Scintilla - A Famous Name in Sidney

By I. Jeremiah Palmer

Scintilla was a famous name in aviation circles and widely known to older folks of Delaware County. Very little history is found about the division of Bendix and its people during the early World War II years. This article is written bringing some of Scintilla's history together along with stories told by a few people who worked there. Dedication is "In Memory" to those who gave so much.

Early Years

Sidney had a Blind and Sash Factory in the beginning of succession businesses. This adventure fell on hard times and was succeeded and refitted for the Cortland Cart and Carriage Company. Mr. Hatfield built several models of Hatfield cars that were produced in wooden buildings bordering Union and Delaware Streets. Even though the Hatfield cars were well made, the company could not compete with bigger companies in the Detroit Michigan area.

Events in Switzerland overseas would have a profound effect on Sidney for many years. The engineers in Switzerland developed an efficient magneto that provided a fat spark at high speeds firing the sparkplugs in aircraft engines. After the Great War (WWI), a Chicago promoter, Laurence R. Wilder, obtained the American agency and brought the magneto to the U.S. in 1921. At this time, Scintilla was attempting to open the aviation market. They convinced Wright Aeronautical that the Scintilla magneto could perform better than any available magneto. They received their first order in 1923 - a grand total - for six magnetos. In 1924 the Scintilla Magneto Company, a Swiss firm with headquarters in New York City, had a combination assembly plant and sales office on 57th Street in New York City**.** This company acquired the old Hatfield building and began manufacturing magnetos in Sidney. At this time the operations had only twelve employees. A former Hatfield official, Winfield Sherwood, volunteered (without pay) to search for a new village industry. Sherwood hit pay dirt in 1924. He invited Scintilla officials to Sidney convincing them to bring this superb magneto manufacturing line to the Tri-Towns area. Sherwood got a nod, Sidney built the housing complex, and named it Sherwood Heights in his honor (see picture). In reality, he should be called a hero for the Sidney area. In 1925 the entire operation was moved to Sidney, New York. In 1929 the Bendix Aviation Corporation purchased Scintilla adding this Division to their group operations.

Ramp Up

Sidney was experiencing a large boom in 1935 and big announcements came in the last six months of the year. Residents who read their July 4th Sidney Record got a first insight on good economic news. At the home offices of Bendix Corporation in South Bend, Indiana and the Hurley-Townsend Corporation of New York City, leading manufacturers of aviation spark plugs, planned a large consolidation. They moved equipment to Sidney occupying a part of the Scintilla Magneto Corporation plant. This was only the tip of the iceberg. On July 25, Scintilla Magneto officially announced a large expansion. Herman Hanni, Vice President of Scintilla, attended a conference in South Bend discussing how the corporate expansion would affect Sidney. "Factory

building operations will start next week," was Hanni's reply to a Record reporter. Hanni had been recommending the expansion for some time, and it was promptly approved.

Plant at Sidney during the War

At the time of the expansion, nearly 600 were employed at Scintilla. More than 150 jobs were planned adding $700,000 to the existing payroll. By the mid-1930s, World War II was still a few years away, but dark clouds were looming in Germany as Adolph Hitler came to power. Plans for increased defense manufacturing were under way. Although the United States stayed neutral until 1941, our country could and did supply defense items for our allies.

Problems of a Different Nature

Mr. Hanni convinced Bendix on the Sidney expansion, due to a good manufacturing base. However, the biggest situation lacking definition was housing for workers. Addressing the business community and citizens of Sidney before going to South Bend, Hanni said, "Improve Sidney's housing conditions … and we will then recommend to Bendix … the construction of another building." One of Sidney's best-known troopers was brought in bringing the housing crunch into a more favorable situation. State Police Troop C Captain, Daniel E. Fox served as Chairman of the Board for the Greater Sidney Building Corporation. They initially received about $50,000 capital and sold stock at $50 per share, par value. The building corporation sought funds from the Federal Housing Administration, with a favorable visit from two officials from Albany. As World War II got under way and the United States entered the conflict, the Scintilla plant expanded and hired even more employees. Thus, the housing supply never caught up to the demand.

