

## Airflow Research Masters Product Flow with SYSPRO Software

By automating the transferring of inventory stock transactions for the 5,000 sets of cylinder heads normally produced in a year, the possibility of manually produced errors is eliminated.



### ■ AT A GLANCE ■

#### COMPANY

Airflow Research

#### INDUSTRY

Automotive Manufacturing

#### NUMBER OF EMPLOYEES

25

#### THE CHALLENGE

- Unsupported delivery schedules
- Isolated accounting system
- Insufficient planning capabilities
- 5000 orders filled annually
- Ever-changing production schedules
- Limited visibility into inventory

#### SOLUTION & SERVICES

- Fully-integrated ERP
- Large reference base
- Product Configurator
- Advanced planning capabilities
- Custom DNC user interface
- Customizable interfaces
- SYSPRO CRM

#### THE BENEFITS

- Accurate job tracking
- Automated inventory update
- Reduced human error
- Enhanced customer service
- 360-degree, real-time visibility

### ■ The Company

For more than thirty years, Pacoima, Calif.-based Airflow Research Heads, Inc. (AFR) has been defining technology leadership in cylinder head manufacturing and flow dynamics. AFR, in fact, pioneered the CNC (Computerized Numerical Control) porting of Small Block Chevy and Ford heads as well as Big Block Chevy heads. ("Porting" opens up, re-configures and re-surfaces the ports of cylinder heads to enable engines to breathe easier and more efficiently and therefore produce more power.) The company also pioneered the recent introduction of high performance Gen-2 LS1 aftermarket heads. AFR manufactures the cylinder heads from raw aluminum castings, performs the CNC porting and assembles the finished heads for sale to the general public and a variety of stocking distributors throughout the U.S.

*"Thanks to the SYSPRO software, we now have measurements on how good we are...We never had the visibility before."*

- Carl Anderson  
 GM, Airflow Research

### ■ The Challenge

In 2003, AFR General Manger Carl Andersen was brought into the company to help enhance overall operational efficiency. He immediately recognized the need to control the actual flow of product within the shop to maintain product delivery schedules. "We needed a 'womb to tomb' capability," he says, noting one of his first challenges was to locate and evaluate new software vendors.

AFR had been using a simple accounting package, but, as Andersen points out, the software lacked the ability to communicate with the shop to determine if schedules were being met; it generated limited bills of material and provided no shop routing capability. Relying on his extensive background with MRPII, Andersen felt that AFR needed an ERP solution, but one that offered a Product Configurator, to assist in order placement and ensure parts compatibility, as well as Advanced Planning and Scheduling. "A production schedule is good only until it's been run, and then everything immediately changes after that," he says.

### ■ The Solution

Andersen learned about SYSPRO enterprise software through internet search systems and was intrigued by the modules offered and the integrated nature of the solution. He started an evaluation process that included talking to existing SYSPRO users. The solid endorsements by the users along with the in-depth evaluation of several competing ERP vendors made the choice easy,



Cylinder Heads Built for Racers ... by Racers



so Andersen chose a twelve-user license, basic accounting and MRP modules, as well as Advanced Planning and Scheduling (APS) and the SYSPRO Product Configurator. Additionally, he purchased a five-user license for SYSPRO Customer Relationship Management (CRM) software.

The first step, Andersen says, was to incorporate the entire AFR catalog product line into the SYSPRO Product Configurator. Subsequently, today, the AFR sales department uses the Configurator exclusively for all sales order transactions. The Configurator allows the sales staff to completely customize the specific heads to meet each customer's need for various levels of performance up to and including today's fastest race cars. The Configurator not only creates all the associated SYSPRO sales order documentation but also establishes a unique work order document containing a complete Bill of Material (BOM) and specific shop routing identified with a special bar-coded work order number for each set of heads produced.

Also during the software implementation process, a dedicated terminal was placed at each CNC shop work center and connected to the central server through a custom Dynamic Network Controller (DNC) interface specifically developed by SYSPRO USA. In addition, a special label material was developed to withstand the harsh machining and cleaning environment and which would adhere to a bare cast aluminum surface. Today, each individual head has a bar-code label attached at the beginning of the manufacturing cycle. The bar codes are scanned at each succeeding work center to log into and out of the operation, thereby providing real time WIP (Work in Progress) tracking using the SYSPRO APS system. Tracking the individual product directly rather than using shop travelers also eliminates the ongoing problem of lost documentation and creates a truly paperless work environment.

In addition, the DNC interface is connected to AFR's CNC programming library. Therefore, each time a job is scanned, checks determine whether the right program is loaded into the machine control and, if not, the correct program is called up to prevent machine crashes and scrapped parts.

### ■ The Result

The DNC interface tracks the actual time used to complete the machining cycle and also provides operational results, such as the quantity completed, scrap or repair and further outside processing required. Additionally, it sends an e-mail notification to the production department for anything other than a successfully completed operation so that further action can be taken in a timely manner to correct any deficiencies.

AFR also set up the stock code files and the DNC work centers to enable the transfer of inventory directly to the individual jobs as it is consumed during the manufacturing cycle. This provides complete inventory accountability for each work order without having to use human intervention. During one of the early CNC machining operations, valve guides and seats are installed into the heads as part of the normal manufacturing cycle. The system automatically transfers these items out of stock and assigns them against the associated work order as soon as the heads are scanned through the operation. The same holds true for all the remaining components, such as valves, springs, guide plates, etc., which are transferred against the job as they are scanned into the shipping department work center at the completion of all operations. By automating the transferring of inventory stock transactions for the 5,000 sets of cylinder heads normally produced in a year, the possibility of manually produced errors is eliminated.

SYSPRO CRM is used exclusively by the AFR sales department personnel for all customer transactions. Direct links to the SYSPRO WIP Query and Sales Order Query screens enable the sales personnel to track the actual progress of jobs through the shop, allowing them to directly answer customers' delivery questions while talking with them on the phone.

How has SYSPRO software enhanced the operational efficiency at AFR? Andersen summarizes: "Thanks to the SYSPRO software, we now have measurements on how good we are... We never had the visibility before."