



# The Lightning Gun: How the Blyskawica Submachine Gun Revolutionized Warfare

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## *Abstract*

This article explores how the impact of the Blyskawica submachine gun on the military world. Developed by the Polish resistance during World War II, the weapon was a technological innovation that had a significant impact on firearms and military tactics. Its unique design and sound had a powerful psychological impact on its users and enemies, boosting morale and instilling fear in equal measure. The weapon's lightweight design and short barrel made it effective in close-quarter combat, while its ability to suppress enemy fire helped to shape the development of military tactics. The Blyskawica submachine gun became a symbol of resistance and freedom, playing a significant role in boosting the morale of the Polish people during the war. This weapon also stacks up pretty well to some of the biggest names in the submachine gun world in the World War II era.

*Keywords:* World War II, Polish history, military history, weapons history, firearms.

## 1. Introduction

The Polish Blyskawica submachine gun has a rich history that spans across a time when long-standing conflicts and wars had ravaged the world. The weapon was developed in response to the German occupation of Poland during World War II. It was designed under the leadership of Polish engineer Piotr Wilniewicz, in collaboration with other weapon systems experts, including Seweryn Wielanier and Wawrzyniec Lewandowski. The Blyskawica was designed to be light yet powerful, simple and robust, reliable, and easy to produce. It was meant to be used by the Polish military and citizenry in the fight against the Nazis. However, the weapon found itself at the center of various armed conflicts and military operations not only in Poland but also in countries in Europe, Asia, and Africa. This article explores the history, features, and impact of the Blyskawica submachine gun in the military world.

## 2. History of the Blyskawica submachine gun

The development of the Blyskawica submachine gun began in 1939 in the Państwowa Fabryka Karabinów (PFK) arms factory in Radom, Poland. The Polish authorities had directed the factory to develop a light and reliable submachine gun that would be used by the country's military and resistance fighters. The lead engineer on the project, Piotr Wilniewicz, designed the weapon to meet the specific requirements of the Polish forces. He borrowed elements of the British Sten submachine gun design to create a weapon that was easier to manufacture and cheaper to produce.

The weapon was named “Blyskawica,” which translates to “lightning.” This is reflecting its lightning-fast rate of fire. It was also a nod to the Polish destroyer ORP Blyskawica, which played a significant role in defending the port of Cowes during the German invasion of Britain in 1942.

The PFK factory completed the first prototype of the Blyskawica submachine gun in 1942. However, the weapon went into full production in 1943 when Poles organized an armed uprising against the Nazis in Warsaw. The factory produced over 7,000 Blyskawica submachine guns in the following months, which were distributed to the Polish underground forces, home army, and other resistance fighters. The weapon was also used by the British Special Operations Executive in their clandestine operations behind enemy lines in occupied Europe.

The Blyskawica submachine gun was designed and manufactured by the Polish Armia Krajowa, resistance movement during World War II. It was one of many weapons produced in secret underground workshops in occupied Poland. It was first produced in 1943 in a clandestine factory established in the city of Krakow. The gun was designed by engineer Seweryn Wielanier and manufactured by the Armia Krajowa, the largest resistance movement in Poland during World War II.

The Blyskawica was designed to be a lightweight and portable weapon that could be used by resistance fighters in urban environments. It used 9mm Parabellum ammunition and had a 32-round magazine. The gun was highly effective at close range and was used by the resistance in numerous sabotage and guerilla operations.

The Blyskawica was named after a Polish destroyer, ORP Blyskawica, which played a key role in the defense of the port city of Cowes during the German invasion of Britain in 1940. The gun was not widely known outside of Poland during World War II, but it gained international recognition during the Warsaw Uprising in 1944, when it was used extensively by the Polish resistance against the occupying German forces.

After the war, the Blyskawica continued to be used by the Polish Army and police forces. It was also exported to several other countries, including Indonesia, Peru, and Egypt. Today, the Blyskawica is considered a rare and highly collectible submachine gun, and examples can be found in museums and private collections around the world.

