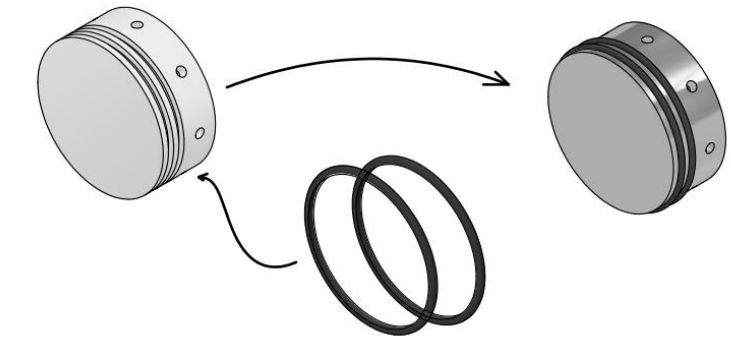
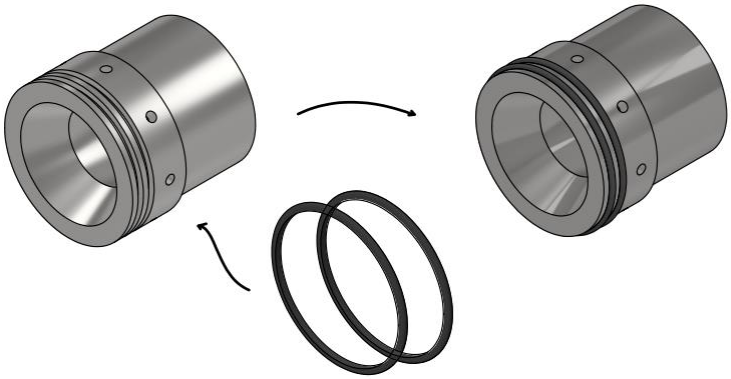
STATIC TEST PREPARATION PROCEDURE

