

**Category:** Design & Analysis

**Example:** Design of custom plastic housing for toy truck sound device

**Situation:** Customer requirements included a sound device with a button protruding from the hood. Children can “Try Me!” while product is on the shelf.

**Problem:** No stock sound device located that would meet customer’s safety specs without using screws for attachment. Liability concerns precluded using screws. This was on the critical path and was becoming a “show stopper”.

**Action:**

1. Designed custom plastic housing with integral button in housing top
  - Plastic components designed with proper draft angles and otherwise for a good molding process window
  - Error-proofed assembly of top & bottom lid (not reversible)
  - Designed for ergonomic assembly into final product; snaps in
2. Sent CAD data (Images 1-3) to customer for evaluation and approval
3. Upon customer’s approval kicked supplier into production

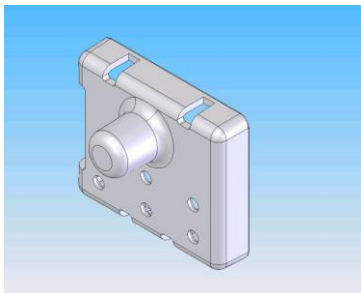


Image 1: Top

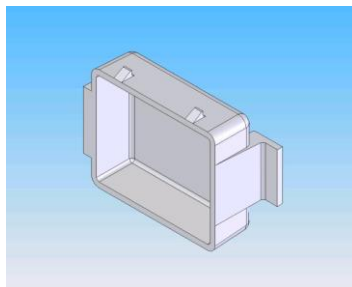


Image 2: Bottom

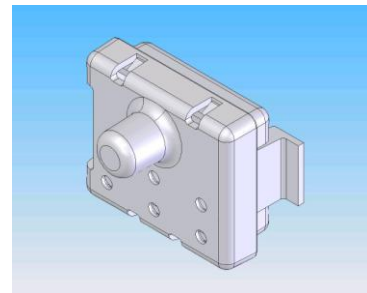


Image 3: Assembly

**Result:**

1. Sound device (Image 4) in toy truck assembly meets safety requirements as well as functional & marketing needs
2. Cost in line with customer’s target price range
3. Program avoided “show stopper” issue



Image 4: Final sound device