



Ameriforge
GROUP INC

Press Matters

Bi-monthly Newsletter

FOCUS ON FORGED VESSEL CONNECTIONS

Forged Vessel Connections Plant to Undergo \$750,000 Upgrade

According to Jim Fiedler, FVC VP and General Manager, "FVC recently embarked on a major facility upgrade, with a budget of \$750,000, that will significantly improve the flow of traffic and product through their facility. This includes the purchase of adjacent land, rerouting all traffic leaving the facility, tons and tons of new concrete and asphalt, additional parking facilities which are desperately needed, and relocation of our steel scrap, machine turnings and BFI dumpsters. Also included will be a new guard shack, remote cameras covering all gates/parking areas, and remotely controlled electronic gates at entrance and exit points. Concrete behind the machine shop and shipping areas (50 feet wide) and in front of the maintenance bay (40 foot wide) will greatly improve the overall operating condition of the facility. See the next AF newsletter for more details and highlights on this upgrade".



Goodbye to the Empty Field Next Door

September/October
Volume 3

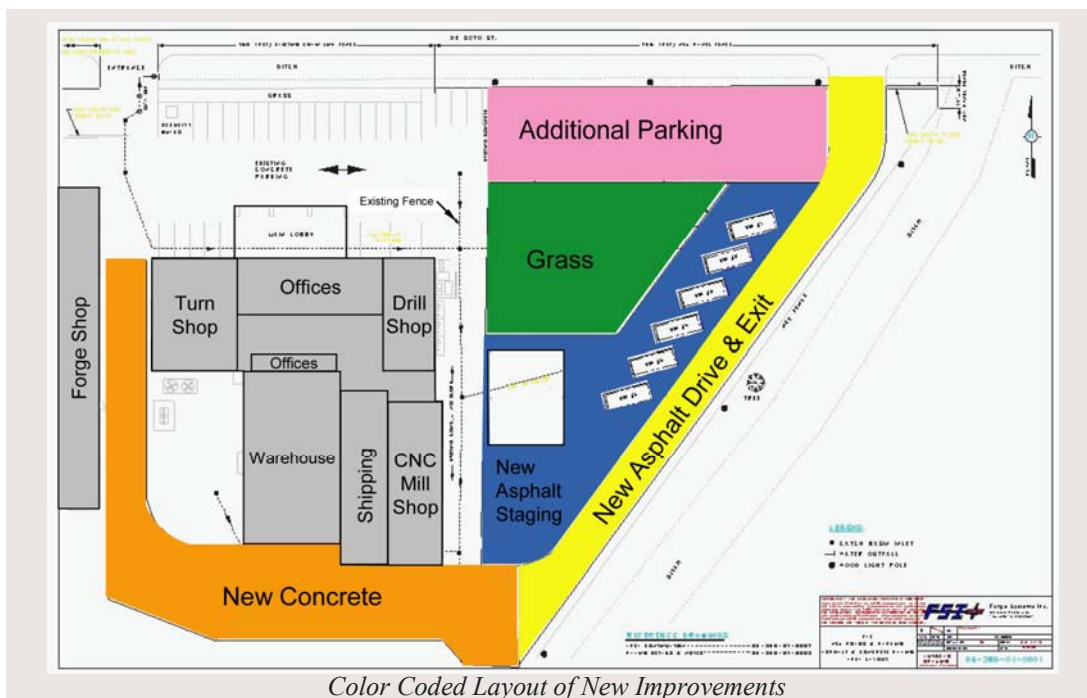
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Color Coded Layout of New Improvements

DAVE'S CORNER

Forged Vessel Connections Steps It Up



During the past several months, it has become increasingly evident that FVC people have moved to a whole new level of pride in their workplace and business accomplishments. Significant progress has been achieved on many fronts. Most visible is the impressive clean-up and organization of the production facilities and material yard. This is true pretty much everywhere you look ... clutter has been controlled, tooling has been

placed neatly in racks, raw material has been organized, and machines have been cleaned and painted. The business looks well cared for, and I now observe a new quickness-of-step and sense-of-purpose within the company. Despite the hard work, everyone seems reenergized and eager to take on new challenges.

My experience is that a well-cared for facility signals the likelihood of a successful company. Combined with record sales, unprecedented capital investment in facilities and equipment, and a new range of competencies and operational capabilities, FVC is now well positioned to become a continuing force in the marketplace and major contributor to the Ameriforge Group of companies.

