

RAM INC.

Summer 2022

Newsletter

Research and Development Drives Improvement and Quality at RAM



Engineering Staff - Right to Left: Kyle Houghton, Jeb Hudson, Wendy Beam, Daniel Bray, Justin Harrison, Zack Watson (Intern), Jackie Melton

Stroll around the shop at RAM, and you will often see several engineers with their “heads together” working on Research and Development. Implementing new processes and parts requires an innovative but also

methodical mindset. Sometimes a completely new article is requested by our customer, sometimes an opportunity for improvement exists in a current article or sometimes we experience unforeseen obstacles in processes. Whatever the circumstance, our team of engineers is more than qualified for the challenge.

To start, most projects will require a DMAIC analysis which stands for Define, Measure, Analyze, Improve and Control. While some projects require an analysis called “5-Whys” which is used to determine the root cause of a defect or problem by successively asking the question “Why?”.

Our engineers also use a variety of programs such as Mold Flow Analysis software, PCDMIS precision measurement software, Statistical Analysis Software, etc. They also set up Design of Experiment plans as well as setting up trial and error live testing.

One of the biggest challenges is managing the flexible nature of plastics when tolerance zones are very high precision. Some items require a tolerance as low as 0.0001 inches. This level of tolerance can only be detected by a precision measuring device or Coordinate Measuring Machine. RAM, Inc deals with a wide

variety of molded polymers and other materials, each having unique characteristics.

Mold design is paramount in this business. The optimum creative design of the actual tooling operation must be at the top of everyone's mind. Engineers at RAM are uniquely capable of designing tools that produce parts as efficiently as possible within customer requirements. This year a big win in productivity was gained by designing a single piece mold for an existing program. This design change saved the customer thousands of dollars due to a very material reduction in manual touch labor.

When asked about the most enjoyable part of their jobs, engineers usually cite the energy of creative discovery and feeling like their efforts produce a high value return for the company. Curiosity, creativity, and critical thinking are all necessary to R&D Engineers at RAM. Projects such as 5 Axis Lathe process design, 5 Axis Mill design, perforated punch operations, laminate forming, silicone molding and many others are ongoing improvements this year.

Customers have expressed satisfaction and continuously draw upon the expertise at RAM. We are uniquely qualified to assist in the design and production of high precision manufacturing of components in multiple industries. Please visit our website for more information.



Skill Bridge Program

Lt Col Shawn Hall

RAM, Inc had the honor of having soon to retire Lt Col Shawn Hall as an intern this spring. He came to RAM with over 15 years of leadership experience and technical training from the US Air Force. After serving in

the Air Force for over 22 years, he participated in the "Skillbridge Program" and will retire in August. The SkillBridge Program is intended to assist retiring airmen in their transition to the civilian workforce. Shawn has worked in each department at RAM, focusing on LEAN Six Sigma Manufacturing, while learning about RAM products and processes.

When asked about his time here, Shawn made the following comments:

"The folks that make up team RAM are some of the most welcoming and friendly people I have ever met! I thoroughly enjoyed my SkillBridge time working at RAM because of this!

I found so many aspects of RAM interesting and valuable. Having spent my career on the operational side of military aviation flying B-1 bombers, I hadn't thought in depth on how parts for aircraft and equipment were made. Interning at RAM opened my eyes to the vast amount of man hours and detailed processes required to build on time and conforming parts for military equipment. I think my favorite department that I spent time with was engineering. I really enjoyed getting hands on experience solving problems with parts and processes to produce the quality conforming parts that RAM is known for. I also thoroughly enjoyed working with the program managers. I had plenty

of experience working on programs from the military side but little to no exposure to the business side. The program managers gave me valuable experience and insight from the business side of program management. Finally, my time at RAM wouldn't have been nearly as much fun if I hadn't spent so much time in the Mold, Machine, and Deburr shops! All the operators were always happy to talk to me and entertain my questions as I tried to learn how the manufacturing processes worked for the hundreds of quality parts RAM produces."

Many thanks to Shawn for spending his time, knowledge and expertise at RAM, Inc!

Local High School and Educators Visit RAM

Hosting visits from the local education community are a fun part of the summer at RAM, Inc.