### 3. Features of the Blyskawica submachine gun

The Blyskawica submachine gun features a simple blowback mechanism that uses the force of the recoil to cycle and fire rounds from the open bolt. It was a lightweight weapon, weighing only 4.4 pounds, which made it easy to carry and handle in battle. The gun’s barrel was 8.5 inches long, with a total length of 28 inches. It fired 9mm Parabellum rounds at a rate of 550 rounds per minute, with a maximum effective range of 200 meters.

The Blyskawica submachine gun had several unique design features that made it stand out from other submachine guns of its time. It had a tubular receiver made of high-quality steel, which gave it a robust and durable build. The gun also had a folding stock made of metal, which allowed it to be easily transported and stored. The weapon had a 32-round magazine that was loaded from the left side of the receiver. However, the gun’s magazine could also be removed and replaced with a 72-round drum magazine.

In addition to its lightweight and easily transportable design, the Blyskawica submachine gun was known for its reliability, even in difficult conditions. Its simple blowback mechanism, in combination with its high-quality steel construction, allowed the weapon to withstand heavy use and remain functional even in extreme environments.

Beyond its technical capabilities, the Blyskawica submachine gun also played a significant role in the history of military weapons. It was the first submachine gun to be designed and produced entirely in Poland, a major achievement for a country that had been devastated by war and occupation. The Blyskawica submachine gun highlighted Poland's engineering and manufacturing prowess and became a symbol of national pride during a time of great hardship.

Moreover, the Blyskawica submachine gun was used by soldiers in several major military conflicts, including World War II and later the Korean War. Its impressive firepower, combined with its lightweight and reliable design, made it a favorite among soldiers and an important asset on the battlefield. Despite being designed over 80 years ago, the Blyskawica submachine gun is still a notable example of innovative and effective military technology.

Another notable feature of the Blyskawica submachine gun was its effective sound suppression. The weapon was fitted with a vented barrel that reduced the noise produced by the firing of the weapon, making it a preferred choice for special forces units that needed to use covertly. The gun was also equipped with an adjustable rear sight that allowed for exact shooting at varying distances.

Perhaps one of the most significant features of the Blyskawica submachine gun was its unique and intricate design. The gun's receiver, magazine, and stock were all carefully crafted to create a sleek and visually appealing weapon. The gun's overall aesthetic, combined with its military effectiveness, made it a popular collectible among gun enthusiasts and collectors.

Overall, the Blyskawica submachine gun was an impressive engineering feat that helped set up Poland as a leader in military technology. Its lightweight design made it easy for soldiers to carry and maneuver in the field, while its durability and reliability made it a trusted weapon of choice for soldiers in multiple military conflicts. Its unique design and historical significance continue to make it a popular and sought-after weapon among collectors and enthusiasts today.

#### 4. How did the Blyskawica stack up in comparison to other World War Two SMGs?

##### *MP-40*

The Blyskawica was chambered for the 9x19mm Parabellum cartridge and had an effective range of up to 150 meters. The weapon had a folding metal stock that could be deployed quickly, which made it ideal for use in cramped spaces, such as in building interiors or urban environments. The gun had a relatively low rate of fire, at around 600 rounds per minute, which helped to conserve ammunition and allowed for more controlled bursts of fire. The Blyskawica was also noticeably quiet, which made it ideal for use in stealth operations, such as ambushes or hit-and-run attacks.

In comparison, the German MP-40 was a widely used submachine gun that had a higher rate of fire, at around 500-550 rounds per minute. The MP-40 was also chambered for the 9x19mm Parabellum cartridge and had an effective range of up to 100 meters. However, the MP-40 was a more complex weapon than the Blyskawica and required specialized tooling to manufacture. The MP-40 was also more prone to jamming and misfeeding than the Blyskawica, which was known for its reliability and durability.

Overall, the Blyskawica was a highly effective and innovative weapon that proved its worth in the hands of Polish resistance fighters during World War II. The gun's simplicity and ease of manufacture made it an asset to the resistance, and its compact design and quiet operation helped to make it a formidable weapon in close-quarters combat. Despite its relatively low rate of

fire, the Blyskawica was able to hold its own against the more widely used MP-40 and played a significant role in the resistance movement against German forces.