Durante meses pasados, ha sido evidente que el nivel de orgullo de los empleados de FVC ha cambiado en su lugar de trabajo y en sus objetivos de negocios. Un progreso significativo ha sido logrado en muchos frentes. El más notorio es la limpieza impresionante y la organización de las facilidades de producción. Esto es muy cierto por donde quiera que se ve... el desorden ha sido controlado, las herramientas se han puesto en sus estantes, materia prima ha sido organizada y el mantenimiento a la maquinaria ha mejorado. La compañía se ve bien mantenida y ahora observo que hay un nuevo sentido de propósito en la compañía. A pesar de todo el trabajo y esfuerzo, todos parecen estar ansiosos y energéticos de tomar nuevos retos.

Mi experiencia es que una facilidad bien mantenida indica la probabilidad de éxito de una compañía. Combinada con el



record de ventas, con un capital de inversiones sin precedentes, con un nuevo rango competente de capacidades operativas, FVC esta ahora en un buen puesto para

continuar siendo una fuerza mayor en el mercado y un contribuidor mayoritario en el grupo de Ameriforge.

In August 2001 Forged Vessel Connections made the decision to enter the power market and manufacture power plant fittings consisting of tees, wyes, laterals, caps, reducers and special designed products.

In the early stages, FVC did not have all of the machines necessary to do the machining of these fittings. Some were machined by outside shops. As more and more were ordered from customers, FVC made the decision to add a manual horizontal mill to assist in the machining of these products.



CNC 12 x 12 x 12 Tee

a CNC vertical mill. In addition, FVC has a large horizontal CNC on order, scheduled to arrive and be installed in Oct. See the related article in this issue on page 9 covering the new CNC's at FVC and their capabilities.

Some of the machinists at FVC learned the special machining needed to produce these fittings. In May of this year FVC purchased and installed

Currently, FVC has orders and is working on 23 special power fittings consisting of some tees, laterals and wyes.

As delivery is critical in most cases, it is very important to have a good stock of large billet mostly in F22 and F91. If the material is in stock, the forging can be done quickly and machining can start as soon as machines are available.

The power industry manufacturers are very busy with many new plants and many upgrades. As far as it is known, FVC is one of only 3 manufacturers in the USA to make power plant fittings. We are working hard to grow this business by adding new, large machining capacity to meet the growing need for these products and offer a good delivery. We have been advised by customers and engineering firms that years of growth are needed to meet the demands of the power industry. Forged Vessel Connections is committed to growing this business and meeting our customers, needs in the power industry.

**FVC is one of
only three
manufacturers in
the US that makes
power fittings**

By B.J. Gruner, Director of Power Products, FVC

FVC SUPPORTS COMMUNITY REVITALIZATION

Volunteers Who Make a Difference

FVC resides in an economic redevelopment area called the Acres Homes Community. The Acres Homes Community Development Corporation is a well-managed, adequately-funded organization committed to creating a strong family-oriented community with affordable housing, new business opportunities, and a clean and safe neighborhood for all the residents. FVC, as a good neighbor, has actively participated in this dynamic organization for at least 9 years. Supported by community organizations and businesses, AHCD has been able to obtain property for development, increase new housing construction, obtain grants, teach people how to buy homes, and qualify residents in low- to medium- income families for home purchases. AHCD collaborates with many other community organizations, such as the Acres Home Citizens Council that works directly with Mayor White's office and other Houston city offices. When AHCD partnered with Reliant, they found qualified residents for a program that provided assistance with electricity, winterizing homes, and protecting the homes from heat during the summer. The most recent success is the Dyerwood project, the construction of 40 single family homes.

Nelda Fulton represents FVC in the AHCD organization. Nelda, currently the accounting supervisor, has worked for FVC for 15 years. Her very first position in the plant was as a night-shift inventory control clerk. Nelda holds a place on the AHCD Board of Directors as the Assistant Secretary and assists the organization with fundraising and the application of funds. She most recently served as the Chairperson for the annual Volunteers Awards Luncheon.

FVC's support of the AHCD has earned them the organization's prestigious "Volunteer of the Year" award in the past. **Ameriforge** salutes Nelda and FVC for their assistance and participation in creating a safe and vibrant community for Houston families.



