



HOW-TO MAKE LARGER, OR SMALLER, 'CARDBOARD BOAT BOOK' BOATS

The Cardboard Boat Book

Instructions for How-To Make Larger, or
Smaller, 'Cardboard Boat Book' boats to
accommodate your needs and interests

This 'How-To' Make Larger, or Smaller, 'Cardboard Boat Book' boats instruction guide is provided FREE of charge to anyone that has a need for it.

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Introduction: How-To Make a Larger, or Smaller, 'Cardboard Boat Book' boat

There are many ways to make larger, smaller, longer, and wider '*Cardboard Boat Book*' boats. In this supplement to '*The Cardboard Boat Book*' I provide instructions on how-to make LONGER '*Cardboard Boat Book*' boats; how-to make LARGER '*Cardboard Boat Book*' boats; and how-to make SMALLER '*Cardboard Boat Book*' model boats.

Building a cardboard boat model is a good way to learn how to build a full-size '*Cardboard Boat Book*' boat and can be used in an educational setting to teach STEM education principles when resources and available timeframe does not allow for building full-size cardboard boats.

I provide pictures of larger '*Cardboard Boat Book*' boats that have been built by people around the world to give you ideas on how you can modify a '*Cardboard Boat Book*' boat to meet your needs and interests.

The use of this supplement requires '*The Cardboard Boat Book*' for the dimensions and instructions on how to build a cardboard boat because the modifications in this supplement are based on the cardboard boat designs in '*The Cardboard Boat Book*'.

Please follow us on Twitter, [@cardboardboats](https://twitter.com/cardboardboats), to stay updated on this and other NEW projects.

How-To Make LONGER 'Cardboard Boat Book' boats

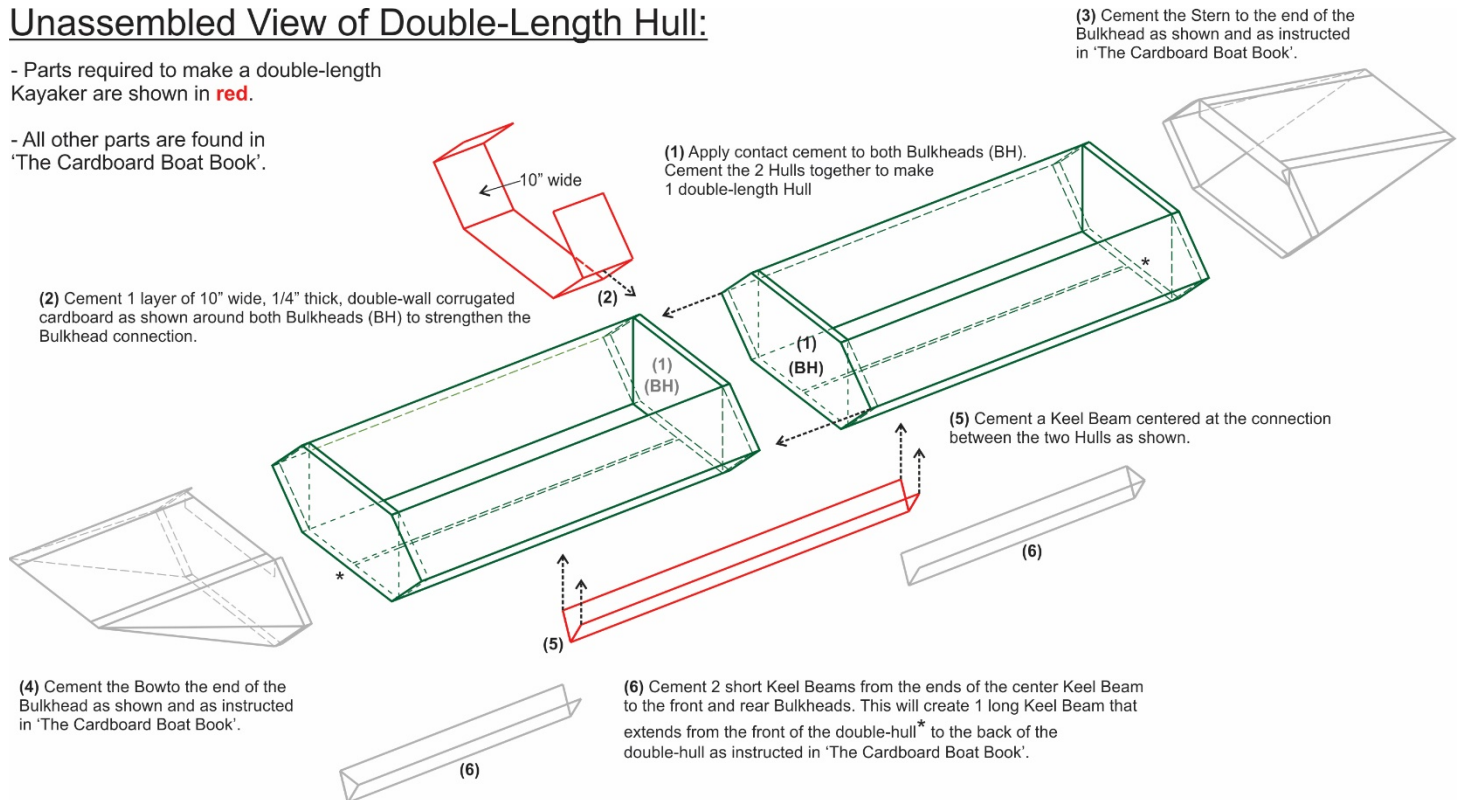
How-To make a Double-Length Kayaker using industry standard size cardboard sheets:

