

[www.denverrope.com](http://www.denverrope.com)

For customer service and inquiries please call John 303-809-7274 or email [john@denverrope.com](mailto:john@denverrope.com).

Please email the completed worksheet back to John of Denver Rope or can fax to 305-635-0530 attention Cari Valdes – Denver Rope.

## Denver Rope - Tow Bridle / Tow Line Worksheet

- Working Load: For Ocean and Commercial Towing Application the W.L. is chosen to be equal to the fully loaded weight of the towed vessel as a minimum. For in-land / light duty / pleasure marine / lake applications the W.L. is often chosen to be 1/3 – 1/2 the fully loaded weight of the towed vessel.
- Denver Rope is always concerned as not to exceed a customer's budget. However, the Captain is legally responsible for the safety of his crew and equipment; therefore, it is always better to error on the conservative side when specifying a Tow Bridle / Tow Line.
- Use sections C-F to specify a single leg tow line / mooring pendant / other.
- Please fill out this worksheet the best you can and return to Denver Rope. Thank you.

Please describe below your towing vessel and the towed vessel below. Include weight, location, etc.

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Please describe below what you are specifying on this worksheet; Y tow bridle, single leg tow line, mooring pendant, hawser line, anchor line, mooring line, other.

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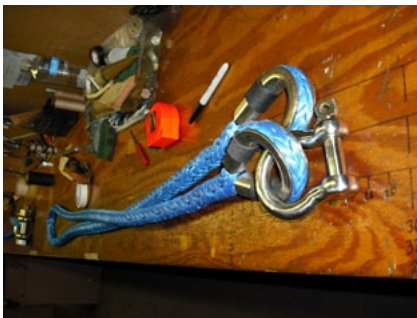
36" Covered Eye Splice



Y-Point with stern legs to the right and tow leg the left



Tow Leg with a Safety Bolted Shackle



Snubber with Bow Shackle



Swivel Eye Hook and Bow Shackle

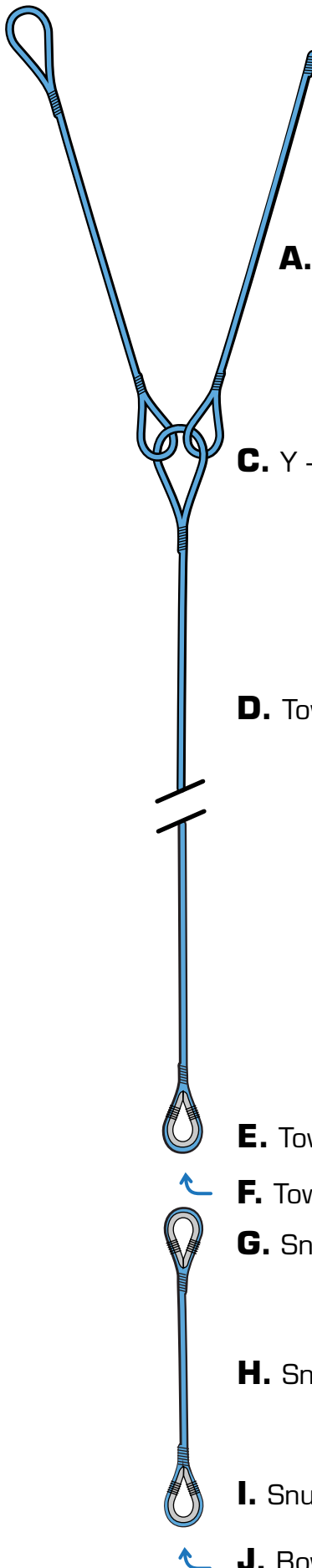


Quick Release Snap Shackle



Trigger Release Shackle

**B2.** Eye Splices are hand sewn, whipped, and made-to-order



**B1.** Bitter Ends melted clean, whipped, and hand sewn

**A.** Stern Legs

**C.** Y — Point Connection

**D.** Tow Leg



Optional Lock-On Rope Floats

**E.** Tow Leg Connection

**F.** Tow Leg/Bow Hardware

**G.** Snubber Connection — Tow Leg End

**H.** Snubber

**I.** Snubber Connection — Bow

**J.** Bow Hardware

**A. Stern Legs**

1. Specify Length \_\_\_\_\_ (40ft is typical – custome specified)

2. Specify Material \_\_\_\_\_ (double braid nylon is standard)

We will assist the customer in selecting the diameter of rope that matches the W.L. of the line.

