Abstract

This report gives a, design summary, manufacturing report, testing report, conclusions and recommendations for an injection molded tennis ball retriever. The goal of this senior project was to design, build, and test an innovative racket-mounted tennis ball retriever. This new product was designed to be affordable, user friendly, manufacturable, and unobtrusive to the game. Imperfections were worked out, product features were redesigned, prototypes were tested, machining mistakes were corrected, and parts of the mold were made. During the prototyping process the biggest problem encountered in the design of the product was keeping the retaining straps wrapped around the racket. This problem was solved by creating mushroom shaped nubs to hold the straps to the body. During the manufacturing of the mold, costly mistakes were made, but these errors were corrected prior to machining the rest of the mold. There was not enough time to finish the mold, but it will be finished before the school year is over. The report will chronicle the different prototypes, design of the injection mold, and manufacture of the three parts of the injection mold.