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Are you needing to drill vent holes in automotive door seals? Do you have an application where you are needing to put holes in soft materials? Our line of rubber core drills were originally developed for the automotive industry to remove slugs from door seals. While they are not specific to door seals alone these rubber drill bits work quiet well for applications in soft materials. If you have ever tried to put clean holes in soft materials you know the frustration of using traditional twist bits. Those types of bits tear the material and leaving jagged edges which can sometimes leave the part unusable. If this has been your experience try out our line of hollow drill bits. We have two specific lines of drills that we use. These bits are optimized to be used for manufacturing processes that require either vertical or horizontal drilling positions. While the sizes below are the standard sizes we manufacture, we can make custom sizes for you. Let us know if there is a special need that you have and we will work with you to develop a custom solution. For Vertical Drilling Applications- Titanium Coating - Tennessee Tool & Engineering, located in Oak Ridge, Tennessee, is a leading provider of machine automation, casting, machining, and assembly services. With over 50 years of experience, their state-of-the-art facilities and dedicated professionals offer a wide range of manufacturing solutions for various industries. From one-off job shop products to medium-sized batch quantities, their Machining Automation division fabricates, builds, and automates special equipment, while their Production Machining and Assembly division delivers high-quality machined components and value-added assembly. Additionally, their Casting Technologies division excels in die casting, serving customers in automotive, appliances, lighting, and more, with a strong commitment to quality and service. With a focus on research and development, cutting-edge technologies, and on-time delivery, Tennessee Tool & Engineering is a trusted partner for businesses seeking innovative solutions. Their integrated model and expertise in advanced manufacturing and engineering practices enable them to solve complex problems and provide tailored services to meet customer needs. As an industry leader, Tennessee Tool & Engineering continues to drive innovation and deliver exceptional results for their clients. Generated from the website Tennessee Tool and Engineering's Production Machining and Assembly division is a contract manufacturing house providing machined components from a variety of materials. From raw bar, to castings, forgings, and extrusions, we work with our customers to deliver the perfect product and quality. Here in our Oak Ridge, Tennessee facility, we provide medium to large quantity machined products, as well as value added assembly if required. From "Batch and Queue" to automated "Single Piece Flow", we work with a variety of systems to ensure the right delivery for our customers. Tennessee Tool & Engineering's Precision Machining Division designs and manufactures products for all industries, including:AutomotiveOil - Gas - ChemicalMilitary-DefenseInstrumentationResearch - ScientificTTE's Precision Machining Division has the design and manufacturing breadth to satisfy a broad range of customer needs, from cost-competitive, high volume automotive components to custom-designed, unique applications for most difficult applications.TTE Precision Machining Division's expertise is in developing solutions for systems around the world, including mission critical applications. TTE Precision Machining Division also has multiple programs for use as defense applications.Product sizes routinely manufactured by TTE Precision Machining Division range from 0.125" or up to 20.00" in length and in materials from aluminum to titanium, and others.Tennessee Tool & Engineering Precision Machining Division's products include:AutomotiveCylinder Head CoversOil Pump CoversWater Pump BodiesFuel FiltrationAir Dryer SystemsMechanical Energy related productsValve actuationFuel, Air, and Oil controlsPressure GagesSudden Pressure RelaysTennessee Tool & Engineering Precision Machining Division's broad capabilities in the design and manufacture of low volume and high volume product lines can satisfy customer needs in every marketplace.TTE Precision Machining Division was established in 1997 to meet the manufactured component needs of mid to high volume automotive and heavy truck OEM's. Complete turnkey manufactured programs are offered from single units to value added sub-assemblies by using the latest machine tool technology and software to run it. Today's volume machining suppliers must meet the stringent quality and price requirements that have become standard business practice within the industry. With today's ever increasing competition from around the world, our company is positioned to come out on top and meet these challenges head on. Do you need to precisely cut material to length? If you answered yes then an automated saw might be the right piece of equipment for you and your business.Traditionally, if a piece of material is needed at precise lengths, it is first rough cut from stock, and then it is final machined to length. While this may be a sufficient solution for low volumes, it is not adequate for high volume applications. Using this traditional manufacturing approach two operators are needed: One to rough cut the material to length and then another operator to final machine to a tight tolerance.Tennessee Tool and Engineering has looked at this manufacturing approach and has developed precise automated saws to reduce manufacturing complexity and decrease manufacturing run times. We proudly boast that our saws, when running automatically, can hold a tolerance of +/- .015". Because of this our automation engineering team has been able to eliminate a manufacturing process and maximize the effectiveness of