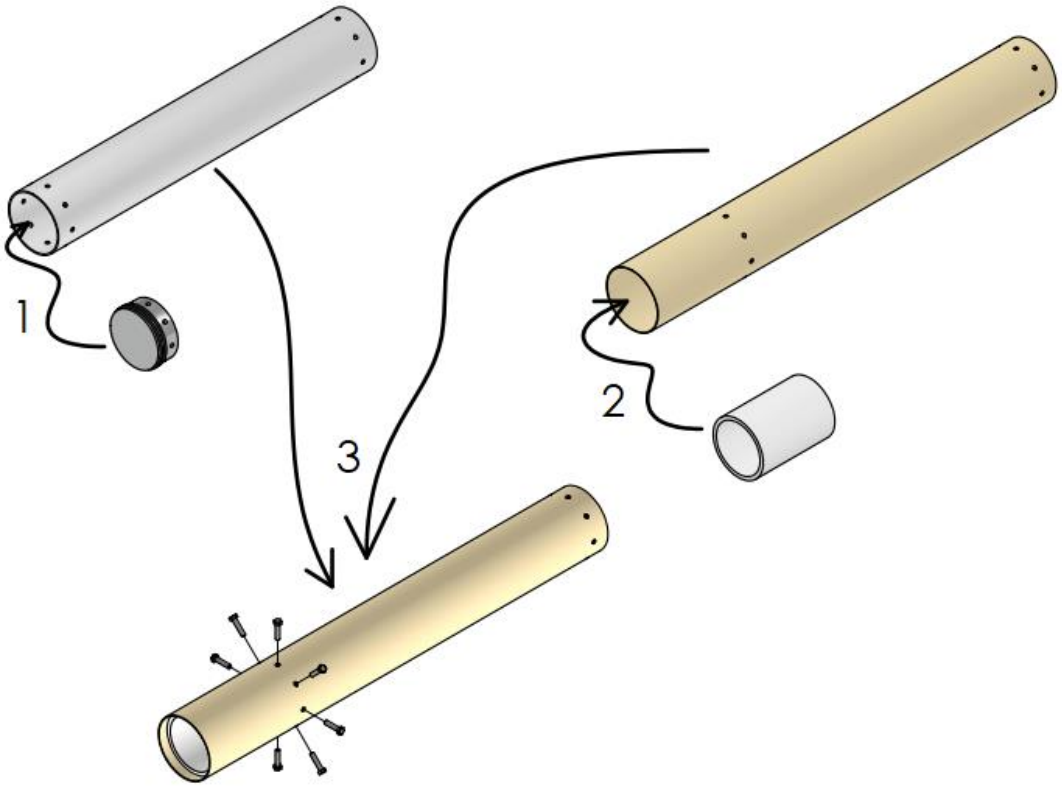
1. Nozzle and Bulkhead preparation





Fit O-rings into the groves of the nozzle and bulkhead

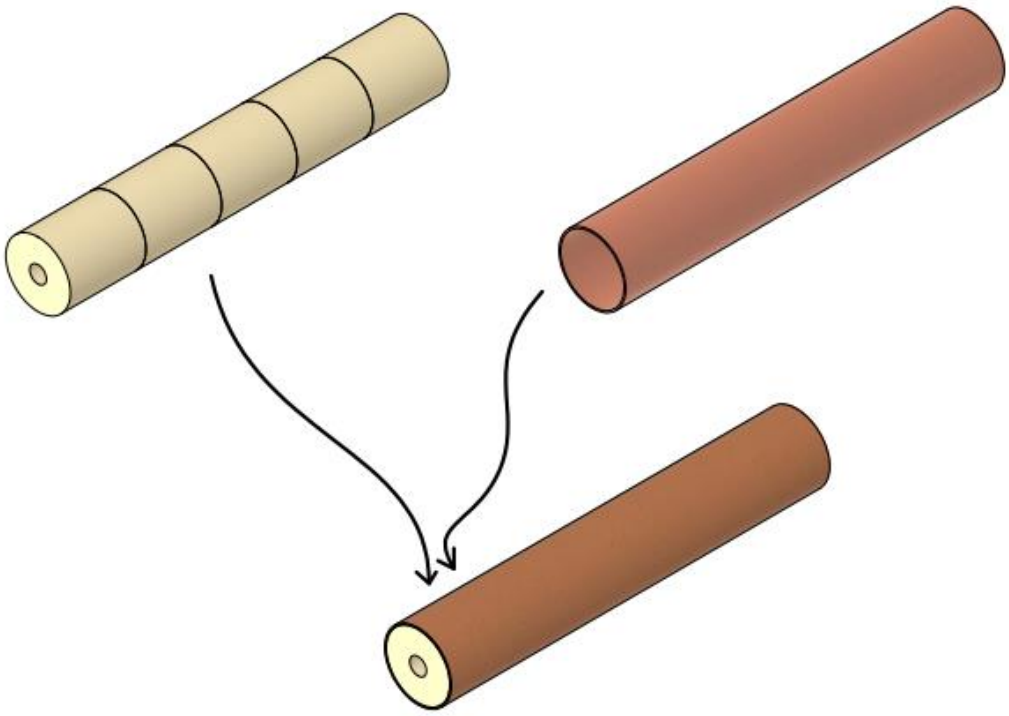
2. Casing and airframe assembly



1. Fit the bulkhead into the casing. Oil can be used for lubrication. Match the holes of the casing and the bulkhead. Bolts can be used as place holders as silicon is applied on the edges of the bulkhead and casing. The outside surface is sealed off using epoxy.
2. Slide the stopper into the airframe and apply silicon on the edges.
3. Insert the casing & bulkhead assembly into the airframe. Match the holes of the casing and airframe before bolting. When bolting, radially opposite bolts should be fastened at a time.

   After fastening, wet soil should be added and compacted on the inner surface of the bulkhead. One layer of ceramic cloth should be added on top of the soil