### *PPSh-41*

The Blyskawica submachine gun and the PPSH-41 submachine gun were two of the most used submachine guns during World War II. Here are some details comparing the two weapons:

The Blyskawica was designed and constructed by the Polish resistance, and as a result, it was easily producible with limited resources. It was constructed using basic metalworking tools, making it ideal for underground resistance workshops. On the other hand, the PPSH-41 was designed and produced by the Soviet Union on a larger scale using more advanced manufacturing techniques. The Blyskawica was chambered for the 9x19mm Parabellum cartridge, which was also used by the PPSH-41. The PPSH-41 had a much higher rate of fire than the Blyskawica. The PPSH-41 had a rate of fire of about 900 RPM, while the Blyskawica was around 600 RPM.

The ranges of the Blyskawica and the PPSH-41 were similar, with an effective range of around 150 meters for both. However, the PPSH-41 had a slightly better accuracy due to its higher rate of fire.

The Blyskawica had a 32-round magazine, while the PPSH-41 had a 71-round drum magazine or a 35-round box magazine. The Blyskawica was much lighter than the PPSH-41. The Blyskawica weighed around 3 kg, while the PPSH-41 weighed around 4.5 kg. Both the Blyskawica and the PPSH-41 were known for their reliability and durability. The Blyskawica has a reputation for being particularly reliable due to its simple construction.

In summary, the PPSH-41 had a higher rate of fire, greater magazine capacity, and slightly better accuracy. The Blyskawica, on the other hand, was lighter, more easily producible, and had a reputation for being incredibly reliable. Both guns were effective submachine guns, and each had advantages and disadvantages.

### *M1 Thompson*

The Blyskawica and the M1 Thompson are both submachine guns that were used during World War II. Here are some details comparing the two weapons:

The Blyskawica was constructed using simple metalworking tools and designed for ease of production by the underground Polish resistance, while the M1 Thompson was a mass-produced weapon designed by the Americans. The Blyskawica had a unique folding stock, and its barrel was attached to the receiver with a screw, while the M1 Thompson had a wooden stock and a barrel band that held the barrel to the receiver.

The Blyskawica used the 9x19mm Parabellum cartridge while the M1 Thompson used the .45 ACP cartridge. The M1 Thompson had a much higher rate of fire than the Blyskawica. The M1 Thompson had an average rate of fire of around 700 rounds per minute while the Blyskawica had a rate of fire of around 600 rounds per minute. The M1 Thompson had a longer effective range than the Blyskawica. The M1 Thompson had an effective range of around 200 meters while the Blyskawica had a range of roughly 150 meters. However, the Blyskawica was known for its accuracy even at its shorter range.

The M1 Thompson had a higher magazine capacity than the Blyskawica. The M1 Thompson had a 20 or 30 round magazine, while the Blyskawica had a 32-round magazine. The M1 Thompson was heavier than the Blyskawica, weighing around 4.5 kg compared to the Blyskawica's 3 kg. Reliability and durability: both the Blyskawica and M1 Thompson were considered reliable and durable weapons. The M1

Thompson had a reputation for being very dependable, but the Blyskawica was considered even more dependable due to its straightforward design.

In summary, the M1 Thompson had a higher rate of fire, longer effective range, and a greater magazine capacity than the Blyskawica. However, the Blyskawica was lighter, more easily producible, and considered more dependable due to its simple construction. The Blyskawica also had a reputation for being highly accurate for a submachine gun, despite its shorter effective range. Ultimately, both weapons served their purposes as submachine guns during World War II.

### *Sten*

The Blyskawica and Sten submachine guns were both used by allied forces during World War II. Here are some details comparing the two weapons:

The Blyskawica and Sten were both designed for ease of manufacture and were simple blowback-operated firearms. However, the Blyskawica was more complex in design than the Sten, with a slenderer body, folding stock, and a distinctive large muzzle brake compared to the Sten.