our workforce.How Automated Saws WorkFor operation, the automated saws use a magazine feed system. This magazine, which is hopper to load blank sticks of material, is initially filled up by a single operator. Next the operator selects the program that correlates with the desired part length and then the machine feeds material into the saw. Part after part the machine runs fully automated producing tight tolerance parts to length.From the time that the machine starts auto mode, to the time that it completes cutting the last part, the only responsibility the operator has is emptying the final part tote. This system has allowed many of our customers to utilize a single operator to operate multiple automatic machines that produce different part numbers. This in resulted staff multiplication for our customers and an increase in company revenue.TTE was originally contacted to solve a manufacturing issue a part supplier was having. The customer was needing to speed up a sizing operation on blank extruded aluminum profiles, save floor space, and reduce operator hands on time. The customer required that whatever machine was developed it had to be able to size two different aluminum extrusions profiles. In the end, this machine was to be part of a full line of machines that would cut, pierce and weld the blank extruded aluminum parts to a larger assembly.Based on the decades of experience TTE felt comfortable with the challenge and developed a fully automated saw cell for the customer. The machine would receive blank aluminum extrusion profiles, auto feed them into the saw, and cut them repeatedly to precise lengths. Machine Specifications670,000 Parts Per Year24 Second Part Cycle Time35 Minute Uninterrupted Run TimeProduces 2 Different Part Numbers Using 2 Different Extrusion ProfilesDust Collection System to Remove Saw ChipsSimple In Operation TTE's Machining and Automation division is a machine automation company that engineers, manufactures, assembles, and installs custom industrial automated equipment for the manufacturing industry. From small single cell equipment to large multi-cell automated processes, we have seen it all.With nearly 50 years of business, and 190+ years of combined team experience, our team has the level of experience required to solve the toughest manufacturing challenges. Whether it is robotic weld cells, automated tube benders, industrial automated saws, automated die presses, robotic part assembly stations, leak checkers, or any other variation of automation system, we have the background our customers demand.From the initial contact, to the final product, our team of engineers work alongside our customers to develop robust industrial automation solutions. This partnership approach allows us to catch potential design issues early in the engineering process and helps us to cut down on design times. We have found that this cohesive approach produces the highest quality machinery that is needed today.If you are needing an automation solution contact us today and learn how we can help you. Video: Machine Automation Division Since the mid 1970's automation and robotics have played an increasingly import role in the world's manufacturing sector. This trend has grown and continues to grow at such a rapid rate that the IFR (International Federation of Robotics) has projected the world's factories will add an additional 1.7 million new robots between the years 2017 and 2020.Year over year growth rate of new robots and automation is estimated to be 14% with 5 of the world's top economies encompassing 74% of the total additions. Those 5 economies are China, South Korea, Japan, United States, and Germany respectively (see chart below).Clearly there is a lesson to be learned from this rapid growth and steps that modern factories need to take to stay competitive today. In the United States alone manufacturing companies comprise 2.17 trillion dollars of the U.S. economy and 98% of those companies are considered small business by the BLS (Bureau of Labor and Statistics). Due to the increasing globalization of manufacturing across the world it is imperative today that companies in the United States and those around the world employ every method possible to increase productivity, efficiency, and quality. This will allow them to stay competitive in the global manufacturing markets today and to thrive for years to come. Since 1972 Tennessee Tool and Engineering has been pushing the edge of manufacturing technology. Originally starting as a machining company TTE has grown to a tier 2 automotive supplier of cast, machined & parts with additional specialties in automated machine design. This broad level of experience over multiple decades has separated it from many of its competitors. Our engineering group is an experienced team of individuals. With over 190 years of combined experience, across multiple automation industries, TTE's automation team is situated to handle complex customer needs. For over 5 decades TTE has been supplying automation solutions to the manufacturing industry. This has led to over100+ successful automation projects completed over many different industries. It is success like this that TTE customers look for in their manufacturing solutions.1972 - Incorporated by Larry Palmer and Joseph Zenni in a 10,000 sq. ft. building in Oak Ridge, Tennessee. Core customer was Newport News Shipbuilding, Newport News, Virginia. 