In late December 2007 a press release given by Governor Spitzer stated funding had been approved for an updated Sherwood Heights development project. This included more than 800 affordable-housing grants. The $43.9 million in financing was approved by the State Housing Finance Agency and Affordable Housing Corporation. The AHC approved a $240,000 project grant for the village of Sidney, revitalizing the area around Bird Avenue and Johnston Circle. Mayor Jim Warren said the funding allowed the village to demolish eight remaining vacant buildings it purchased, making way for single-family housing in the area. Eight houses were built on lots previously cleared.

72—Defense Housing Project, "Sherwood Heights", Sidney, N. Y.

New Building

As promised by Mr. Hanni in July, work began on the new Scintilla building. It was reported in the August 8th Record that a Bainbridge company, Frank Lewis & Sons, was awarded the contract. The yellow brick, concrete and steel building was built very quickly. Nearing completion on October 10th, the installation of plant machinery would begin soon.

By 1942, the crucial need for wartime engine parts had increased its work force to 4000. Women's wages started at 35 cents and men at 50 cents per hour. Large numbers of employees came from all over Delaware County, as well as from surrounding counties using bicycles, autos, buses and even trains. In 1944, there were over 8600 employees working around the clock providing the best magnetos and ignition products for planes, tanks and even PT boats. In comparison to 1940, the entire population of Delaware was just fewer than 41,000 people.

Family Involvement

Even though the Palmer family lived at Meridale, the Sidney commute or drive was made daily to work at this defense corporation. My Father and Mother also ran a fairly large farm at the same time while caring for a young son. Some daily routines were: milking the cows by hand, feeding and caring for all the livestock (such as, horses, sheep, chickens, ducks, three cats and a dog), fixing fences in the spring and summer, and haying which fed the livestock through the winter. But this farm family, like many of the others in the area, tried to help the War effort providing our soldiers and sailors with the best equipment possible. Therefore, my Father went through a short training period and became a machinist at Scintilla during the War. He was put in charge of a centerless grinder, operating it for at least one shift and during peak periods often two shifts. Management decided piece part payments were the way to go, therefore, encouraging employees to work hard. Some friends commented if raw stock was available, my Father could complete what was normal for one and one half shifts within one shift. He was deemed as an excellent machine operator.

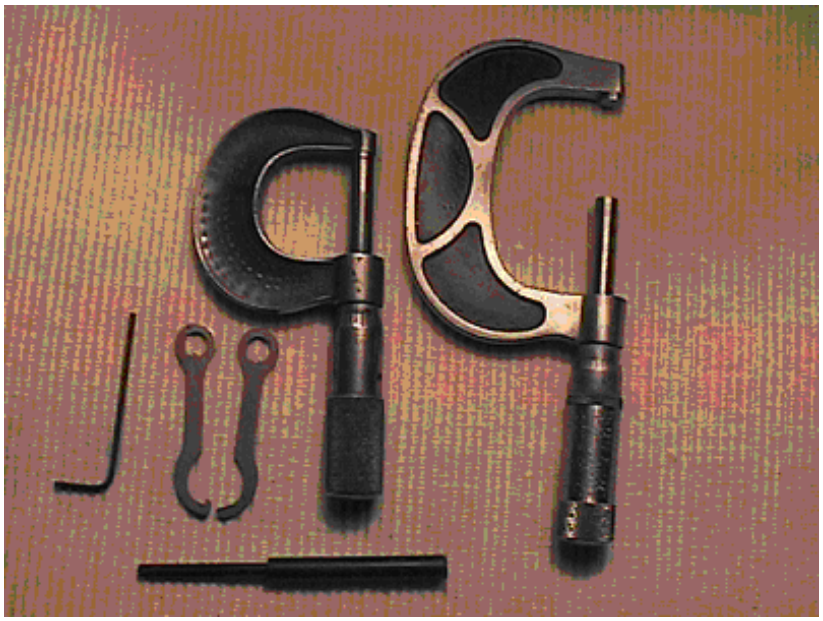
He talked some about Scintilla after the War. Most of his friends had left Scintilla for other jobs and he went back to running the farm on Palmer Hill. One of the best stories I remember as a small boy mentions June (Amasa Shaver Junior), another native of Meridale. He drove a bus picking up people along the Ouleout road (named for the creek) and delivered them to the plant in Sidney. Dad stated on one cold night in the middle of winter, the bus happened to hit a large skunk in the road by accident. For several miles the workers tried having June open the front door letting in the very cold air. Then, the passengers being cold would have June shut the door but the smell from the skunk was extreme. My Father said they went through several cycles of opening and closing the door that evening. But, the next morning they found the odor was still with them. June Shaver is mentioned as a driver and a friend of the family. He later enlisted and was killed in action in France on January 27th, 1945. He was a man with a great personality leaving family, friends, and now gone forever.

