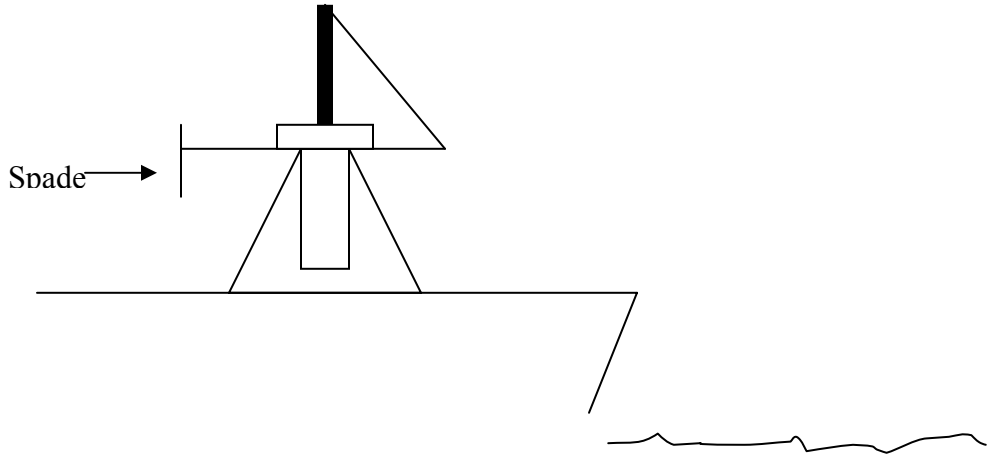
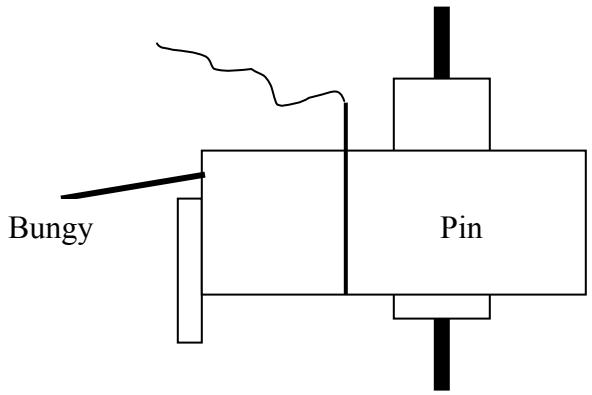
Box Coring Overboarding Procedures
Courtesy of Rob Wheatcroft, OSU



Rigging

Box core is positioned under the A-frame with the spade portion of the arm forward and the thimble wire facing aft. The box is placed on the underside of the corer with the screwed-on face forward and secured with the long, stainless steel pins making sure that the clips are in place. This step sometimes requires a lot of jiggling and/or kicking of the box. Wood blocks are used to keep the doors above the box open for the descent.

At the top of the corer the large, rectangular pin must be pushed through the thimble fitting (see below). That pin, which is attached to bungie cords, is secured in place by a small pin (a large cotter pin or nail works) with a 20-ft rope tied to it (this is the safety pin). In addition, the "goose-neck" bar is secured in the up position, thereby abutting the large pin.



Launch

Tag lines should be used in all but the most calm sea conditions, the corer is heavy and once it gets swinging it is hard to stop. Secure tag lines on the two legs. A third science

personnel is needed to direct the operations and remove the two large (3/4 inch diameter) pins holding the column.

Take up slack and lift the corer 2-4 inches off the deck and stop. Pull the two large column pins. Put the corer over the side, keeping the safety pin in. Once the corer is in the water, slip the tag lines and then remove the safety pin by tugging on the line. Be careful that it does not come back and hit you in the face (it happens).

In the water

The corer is lowered at anywhere between 15 and 40 meter/minute depending on bottom type (sandy = faster). Upon contact with the bottom the winch operator must pay out an additional 2-3 meters, otherwise the box will not lower itself into the sediment. Pull out can be dramatic, so stand clear.

Recovery

Tag lines should be used on all recoveries. Have two hooks/lines with poles rigged and ready BEFORE the corer reaches the surface. Stop the corer when its bottom clears the sea surface. Attach the hooks to the leg supports and secure the tag lines to deck cleats. Bring the corer on board, but do not set it down before inserting the two large pins back through the column, try not to insert the flange on the pins past the gimbles. Maintain tension on the wire until the spade/arm can be secured, otherwise you run the risk of the spade going back to the horizontal position and you will lose the sample and possibly injure someone. Secure the arm/spade by flipping the shackle toward the column and sticking a big screwdriver through the shackle into the column. If you are uncomfortable with this setup then, improvise something else, but it is imperative that the arm/spade be secured before people start to take the box off.

Removing the box

First clear away most (but not all) of the sediment from around the bottom of the box, then insert a faceplate between the bottom of the box and the spade. Attach the faceplate with two clips. This step is not easy and requires much cajoling with screwdrivers, feet, etc. Once the two clips are secured, pull the arm/spade into the horizontal position. This step requires that the slack is provided to the wire by the winch operator. Once the arm/spade is horizontal use the handles to lift up on the box and pull the pins that hold the box in place. Set the box onto the deck and carefully move it to a secure position where it can be processed. Try not to slide the box on the deck as you risk knocking the faceplate off.

Repeat several 100 times…

Contact Chuck (nittroue@ocean.washington.edu) with any questions. Good luck!!