1984 - Built a new 20,000 sq. ft. facility on Emory Valley Road in Oak Ridge. All machining operations moved to this facility.1986 - Greg Palmer joins company to expand into the production machining market. The first CNC machine tool is purchased to manufacture a computer simulation control panel box for Hughes Aircraft.1988 - Entered first major automotive contract with Buick to machine the Buick 708 FEC. Volume at 5000 units weekly.1992 - Expanded into Aluminum Die Casting to offer turnkey programs to existing customers. An 8,000 sq. ft. building is erected to house this operation. Main building expanded to 25,000 sq. ft.1997 - Tennessee Tool & Engineering is awarded contract from Tennessee Aluminum Casting (TAC) in conjunction with Toyota Manufacturing, Georgetown, KY, to machine Oil Pan housing adapter. Volume 4,500 units weekly.1998 - The Die Cast Division is spun off from Tennessee Tool and incorporated in March under the name TTE Casting Technologies, Inc. It offers complete Aluminum Die Casting products and sub-assemblies.1999 - TTE Casting Technologies, Inc., facility is expanded to 20,000 sq. ft. New 700-Ton Prince Full Sleeve machine purchased to meet the ever-expanding automotive markets need for a better quality casting.2001 - Tennessee Tool & Engineering is now three separate operating units that employ 95 associates. TTE Production & Assembly achieves ISO 9001 quality registration.2008 - Tennessee Tool & Engineering is awarded the 507 Oil Pump Cover by Aisin Automotive, this component will be supplied to Toyota's Engine Assembly Plant in West Virginia.2012 - Tennessee Tool & Engineering is awarded the Electronic Steering Assist by Globe Motors, to Tier One's Polaris, Arctic Cat, BRP, this component will be supplied to Globe Motors/ Dothan, AL Plant.2014 - Tennessee Tool & Engineering is awarded the Honda Water Pump Cover Service Program by Aisin Automotive Clinton, TN.2016 - TTE Casting Technologies adding 10,000 Sq. Ft. addition as well as a new 700 Ton Die Cast Press. At TTE Casting Technologies, Inc. we are committed to maintaining an uncompromising dedication to the quality, service, and attention our customers deserve. This commitment will exceed the expectations of our customers as we continually improve our products, our customer relationships, and the advancement of our people and technology, while providing a safe and environment friendly work atmosphere. By maintaining this commitment, we will continue to be a superior performer and supplier of choice in the Die Cast industry.TTE Casting was originally founded as a division of our parent company Tennessee Tool & Engineering to offer turnkey programs to existing customers. In March 1998, it was incorporated as a sister company under the name TTE Casting Technologies, Inc. and offered complete aluminum die casting products and sub-assemblies. A year later, our facility expanded from 8,000 sq-ft to 20,000 sq-ft to house new equipment to meet our customers' need for better quality castings. In 2016 it expanded once again where it now encompasses a 30,000 sq-ft state of the art facility.Tennessee Tool & Engineering's Casting Technologies designs and manufactures products for all industries, including:AutomotivePower SportsApplianceLightingConstructionCommercial TransportationPower GenerationTTE Casting Technologies, Inc. strives to incorporate technology and teamwork to deliver superior quality, continual improvement within manufacturing, surpassing customer expectations and becoming world class.In our quality department, we have cutting edge technology to ensure parts that meet customer standards. This includes: x-ray & CMM capabilities, as well as custom gages and a spectrometer.Computer Aided Design (CAD) with Siemens NX 9We have a certified CAD Engineer on staff who daily utilizes the NX 9 software to increase the quality of customer products through engineering updates and modifications as well as VE-VA projects.Process EngineeringVisi-Trak software gives us the capability to monitor machine parameters in real time. Which allows us to produce better quality castings.Die Cast Machines:(2) 550 ton UBE(2) 600 ton Prince(1) 650 ton Prince Die Cast PressTrim Presses:(7) 30 ton Metal Mechanics - (1) horizontal & (4) verticalRobots:(6) Motoman UP50(1) Motoman SK45Auto Ladlers:(5) Rimrock(2) UBEFurnaces:(3) 2000lb Morgan(2) 3000lb Thermal TEK(1) 7500lb Schaefer Wet Bath Reverb(1) 8000lb Schaefer Wet Bath ReverbAuto Sprayers:(7) Rimrock(1) 450lb Pangborn Barrel Blaster(1) 960lb Pangborn Barrel Blaster(2) 60H2 Smartline Hanger Blaster(1) Met-Fin Tumble Blaster For nearly half a century, Tennessee Tool and Engineering has been making American industry better through machining, automation, and casting. Located in Oak Ridge, Tennessee, TTE spans 3 state of the art complexes, employs over 150 dedicated professionals, and serves an impressive array of businesses. With a focus on research and development, cutting edge technologies, and targeted on-time delivery, TTE's model of integration and performance gives customers a powerful ally in today's industry. TTE consists of 3 organizations that function both as a unit, and independently of one another depending on the job at hand. These are TTE Machining & Automation, TTE Production Machining & Assembly, and TTE Casting Technologies, Incorporated. Tennessee Tool and Engineering's Machining & Automation division provides one-off job shop products up to medium size batch quantities. Here we fabricate, build, and automate special equipment. Our PMD group works hand-in-hand with our customers to produce automated robotic cellular manufacturing processes for single piece workflows. And our experienced, expert staff assists customers with design and engineering services. Learn more. Our Production Machining and Assembly division is a contract manufacturing house providing machined components from a variety of materials. From raw bar, to castings, forgings, and extrusions, we work with our customers to deliver the perfect product and quality. Here in our Oak Ridge, Tennessee facility, we provide medium to large quantity machined products, as well as value added assembly if required. From "Batch and Queue" to automated "Single Piece Flow", we work with a variety of systems to ensure the right delivery for our customers. 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We would like to work as partners to understand your needs. Let's start a conversation!Email: info@tenntool.comPhone: 1-865-483-6334Fax: 1-865-483-6335

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