Preston Tucker: His Car and the Men Who Helped Create It

By STEVE REPERGEL

Recently, I had the privilege of speaking to Philip S. Egan, author of "Design and Destiny: the making of the Tucker Automobile." Now 81, Egan, an industrial designer, helped make Preston Tucker's dream car a reality. This story outlines my conversations with Egan, presents findings derived from his book and offers insight into the minds of the automotive geniuses who worked so diligently behind the scenes.

As a highly creative individual who possessed acute visionary skills and a refined sense of business acumen, Preston Tucker was without question a successful entrepreneur long before he envisioned the Tucker automobile. Much of his success is credited to his personality---he had the talent and gift to make people believe and invest in his ideas.

Preston Tucker began his entrepreneurial triumphs during World War II with inventions of mechanical design. His involvement with military staff at Washington D.C. led to contributions on the Sherman Tank, the creation of the infamous Combat Car and the Tucker Turret which was used widely throughout the Second World War His interest in automobiles, especially with regards to speed, was sparked by his close relationship with famous racecar driver and designer Harry Miller. From his associations with Miller, Tucker spent much time composing concepts of mechanical ingenuity that could be applied to the inner workings of a revolutionary automobile. It was clear, however, that Preston Tucker would not be satisfied with just selling his ideas about automobiles. He wanted to produce a vehicle on the open market that he could proudly claim as his very own.

Phil Egan joined J. Gordon Lippincott and Company in 1946 as part of an elite team of talented designers and stylists. Shortly thereafter, Egan had seen some of the first advertisements promoting the Tucker automobile. In an issue of "Science Illustrated," a quarter scale model was photographed to appear life-sized as an aerodynamic two-door coupe with fixed convex windows and fenders that steered with the front wheels. The ad also depicted Preston Tucker's visions of fluid power, posing a mechanical pump sending hydraulic fluid to motors positioned at each rear wheel. This advertisement alone was convincing enough to lead Egan, as well as many others, to believe that Tucker had indeed set forth to design a car years ahead of its time. Later, in the spring of 1947, Egan had seen another interesting although different kind of Tucker advertisement. This time, the car had now evolved into a four-door model with fixed fenders. It was evident that Preston Tucker was still in the design stage of his dream automobile.

George Lawson created this Tucker clay model as advertised in the December 1946 issue of Science Illustrated. Only one quarter in scale, it was photographed to appear life-sized. This aerodynamic two-door version, which Preston Tucker had coined the "Tucker Torpedo," was never produced. The Torpedo name was dropped shortly thereafter in favor of "Tucker 48."

Unbeknownst to Egan at the time, there were discussions between Preston Tucker and J. Gordon Lippincott regarding the need for more design ideas to complete his creation. While Lippincott

assured Preston Tucker that his team could produce a clay model based on drawings alone the deal was finalized when Read Viemeister, Lippincott's director of styling, presented a black and white sketch showing a sneak-peek of a striking interior shot entitled, “Real Luxury in Transit.” Preston Tucker was impressed and immediately expensed for several designers and stylists from J. Gordon Lippincott to assist in his endeavour. The team consisted of Read Viemeister, Hal Bergstrom, Tucker P. Madawick, Budd Steinhilber and Phil Egan.


HOW FIFTEEN YEARS OF TESTING PRODUCED
The First Completely New Car in Fifty Years
Tucker '48

Advertisement entitled “The First Completely New Car in Fifty Years” presents an artist’s rendering of the “Tin Goose.” Appearing, November 17th, 1947 in its first national advertising campaign in LIFE, Collier’s, Saturday Evening Post, and Time magazine.

Unaware of the automobile's stage of development, the Lippincott team arrived at the former Dodge Aircraft Engine Plant that housed Preston Tucker's creation. “The plant was intimidating in itself,” recalls Egan. Considered to be the largest building of its time, the facility was initially home to massive engine manufacturing for B-29 bombers during World War II. Preston Tucker obtained the building to produce his dream automobile, but the plant stood more than half empty. Moreover, it was apparent that the facility could not be fully utilized even with Preston Tucker's idea of producing 1,000 vehicles per day.

At the Tucker Corporation, the Lippincott team met Alex Tremulis, the chief stylist and individual responsible for creating the four-door Tucker. In the design area of the plant, Tremulis presented a rough, full scale, clay model of Tucker #1. The Lippincott team would create a second clay model and focus on making enhancements upon the existing designs without changing the mechanical concepts, such as wheelbase, interior dimensions or body layout. Existing designs to improve upon would include the Cyclops eye, rear tailpipes, ornamentation, taillights and trim. One of Read Viemeister's sketches of a revised front bumper that was presented during the initial meetings with Preston Tucker would become one of the most prominent features in the vehicle's ultimate appearance.