**B. Stern Connection** (choose between 1 or 2 below)

1. Specify Bitter Ends \_\_\_\_\_ (y/n - standard)

2. Specify Eye Splice \_\_\_\_\_ (y/n – customer specified below)

a. Eye Splice Size \_\_\_\_\_ (18”, 24” are typical)

b. Chafe Guard \_\_\_\_\_ (y/n - covered eyes are recommended)

**C. Y-Point Connection** (choose between 1 or 2 below)

1. Specify Small Covered Eye Splices \_\_\_\_\_ (y/n – standard - recommended)

a. Eye Splice Size \_\_\_\_\_ (9”, 12”, 18”, 24” are typical)

b. Chafe Guard \_\_\_\_\_ (y/n - covered eyes are recommended)

2. Hardware Connection \_\_\_\_\_ (y/n - customer specified below)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Some customers may want to disassemble their tow bridle at the Y-Point. Therefore, choose from a combination of the following stainless steel hardware; thimbles, bow or bolted shackles, quick release snap shackles, trigger release shackles, and or a master link. As the working load of the tow bridle increases, the price of this hardware accelerates.

**D. Tow Leg**

1. Specify Length \_\_\_\_\_ (75-200ft is typical – customer specified)

2. Specify Material \_\_\_\_\_ (customer specified)

We will assist the customer in selecting the diameter of rope that matches the W.L. of the line.

Choose double braid nylon for smaller working loads typically equating to rope not much more than 3/4” to 1-0” in diameter. For larger working loads switch rope material to high performance 12-strand dyneema / am-steel rope as it is much lighter, stronger, and it floats.

\* Note: Can add optional rope floats to parts A and or D \*

**E. Tow Leg Connection** (choose between 1 or 2 below)

1. Hard Eye \_\_\_\_\_ (y/n - standard)

a. Light Duty s/s Thimble \_\_\_\_\_ (std for recreational lake applications)

b. Heavy Duty s/s Thimble \_\_\_\_\_ (std for commercial and ocean applications)

2. Soft Eye \_\_\_\_\_ (y/n – customer specified below)

a. Eye Splice Size \_\_\_\_\_ (18”, 24” are typical)

b. Chafe Guard \_\_\_\_\_ (y/n - covered eyes are recommended)

**F. Tow Leg / Bow Hardware** (choose from stainless steel hardware listed below)

1. Bow Shackle \_\_\_\_\_ (y/n)

2. Bolted Safety Shackle \_\_\_\_\_ (y/n)

3. Swivel Eye Hook \_\_\_\_\_ (y/n)

4. Quick Release Snap Shackle \_\_\_\_\_ (y/n)

5. Trigger Release Shackle \_\_\_\_\_ (y/n)

6. Omit Hardware Connection \_\_\_\_\_ (y/n, typ if E2 selected and single legged)

We will assist the customer in selecting the hardware that matches the W.L. of the line.

**\* Denver Rope Optional Item – Snubber Line \***

A snubber line is utilized when the towed vessel has a large freeboard making it difficult to reach and disconnect the tow leg from the bow area.

**G. Snubber Connection - Tow Leg End** (choose between 1 or 2 below)

- 1. Hard Eye \_\_\_\_\_ (y/n - standard)
  - a. Light Duty s/s Thimble \_\_\_\_\_ (std for recreational lake applications)
  - b. Heavy Duty s/s Thimble \_\_\_\_\_ (std for commercial and ocean applications)
- 2. Soft Eye \_\_\_\_\_ (y/n – customer specified below)
  - a. Eye Splice Size \_\_\_\_\_ (18”, 24” are typical)
  - b. Chafe Guard \_\_\_\_\_ (y/n - covered eyes are recommended)

A soft eye is chosen if the towed vessel is put underway with the snubber still attached.

**H. Snubber**

- 1. Specify Length \_\_\_\_\_ (10ft is typical – customer specified)
- 2. Specify Material \_\_\_\_\_ (same material and diameter as tow leg - std)

**I. Snubber Connection – Bow** (choose between 1 or 2 below)

- 1. Hard Eye \_\_\_\_\_ (y/n - standard)
  - a. Light Duty s/s Thimble \_\_\_\_\_ (std for recreational lake applications)
  - b. Heavy Duty s/s Thimble \_\_\_\_\_ (std for commercial and ocean applications)
- 2. Soft Eye \_\_\_\_\_ (y/n – customer specified below)
  - a. Eye Splice Size \_\_\_\_\_ (18”, 24” are typical)
  - b. Chafe Guard \_\_\_\_\_ (y/n - covered eyes are recommended)

