



# The Benefits of Using a Turnkey Manufacturer

**K&B**  
Molded Products



Turnkey manufacturing is a system where a single supplier provides complete manufacturing and supply chain services. These include design services, material acquisition, tool making and manufacturing, assembly, inspection, and even aftermarket services. Many companies choose a turnkey model right from the beginning. These companies recognize that the business can be driven by development, sales and marketing of innovative products and not simply by capital intensive product manufacturing. The best turnkey manufacturers have a variety of capabilities. By combining, or replacing, conventional metal manufacturing with hybrid systems, including injection molded parts or other polymers, a design team can leverage their technologies to produce stronger parts with faster turnaround times and at a much lower costs. As industries move into more advanced technologies, they are looking to increase the quality while reducing costs. Turnkey manufacturing is one of the ways companies are succeeding in this process; it is now a viable alternative to consignment manufacturing. It allows a company to reduce their risk, keep overhead low, and move quickly to meet market demands.

In order to provide parts of the highest quality in a turnkey process, it is important to involve the capabilities of the supplier at the earliest opportunity. By working directly with the supplier at the onset of the project, the customer can streamline its vital components. This includes optimizing product specifications, performance, material selection and manufacturability. This is the core of turnkey manufacturing, to work directly with customers to improve parts while reducing costs from the initial idea to final parts. This fresh approach is to take the design, tooling, molding and inspection and combine them into a single complete package, instead of thinking of them as individual processes within a shop.

## The Beginning

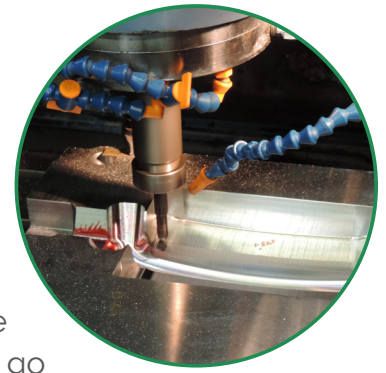
The turnkey process begins in the early design phase. By tapping into the resources of the supplier early in the process, many issues can be addressed before they become systemic. By catching these issues early in the development cycle, expensive redesigns of moldings or other hardware is avoided, reducing overall expenses and improving the time-to-market of the project.

# Computer Assisted Design / Computer Assisted Manufacturing (CAD/CAM)

Having comprehensive CAD drawings is essential to the turnkey process. These drawings are the basis for all of the work on the project. As such, they must be updated every time a revision takes place, and extensive notes should be diligently kept. If these drawings are not complete, or incorrectly updated, expensive reworks will most likely be required in the future. Master tool and die professionals fluent in CAD/CAM can utilize advanced engineering software to create full 3D renderings and in-process simulations. These technologies allow manufacturers to simulate and validate final designs prior to manufacturing. With the ability to take an idea through multiple iterations of design and failure testing, prior to manufacturing, saves time and money on expensive processes that are untested or unverified.

## Tooling, Molding and Manufacturing

Professionally trained, and educated tool makers are also essential to providing a turnkey production solution. Depending on the industry for which the products are being developed, an expert tool maker can fine-tune the mold, die and fixture designs so that they meet or exceed the proper standards and requirements. Additionally, an expert tool maker can go beyond their basic tasks and, with the additional knowledge of the surrounding production design, ensure the tooling fits properly into adjacent assemblies or other downstream manufacturing processes.



## Inspection, Quality Assurance and Quality Control (QA/QC)

Inspection and QA/QC, are also critical elements in providing cost effective turnkey solutions. Including this process will not only save the company money, but will speed up response time if (and when) manufacturing obstacles arise. By having an in-house inspection process alongside the production floor, engineers have immediate access and integral familiarity with the manufacturing equipment. Having inspection and QA/QC teams included in a team, makes for a less disruptive environment when tooling verification or inspection is required - allowing for more accurate and repeatable production of the parts. By maintaining a direct connection between the design teams and the inspection teams, you ensure that initial designs and final quality control processes focus on the same goals, miscommunications are kept to a minimum, and both processes work closer together.

## Additional Handling Costs

Besides the cost savings in pure manufacturing, having a turnkey solution also saves money in other ways. When a product is manufactured in many places, then shipped to a single (or multiple) assemblers, each company handling the parts will add their mark-up to the schedule. Sometimes this can mean multiple mark-ups on individual parts, simply for handling them before assembly. A single turnkey supplier will result in considerably reduced markups. Tooling, Molding and Manufacturing

## Conclusion

Turnkey solutions offer cost savings and ease of production, leaving your company more agile and clear to focus on future innovations or products. Engineers and designers from companies such as K&B Molding will work with their clients engineering departments from conception to execution and packaging. As a turnkey vendor, they have a staff of technically competent tool and die professionals as well as overseas mold making resources for budget-constrained applications. They were founded in 1964, with a focus on premium quality injection, insert, and over-molded products. They continue to maintain a leadership position in the field of plastics by utilizing state-of-the-art equipment and materials, producing components of the highest quality. Well-engineered, precision-built, and meticulously maintained tooling, combined with advanced process controls, allows them to hold very tight tolerances. They also offer numerous value-added services that can be leveraged to streamline your supply chain while providing measurable cost savings.

Specifically focusing on turnkey manufacturing, they have developed a focused ISO 9001:2008 quality management program. This program places great emphasis on all factors involved in production, from design to inspection, and fosters an integrated culture of continuous improvement. Their client base spans a diverse range of industries, and they are continuing to expand their reach. They can manage small projects as well as those that require tens of thousands of pieces, all within very narrow timelines.