Breckenridge High School Visit

Students from the Breckenridge High School toured RAM one afternoon in May. Two groups of about 45 students spent a few hours learning about the various departments and experiencing what it looks like to work in a manufacturing company. In interviews the students expressed their surprise at how many steps are involved in the process and how much goes in to making parts. Also, the variety of processes and unique nature of the parts interested the students. Some



Educators Get In Depth Look at Manufacturing

For the last several years RAM has participated in a program with the TWC to host "Externs" from the education sector in a 3 day program where the extern is immersed in the day to day operations of a local business. This year we were very pleased to have Teresa Bridwell and Dillon O'Dell. Teresa is the Workforce Career and Education Outreach Specialist and Dillon is an educator in the Chemistry Department at Breckenridge High School. Each department spends half the day with the Externs to give them an overview of their operations. The purpose is to give a real world example of

expressed a special interest in the Quality Department and specifically the highly specialized jobs of measuring the parts with the CMM Machine. Several said that a job at RAM or other manufacturing company would be more interesting, complicated and rewarding than they had previously expected.

what it looks like to work in a manufacturing company, with the hope that this will influence their interactions with potential future employees. As they interact with hundreds of students throughout the area, they will be able to communicate and encourage students to explore careers in the manufacturing industry.



June 29th

New Engineering Professor visits RAM

Several educators from the local area visited RAM to introduce Matt Jackson, Phd of Engineering at Hardin Simmons University to the BCMA and their regional work to develop manufacturing. This fall HSU is kicking

off the first classes in the engineering school and RAM is happy to partner with BCMA to support this program.

Pictured from left to right: RAM Inc Team: **Mike Lewis** – Program Manager, **Richard Williams** – CEO, **Jeb Hudson** – Engineering Manager, **Danielle Rogers** – Program Manager. Visitors: **Thomas Taylor** – Operations Manager Ludlum's Measurements, Sweetwater TX, BCMA Board Chair. **Matt Jackson PhD** – Dean of Engineering, HSU. **Katie Scott** – Business Systems Teacher Cooper High School, **Rebecca Gage**, Math & CTE Teacher, Throckmorton ISD,, **Elisha Seca** – CTE NEXTU Career Coach, **Marissa Ransted** – Workforce Development Manager of Development Corporation of Abilene

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Letter from the President

June 20, 2022

RAM Team:

Last week I was invited to attend a DOD and Texas A&M Engineering Experiment Station (TEES) sponsored summit held in Westlake, Texas. The summit was labeled "Securing Defense Critical Supply Chains – Rare Earths to Munitions". The invitation came from the Executive Office of the President and opening remarks were given by TEES, The Department of Defense and the White House National Economic Council. The Texas A&M comments were essentially welcoming and the DOD and White House spoke about public investment to support and encourage re-shoring critical supply chain infrastructure.

The keynote speaker was from MP Materials, current owner and operator of the Mountain Pass mine, the only integrated rare earths mining and processing site in North America. Mountain Pass is located in California along Interstate 15 between Los Angeles and Las Vegas. You can capture more information regarding rare earths minerals at MP Materials web site <https://mpmaterials.com/news/>. The MP Materials representative's remarks focused upon the urgent need for North American control of mining and processing of these essential minerals to support our existing and growing supply chain needs. These minerals are essential feed stock for all electronic controls and electric power used in everything from cell phones and computers to electric motors. The conversation centered on permanent magnet applications.

There followed two panel discussions titled "Defense Supply Chains the U.S. Can Rely On" and "Empowering Innovative Small Businesses". Panelists for the first discussion were represented by executives from Bell Helicopter, Elbit Systems, Venus Aerospace and Qarbon Aerospace. You can obtain detail on the panelists at this link <https://na.eventscloud.com/website/40800/agenda/>.

I found the presentation to be interesting and valuable and my "take aways" are:

- The DOD and USG used this opportunity to champion public investments in re-shoring critical supply chain operations along with investments to support existing US small business innovation.
- The Prime DOD contractors expressed their surprise of the intricacies of raw material supply chain and the need for "transparency" within this chain. Specifically discussed was the Texas Freeze of February 2021 that resulted in short supply of critical "feed stock" chemicals that interrupted the raw material supply chain months later as existing supply was consumed and before renewed supply re-filled the supply chain.

