The Company Challenge

A domestic molding company needed to produce a hollow plastic part whose design required both a severe undercut and an extremely thick wall. Due to the end-use of the product (in the heavy truck transportation industry), the thick structural requirement was especially critical. When the molding company solicited mold quotes, every returned bid said that they could not build a mold, with such a distinct undercut, and use the plastic injection molding process. Every company declined to bid, except Canon.

The Canon Manufacturing Solution

At Canon Virginia, dedicated and skilled engineers and craftsmen resourcefully came up with the solution of a Mechanical Double Collapsible Core design for Injection Molding to solve this customer’s problem. Using the existing technology of the collapsible core in a new and innovative way, our Canon Virginia toolmakers were able to achieve the severe undercut required for the product, as well as, maintain the thickness required to ensure structural integrity.

When other mold makers could not find a solution to produce these complex plastic parts, Canon mold makers looked deeper and provided an injection molded part that met all the customer’s requirements.

How Canon’s solution works (provisional patent pending):
Within the core assembly, there is a central pin with multiple first collapsible core components followed by multiple second collapsible core components. Due to the shape of the pin and the central core guide, when the pin is pushed inward each of the first and second collapsible core members are caused to move forward reducing the core assembly diameter sufficiently so that the core assembly can be removed entirely from the molded product leaving the hollow shape requested.