3. Grain assembly

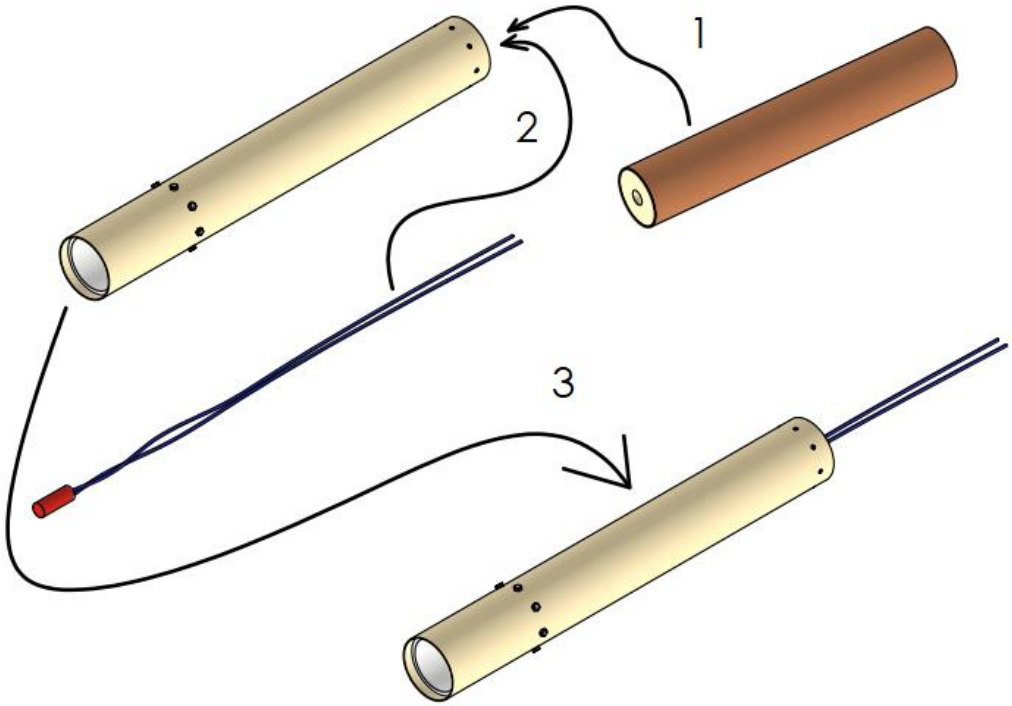


Stack the grains together and apply epoxy on the outer surfaces. Epoxy should also be applied on the liner.

Wrap the liner around the grains. Epoxy shouldn't touch any surface that is not meant to be inhibited.

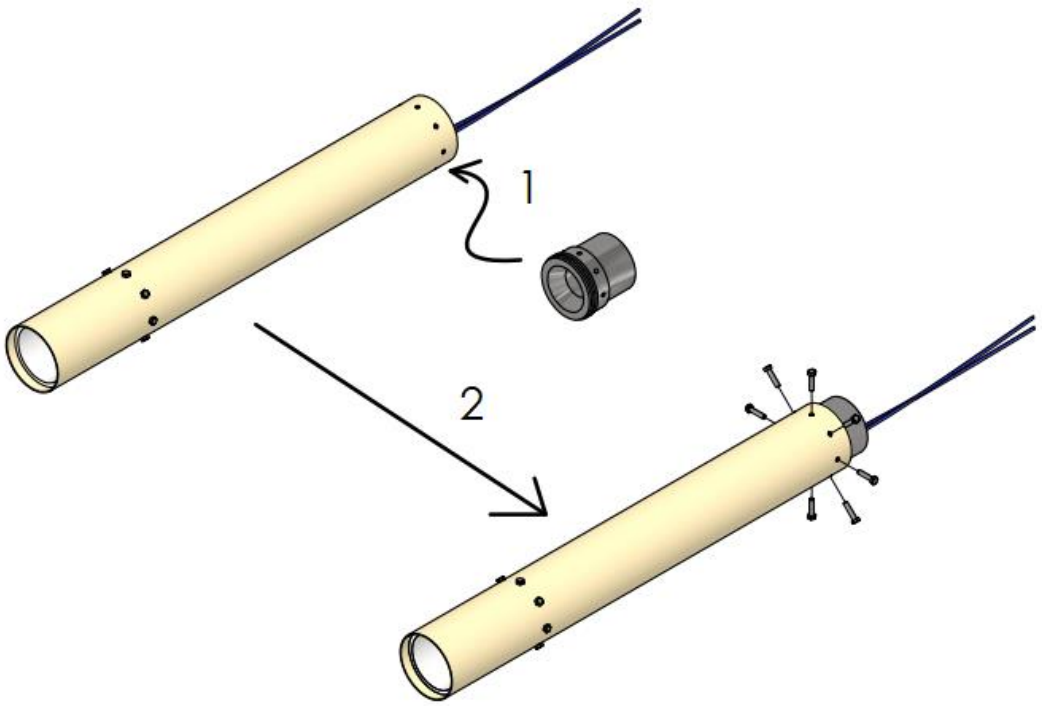
Measure and note down the weight of the grain assembly.