Nelda Fulton with State Senator Sylvester Turner



La compañía de **Forged Vessel Connections** esta ubicada en una área económica de subdesarrollo llamada Comunidad Acres Homes. Esta comunidad tiene una corporación que esta adecuadamente financiada y manejada llamada Acres Homes Community Development Corporation. Esta corporación esta comprometida a crear una comunidad enfocada en la familia, con viviendas a bajo presupuesto, nuevas oportunidades de negocios y una colonia limpia y segura para todos los residentes. FVC como buen vecino ha participado activamente en esta organización dinámica por un periodo de nueve años, apoyado por organizaciones y negocios de la comunidad. AHCD ha obtenido propiedades para el desarrollo de la construcción de casas nuevas, ha obtenido becas y ha educado a la gente en la

compra de casas y ayuda a calificar a los residentes de bajo y medios recursos para ser propietarios de casas. AHCD colabora con muchas organizaciones de la comunidad, como Acres Homes Citizens Council que trabaja directamente con las oficinas del Alcaldé Bill White y otras oficinas locales de Houston. Cuando AHCD y Reliant se asociaron, encontraron residentes calificados para un programa que provee asistencia con la electricidad protegiendo los hogares del invierno y acondicionándolos en el verano. El éxito más reciente es el proyecto de Dyerwood, con la construcción de 40 viviendas familiares.

Nelda Fulton representa a FVC en la organización de AHCD. Nelda ha trabajado por 15 años para FVC, su primera posición en la planta fue como Secretaria de Control de Inventario, y actualmente como Supervisora de Contaduría. Nelda lleva a cabo un lugar en la mesa directiva de AHCD como la Secretaria Auxiliar y asiste a la organización recaudando y usando fondos. Recientemente asistió con las preparaciones para el Banquete de Premios de Reconocimiento a los voluntarios. El apoyo de FVC a AHCD les ha otorgado el prestigioso reconocimiento del "Voluntario del Año". **Ameriforge** reconoce a Nelda y a FVC en su participación para crear una comunidad vibrante y segura para las familias en Houston.

*By Lin Sharp, Contributing Editor,
Translation by Aida Johnson, FVC*

FOCUS, EXECUTION, TEAMWORK, & RESULTS

A Challenging Order Yields Impressive Results

By James Cravy, Director of Manufacturing, FVC

On April 13th 2006 the management team of **Forged Vessel Connections** met with the management team of Ameriforge Group to propose and discuss the installation of a new CNC mill at FVC. One week later, on April 20th, with the details of the installation worked out and the capital for the new mill approved, the FVC team went to work.

The **focus** began with a Microsoft Project timeline that included all primary milestones from cutting the PO to buying the initial tooling. The team counted on this timeline to stay on track while following parallel schedules. *While finalizing the timeline, the team agreed upon a very aggressive goal: machining parts by June 7th—a mere 7 weeks away.* In general, the team had to pare down and move an existing machine shop to a new temporary home with minimal downtime to continue meeting current customer demands. They then needed to modernize and improve the shop, and prepare it for delivery and installation of the new CNC. Modernization required a new concrete floor with epoxy top coat, new sheet metal walls, overhead doors, lighting, plumbing, and electrical — and even a 10-ton bridge crane over the entire length of the shop. All of the team's planning and communication had one central theme: **Hit the ground running!**



Existing Shop as of April 21, 2006



Existing Shop as of April 28, 2006

The **execution** was nearly flawless! Most of the work was handled in teams of twos. The first week was dominated by relocating and selling old equipment. Then weeks 2 thru 5 were heavily laden with many vendors and contractors. Finally, weeks 6 and 7 focused on assembly, installation and startup.

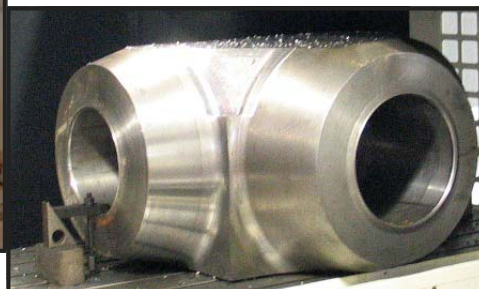


Transformed Shop as of June 11, 2006

The **teamwork** was phenomenal! Input of engineering, suggestions, labor and numerous other forms of help came in from all across Ameriforge's family of companies. While certain teams handled concrete going down, others handled sheet metal going up. Still others were selecting, purchasing and installing; tools, fixtures, software, training, lighting and plumbing. Because so much of FVC's work is low volume or "one-off", efficient systems for communicating the status of schedules, models, programs, work instructions and setup instructions had to be developed. This is where the Ameriforge IT group stepped in and did their part to supply the hardware and software that got the job done properly.