This particular design explains how to make a double-length Kayaker using commercially-available standard-size sheets of cardboard, and is based on the Kayaker design in 'The Cardboard Boat Book'. This design will accommodate 2 adults or 4 children.

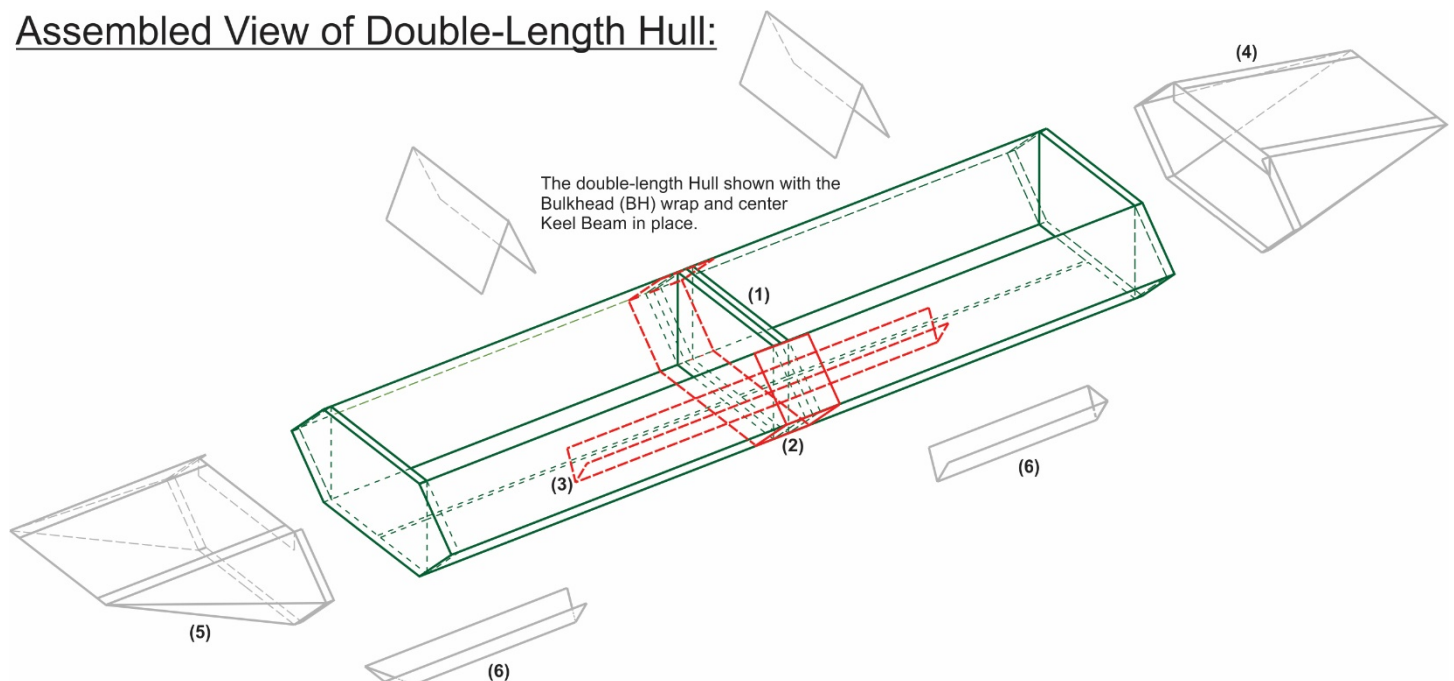
Unassembled View of Double-Length Hull:

- Parts required to make a double-length Kayaker are shown in **red**.

- All other parts are found in 'The Cardboard Boat Book'.



Assembled View of Double-Length Hull:



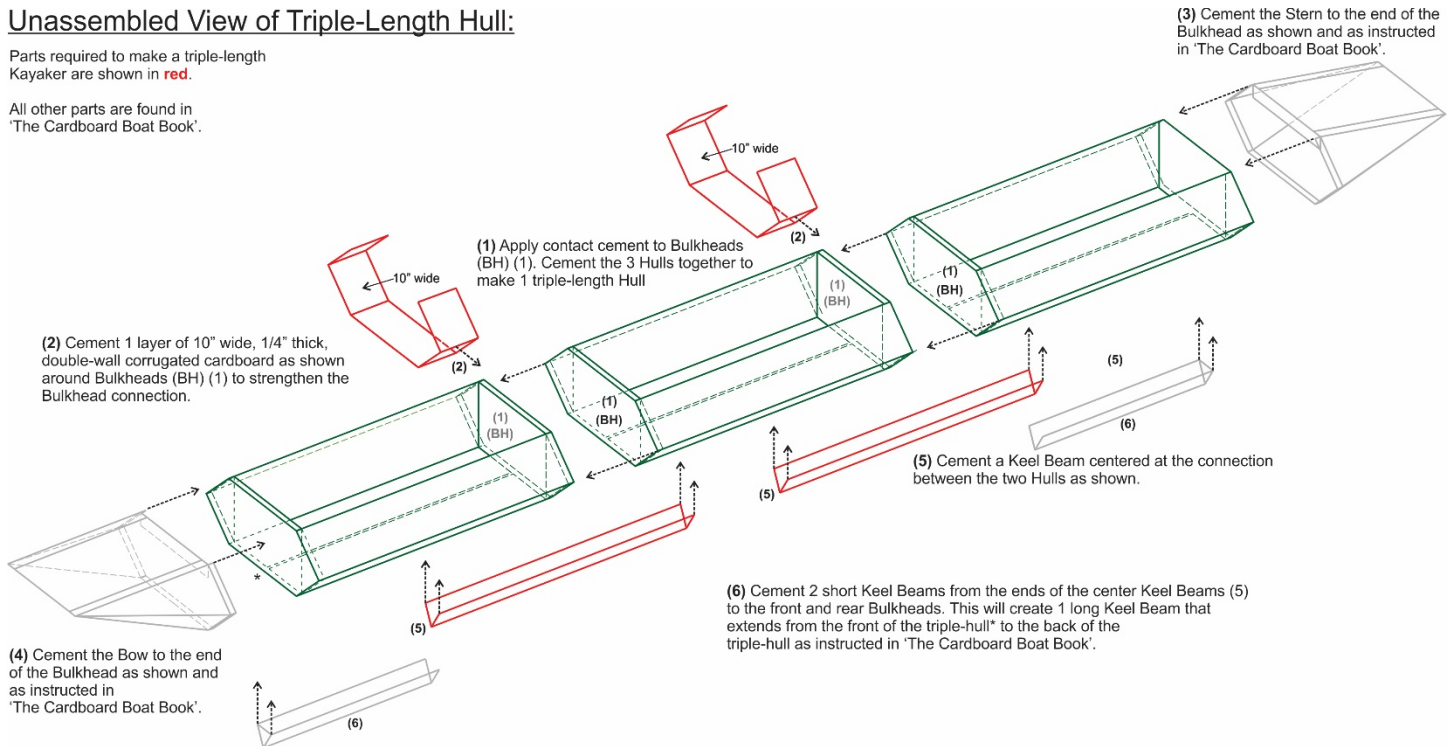
How-To make a Triple-Length Kayaker using industry standard size cardboard sheets:

