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Precision Castparts

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Introduction

Precision Castparts Corp. (PCC) stands as one of the most compelling stories in modern American manufacturing—a tale of ingenuity, perseverance, and strategic reinvention that spans more than seventy years. From its humble beginnings in a small Portland casting shop in 1949, to its position today as a global leader in the production of complex metal components, PCC embodies both the grit and adaptability that have long been hallmarks of the American industrial spirit. This book is both a chronicle and an analysis: a journey through the events, innovations, and leadership decisions that shaped the company, as well as a critical look at its present condition and future prospects within a rapidly evolving industry landscape.

At its core, Precision Castparts has specialized in the art and science of transforming metal into mission-critical components for some of the world's most demanding applications—jet engines, power turbines, medical devices, and more. Early on, the founders recognized the potential of investment casting and vacuum metallurgy, capitalizing on a fundamental shift in materials science at the dawn of the jet age. Their relentless pursuit of technical excellence and quality established PCC's reputation, and laid a foundation for decades of expansion through innovation and acquisition.

Guided by only three CEOs over its entire history, PCC evolved from a regional supplier to a multinational conglomerate, with a client roster that counts virtually every major aerospace and industrial manufacturer. Key moments, such as securing General Electric's early engine contracts or the strategic acquisitions of TRW's airfoils division, SPS Technologies, TIMET, and many others, propelled the company not just in size but in capability. Whether mastering the forging of massive titanium components or developing high-performance alloys, PCC consistently stretched what was thought possible in metal fabrication.

Yet, the company's meteoric rise has not been without its trials. Its acquisition by Berkshire Hathaway in 2016, initially celebrated as a crowning achievement, quickly became a business case in the volatility and unpredictability of the global aerospace sector, as the COVID-19 pandemic struck and commercial air travel collapsed. Regulatory and environmental challenges, labor disputes, and shifting market dynamics have also shaped PCC's modern narrative. But just as it has throughout its history, the company has demonstrated remarkable resilience—investing in new technologies, adopting sustainability initiatives, and finding opportunity in the face of adversity.

Today, PCC sits at a crossroads between tradition and transformation. Its legacy

facilities continue to produce world-class castings and forgings for the next generation of aircraft and energy infrastructure, while ambitious projects—from renewable-powered titanium melt plants to advancements in additive manufacturing—signal an intent to remain relevant and competitive for decades to come.

In telling the story of Precision Castparts, this book aims to illuminate not only the strategies and personalities behind its growth, but also the broader currents of American manufacturing evolution. Through booms and busts, regulatory battles, and global disruptions, PCC's journey offers timely lessons about innovation, adaptability, and the enduring value of precision.

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CHAPTER ONE: The Spark of Innovation - From Saw Chain to Castings

The story of Precision Castparts, like many quintessential American enterprises, begins not with grand designs for global dominance, but with a practical problem and the ingenuity to solve it. Our narrative takes us back to Portland, Oregon, in 1949, where Joseph Cox, the president and owner of Oregon Saw Chain, faced a challenge in his primary business: finding a way to produce a specialized cutter for his chainsaw products at an economical price. Conventional methods weren't cutting it, so to speak.

Joseph Cox was no stranger to innovation. He was a logger and inventor who, in 1946, observed timber beetle larvae chewing through wood with remarkable efficiency. Their C-shaped jaws moved from side to side, a stark contrast to the scratching, forward-only motion of existing saw chains. This observation sparked an idea, and by 1947, Cox had developed and patented a revolutionary "chipper" chain, which quickly became the foundation of Oregon Saw Chain and later, Omark Industries. This deep-seated innovative spirit would, in a few short years, give birth to Precision Castparts.

Recognizing the need for a solution to his chainsaw cutter dilemma, Cox decided to establish a small investment casting operation. This was a relatively niche field at the time, but one that held immense potential for creating intricate metal components. Investment casting, often referred to as the "lost wax process," involves creating a detailed wax model of a part, encasing it in a ceramic shell, melting out the wax, and then pouring molten metal into the resulting mold. This method allowed for the production of highly precise and complex shapes, which was exactly what Cox needed.

To oversee this burgeoning venture, Cox turned to Ed Cooley, then the assistant general manager for Oregon Saw Chain. Cooley, a Harvard MBA graduate with an engineering background and a passion for helicopters, had initially struggled to find a job in the nascent helicopter industry after World War II. He had instead joined Oregon Saw Chain, a move far removed from his aerial aspirations. However, his involvement in the new casting operation would ultimately steer his career, and the future of Precision Castparts, in an unexpected and impactful direction.

Cooley immersed himself in the investment casting business, not only managing the internal production for Oregon Saw Chain but also actively seeking out external work from other local businesses. This proactive approach proved highly successful, demonstrating that the casting operation had a market beyond its initial internal purpose. The demand for their specialized metal components grew steadily, signaling that this small division had the potential to stand on its own.

The success of the casting venture became undeniable, leading to a pivotal decision. In the spring of 1953, just four years after its inception, the casting division was spun off from Oregon Saw Chain and formally established as a separate entity: Precision Castparts Corp. Joseph Cox initially remained the sole owner and president of the newly independent company. This separation marked the official birth of PCC, a moment that would reverberate through American industry for decades to come.

The newly formed Precision Castparts, a company of about twenty employees at its inception, moved its operations to a new, larger facility. This move was a clear indication of the confidence its founders had in its future, providing the necessary space for anticipated growth and more sophisticated production capabilities. Ed Cooley was appointed General Manager, a testament to his crucial role in developing the casting operation from its early days.

Three years after its initial spin-off, in October 1956, Precision Castparts Corp. was formally incorporated under Oregon law. At this point, the ownership structure had shifted, with Ed Cooley and two other individuals taking the reins. This marked a new chapter, as the company gained a more defined corporate identity and structure, poised for independent growth and expansion within the burgeoning field of advanced metal components.

Despite a couple of instances where the casting operations were "passed over" during sales of its parent companies—first when Oregon Saw Chain was sold in 1953, and again in 1956 when Omark Industries was sold—PCC managed to carve out a unique identity for itself. This early independence, born out of a perceived lack of interest from larger entities, paradoxically allowed Precision Castparts to focus intently on developing its advanced metal casting processes, setting the stage for its future leadership in the industry.

From the very beginning, Precision Castparts distinguished itself by focusing on the ability to produce castings of greater size and complexity than its competitors. This ambition was crucial in establishing its reputation. An early contract with AirResearch for a part that no one else could manufacture solidified PCC's standing as a reliable producer of structural castings capable of meeting exacting specifications. This initial success paved the way for numerous other orders, providing the momentum needed to carry the company through the 1950s.

The company's early market identity was rooted in its technical prowess. Precision Castparts became known for its proprietary process technology, which allowed it to produce investment cast parts significantly larger than previously thought possible—up to 60 inches. This was a game-changer for industries requiring robust, complex metal components that could not be economically produced through traditional forging and machining methods. By mastering and advancing the "lost wax"

process, a technique with ancient origins, PCC transformed it into a modern industrial marvel.

The foundation laid in these formative years was characterized by a clear vision: to excel in a niche but critical area of manufacturing. The foresight of Joseph Cox to initiate a casting operation for an internal need, combined with Ed Cooley's dedication to developing its capabilities and seeking external opportunities, set Precision Castparts on a path to becoming a respected name in the structural castings field. The company's unique ability to create large, high-quality cast components would soon become indispensable to industries on the cusp of a technological revolution.

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