The nuance contained herein is a common theme we work to address each day. This theme can be summed up as "Root Cause" and "5-Why" analysis. Further, to find a true root cause, we must use Critical Thinking to Define, Measure, Analyze, Improve and Control (DMAIC). If we do not encourage open debate, listen to opposing view, while holding a common vision of "what good looks like" we will spend our time

“speaking at each other” as opposed to “listening”. If we are afraid of the conflict, we will miss an opportunity to find a true root cause. Without a true root cause, it is impossible to find a durable corrective action.

My sense is that industry, when speaking to their customer is hesitant to point to true root cause – which may be inconvenient to their customer. They “fear” alienating the customer and in this way enable less than best solutions – slowly implemented and perhaps completely off mark – ultimately causing a strategic failure.

Nowhere in this conversation were questions surrounding how regulations and tax policy push the supply chain off-shore. Nowhere in this conversation were questions regarding energy policies and their impact on mining (mineral, oil and gas) and refining of these raw materials.

As a team, we must always remind ourselves of our mission – bringing value to our customer, shareholder, community and each other. We do this by engaging in passionate honest debate, bringing our best creativity while listening to opposing view with sincere humility. I am proud to work with each of you as we experience this journey together.

Best regards,

CEO



Team Member Milestones

Each quarter, RAM, Inc has an employee appreciation lunch where we celebrate 5, 10, 15, and 20 year employee anniversaries. Richard Williams, CEO gives a motivational company update to all employees and gifts door prizes to selected employees. In March, we had an excellent BBQ lunch from a local restaurant, Natty Flats BBQ. In July, Richard Williams, CEO, cooked burgers for everyone., which has become a fun tradition each July for the RAM, team.





Top Row: Billy Combs receives a gold watch for 20 Years of service, Dustin Williams accepts his engraved clock for 10 Years, Brady Ramsey receives a RAM Logo Jacket for 5 Years

Middle Row: Floyd Cotton receives his RAM Logo Jacket for 5 Years, Lilian Calvagna receives her clock for 10 Years and poses with Diann Morris (Owner) and Richard Williams (CEO)

Bottom: Tanner Ramsey receives his RAM Logo Jacket for 5 Years

Anniversaries

January to June 2022

A big Thank You to these team members!!

One Year - **Doyle Spurgin** (Mfg Mgr)

Two Years - **Darrell Hilsinger** (Mold dept), **Rebecca Lowrey** (QA), **Trey Wilson** (Mold dept), **Mary Lopez** (Mach dept), **Philip Frank** (Mach dept), **Brittney Odom** (Accounting)

Three Years - **Gabe Anaya** (Engineering), **Verna Chadwick** (Mach dept), **Ceresa Jackson** (Debur Dept), **Mike Turkle** (Shipping), **Jonathan Hernandez** (Mach dept), **Mark Trevino** (QA), **Deanna Gryder** (QA)

Four Years - **Daniel Drews** (QA Mgr), **Justin Harrison** (Engineering)

Five Years - **Floyd Cotton** (QA), **Tanner Ramsey** (Mach dept), **Brady Ramsey** (Mold dept)

Eight Years - **Royce Patrick** (Maint Mgr), **Clayton Goble** (Mach dept)

Nine Years - **Terry Myers** (Mach dept)

Ten Years - **Dustin Williams** (CTO), **Lilian Calvagna** (Assembly)

Eleven Years - **Wendy Beam** (Engineering), **Alex Conger** (Production Control)

Twelve Years - **Richard Williams** (CEO)

Fourteen years - **Tracy Reeves** (Debur dept)

Twenty Eight Years - **Jackie Melton** (Engineering)



**RAM Engineering
Services**



**RAM Engineering
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SolidWorks



**RAM Product
Services**

Injection Molding

Mold Flow Analysis

PC-DMIS-CMM

Vacuum Molding

Laser Scanning

Digital Vision Inspection
System

Thermoforming

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Machining

X-Ray Testing

SolidWorks Plastics
Module

Metal to Plastic Design
Coordination

CAMWorks

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Reverse Engineering

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Component Design

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RAM, Inc

808 E 6th St, Cisco
Texas 76437 United States



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