



## CUSTOMER

A truck and trailer safety lighting manufacturer had just acquired a new division which would manufacture turn signal switches.

## CASE STUDY – Rubber Boot Manufacturing

### CHALLENGE

The customer's newly acquired division was experiencing trouble with a new product launch due to performance problems with another manufacturer's rubber boot. The boot's life test target was 100,000 cycles but the current design failed at less than one tenth of the goal. With an exhausted tooling budget, new product was rolling off the production lines. At this point every assembly that made it into the field, before a solution was reached, would require an expensive retrofit.

### MOLDTECH™ SOLUTION

Our reaction to the customer's problem was immediate. We acquired samples and performed a comprehensive evaluation of the system and its operation to determine the root cause of the failure. Analysis determined there were two factors involved.

Our experience in optimizing molded diaphragms led us to quickly uncover the root causes of the failure and pointed out a clear solution. Our new design gave clearance in the areas of contact, and, also contained more and deeper convolutes that created an "unfurled length" greater than the part actually saw in service.

The new design was developed, and a single cavity "production representative" mold was made in just two weeks.

### EVALUATION

Parts were rapidly put on test and the results were anxiously anticipated. Once the first series of parts reached 100,000 cycles without any sign of failure, we were ready to kick off the production mold. Within the span of three weeks, the production mold was complete and we were meeting full production demands on the rubber boot.

### CONCLUSION

Moldtech's low cavitation/high output workcell approach to molding allowed us to meet the target piece cost at approximately 25% of what the original production mold cost.

By making the single cavity mold "production representative" we were able to control risk even before steel was cut. Ultimately the use of the single cavity core in the production mold, further optimized the tooling cost.



1900 Commerce Parkway  
Lancaster, NY 14086-1735  
716 685-3344  
FX 716 685-6567