Next to Tucker clay model #1, the Lippincott team unpacked their materials and began the process of constructing Tucker clay model #2. “There were awkward moments,” as Egan recalls, “having two separate creations going on side by side right out in the open.” Each clay model would be competing for Preston Tucker's approval. Knowingly, Tremulis kept his professionalism and occasionally used his sense of humour to ease the tension. As Egan puts it, “Tremulis was a gentleman.”

It was later learned that Tremulis was initially hired by Preston Tucker to improve upon George Lawson's design---the advertisement that depicted the "Tucker Torpedo" as an aerodynamic two-door car of the future. The four-door concept came about when Tremulis learned that Preston Tucker envisioned his automobile as a one-model car. Tremulis pushed hard to convince him of producing exclusively a four-door model; after all, a family car would be more marketable. As a result, Preston Tucker gave Tremulis the go ahead and the two-door model was held over for future Tucker automobiles.

Working under an aggressive timeline, the Lippincott team brainstormed ideas and worked diligently to create a more appealing Tucker than ever before imagined. Employees from the production floor would visit the clay models work-in-progress and openly state their opinions. Each team member also participated in exchanging viewpoints regarding the on-going developments of both clay models, but the most important comments would come from Preston Tucker. According to Egan, "He was adamant about the appearance of the Tucker, telling the Lippincott crew 'deeper…make the front end deeper!' " As matters progressed, Preston Tucker's visits became more frequent and involved, providing direction and correction whenever and wherever he felt it necessary.

While working steadily to complete Tucker clay model #2, the Lippincott team was amazed by the caliber of Tucker's tradesman. A master at sheet metal fabrication, Herman Ringling hammered everything by hand and measured by eye! Credited with producing the body parts of the Cord 810, Ringling possessed incredible adeptness, of which Egan states, "Gloves just seemed to get in his way, he did everything with his bare hands."

Behind the scenes, Preston Tucker had managed to assemble an all-star cast of automotive players who were veterans in the field of car manufacturing. The group included Fred Rockelman, V.P. and director of sales (formerly President of Plymouth); Hanson Brown, Executive V.P. (formerly V.P. for General Motors); Ben Parsons, V.P. and Chief Engineer (former Bendix and Borg Warner Executive) and Lee Treese, V.P. of manufacturing and mass production expert from Ford. Racecar driver extraordinaire Ralph Hepburn was also involved in spearheading Tucker racing programs. Unfortunately, not long after coming aboard, he was killed while driving his Novi Special during a practice lap for the upcoming 32'nd Indy 500, thereby derailing any plans for a Tucker racing team.

From the onset, Ringling and his crew were permitted to copy only the basic body shape of the clay models into sheet metal. Preston Tucker, however, wanted to see a full working prototype. After two months of countless revisions, working with temperamental clay and hearing comments from virtually every passerby, the Lippincott team finally completed Tucker clay model #2. With two finished clay prototypes resting side by side, Tremulis, his crew and the

Lippincott team listened intently as Preston Tucker carefully reviewed each design. While pleased with the outcome of both presentations, Preston Tucker observed Reid Viemeister's front bumper concept and announced, in his trademark gesture, “That's it!” Although complimentary towards everyone involved in both projects, he did not further indicate which features or designs would be pulled from either model for the final version. As a result, the Lippincott team headed back to New York with very little insight as to the Tucker's ultimate appearance.

For Preston Tucker, trying to raise capital from investors with the promise of a revolutionary automobile that had yet to be seen was making things difficult. It was now critical to show everyone the much-anticipated automobile that Preston Tucker had promised would change the car industry forever. With the announcement that he would present a fully working prototype within weeks, Tremulis coordinated Preston Tucker's final design decisions using only the best ideas drawn from the clay models. The “Tin Goose,” as Tremulis affectionately named the metal prototype, would require several layers of sheet metal, solder and welds. Enormous effort was invested in the final weeks to assemble the 589 cubic inch engine and fluid drive train. It was by no means an easy task, nor completely successful.

On opening day, the Tucker automobile was powered up and driven on stage to greet some 5000 anxious people---investors, dealers, media and various auto aficionados. Once at center stage, with a live band playing as loud as possible, the Tucker was immediately shut off to avoid calling attention to its noisy engine and overflowing coolant. The reception was incredible, with the crowd wildly applauding the beauty and sophistication of the Tin Goose. It was indeed a compliment to those who helped design and build her, but since Preston Tucker's fluid drives had not yet evolved to incorporate reverse, his beloved dream car sat stranded on stage, detracting from an otherwise overwhelming success.