Tools and Tool Cases

Stored in the old Scintilla chest, as it was popularly called, is a pair of micrometers from that older age. These two items are still in use and are quite accurate for being over sixty years. Used at that time for measuring shafts or other manufactured parts, they provided an accurate output size of the part. If necessary, the next more accurate measurement could be made on a shadow gauge which was many times larger; therefore, mounted on a cabinet. To use this gauge, the machinist might have to walk several aisles to get to the gauge. Surely it was more accurate but it took a lot more time as well.

The micrometer was and still is the most accurate hand tool for measuring accuracy, while the digital versions are becoming more popular these days. Referring to the picture below on the left is a Reed micrometer which measured up to one inch across. Each turn of the thimble measured in 25 thousandths of an inch, with markings for each thousandth (.001 inch). With practice, a skilled operator can resolve to a smaller part of this thousandth if required. Also, printed on the frame on one side are the decimal equivalents of 64ths and on the other side the decimal equivalents of 8ths, 16ths and 32nds. This small and versatile tool displayed lots of information.

The other micrometer starts measurements at one inch and will measure up to two inches total, obviously being for bigger items.



Two micrometers from the WWII era made by Reed Small Tool Works, Worcester Mass. along with smaller tools to calibrate zero point, were used by Lloyd I. Palmer at Scintilla.

It took a little investigation to find more about the "Scintilla Chest". I correctly thought the chest was made by an outside company and was either recommended to the machinists or the machinists knew where to order this chest. Looking diligently for a nameplate or a label, none was found. But the old machinists were neat and orderly. The original card, found in a drawer describing care and maintenance, shows the manufacturer of the chest to be H. Gerstner and Sons from 3 Columbia Street in Dayton, Ohio.

One of the many tool chests used at Scintilla. It now has a home in the author's office and contains the micrometers plus other assorted tools.

Great Magnetos but…..

The Swiss engineers did a great job designing and building magnetos used on all types of airplanes before, during and after World War II. However, Germans who immigrated to the new world (America) had a deep seated belief in the Third Reich, and did their best to slow or stop production creating an inferior product. Aunt Dot (and Uncle Howard Fairbairn) came all the way from Margaretville to Sidney for work during the war. She entered a test position for spark plugs on the "line" and did very well testing all the plugs for that shift. These powered the Liberators and other bombers. There were methods or test procedures to follow. End results produced two boxes for spark plugs, one contained good ones ready for market and the second was a reject box holding failed plugs.

Everything was going fairly well until one of the "boys" or service men came to visit with Uncle Howard and Aunt Dot. When Aunt Dot mentioned the spark plugs, he told them about all the problems associated with these plugs from Sidney. He said these plugs were in low esteem with all the engine maintenance men. Often times when possible, these service men would toss the new Scintilla spark plugs away during an engine overhaul and substitute those from another manufacturer. She said she felt crushed by those words from a high school friend. She began watching carefully what was going into the test boxes. Talking with others, Aunt Dot learned that after she left her shift, another nighttime worker would take the duds from the failed box and package them as new and good ones. With that information, she brought from home another inexpensive but useful tool with her to her toolbox. It was called a hammer. Near the end of her shift, she would take all the failed plugs, hit them with the hammer, breaking the insulation at the top. She now thought everything was better and continued to work this way.

