Memorandum

From: Gabriel Falcao, Jordan Coquoz, George Van Dorpe

The object the team chose to create was a board with nine running and sliding clearance fit holes. These holes are divided by three columns from left to right by RC9, RC8, and RC7 respectively. The holes are going to try to fit 3 different sized gage pins.

This process started by making the decision on what type of fit the team should create. RC fits were chosen due to them being the easiest to slide through and having the most tolerance. The team then acquired 3 different sized gage pins and chose appropriate RC sizes to try to have varying fits. The gage pin sizes are $1/8^{th}$ of an inch, $1/4^{th}$ of an inch and half an inch. For RC9 the maximum and minimum values for the ½, ¼, and 1/8 are; .504 - .5, .2535 - .25, .128 - .125 respectively. For RC8; .5028 - .5, .2522 - .25, .1268 - .125 respectively. For RC7; .5016 - .5, .2514 - .25, .1262 - .125 respectively. The least material condition was used for each hole. The team took the dimensions of the RC fit sizes and designed the sketch into SOLIDWORKS on a 3x4" plate. The holes were designed evenly throughout the plate and labeled accordingly. The SOLIDWORKS model was then used to make a 3D model print by using CMU's 3D printer. The material used was PLA for the 3D printer since that is what CMU provided for free.