Meanwhile, the Lippincott team from New York gathered every article they could on the Tin Goose, hoping to see details of the influence from Tucker clay model #2. Unfortunately, the workload at J. Gordon Lippincott decreased immensely and, as a result, Egan was courteously discharged from his employer. Luckily, through his friendship with Tremulis, Egan was hired on by Preston Tucker.

At the Tucker Corporation, Egan became privy to the highlights from the Tin Goose exhibition and was sad to learn that both clay models were destroyed shortly thereafter. He was, however, delighted by the appearance of the Tin Goose, but realized it too was only a prototype, not a full production model. As a result, the interior was underdeveloped and it became Egan's responsibility for further enhancement. Focus was set

forth on the driving compartment, including steering wheel, instrument panel, radio placement and seating requirements.

Throughout several meetings, Egan listened intently to his amiable yet flawed superior, Preston Tucker, who quite often created revolutionary concepts that were placed into production without further research. The prominent Cyclops headlight was one such example. It would turn in the car's direction of turn, but would not make a complete beam connection with either headlamp. A panoramic lens could have corrected the problem, but due to Preston Tucker's veto of the idea, it would not be implemented. Furthermore, most states had their own individual laws governing automobile standards. As a result, a stylish cover had to be made to fit over the Cyclops eye in those states where it would be illegal to operate. Although Preston Tucker was highly regarded amongst his peers as a pioneer of automotive innovation, his underdeveloped concepts often frustrated his team of engineers.

Still, one of the great characteristics of the Tucker automobile came about from its founder's unyielding demand for vehicle safety. Preston Tucker conveyed his ideas to Egan for a padded dashboard and instrumentation to be grouped around the steering column. All of his ideas were aimed at creating an unobstructed cockpit, whereby passengers would not be harmed by protruding buttons or gauges in the event of a collision. Ironically, seat belts were not on the list of protective features according to Egan, as Preston Tucker believed it would provoke a perception that his automobile was unsafe.


Tucker Sets a New Pattern of Safety

The National Safety Council says:
"Motor accidents kill or injure every 25 seconds of every day."

HOW TUCKER HELPS PREVENT TRAFFIC ACCIDENTS

WHICH ALL MOTORCAR MAKERS ARE COMBATTING

Tucker '48

On the track, the 589 cubic inch engine underwent rigorous testing and led to substantial criticism of its capability. Tucker engineers complained that it was too noisy, woefully underpowered and required multiple batteries to get it started. In addition, the ideas of fuel injection and fluid drives had been abandoned. Realizing the engine and drive train were a major threat to the existence of his automobile, Preston Tucker had no choice but to immediately search for new ideas.

Through interest from Tucker's staff, several employees agreed that the 6 ALV 335 Franklin helicopter engine could be converted to being liquid cooled and coupled with a Cord 810 transmission. While the transmissions were hauled from junkyards, engineers adapted three complete air-cooled 6 ALV-335 helicopter engines at the Ypsilanti Machine and Tool Company in Michigan, owned by Preston Tucker's mother. The engineers, including Preston Tucker Jr., began work immediately to modify the existing parts of both engine and transmission. At 320 pounds of weight, the

modified 6 ALV 335 engine produced 166 horsepower and delivered an astounding 372 foot-pounds of torque. From a stand still, the engine could provide enough power in first gear to strip teeth off the transmission. Tests later proved that Preston Tucker had an extremely well-proportioned power plant and drive train.

Using modified Cord transmissions was only a short-term solution to producing a mass production automobile. Faced with this reality, Tucker engineers began immediately developing their own breed of transmission. At the same time, Preston Tucker approached AirCooled Motors, the company manufacturing the 6 ALV 335 engine for an on-going supply, but the costs were greater than he had anticipated. Not one to be easily discouraged, Preston Tucker approached the board of directors who were anxious to release AirCooled Motors due to a lack of interest. Knowing it would be more cost effective in the long run to purchase the company rather than simply buy its engines, Preston Tucker bought AirCooled Motors for 1.8 million dollars. At last, he had secured the final link necessary to open his production line of Tucker automobiles.

By spring, the Tucker '48s began rolling off the assembly line. Morale was at an all-time high with completed Tuckers finally becoming reality. Reviews from automobile magazines set the record straight---they praised the car effusively. Nevertheless, Preston Tucker could not foresee the upcoming events that would carry devastating implications for his company and dream automobile.

