye sewn



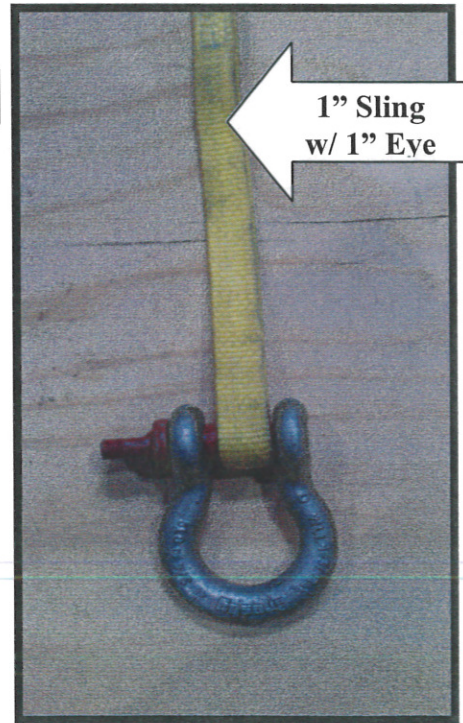
2" Sling w/ 1" Eye

4.75 ton with 1" eye to bow



2" Sling w/ 1" Eye

4 ¾ ton with 1" eye to pin



1" Sling w/ 1" Eye

4 3/4 Ton with 1" eye to pin





## Synthetic Web Sling Use Table

Revision '0'  
9-16-2011

Sling Width	Sling Eye Width	Connection Type	Minimum Shackle Size/Capacity
1"	1"	Eye to Pin	3/4" - 4.75 ton
1"	1"	Body to Pin	3/4" - 4.75 ton
1"	n/a	Body to Shackle Bow	3/4" - 4.75 ton
2"	2"	Eye to Pin or Body to Pin	1 1/4" - 12 ton
2"	1"	Eye to Pin	3/4" - 4.75 ton
2"	n/a	Body to Shackle Bow	1 1/4" - 12 ton
3"	1 1/2"	Eye to Pin	1" - 8.5 ton
3"	1 1/2"	Eye to Shackle Bow	1" - 8.5 ton
3"	n/a	Body to Pin	2" - 35 ton
3"	n/a	Body to Shackle Bow	1 1/2" - 17 ton
4"	2"	Eye to Pin	1 1/4" - 12 ton
4"	2"	Eye to Shackle Bow	1 1/4" - 12 ton
4"	n/a	Body to Pin	2 1/2" - 55 ton
4"	n/a	Body to Shackle Bow	2" - 35 ton

**Notes:** 1. De-Rating of a web sling is not allowed. The proper fitting must be used.

2. The above information is for web slings up to 4".  
Consult Engineering if larger web slings are required.

**Table 4-6 Suitable Connection Hardware Sizes for Polyester Roundslings, When Used in a Vertical or Choker Hitch**

Roundslings		Hardware Size			
WSTDA Roundslings Size	Rated Capacity Vertical Hitch (Lbs.)	Minimum Stock Diameter or Thickness (Inches)	Minimum Stock Diameter or Thickness (Inches)* <sup>2</sup>	Minimum Effective Contact Width* <sup>3</sup> (Inches)	Minimum Effective Contact Width* <sup>3</sup> (Inches) * <sup>2</sup>
1	2,600	.39	7/16	.97	1
2	5,300	.59	5/8	1.29	1 3/8
3	8,400	.72	3/4	1.66	1 3/4
4	10,600	.85	7/8	1.78	1 7/8
5	13,200	.95	1	2.00	2
6	16,800	1.12	1 1/8	2.13	2 1/8
7	21,200	1.15	1 3/16	2.62	2 5/8
8	25,000	1.25	1 1/4	2.85	2 7/8
9	31,000	1.41	1 1/2	3.15	3 1/4
10	40,000	1.60	1 5/8	3.57	3 5/8
11	53,000	1.90	2	4.00	4
12	66,000	2.05	2 1/8	4.60	4 5/8
13	90,000	2.46	2 1/2	5.22	5 1/4

**Table 4-7 Suitable Connection Hardware Sizes for Polyester Roundslings, When Used in a Basket Hitch**

Roundslings		Hardware Size			
WSTDA Roundslings Size	Rated Capacity Basket Hitch* (Lbs.)	Minimum Stock Diameter or Thickness (Inches)	Minimum Stock Diameter or Thickness (Inches)* <sup>2</sup>	Minimum Effective Contact Width* <sup>3</sup> (Inches)	Minimum Effective Contact Width* <sup>3</sup> (Inches) * <sup>2</sup>
1	5,200	.54	9/16	1.37	1 3/8
2	10,600	.83	7/8	1.82	1 7/8
3	16,800	1.02	1 1/16	2.34	2 3/8
4	21,200	1.20	1 1/4	2.52	2 1/2
5	26,400	1.35	1 3/8	2.80	2 7/8
6	33,600	1.59	1 5/8	3.00	3
7	42,400	1.63	1 5/8	3.71	3 3/4
8	50,000	1.77	1 7/8	4.00	4
9	62,000	2.00	2	4.45	4 1/2
10	80,000	2.26	2 3/8	5.06	5
11	106,000	2.69	2 3/4	5.62	5 5/8
12	132,000	2.90	3	6.50	6 1/2
13	180,000	3.50	3 1/2	7.38	7 3/8

\* The values in Table 4.7 apply to the use of roundslings in a basket hitch when the two ends of the sling are attached to a single connection point. Use table 4.6 when roundslings are used in a basket hitch when the two ends of the sling are attached to separate connection points.

\*<sup>2</sup> This is the value when rounded up to the closest fractional equivalent.

\*<sup>3</sup> These values also equal the approximate natural flattening width of the roundslings.