After a couple of weeks however, the shift foreman called her into his office for a talk saying she was trashing good material. He thought he had all the answers, but this time it was a lot different. She led him back to her position on the line and held up the box of rejects, asking him to choose one. When he did, she took it and subjected it to the standard tests, and again it failed. She then mentioned her friend and how he had talked about the degraded spark plugs from Scintilla. She took her hammer and smacked it soundly so that it could not be shipped. She also pointed out test sequence rejects should not be shipped and should be either scrapped or reworked, if possible. The supervisor said he did not know what to say except she was correct all though the procedure and to keep on doing her fine job. Later, the supervisor told Aunt Dot he was approached by a man on second shift who thought the reject box was now full of items to be shipped. The worker was told in straight terms he needed to be aware of standard procedures, and if he was found shipping reject items it would be cause for termination.

Add on note to this story ……. even with extensive historical research and background, information found a few years ago showed the German presence in the U.S. was not only large but powerful as well. Even the great Madison Square Garden in New York City was rented by a group called the Bunds, who might be described as a group of Germans interested in the Third Reich.

A Magneto here, a Magneto there, everywhere a Scintilla Magneto

Perhaps some library or the Library at Sidney could supply more information on how busy the many folks were assembling the unique magnetos, but so far any production records have not been available for this article. So around the mountain bend we go…. some published information found the Allison V-1710 was a popular engine. Over sixty percent of U.S. Army Air Corps fighters during World War II were powered by the Allison V-1710. In the early 1940's, this engine was produced in large quantities for several important fighters of WWII, including the P-38, P-39, P-40, P-51A, P-63, and P-82. Ignition is a Scintilla DLFN-6 magneto unit which combines two magnetos into one unit driven by a single drive shaft.

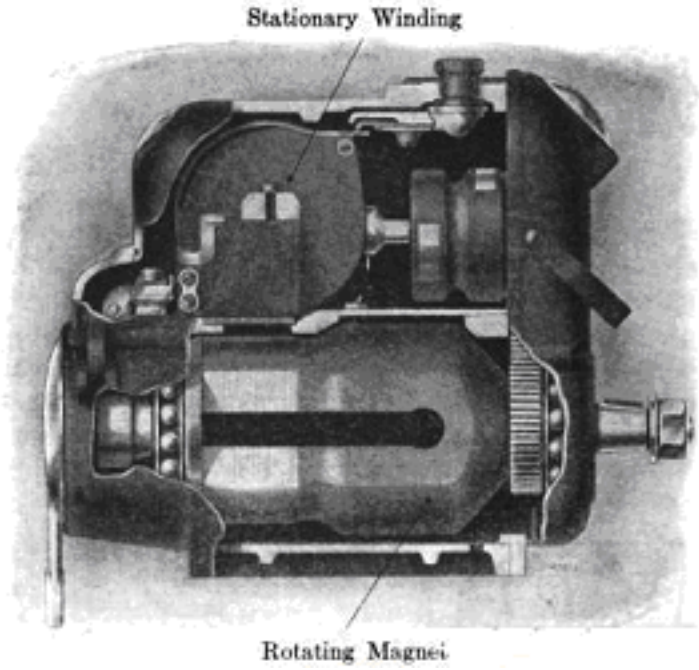
Calculations of magnetos produced by Scintilla during World War II:

- An estimate of 40,000 Allison engines, produced from 1942 to 1945, is thought to be reasonable. Each airplane had one or two engines. Take 40,000 as the total number of engines, times two magnetos per engine, results in 80,000 magnetos for the Allison engines. Note PT Boats, some of the Tanks and other equipment used these engines and magnetos.

- In June 1944, when production was at its peak, Boeing's Seattle facility turned out 16 of these B-17 bombers every 24 hours. The B17s were called the Flying Fortress. A total of 12716 B-17s were produced, each having four engines, giving a total of 50,864 magnetos.

- By this time, the company was also producing an improved bomber called the B-29 'Super Fortress'. This airplane dropped the atomic bombs on Hiroshima and Nagasaki in August 1945. A total of 3960 B29s were built times four Wright R-3350 engines (2,200 horsepower each) having Bendix-Scintilla S14RN-15 low-tension dual magnetos. Thus, 3960 times 4 equals 15840 total.

