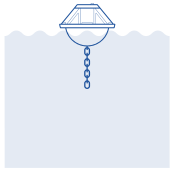


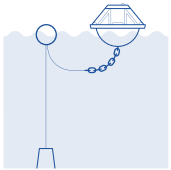


# Sofar Mooring Guideline

## Sofar Spotter



**Free floating.** For free-floating deployments, Spotter is ready to go right out of the box: simply attach the included stainless steel ballast chain and shackle, and follow the instructions in your user guide for activation and deployment.



**Moored.** For moored applications, you will need to design a mooring to anchor Spotter to the seafloor. While Sofar does not sell mooring kits, we have compiled the following recommendations and general guidelines based on our own experiences testing Spotter, and feedback from other users. This is a working document and we want to learn from your experiences - if you have any comments on these guidelines, please let us know so that we can share it back to the community.

**DISCLAIMER:** Please keep in mind that this Mooring Guideline is simply a collection of learnings from our own deployments, and input from other Spotter users. It is presented as an open-source document to assist you in developing your own mooring based on your own regional conditions and application objectives. The design presented in this document may not necessarily work for you, or be appropriate for your particular location or application. Whether you use this mooring design or not, you and you alone are responsible for the deployment of your Spotter device and any associated moorings. Sofar makes no representations or warranties, either express or implied, as to the suitability of this mooring design or its fitness for your particular purpose. Similarly, Sofar is not liable for any damages caused as a result of your use or reliance upon this Mooring Guideline document. For more information, please refer to our Terms of Use, or contact us at [support@sofarocean.com](mailto:support@sofarocean.com).

## Mooring considerations

Any mooring design for Spotter is a compromise. On the one hand, the mooring should keep Spotter in place, and at the same time the mooring should minimize any constraints to Spotter's motion so it can track the waves as accurately as possible.

The mooring design we describe here works well in the types of environments that we mostly work in: swell-dominated US West Coast conditions, and a deployment depth of 40 meters. You may need to make adjustments based on your local conditions and deployment objectives. For more details, see the Spotter Mooring Schematic for information.

Spotter is small and lightweight, and thus has limited buoyancy. Periodically check your mooring for fouling and growth which can add weight and drag to the mooring, and thus affect measurements and reduce the buoyancy of Spotter. We recommend a service frequency of at least every 3 months, but this might be more or less depending on your local environment.

Make sure to provide an appropriate anchor weight and account for the maximum flotation of the surface float. If the anchor is too small the mooring can be lifted off the sea floor during large storms and hop from location to location. If the anchor is too large it becomes more difficult to retrieve when you need to service the bottom section.