The Securities and Exchange Commission of the United States controlled stock transactions and targeted the Tucker Corporation with allegations of mail fraud and other violations. The prosecution was rallied by at least one Senator from Michigan, Homer Ferguson, who it is believed was looking out for the interests of the Detroit automakers. With representation from attorney Otto Kerner, the government officials alleged Preston Tucker had intentions of acquiring investors for the sake of financing his own bank account, not an automobile. These malicious and absurd accusations were similar to the Hollywood anti-communist witch-hunts that prevailed only a year earlier and brought shame and ruin to hundreds of individuals. As a result, the publicity from the investigations caused the Tucker Corporation's stock to fall overnight. To Egan's dismay, he arrived at work one morning and was met by Tremulis who informed him the plant was closed until further notice. Egan never saw Preston Tucker from that day forward, but maintained a life-long friendship with Tremulis who apparently stayed on with the company until the very end. While investigations were underway, Preston Tucker struggled to reopen the facility, with a few hundred production workers continuing to manufacture his dream automobile. Production lasted for several months until early March of 1949, when the corporation fell into receivership and its assets were seized.

The trial proceeded for a period of three months, ending in late January 1950 with an acquittal of all charges against every defendant, but the damage had already been done. Preston Tucker's dream of producing automobiles that would grace the highways would never become a reality and it ruined him. A year later, he decided to venture upon another automobile project, this time in Brazil. Unfortunately, his health began to deteriorate and he returned home. Suffering from lung cancer, Preston Tucker died on the 26th of December 1956 due to complications from pneumonia. All those who believed in him, such as Tremulis, felt strongly that his ill health was directly attributable to the demise of the Tucker automobile.

Much debate has surrounded the factors leading to Preston Tucker's failures, including the lack of financing---experts believe he needed 10 times the amount of his 25 million from investors. In addition, there was his persistence on using fluid power at the rear wheels, a technology that has yet to be fully developed and, of course, the time he spent investing in the ill-fated 589 cubic inch engine he so intensely believed in. It is likely that all of these errors contributed to his downfall, but certainly none was more damaging than the accusations of financial wrongdoing made by extremist government officials.

Preston Tucker's mistakes were really quite typical in the scheme of things. In his defense, it must be realized that no enormous endeavour can be free from mishap or obstruction. Projects of gigantic proportions will have unforeseeable flaws and pitfalls that consume time, money and resources. It is just unfortunate that it happened to Preston Tucker and his dream automobile.

In 1988, Francis Ford Coppola directed the film, "Tucker: The Man and His Dream." According to Egan, the movie incorporates several fictional situations, including a connection to Howard Hughes. Most controversial, however, is the portrayal of the Big 3 automakers as conspirators attempting to sabotage Preston Tucker's operation. Egan has no knowledge of any automotive manufacturers interfering with the production of the Tucker automobile. In fact, as Preston Tucker rejected Egan's safety steering wheel designs, he opted to buy from a supplier. Through contract delays, they did not arrive on time and so Tremulis contacted his ties at Ford who supplied fifty blemished Lincoln-Zephyr steering wheels. Yet, of greater significance, Coppola accurately captures the spirit, passion and devotion of Preston Tucker who not only believed in his revolutionary automobile, but ultimately in the American dream.

In reflection, Preston Tucker was a genius who was ahead of his time---making him and his '48 Tucker an enduring legacy. One can only imagine the possibilities if Preston Tucker would have been able to continue making his dream car. He might have become the next Henry Ford or Walter P. Chrysler of the automotive industry, ushering in technological advancements, setting new standards and styling trends. It is certain that many would have benefited from his efforts, as he would have swept the automobile market by storm!

It wasn't until many years later that Egan considered the Tucker project to be such an enormous success. Today, the Tucker automobile is a priceless and collectible commodity with 47 out of 51 units sharing the glory. The once infamous Dodge Aircraft Engine Plant in Chicago where Preston Tucker built his automobile is now home to the Ford City Mall and commercial industry. As for Tucker's Combat Car, its whereabouts are unknown, but some believe it was scrapped as part of an effort to clean up army surplus left over from World War II.

Today, Phil Egan, Budd Steinhilber and Tucker Madawick are the only surviving members of the Lippincott team. This story goes out to all those involved in the making of the Tucker and to the Preston Tucker family---your dreams and hard work have not been forgotten. And to Phil Egan, for the use of his original photos of the Tin Goose and Tucker '48 pilot production number #1002, as well as taking the time to speak with me on numerous occasions, I thank you. I am also grateful to Bill Pommering of the Tucker Automobile Club of America (TACA) and Jay Follis at the Tucker Historical Collection and Library for the use of additional facts and photographs.

To learn more about Preston Tucker and his automobile, pick up a copy of Egan's book "Design and Destiny: the making of the Tucker automobile" or go online at: www.philegan.info. You can also write to the Tucker Automobile Club of America (TACA), by addressing your letter to Mr. Bill Pommering, President of the Tucker Automobile Club of America, Inc. 9509 Hinton Drive, Santee, CA 92071-2760 or visit their web site www.tuckerclub.org.