

www.denverrope.com

For customer service and inquiries please call John 303-809-7274 or email john@denverrope.com.

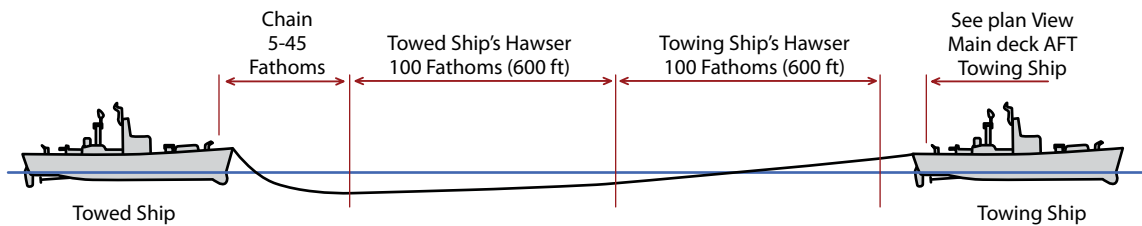
Please email the completed worksheet back to John of Denver Rope or can fax to 305-635-0530 attention Cari Valdes – Denver Rope.

Denver Rope - Towing Hawser Worksheet

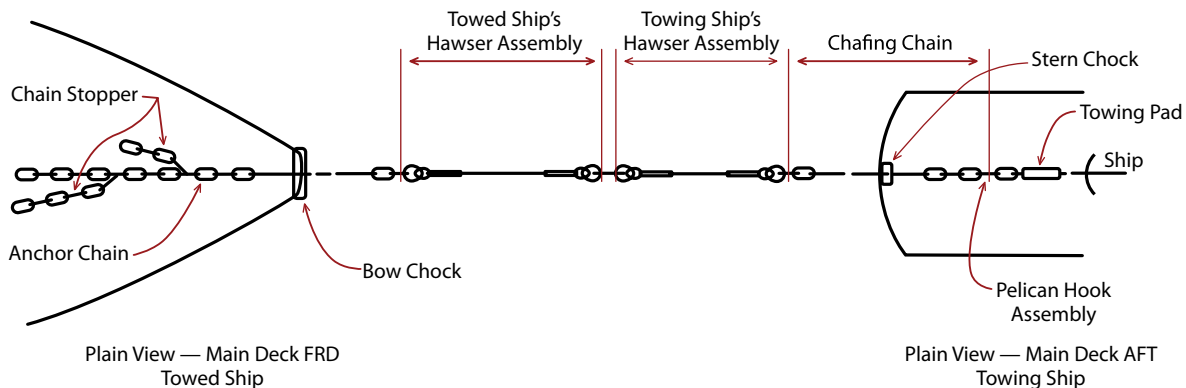
- Working Load: For Ocean and Commercial Towing Applications the W.L. is chosen to be equal to the fully loaded weight of the towed vessel as a minimum. For lighter duty applications, practicality, pleasure marine, and lake applications the W.L. is often chosen to be 1/3 – 1/2 the fully loaded weight 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 passengers and equipment; therefore, it is always better to error on the conservative side when specifying a Towing Hawser.
- 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. Include weight, location, etc.

Please describe below what you are specifying on this worksheet; towing hawser, tow line, other.