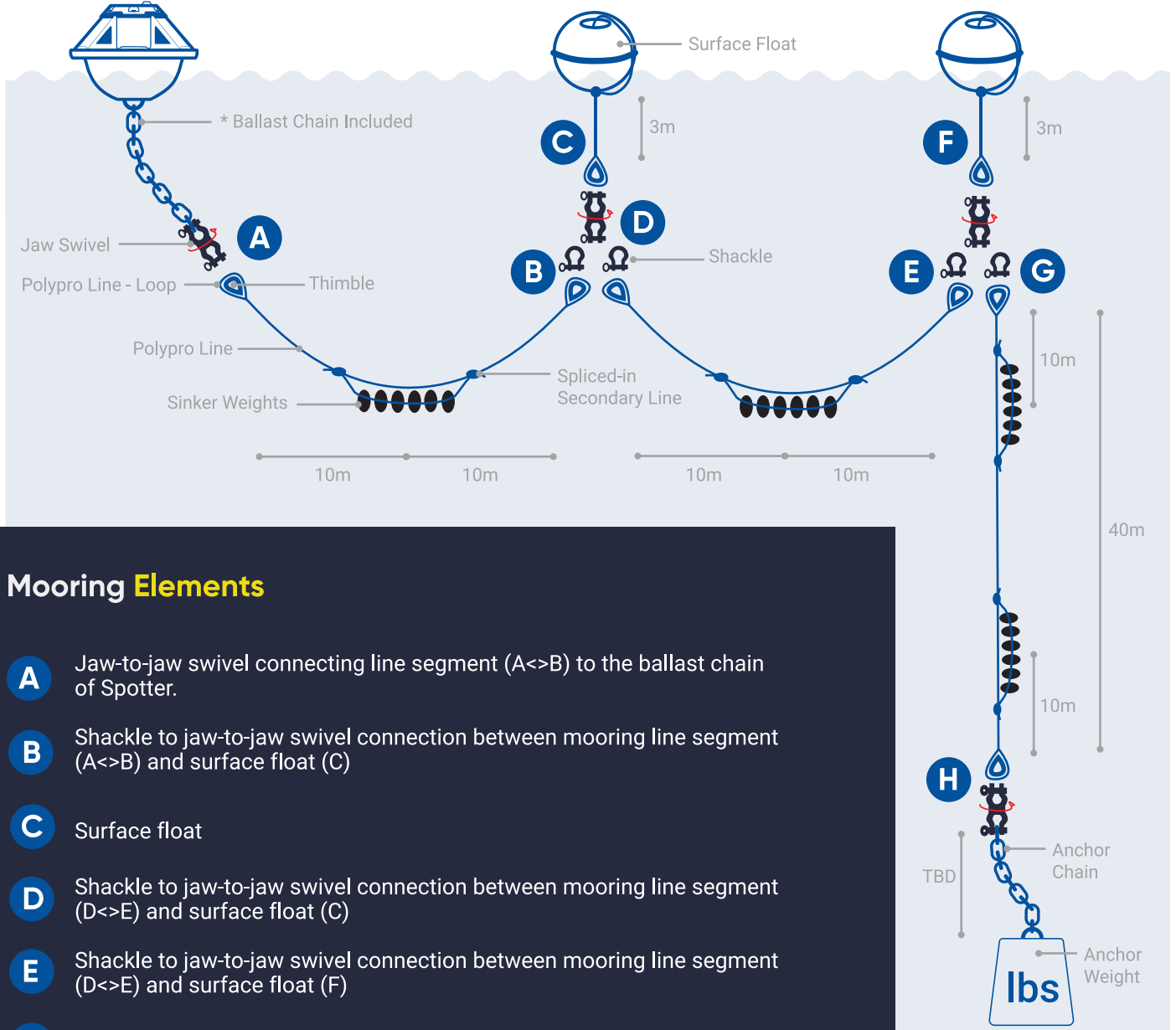
Make sure to use materials which are suitable for the marine environment. We suggest 316 stainless steel for all hardware components and 3-strand braided polypropylene for the mooring line.

Attach the sinkers to the mooring using a spliced-in secondary line to avoid chafing risks to the main mooring lines.

# Spotter Mooring Schematic

To keep things modular we have segmented the mooring into two sections: the horizontal top section (elements A through F), and the vertical bottom section (elements G through H). This design allows the mooring to be adjusted for water depth by shortening or lengthening the vertical bottom section while the horizontal top section is built as a double catenary slack line and is depth invariant.

The horizontal top section of the mooring is meant to be dynamic and allow Spotter to move as freely as possible. You could experiment with other materials (e.g. bungees) to provide extra freedom of motion. The surface floats in this section provide additional buoyancy which can help withstand the effects of biofouling and reduce the amount of maintenance needed, as well as providing additional visibility to passing boaters. However, consider whether this surface signature is appropriate and optimal for your area, and compliant with local regulations before deployment.



## Mooring Elements

- A** Jaw-to-jaw swivel connecting line segment (A<->B) to the ballast chain of Spotter.
- B** Shackle to jaw-to-jaw swivel connection between mooring line segment (A<->B) and surface float (C)
- C** Surface float
- D** Shackle to jaw-to-jaw swivel connection between mooring line segment (D<->E) and surface float (C)
- E** Shackle to jaw-to-jaw swivel connection between mooring line segment (D<->E) and surface float (F)
- F** Surface float
- G** Shackle to jaw-to-jaw swivel connection between mooring line segment (G<->H) and surface float (F)
- H** Jaw-to-jaw swivel connecting the mooring line to 1/4" stainless steel chain connected to bottom weight (e.g. steel kettle bells).

# Spotter Mooring Shopping List

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Here is our shopping list based on the locally available hardware and materials. We prefer using 316 stainless steel for all of our hardware and a synthetic 3 strand rope for all of our lines.

## Hardware

- (8) 5/16" Bow shackles with pins (316 stainless steel)
- (8) 5/16" Thimbles (316 stainless steel)
- (8) 5/16" Jaw - Jaw Swivel (316 stainless steel)

## Chain & Line

- (TBD) 5/16" 3-strand braided line (polypropylene)
- (TBD) 1/4" Anchor chain - TBD' long (316 stainless steel)

## Floats

- (2) Surface floats - trawl float 12"

## Weights

- (24) 4.5 oz Sinker weights
- (1) Anchor weight - 100 to 150 lbs

## Support

Get in touch with a product expert to get any and all of your questions answered.



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