This particular design explains how to make a triple-length Kayaker using commercially-available standard-size sheets of cardboard, and is based on the Kayaker design in *'The Cardboard Boat Book'*. This design will accommodate 3 adults or 6 children.

Unassembled View of Triple-Length Hull:

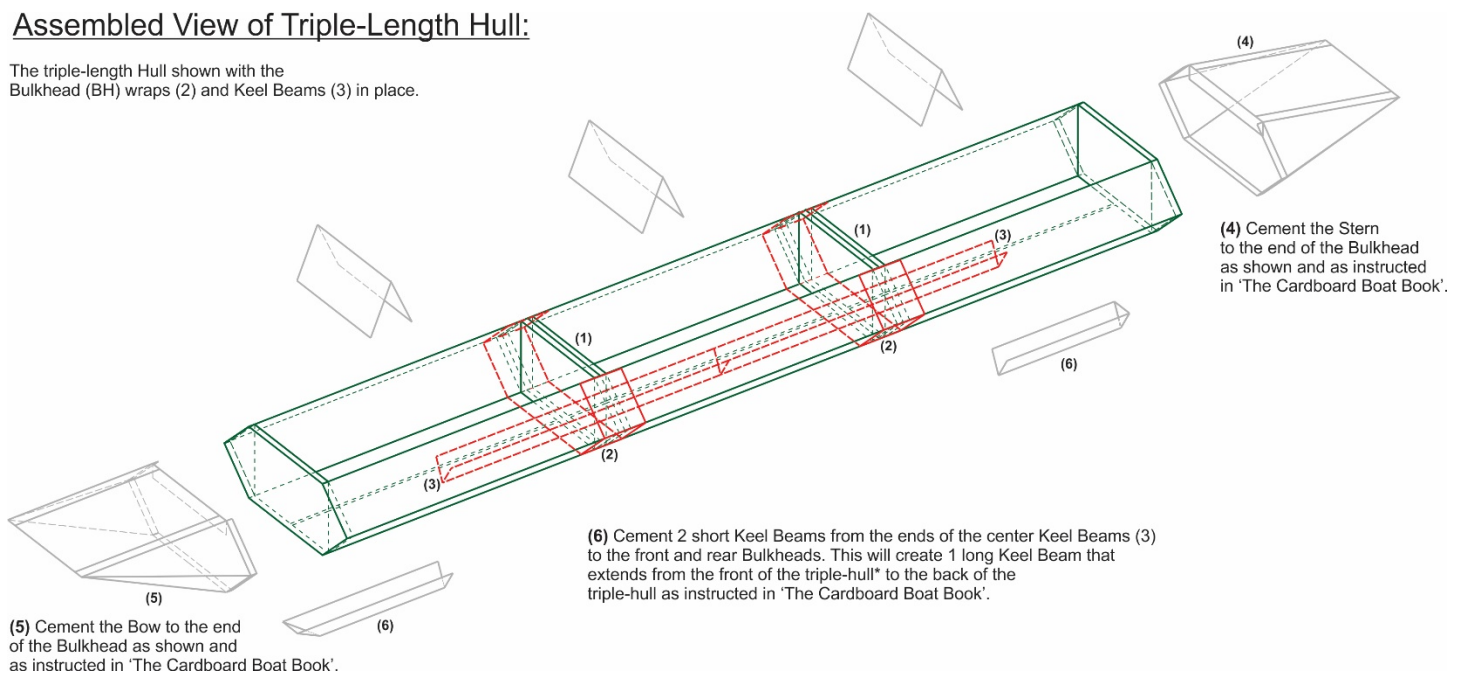
Parts required to make a triple-length Kayaker are shown in **red**.