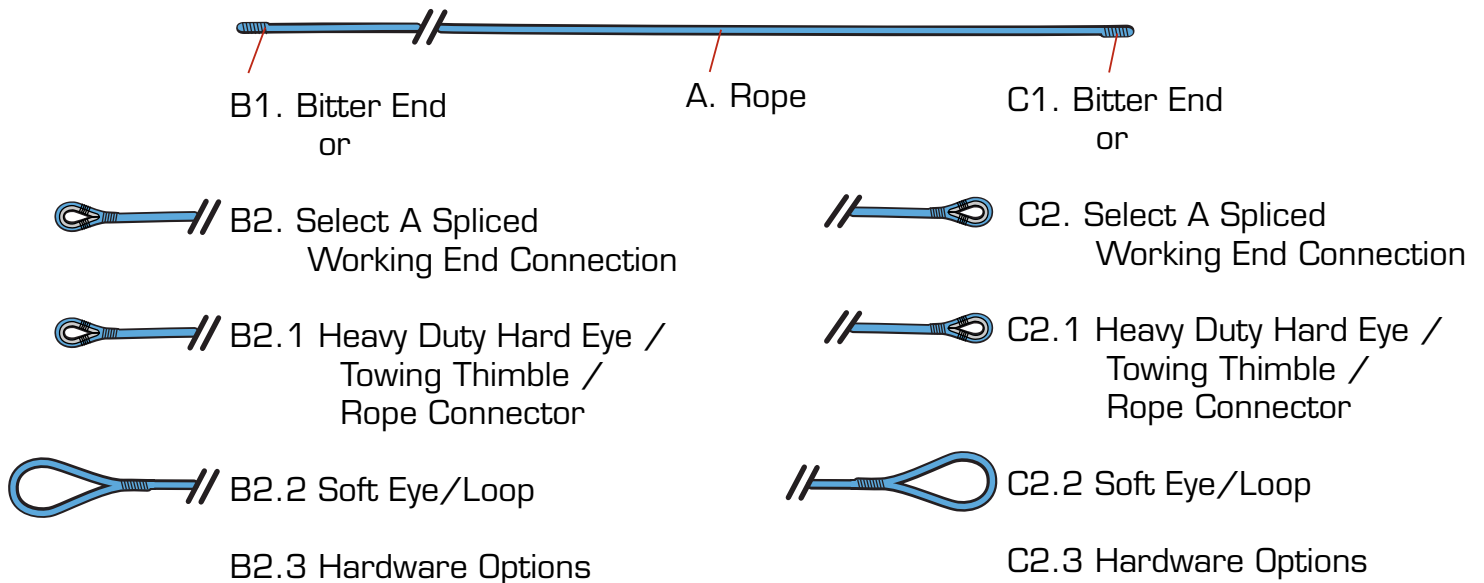


Suggested emergency towing arrangement from Naval Ship's Technical Manual

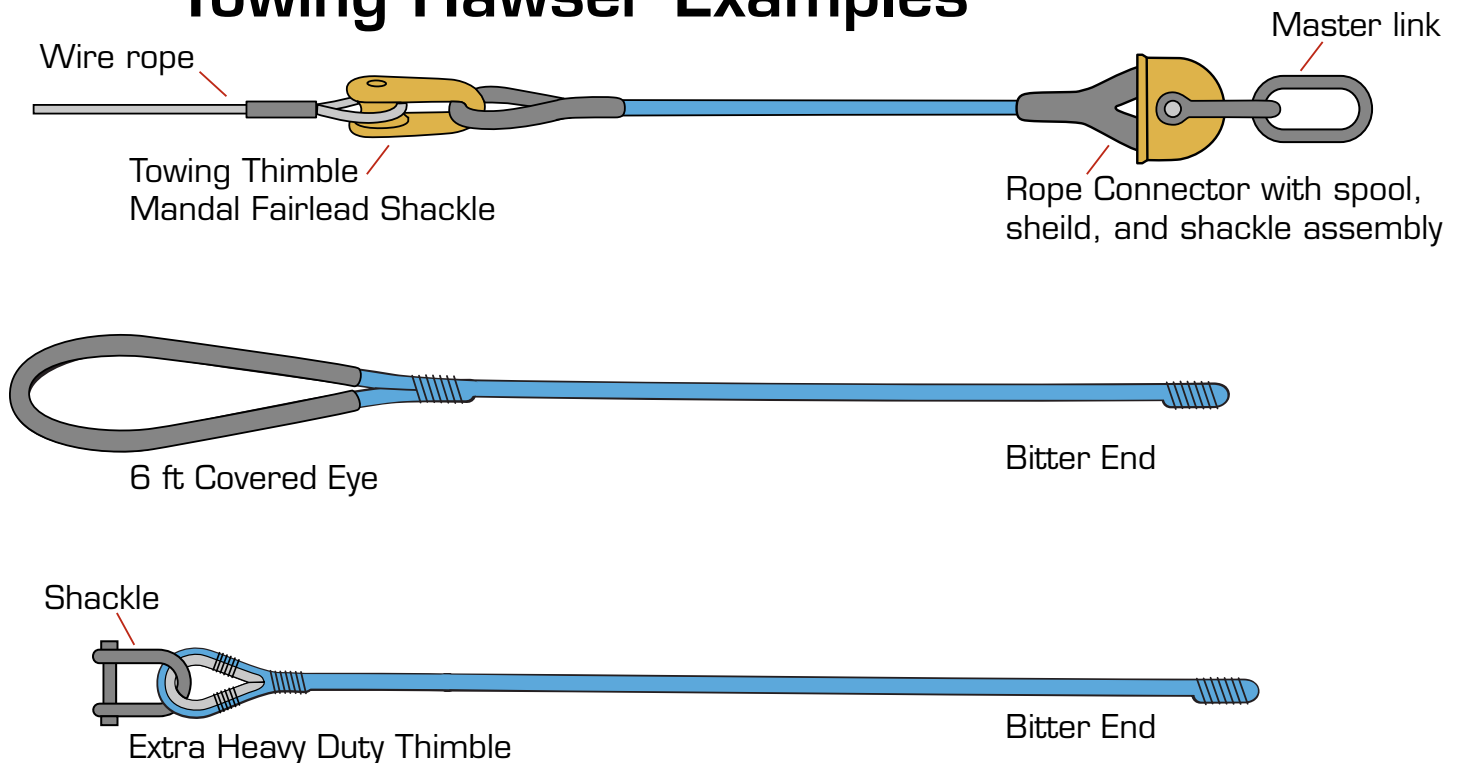




Denver Rope - Towing Hawser Diagram



Towing Hawser Examples



Endless combinations exist. Specify each end using sections B1, B2, C1, and C2.

A. Specify Rope Construction & Material

1. Choose from below _____ (customer specified from list below)
 - a. Double Braid Nylon _____ (y/n – standard)
 - b. 3-Strand Twisted Nylon _____ (y/n – standard)
 - c. 12-Strand Dyneema _____ (y/n – inquire)
 - d. other _____ (y/n – specify below and inquire)
 2. Specify Length _____ (300-600 ft is typical – customer specified)
 3. Specify Diameter _____ (*Denver Rope Strength Guide*)
 4. Specify Color _____ (white is standard, for other colors inquire)
- *DR will assist the customer in selecting the diameter of rope and hardware that matches the W.L. of the line.

B1. Bitter End

(Specify a Bitter End or B2 below)

1. Bitter End _____ (y/n – standard)
2. Finishing Options _____ (y/n – customer specified below)
 - a. Taped & Cut _____ (y/n – standard)
 - b. Melted / Sealed _____ (y/n – end cut fibers are melted and sealed)
 - c. Whipping _____ (y/n – bitter end is whipped and sewn)

B2. Working End Connection

(choose between 1 or 2 below)

1. Heavy Duty Hard Eye _____ (y/n - standard)



- a. Towing Thimble - Mandal Fairlead Shackle and Sheave Assembly _____ (y/n – customer specified)



- b. Rope Connector – Nylite Spool, Shield, and Safety Bolted Shackle Assembly _____ (y/n – customer specified)



- c. Newco Towing Thimble with Rope Shields or Blue Line Tube Thimble _____ (y/n – customer specified)



- d. Extra Heavy Duty Galvanized Thimble _____ (y/n – customer specified)

2. Soft Eye / Loop _____ (y/n – customer specified below)
 - a. Eye Splice Size _____ (36", 48", 72", are typical)