**J. Bow Hardware** (choose from stainless steel hardware listed below)

- 1. Bow Shackle \_\_\_\_\_ (y/n)
- 2. Bolted Safety Shackle \_\_\_\_\_ (y/n)
- 3. Swivel Eye Hook \_\_\_\_\_ (y/n)
- 4. Quick Release Snap Shackle \_\_\_\_\_ (y/n)
- 5. Trigger Release Shackle \_\_\_\_\_ (y/n)



Swivel Eye Hook and Bow Shackle



Quick Release Snap Shackle



Trigger Release Shackle

We will assist the customer in selecting the hardware that matches the W.L. of the line.

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# DENVER ROPE - Y-BRIDLE STRENGTH GUIDE

The Best Custom Boat Lines, Custom Colored Ropes, & Special Assemblies made to Your Specifications

NYLON DOUBLE BRAID (DBN) Single Leg Tow Hawser				DBN Y-Bridle Configuration with each leg at least 2x the boat's beam (min)		Dyneema Single Leg Tow Hawser				S/S Bow Shackle	S/S Safety Bolted Shackle	GALV Safety Bolted Shackle	Quick Release Snap Shackle	Trigger Release LB Shackle	Wire Rope Hawser Thimble
Diameter		Tensile	WLL	Tensile	WLL	Diameter		Tensile	WLL	WLL	WLL	WLL	WLL	WLL	WLL
inches	mm	pounds	pounds	pounds	pounds	inches	mm	pounds	pounds	pounds	pounds	pounds	pounds	pounds	pounds
1/2"	12	7,300	1,460	12,167	2,433	5/16"	8	12,300	2,460	1/2"	1/2"	7/16"	W2776	T20	Reqd
5/8"	16	14,600	2,920	24,333	4,867	3/8"	9	17,600	3,520	5/8"	5/8"	1/2"	W2776	T20	Reqd
3/4"	18	19,000	3,800	31,667	6,333	1/2"	12	30,600	6,120	1-0"	3/4"	5/8"	W2776	T30	Reqd
7/8"	22	28,100	5,620	46,833	9,367	5/8"	16	47,500	9,500	1-1/4"	1-0"	3/4"	W2777	T30	Reqd
1-0"	24	33,200	6,640	55,333	11,067	3/4"	18	58,000	11,600		1-0"	7/8"	W2778	T40	Reqd
1-1/4"	30	52,000	10,400	86,667	17,333	7/8"	22	81,700	16,340		1-1/4"	1-0"		T40	Reqd
1-1/2"	36	74,000	14,800	123,333	24,667	1-0"	24	98,100	19,620			1-1/8"		T40	Reqd
1-5/8"	40	92,100	18,420	153,500	30,700	1-1/4"	30	149,000	29,800			1-1/4"		T50	Reqd
1-3/4"	44	109,500	21,900	182,500	36,500	1-1/4"	30	149,000	29,800			1-1/2"		T50	Reqd
2-0"	48	129,700	25,940	216,167	43,233	1-1/2"	36	205,000	41,000			1-3/4"			Reqd
2-1/4"	56	179,400	35,880	299,000	59,800	1-5/8"	40	255,000	51,000			1-3/4"			Reqd
2-1/2"	60	196,000	39,200	326,667	65,333	1-3/4"	44	302,000	60,400			2-0"			Reqd
2-5/8"	64	221,000	44,200	368,333	73,667	2-0"	48	343,000	68,600			2-0"			Reqd
2-3/4"	68	237,000	47,400	395,000	79,000	2-1/8"	52	411,000	82,200						Reqd
3-0"	72	274,000	54,800	456,667	91,333	2-1/4"	56	484,000	96,800						Reqd
3-1/4"	80	339,000	67,800	565,000	113,000	2-1/2"	60	529,000	105,800						Reqd
3-5/8"	88	400,000	80,000	666,667	133,333	3-0"	72	749,000	149,800						Reqd

These figures are for brand new rope. Age, wear, sunlight exposure, splices, and knots will further reduce these figures over time. All hardware sizing is approximate. Thimble and rope thickness may require a larger shackle. Heavy Duty Wire Rope Towing Thimbles and Styles are available to include NEWCO, Blue Line, Tonsburg Mooring and Mandal Fairlead Shackles. We also supply towing plates, wire rope assemblies, stud link chain, and additional hardware as required. Additional fiber and rope construction styles are available.

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