Large Q-Lip Nozzle



Medium-Sized Power Generation Tee

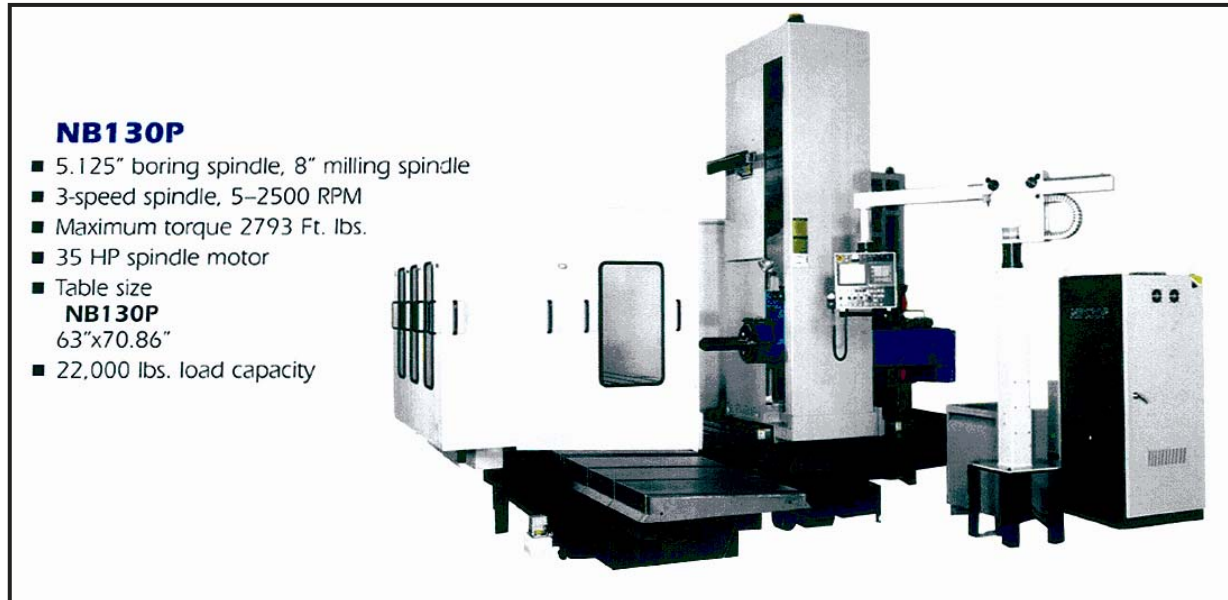
The **results** are starting to shine. In the first eight weeks of operation there have been over 200 different forgings milled on the new CNC requiring the development of approximately 475 separate surface milling tool paths and over 95 solid models with accompanying stock models. In contrast to the old scheduling and machining systems, which produced the "easy" parts weeks early and the "hard" parts weeks late, the new system has currently attained the goal of producing all parts just in time for shipment with reliable production rates that minimize WIP with quality and accuracy that minimize scrap and rework.

Thank you teams, for a job well done!

Continued on next page

Continued from previous page

The near *future* finds FVC preparing to install its second CNC mill. The first mill's strong success begged the team to ask "What's next?" In the process of completing the cycle it was soon decided to get more aggressive with the Power Generation block forging and milling market. And on August 11th, FVC received funding approval to move forward with its Power Generation expansion plan. This began with placing an order for a large horizontal boring mill to greatly improve the corporation's ability to mill large blocks.



NB130P

- 5.125" boring spindle, 8" milling spindle
- 3-speed spindle, 5-2500 RPM
- Maximum torque 2793 Ft. lbs.
- 35 HP spindle motor
- Table size
NB130P
63"x70.86"
- 22,000 lbs. load capacity

Driven by aggressive growth plans and cost controls, FVC launched a capital project to upgrade all five of the forging furnaces that support the 3500T and 900T hydraulic presses. FVC Furnace Manager

Robert Holcomb teamed up with his Steel Industries counterpart **V. S. Ramchendren** (Ram) to redesign a far more efficient "monster-module" fiber insulation system, similar to those already in use at SII. To this date, the two largest furnaces have been reconditioned and are effectively operating at 40% of previous energy consumption. The third furnace is currently under construction, and the entire rebuild project will be completed by April 2007. These furnace upgrades will provide perpetual energy savings and environmental benefit—the material heating gains from fiber construction have propelled FVC's growth capabilities to allow the addition of a night forge crew.

To further support the forging operation growth plans, there has been considerable investment in tooling and handling equipment.