All other parts are found in *'The Cardboard Boat Book'*.



Assembled View of Triple-Length Hull:

The triple-length Hull shown with the Bulkhead (BH) wraps (2) and Keel Beams (3) in place.



How-To Make LARGER 'Cardboard Boat Book' boats

Making a larger 'Cardboard Boat Book' boat begins with determining how much larger you wish to make your boat. Once you have determined how much larger you wish to make your boat the process works like this;

- For this exercise we will use an example of enlarging a boat by 1-1/2 times its current size.
 - The standard size cardboard boat is 8 feet long, 30 inches wide, and 12 inches tall.
 - To enlarge the dimensions by 1-1/2 times the finished boat size will become 12 feet long, 45 inches wide, and 18 inches tall.
- To scale a boat up all dimensions found in *The 'Cardboard Boat Book'* are multiplied by the scale factor.
- In this example we multiply each dimension by 1.5 and make a note of it in the book or on a separate piece of paper. I recommend annotating the book directly and placing your scaled dimension next to the original dimension.
- The images below show a standard size boat and a boat that has been enlarged 1-1/2 times the original size.
- The challenge in scaling a boat up in size is having large enough pieces of cardboard for each scaled up piece to fit. The pieces of cardboard that will require creative piecing together to make larger parts will be the Hull, Bow, Stern, and Keel Beam. The remaining pieces do not pose the same challenge.

Example - Standard Size 'Cardboard Boat Book' boat:



Example - Enlarged 'Cardboard Boat Book' boat:



How-To Make SMALLER Cardboard Boat models

Making a smaller 'Cardboard Boat Book' boat begins with determining how much smaller you wish to make your boat. Once you have determined how much smaller you wish to make your boat the process works like this;

- For this exercise we will use an example of making a 1/3rd scale model.
 - The standard size cardboard boat is 8 feet long, 30 inches wide, and 12 inches tall.
 - To reduce the dimensions by 1/3rd the finished boat size will become 32 inches long, 10 inches wide, and 4 inches tall.
 - NOTE: Small model of these sizes require the use of single-wall corrugated cardboard as opposed to the ¼" thick, 275# test, double-wall corrugated cardboard used to build the full-size boats.
- To scale a boat down all dimensions found in *The 'Cardboard Boat Book'* are divided by the scale factor.
- In this example we divide each dimension by 3 and make a note of it in the book or on a separate piece of paper. I recommend annotating the book directly and placing your scaled dimension next to the original dimension.
- The images below show a standard size boat and a boat that is 1/3 the original size.
- Also shown in the second picture are 3 boats that are 1/8th scale, or 12 inches long.

Example – A 1/3rd scale model boat pictured in front of full-size boats.



Example – A 1/3rd scale boat and 3, 1/8th scale model boats.



Pictures of 'Cardboard Boat Book' boats from around the World that have been modified to make larger boats



Three person Kayaker's in action





Three person Kayaker design



Eight (8) person Kayaker design



1 adult, 4 children Kayaker in action



May the 4th be with you - 1 adult, 4 children Kayaker design