4. Ignitor and grain assembly



1. Insert the assembled grains into the casing. Care should be taken when inserting so that the liner doesn't tear.
2. Insert the ignitor up to the furthest grain near the bulkhead.
3. Pass the ignitor leads through the grains and test for continuity. If there is continuity, proceed to assemble the nozzle.

5. Nozzle and Casing assembly

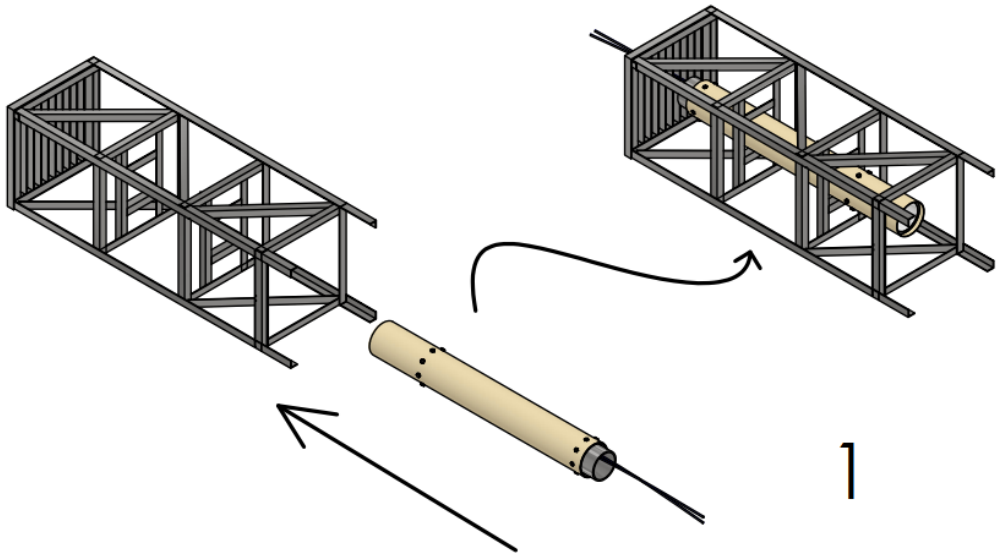


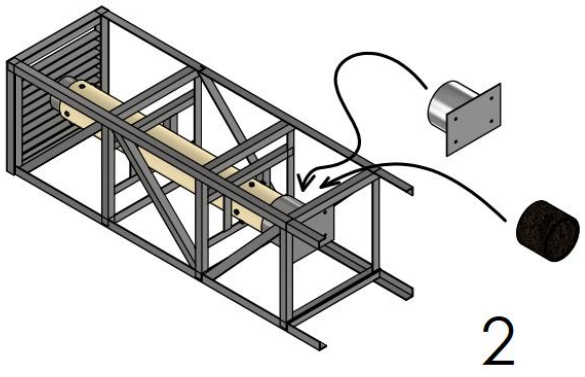
1. Slide the nozzle into the casing and match the holes of the nozzle and the casing. Oil can be used for lubrication. Before fastening, another continuity test should be performed.
2. If there is continuity, the nozzle is fastened in the same manner in which the bulkhead was fastened.

   Seal off the outside using epoxy in the spacing between nozzle and casing.

   Measure and note down the weight of the motor assembly.

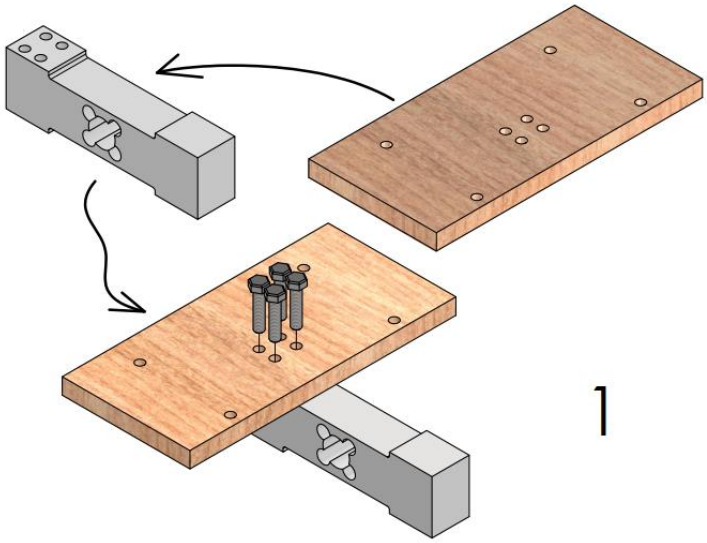
6. Incorporation of motor and test stand