Several brand new Hyster forklifts, many with Long Reach manipulator heads, have recently been delivered to replace a fleet of vintage equipment. FVC's unique dynamically



Hysters

modular tooling inventory, which has actually been reduced in recent months through 80/20 application, has had vastly improved maintenance and targeted enhancements as a result of a recently installed on-site tooling machine shop. Tooling Manager

Howard Hamaker is currently involved in the development of new generation tools using tougher die materials to produce near-net forgings in support of new CNC machining equipment and rough forging sales opportunities. Most recently, the AFG/FVC team engineering efforts have successfully developed split-die tooling technology that has created a new product line for AFG and stronger partnership with our customers.

One of the most recent throughput projects completed at FVC was the shipping warehouse expansion. This area was identified as a bottleneck to growth, so a capital investment was made to nearly double the covered warehouse space with the intention of reducing the finished inventory and provide a more spacious operating area for the warehouse crews. The 80/20 stocking plan is designed to maintain an inventory of targeted sizes and quantities only, thus maximizing the effectiveness of the new covered areas.

#5 Furnace

By Ed Murphy, Director of Operations, FVC

EMERGENCY INFORMATION

Are You "HURRICANE READY"?

By Jim Beare, HSE Manager, Industrial Road

Plan

Review and follow your plan. Be ready to modify it, because, "Life can throw a curveball". During emergency situations such as hurricanes, please remember it's extremely important to keep in contact with your supervisor who will keep you posted on the status & schedule for your location. In addition the HSE Department will include a recorded voice message in case of severe hurricane conditions at your facility; but remember, your primary contact is your supervisor.

Are you prepared?

Stay tuned to your local television and radio stations for emergency information. Prepare disaster supplies: emergency food and water, cash, an emergency credit card, flashlight and extra batteries, map, ice, portable battery-operated radio & extra batteries, absorbent towels & bacterial wipes, plastic trash bags, first aid kit, non-electric can opener, fire extinguisher, essential medicines and mosquito repellent. Have a 2-week supply ready. If you have children, do you have things to keep them busy? If not— (well, you know what happens!) Focus on the key elements that make your plan work. When you're prepared, it makes it far easier on yourself to come to work knowing that you have "a plan and you're prepared".

Protect your home and cover your windows with permanent shutters, plywood panels or other shielding materials. Bring in lawn furniture and other loose & lightweight objects. If you can, check on your neighbor. They could be an elderly person who needs help or someone who is frightened. It's been my pleasure to experience what it means when they say "you see most Texans at their very best at times like these!" and that's helping others. When rough weather hits, stay inside a well-constructed building away from windows & doors, even if they are covered. Go to an interior first-floor room or closet or under the stairs. "Be alert". Remember that tornadoes are often spawned during hurricanes. If the "eye" of the storm passes over your area, be aware that severe conditions will return with winds from the other direction in a very short time.

If you must evacuate:

Plan your evacuation route. Your family may be instructed to evacuate by local authorities. Please, make sure you're in contact with your supervisor. Fuel up and make sure the family vehicles have been serviced prior to leaving. Pack up your emergency supplies. Know how and when to turn off gas, electricity, and water. Keep your pets with you. If it isn't safe for you, it isn't safe for your pets. Many evacuation shelters do not accept pets, so plan in advance where you will go. Ask if "No Pet" restrictions at hotels and motels might be lifted in an emergency. Check with friends and family members who live outside your area to see if they can shelter you or your pets if needed. Teach children how and when to call 9-1-1, the police or fire department, and which radio station to tune to for emergency information. Develop an emergency communication plan to use in case family members are separated from one another. Have available a good map of county back-roads, Make photocopies of identification, insurance policies, and a household inventory. Now, remember to take even more water— you know you'll need it—and maybe something for that headache. Buckle up and drive safe.

When you return:

Check gas, water, electrical lines, and appliances for damage. Avoid using candles and other open flames indoors. Use a flashlight to inspect damage. Please, make sure you contact your supervisor. Be careful and be safe.

Please email Ameriforge HSE Manager at jbeare@ameriforge.com, or call at (713) 293-1136. Stop in his office or stop him on the shop floor if you have any Safety & Environmental suggestions or questions.

