Screenshot Summary:

**66167\_Screenshot\_1.mp4**

2.1.2. (The MPRAGE file name is being entered in the command window. The MRI image is being checked) **00:00-00:09**

2.2.1. (The command window instructions are being followed to isolate the skull.) **00:09-00:14**

2.2.2. (The threshold value is being set to separate the skull from other tissues without losing skull matter) **00:14-0:39**

2.3.1. (A threshold value for the brain is being entered and adjusted. The selected value is being confirmed) **00:39-1:09**

**66167\_Screenshot\_2.mp4**

2.4.1. (A z-frame is being chosen, and the craniotomy coordinates are being determined. A point is being selected on the chosen *z-*frame) **00:02-00:35**

**66167\_Screenshot\_3.mp4**

2.5.1. (The points are being placed on the skull region of interest. TXT: Optionally, practice with ~20 points before finalizing) **00:50-2:00**

**66167\_Screenshot\_4.mp4**

2.5.1. (The points are being placed on the skull region of interest) **1:30-2:52**

**66167\_Screenshot\_5.mp4**

2.7.1. (The CAD software is being opened) **00:02-00:04**

2.7.2. (File is being clicked followed by options. Import as is being clicked, surface body is being selected. Ok is being clicked. Open is being clicked, and STL file is being selected. ) **00:40-1:08**

**66167\_Screenshot\_6.mp4**

2.8.1. (The skull surface in the CAD software with visible edges of the selected area is being viewed) **00:02-00:04**

2.9.1. (The inner circle of the chamber is being created, and the inner circle is being centered around the upper plane's point) **00:04-00:20**

2.9.2. (The outer boundary of the chamber skirt is being created using a mix of arcs and lines. The outer boundary is being extruded to the lower of the two surfaces) **00:20-01:31**

2.10.1. (The extrude cut process from the upper plane to the higher surface in the shape of the chamber outline is being performed) **01:31-01:53**

**66167\_Screenshot\_7.mp4**

2.11.1. (The remaining copies of the imported surface are being deleted) **00:03-00:25**

**66167\_Screenshot\_8.mp4**

2.11.2. (Move/Copy function is being used to shift the skirt below the chamber top) **00:06-1:25**

**66167\_Screenshot\_9.mp4**

2.12.1.(The objects are being connected from the bottom of the chamber top to the skirt) **00:03-01:11**

2.12.2. (The bottom surface of the chamber top is being selected using Extrude Boss/Base. The sketch with the same inner and outer radii as the ring, centered around the central axis is being created. The extrusion direction is being set to Up To Body.) **00:03-01:11**

**66167\_Screenshot\_10.mp4**

2.13.1. (The brain and skull STL files are being saved, and the STL size reduction process is being done to extract the region of the skull surrounding the chamber) **00:04-00:26**

2.14.1. (Y is being selected to activate STL size reduction. The brain and skull overlay point are being selected) **02:23-5:42**

**66167\_Screenshot\_11.mp4**

2.14.1. (Y is being selected to activate STL size reduction. The brain and skull overlay point are being selected) **00:14-2:18**

**66167\_Screenshot\_12.mp4**

2.15.1. (The reduced file is being imported as Surface Body into CAD software) **00:43-01:04**

**66167\_Screenshot\_13.mp4**

2.16.1. **(Extrude Boss/Base** is being used, and the head post footprint sketch is being performed.) **00:04-02:54**

2.26.2. (The sketch is being extruded to the imported surface.) **02:54-03:12**

**66167\_Screenshot\_14.mp4**

2.17.1. (The Extrude Cut process and the deletion of the surface is being performed) **00:05-00:46**

**66167\_Screenshot\_15.mp4**

2.18.1. (A new plane parallel to the reference plane, translated upwards or downwards to hover at least 1 mm above the headpost bottom is being created. The measuretool is being used for precise translation length.) **00:05-00:45**

2.18.2. (The circular extrusion process, highlighting the platform's centered position is being performed.) **00:48-01:23**

**66167\_Screenshot\_16.mp4**

2.19.1. (The headpost top and bottom are being aligned, using the Move/Copy function. The headpost top is being set asBody to Move and three mates are being set in the Constraints menu.) **00:04-00:14**

2.19.2. (The outlined edges of the last mate pair surfaces are being checked for concentric mating) **00:14-00:33**

2.20.1. (A vertical line on the back leg of the headpost is being mated with the horizontal line on the back of the headpost.) **00:33-0:45**

2.20.2. (The connection’s direction and mating directions are being checked.) **00:45-01:04**