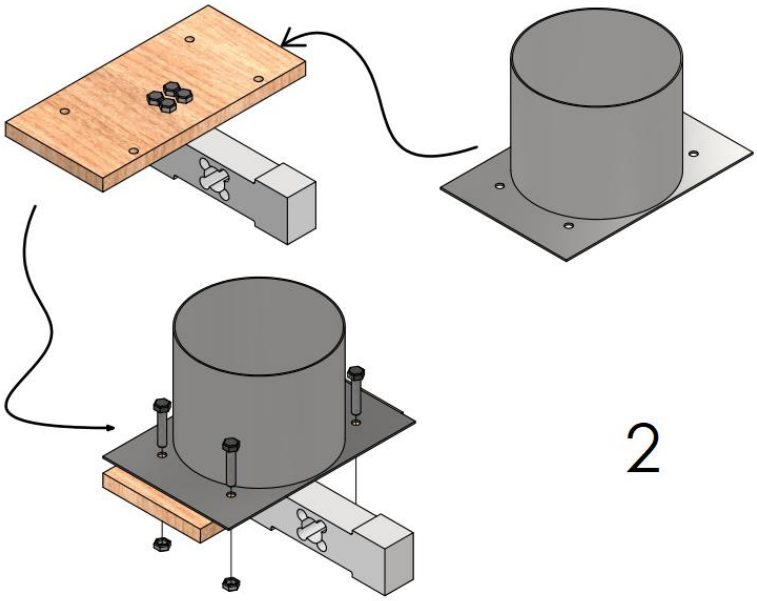




1. Start by sliding the motor through the spaces of the test stand with the nozzle leading. The ignition cables should be protected.
2. The motor holder is added to the motor and centered on the motor using wet fine soil.

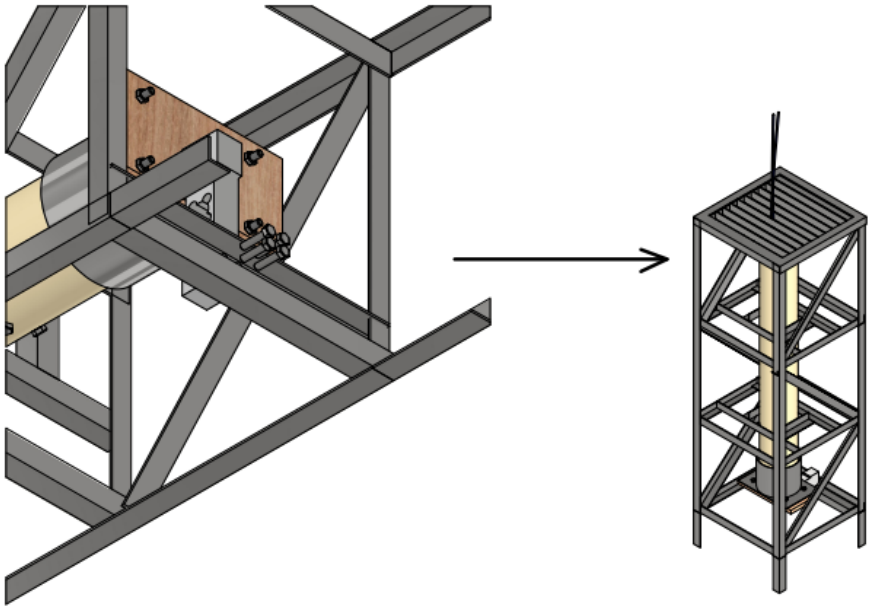
7. Incorporation of motor and load cell





1. Start by fastening the wood to the load cell. The bolts which are diagonally opposite are fastened at a given time
2. Fasten the wood onto the motor holder

8. Incorporation of load cell and test stand



Fasten the load cell onto the cross-bar of the test stand. Diagonally opposite bolts should be fastened at a given time.

After the load cell has been firmly secured to the test stand is when the whole set up can be turned over to an upright position.