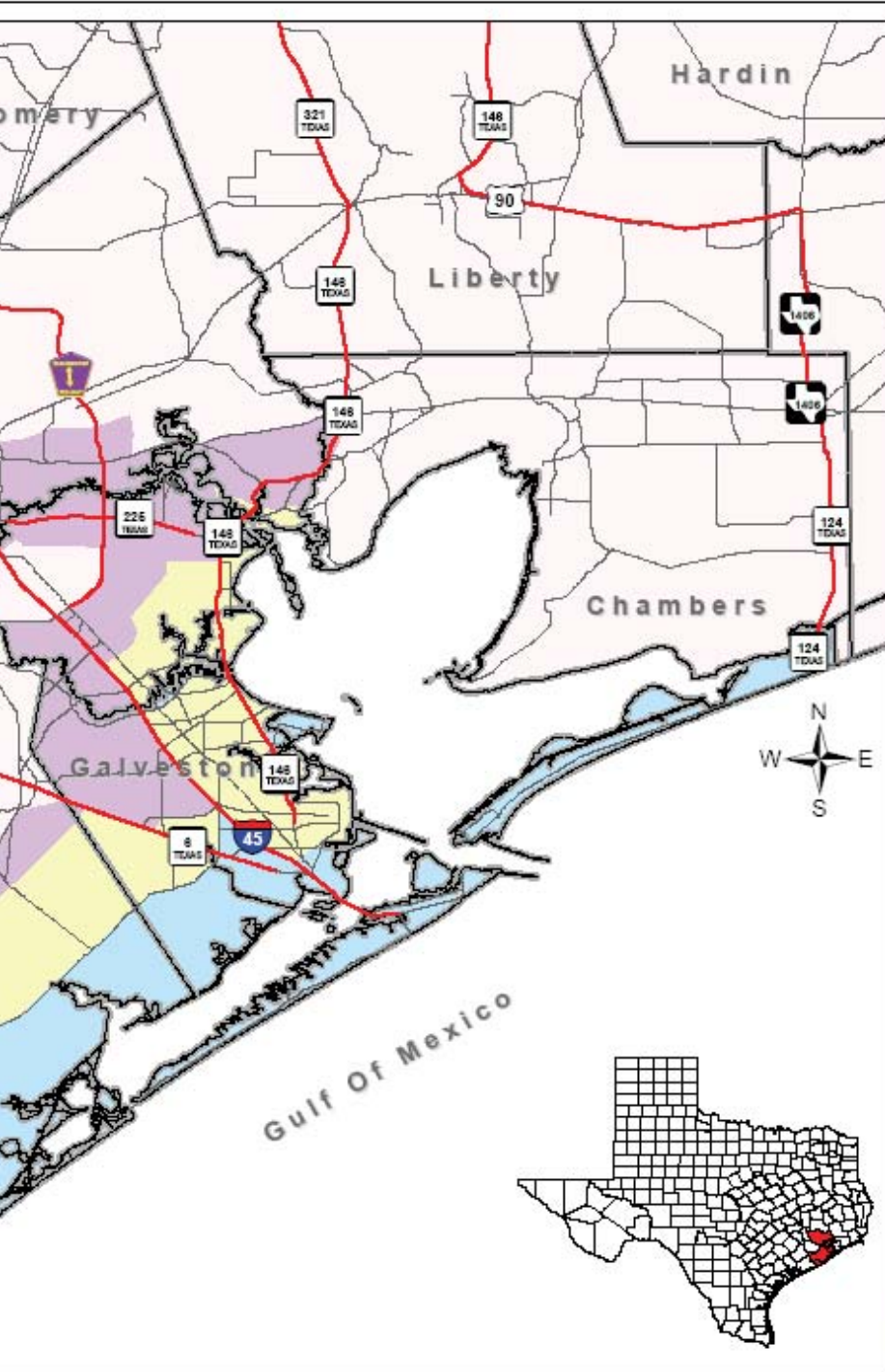


For Houston Ameriforge employees, in the event of a local emergency such as a Hurricane, call:

877-286-8579

It is not "IF" it is "WHEN" a Hurricane will enter the Gulf.. Be Prepared.

For more information about disaster preparedness, visit www.hsus.org/disaster. For information on animal-friendly housing, visit www.petswelcome.com



Brazoria/Galveston/Harris County

Evacuation Zones

- Zone A Category 1-2 Hurricane
- Zone B Category 3 Hurricane
- Zone C Category 4-5 Hurricane

Evacuation Routes



Saffir Simpson Scale

Hurricane Category	Windspeed (MPH)
1	74-95
2	96-110
3	111-130
4	131-155
5	>155

Hurricane Evacuation Information

Find the location of your home on the map and note the evacuation zone where it is located. If you are in the BLUE ZONE (A), plan to evacuate for all hurricanes. Those in the YELLOW ZONE (B) should plan to evacuate for Category 3, 4 or 5 storms. If you live in the PURPLE ZONE (C), you should plan to evacuate for a Category 4 or 5 hurricane.

