

## TechNotes

ISSUE 2006:1

**TechNotes**, a technical newsletter from the Mursix Corporation, is published and e-mailed approximately 4-5 times per year. In each issue, we address specific technical issues, answer technical questions, and communicate useful information about new equipment, processes, services and the ever-expanding capabilities of Mursix.

This issue of **TechNotes** is devoted to an overview of the **insert molding capabilities** of our **Twoson ESP Division**.

### Insert Molding – A Key Capability at Twoson ESP

The ability of the Mursix Corporation to deliver complete, cost-effective assemblies requires that we maintain in-house control of each of the critical elements in the manufacturing and assembly process. One of those critical manufacturing capabilities is the insert molding operation of our Twoson ESP Division.

Insert molding, by definition, is a process in which the plastic is injected into the mold around a plastic or metal insert that has been placed in the tooling prior to injection. The end result is a single piece – with the insert molded directly into the plastic. There are very few limitations to insert molding design and material combinations, which means that our customers have considerable flexibility in product design when they work with Twoson ESP.

What separates Twoson ESP from other companies with insert molding capabilities is the ability of our highly skilled manufacturing and process engineers to add value to the process. For example, we are one of the very few insert molders that can mold parts in which the contacts have already been affixed to the metal insert, which requires extremely tight tolerance control. Another value-added example would be our ability to automatically solder microswitches to the terminals of the molded assembly. This operation is performed in a manufacturing cell that also performs automated testing of the completed unit. All the operator has to do is pack the finished unit for shipping.

Our molding operation is structured to economically handle both large and small volumes. Depending on volume, we use either single-cavity or multi-cavity molds, and we utilize both shuttle and rotary molds to give customers the most cost effective-solution for their particular application. All tooling design, sourcing, and construction is controlled by Twoson, which, in conjunction with quick-change tooling procedures, helps expedite lead times and reactions to customer changes. Flexible work cells minimize part handling and maintain operational flexibility, ensuring speed and efficiency.

### Another Component of Our Vertical Integration

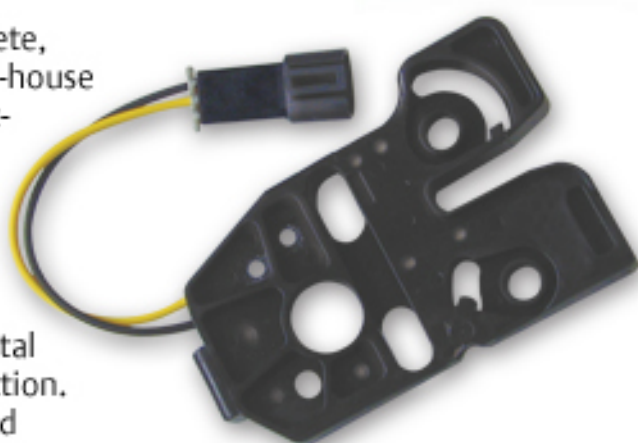
Insert molding usually combines parts (both metal and plastic), thereby reducing the number of components, eliminating assembly operations, and yielding a more functional, ready-to-assemble component. In that sense, it is typical of our value-added manufacturing philosophy at Mursix. Our vertically integrated manufacturing environment, which combines punch press and multislide stamping, robotic welding, post plating, contact staking, in-machine processing, insert molding, wire processing, and a variety of other primary and secondary operations, reduces our customers' total acquisition costs and improves quality by eliminating the opportunity for defects between processes. These complementary manufacturing capabilities, when combined with our in-house tooling and prototyping, make an unbeatable combination.

### New Products and New Markets

According to Ron Green, Sales Manager for Twoson Tool and Twoson ESP, "Our insert molding capability has allowed us to participate in several new product areas. One of these is electric power pack actuators and remote cable actuators for automotive mirrors. Our product line for mirror suppliers is used on several different platforms for vehicles manufactured by GM, Ford, Daimler Chrysler, and others."

If you have an application that you think might benefit from Twoson ESP's insert molding capability, please call Ron Green at 765.661.0978 or e-mail him at [rongreen@twoson.com](mailto:rongreen@twoson.com).

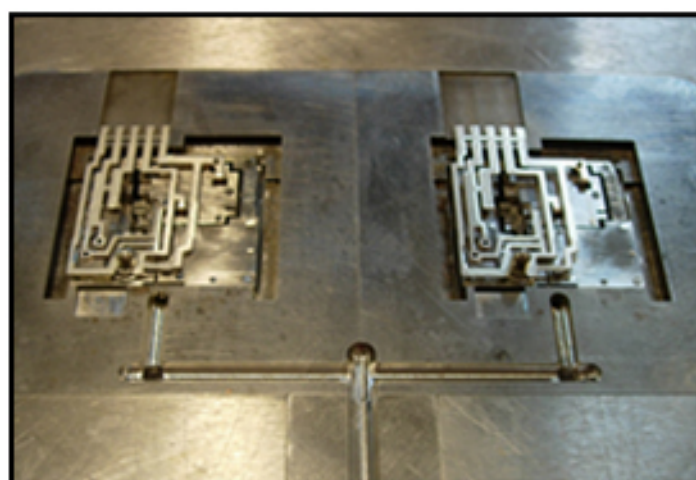
Twoson Tool, Twoson ESP, TFX Plating, Dakota Engineering, Chintec Precision Mfg., and Tri-T Technologies Import/Export comprise the Mursix Corporation, an integrated, multi-disciplinary enterprise serving the appliance, automotive, medical, marine, and other industries. Our capabilities include tool design and construction, punch press and multislide stamping of precious metals, CNC and screw machining, in-machine processing, sophisticated multi-part assembly, and silver, tin, & zinc post plating.



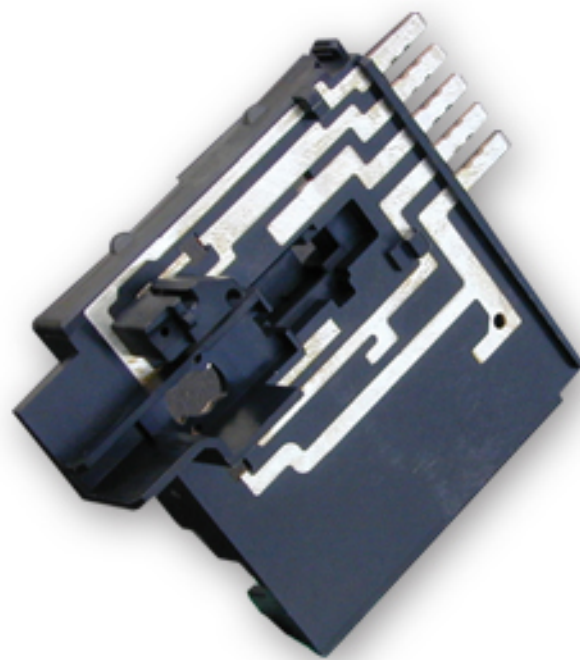
*This rear deck lid latch assembly with its attached wiring harness combines the insert molding and wire processing capabilities of Twoson ESP.*



*Our insert molding operation is structured to economically handle both large and small volumes.*



*The intricacy and critical application demands of many of our parts require Twoson ESP process engineers to maintain extremely tight tolerance control.*



*This electronic assembly carries both low-voltage and high-voltage (110 VAC) circuitry. It utilizes our precision stamping and insert molding capabilities.*



*This electric power pack actuator for automotive mirrors utilizes many of the capabilities of Twoson ESP.*

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