

NEW INJECTION MOLDED VALVE COVER SHIPPING TRAY HAS FLEXIBILITY TO HANDLE DIFFERENT PART SIZES

When shipping tray and dunnage manufacturers are brought in at the early stages of an engine build program, significant value-added cost benefits can be realized.

When automotive and truck components are transported from suppliers to OEM assembly plants, the primary concerns involve part containment, part protection from damage and contamination, and the durability to be “returnable” and used over and over again. One of the best methods today is to use dunnage or trays that are thermoplastic injection moldings, where the ability to design specific functionality and flexibility into the material handling device adds value and can significantly reduce future costs. Molded Materials Inc., a designer and manufacturer of engineered material handling solutions for shipping, processing and assembly operations, works closely with both the automotive manufacturers and the component suppliers to solve problems related to shipping parts in dunnage or trays.

Tom Elkington, VP of Operations for Molded Materials, says, “Injection molded dunnage and trays have a tendency to be costlier than competitive vacuum-formed designs. However, the long range cost benefits with respect to durability, dimensional stability, versatility and flexibility more than make up for the initial cost differential. A good example is a unique shipping tray to hold plastic engine valve covers, Fig.1, that Molded Materials designed and manufactured for a truck engine supplier. These thermoplastic polypropylene trays have two designs, one for right hand and one for left hand covers. Each tray has the flexibility to accommodate up to three different valve cover sizes. When the covers are manually loaded into the trays they already have gaskets, assembly bolts, and a breather assembly in position for final assembly on the engine.”



Figure 1

Jim Lamb, Molded Materials’ manager of engineering says, “Because we were involved with this new engine program right from the beginning, we were able to help the supplier with the current shipping tray needs, but also were able to provide for future footprint or part configuration changes. We were able to accomplish this by designing our injection mold die tooling with interchangeable inserts for the integral

rails of the tray design that locate the parts. These inserts (see fig. 2) are designed to bolt in from the face of the die to enhance die change time. This greatly reduces future tooling costs because a totally new molding die does not have to be fabricated.”

Figure 2



Lamb adds, “ The valve cover shipping tray design that Molded Materials produced is durable, unique and built-in handles make it easy to lift and move. The tray weighs 15.8-lbs and approximately 30-lbs. when filled with parts. Slotted rails on the interior of the tray locate and orient the covers so there is a safe area of contact minimizing the possibility of paint abrasion or gasket damage. The trays are stackable up to seven high on a standard commercial pallet. “Full sides” on the tray help keep the covers clean during transport and provide an ample area for identification labeling. A protective lid is provided for the top tray of a stack. Each tray measures 44.5-inches long, 23.7-inches wide and 6.26 inches high.

Elkington summarizes, “Although a good part of Molded Materials’ business comes from replacing other types of dunnage or trays that are not properly performing, we find that the best material handling solutions are realized when they are engineered right from the beginning, when we can partner directly with the OEM and the supplier.”