If you live near an evacuation zone boundary and are unsure of the evacuation zone you are in, error on the side of caution and assume you are in the zone nearest the coast. If you live in a mobile home in any of the three evacuation zones, plan to evacuate any time a hurricane threatens.

The main evacuation routes are highlighted in red on the map. These routes will take you out of the area of immediate danger to safety and shelter further inland. When a hurricane threatens, listen for instructions from local officials on how and when to evacuate and follow those instructions.



Do I Have to Draw You a Picture?

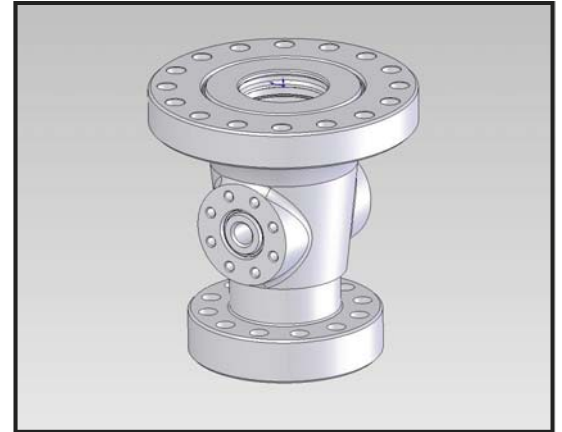
By Randy Arthion, Director of Engineering, FVC

“Do I have to draw you a picture?” How often we have used that phrase to admonish others who have a difficult time in visualizing an idea or concept. This phrase is subtly different for an engineer. We often must “draw a picture” to communicate our ideas. The most powerful tool that an engineer has is a drawing. Engineering drawings are specialized pictures that communicate the designers’ ideas and concepts. Drawings and drafting have been around for centuries. Even Leonardo Da Vinci made drawings of his ideas in his notebooks.

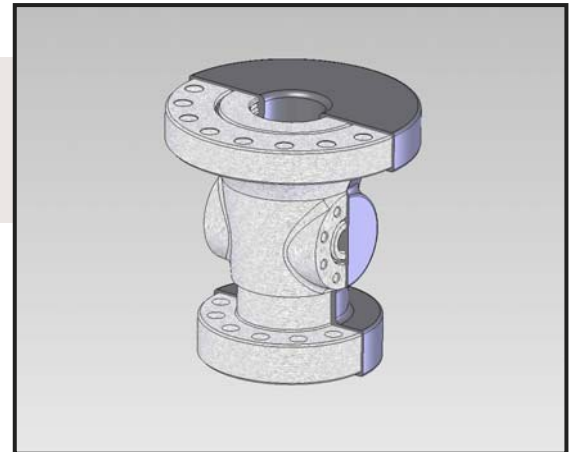
But drawings are 2-dimensional. We live in a 3-dimensional world. Every object has width, length and height. How can a 2-dimensional drawing depict a 3-dimensional object? Special rules for drawings were developed to help designers to draw accurate drawings, but they can be confusing to others. For instance, do you have a hard time visualizing the room arrangement when you look at a floor plan for a house?

Modern computers and software have provided an alternative to this visualization problem. Mid- and upper-range CAD (Computer Aided Design) software allows the designer to create 3-dimensional objects in “virtual space”. These objects can be rotated to show all sides. Any hidden feature can be shown in relative scale and detail.

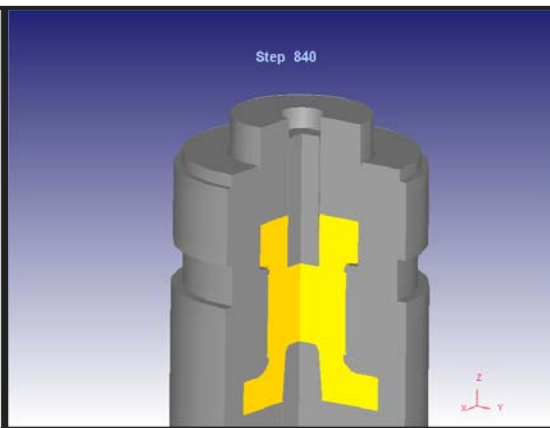
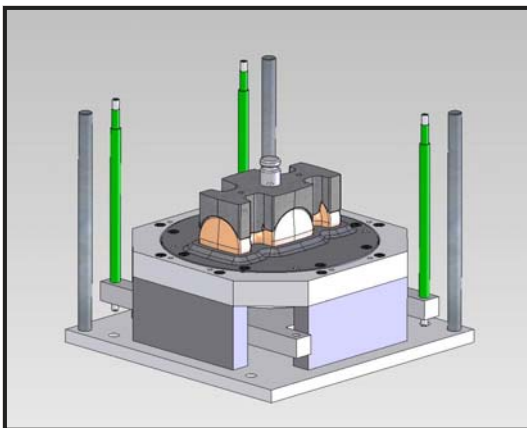
This type of visualization provides new opportunities to communicate ideas. For instance, we can show a forging envelope surrounding a machined part:



