ABSTRACT

The present invention relates to mechanical lock (M-lock), and more specifically to a plastic injection molded with a three (3)-dimensional isosceles trapezium type of structure. It uses TPE (thermoplastic elastomer) material or any equivalent soft polymer that can be injection molded. The present invention disclosed has two (2) different designs for different and various engineering functional applications. Such an invention allows ease of adhering between plastic surfaces with such mechanical lock features. Usually with such design features, because of its undercut characteristics, it is easily fabricated using 3D printed process, and not so friendly for a conventional injection molding process. However, with a uniquely designed tool, it can be injection molded out with fast cycle time and is suitable for high precision, high volume manufacturing. Whereas a 3D printed part cannot do the same in terms of fast cycle time and is not suitable for high volume manufacturing at an economical cost.

Use **Figure 1A.**