 - b. Chafe Guard/Covered Eye _____ (y/n - covered eyes are recommended)
3. Hardware Options (shipped loose) _____ (y/n - customer specified below)
 - a. Detachable Link _____ (y/n – customer specified)
 - b. Shackle _____ (y/n – customer specified)
 - c. Master Link/NATO Link _____ (y/n – customer specified)
 1. Galvanized Hardware _____ (y/n – customer specified)
 2. Stainless Hardware _____ (y/n – customer specified)

C1. Bitter End

(Specify a Bitter End or C2 Below)

- 1. Bitter End _____ (y/n – standard)
- 2. Finishing Options _____ (y/n – customer specified below)
 - a. Taped & Cut _____ (y/n – standard)
 - b. Melted / Sealed _____ (y/n – end cut fibers are melted and sealed)
 - c. Whipping _____ (y/n – bitter end is whipped and sewn)

C2. Working End Connection

(choose between 1 or 2 below)

- 1. Heavy Duty Hard Eye _____ (y/n - standard)



- a. Towing Thimble - Mandal Fairlead Shackle and Sheave Assembly
_____ (y/n – customer specified)



- b. Rope Connector – Nylite Spool, Shield, and Safety Bolted Shackle Assembly
_____ (y/n – customer specified)



- c. Newco Towing Thimble with Rope Shields or Blue Line Tube Thimble
_____ (y/n – customer specified)



- d. Extra Heavy Duty Galvanized Thimble
_____ (y/n – customer specified)

- 2. Soft Eye / Loop _____ (y/n – customer specified below)
 - a. Eye Splice Size _____ (36", 48", 72", are typical)
 - b. Chafe Guard/covered eye _____ (y/n - covered eyes are recommended)
- 3. Hardware Options (shipped loose) _____ (y/n - customer specified below)
 - a. Detachable Link _____ (y/n – customer specified)
 - b. Shackle _____ (y/n – customer specified)
 - c. Master Link/NATO Link _____ (y/n – customer specified)
 - 1. Galvanized Hardware _____ (y/n – customer specified)
 - 2. Stainless Hardware _____ (y/n – customer specified)

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