The virtual model of the 11—3K Tubing Adapter



These “virtual models” are created with real dimensions and therefore, contain all the information that a drawing of the part could provide. These models can also be used by the forging simulation programs to verify that a particular operation can be done without requiring excessive force or causing defects to form. Different ideas can be tried and verified without cutting the first piece of steel.



Tooling Assemblies

When tooling is verified by simulation, the “virtual models” can be used for manufacturing by CNC (Computer Numerical Control) equipment. No drawings are required for this step. (It is usual for a drawing to accompany the “virtual model” for visualization and checking.) This method ensures the most accurate method of tool manufacture.

Finish part machining is done in the same method. When required, part accuracy can be held to less than the thickness of a human hair.

FVC Team Rises to the Challenges Posed by New Product Development

By Pat Sullivan, Manager Quality Control, FVC

Forged Vessel Connections is the market share leader in supplying fittings and nozzles to the Pressure Vessel Industry. When the calling came to grow the business by doubling the business in ten quarters, it was obvious the bulk of this growth had to come from new products and markets. One of the targeted new products to support this plan was the tubing adapters or spools used by a number of



Tubing Adapters Stacked Outside FVC

oil companies on wellheads or Christmas trees in the oil & gas industry.

The door was opened with one customer to begin what is hoped to be a long-term partnership, by first supplying 11-3K tubing adapters. This is about a 1,000-pound part. They wanted to find another domestic source for this product and were surprised to find a potential supplier right here in Houston. From that point, the challenge Steve Tidwell's Business Development group put on the FVC team was to develop a forging process that maintains a tight forging envelope, minimizes material costs, and could be controlled to yield a high-quality consistent product. FVC deploys a number of manual machines, so supplying a consistent forged product to a CNC machine at Ameriforge was an additional challenge. Finally, the team was under a crashed schedule to make sure we landed this opportunity. Initially the team of **Randy Arthion, Tony Whitlock,**

James Cravy, Ed Murphy and Ken Carlson looked at simulations to study design options. They looked at wear points on tools, flow patterns of the steel, die temperatures, tonnages and resulting product configurations to optimize different tooling designs. The use of simulations was a new tool at FVC, and running the simulations actually took weeks—holding up some tooling decisions while waiting to get reliable simulation results. Once the results from the simulations were acceptable and the final designs of the tools were drawn, the team continued to meet at regular intervals to coordinate the project and plan for the first trials.

The complexity of both the product and the forge process necessitated that the team create a detailed forge instruction for the forge crew. **Ned Kennedy** (blacksmith) and his crew listened to **Randy Arthion** describe the process and present the work instruction with pictorial displays detailing the multiple steps to forge a tubing adapter. This was a first for FVC in that modular tooling and experienced crews used at FVC never required specific work instruction of such detail, so the manufacturing demands offered even another set of challenges.

The first pieces forged were on April 25th, with the entire press crew, all the team members, plus a few other interested parties watching in anxious anticipation. As expected the first pieces were not perfect, but not bad. Although these first pieces would not make the machined configuration, it confirmed that the design was good and minor tweaks could be made to get better fill or improve control of scale. All in all it was a big success.

Today there have been over 160 pieces forged, and the design team and the press crew are working on ways to further reduce variation and weight in the piece. They have also started forging a second part, the slightly larger 11-5K tubing adapters. As an observer outside the team, it was great to see that camaraderie, cooperation and common focus can be used to overcome a series of challenges that were outside the box.



Newly Installed Tooling Racks At FVC

AMERIFORGE MISSION STATEMENT

**Ameriforge Group is a
manufacturer of forged products
dedicated to growing with
selected customers and suppliers
through collaboration
in process and technical innovation
applied on a global basis**

Editors Note: A mission statement is a brief description of a company's fundamental purpose. It answers the question, "Why do we exist?" The mission statement articulates the company's purpose both for those in the organization and the public.