- Totals above equal 146,704 divided by five years gives an average output of 29,340 magnetos per year, or 2,445 per month. It sounds like an astronomical number to this researcher, but then again it could be factual or close to the actual number. Even after a large amount of research, no real numbers on the production at Scintilla could be found. Along with the items above, Sidney also manufactured ignition switches, ignition harnesses, distributor heads, spark plugs, fuel injection marine uses, and spare parts. If someone has production records, it would be nice to know what the actual figures were.



Scintilla Magneto
This magneto is different than other magnetos. It has a rotating magnet instead of a rotating coil.

Scintilla as a Community

Not only did buses bring in participants for this wartime enterprise, but the trains were set on a schedule matching the Scintilla start and end times. The Ontario and Western, the Delaware and Hudson and a short line called the Delaware and Northern tried to help in this endeavor. Many workers grumbled about having to stand during the lunch period while the National Anthem was being played. It might have been a relief for management with white shirts to stand after being at their desks all morning, but the workers were tired from standing all morning and wanted a continuous rest period. Another old timer also mentioned the Scintilla band used to parade up some of the streets after their shift was over, and even with the stress and long work hours the band sounded very professional.

Since workers had to eat a lunch or a small meal sometime halfway through a shift, the company cafeteria was probably a very busy place part of the time. While my father was a quiet individual and waited for others to monopolize the conversation, he was thinking all the time. Like others, he detested some of the bureaucracy even though it was necessary allocating goods based on their availability. As remembered, he said he was near the front of the line at the check out area, dug into his pocket for some change, paying for items he had for lunch. When he pulled his change, several blue colored OPA (Office Price Administration) cardboard tokens, controlling canned goods, came out with the change. Since the farm provided honey and maple syrup plus all sorts of other items Mom canned, these cardboard circles were about useless to this hardworking and conservative farmer. He said twenty to twenty five little tokens hit the floor in front of him running a short distance. He ignored them, paid for his purchases, and started forward finding a

seat to eat his lunch. Suddenly, two or three voices behind him asked if he was going to retrieve the tokens. He replied they were no use to him. He said a mad scramble ensued as everyone else wanted those few tokens and picked them up quickly.

Part of the United States Proud Effort

The folks at Scintilla not only toiled for the War effort, but they worked a 10 hour day, six days a week. The very good workers sometimes did a double shift when the other shift person was sick or had a very important appointment. Remember, farmers would still have the farm chores to complete at the end of their shifts. Along with all this toil came pride and accomplishment, as each employee was given a card inviting him or her to a presentation ceremony on Friday May 5th, 1944. This ceremony, held on the front lawn of the plant, presented Scintilla with an "Award for Excellence" in manufacturing products for the War effort (number one in the industry). Each employee received a certificate of the "E" Award, as it was called, and a couple of pins for their shirt or jacket showing the achievement.

(Left to right, top of picture)
E Award pin, 7th Victory War Loan pin showing On To Tokyo and Scintilla Magneto, two blue OPA cardboard tickets for purchasing canned goods, another E award pin, and the Invitation to the Excellence Award Ceremony at Scintilla.

After the War

Over the years, Bendix gained a world-class reputation for aerospace products. After the war, magnetos were built for many propeller plants both civilian and military. Currently, the company is known as Amphenol Aerospace Corporation and builds special connectors for a number of markets.

An advertisement from an early 30's flying magazine. How many aviators mentioned are common names now?

Scintilla Shuffle

Finally an attempt at humor, just for the old days and for things going wrong as they often do…. The Scintilla Shuffle, perhaps not known to many, is like the Curley Shuffle. You certainly remember Curley of "The Three Stooges" who made a number of movies, records, and was part of yesteryear's lore. When overburdened with a mental dilemma, he would stop what he was talking about and do the shuffle. Doing the Scintilla Shuffle, take a good Scintilla magneto, hold one of the high tension leads in one hand and with the other hand quickly spin the rotor. The dance or shuffle created by the high voltage will tell you in general terms that the magneto is working, and the dance it created is called the Scintilla Shuffle. **Caution**: do not try this at home if your nerves are frayed or if you are subject to seizures, heart trouble or diarrhea.