ECE Senior Design Weekly Report

Engineer’s Name: Piorence Abar Date: 03.23.17

Team Name: The Globetrotters Lab Section: 4

Week’s Task: Further research on coil parameters, determine what wire is needed, how many turns, type of core etc.

Results: This week I conducted research on what our coil’s parameters would be. With the consensus from my fellow EEs we decided to go with 24 AWG because in Chris’s model, their coils used 26 gauge wire, and we decided to go with a gauge that would provide us better parameters for our project. I also did rough calculations for our project and determined that we’d need roughly 150-200ft per coil. Because of this, we placed an order on Jameco.com for 5 orders of 205ft 24 AWG 1/4lb plain enamel insulated magnet wire in case we needed excess. I also looked into the types of bobbins we’d need if we choose to them for our coils instead of directly wrapping around the bolts which we’ll use. I found a calculator that allowed me to input the type of wire and bobbin parameters in order to find the specs that we would need. With all this information I put in an order for 4 bobbins found on Digi-Key (each roughly a little bit over $1) which hopefully will be useful and make coil winding much easier. Once the parts come in, it is our hope that we will be able to wind these coils to best of our ability and as nicely as possible so that they can be used to maintain the stability of our system.