The Blyskawica used the 9x19mm Parabellum cartridge while the Sten initially used the 9x19mm cartridge, but later versions utilized the slightly more powerful 9x23mm Winchester cartridge. The Blyskawica had a small edge over the Sten submachine gun with a slightly higher rate of fire of around 600 or 700 rounds per minute compared with the Sten's 500 rounds per minute. Despite being similar in range, the Blyskawica was considered more accurate at ranges up to about 100 meters.

The Blyskawica had a relatively large magazine capacity of 32 rounds compared to the Sten's standard magazine capacity of 32 rounds. Weight and Durability: Both guns were similar in weight, coming in at around 3 kg/set. Both were also noted for being durable and reliable.

The Blyskawica was produced in relatively small numbers by the Polish resistance, and it took more than a year to build the first 100 guns. The Sten, on the other hand, was produced in significant quantities and rapidly became one of the most widely produced firearms in the history of the world, with more than 4 million units manufactured.

In summary, while the Sten was a more widely produced and simpler design using less metal and less time and effort to produce, the Blyskawica had a small edge over the Sten in terms of accuracy, rate of fire, and magazine capacity. However, it should be noted that both submachine guns played a vital role in the allies' war effort during World War II, and each had strengths depending on the situation in which it was used.

### *Type 100*

The Blyskawica and Type 100 submachine guns were both used during World War II. Here are some details comparing the two weapons:

Both the Blyskawica and Type 100 submachine guns were blowback-operated firearms. The Blyskawica was designed by the Polish resistance in a slenderer body with a folding stock, while the Type 100 was designed by the Japanese with a more compact appearance and fixed wooden stock.

The Blyskawica used the 9x19mm Parabellum cartridge, while the Type 100 used the slightly less powerful 8x22mm Nambu cartridge. The Type 100 had a higher rate of fire, with around 800 rounds per minute compared to the Blyskawica's rate of around 600-700 rounds per minute. The Blyskawica was more accurate than the Type 100, with a range of up to 200 meters compared to the 100-meter range of the Type 100.

The Blyskawica had a 32-round magazine capacity, while the Type 100 had a 30-round capacity. The Type 100 was lighter than the Blyskawica, coming in at around 2.8 kg, while the Blyskawica weighed around 3 kg. Both guns were reliable and durable. The Type 100 was produced in significant quantities by Japan, with around 30,000 units produced. In contrast, the Blyskawica was produced in smaller numbers, with only around 700 units manufactured.

In summary, the Type 100 had a higher rate of fire and was lighter than the Blyskawica, but the Blyskawica was more accurate and had a longer range. Both guns had similar magazine capacity and were considered durable and reliable. However, the Type 100 was produced in greater quantities than the Blyskawica. Overall, each gun had its strengths depending on the situation in which it was used.

#### *Grease Gun*

The Blyskawica submachine gun and the Grease Gun (officially known as the M3 submachine gun) both saw service during World War II. Here are some details comparing the two weapons:

The Blyskawica was a blowback-operated submachine gun designed and produced in Poland, with a slenderer appearance and folding metal stock. The Grease Gun was designed and produced in the United States, with a blockier appearance and retractable wire stock. Both submachine guns utilized the .45 ACP cartridge.

The Blyskawica had a slower rate of fire, around 700 rounds per minute, while the Grease Gun had a higher rate of fire, around 450 rounds per minute. The Blyskawica had a range of up to 200 meters and was more accurate than the Grease Gun, which had a maximum effective range of 50-100 meters.

The Blyskawica had a 32-round magazine capacity, while the Grease Gun had a 30-round magazine capacity. **Weight and Durability:** The Grease Gun was heavier than the Blyskawica, coming in at around 4.5 kg, while the Blyskawica weighed around 3 kg. Both guns were considered durable and reliable.

The Grease Gun was produced in much larger numbers than the Blyskawica, with almost 700,000 units produced in the United States during World War II. The Blyskawica, on the other hand, was produced in a limited quantity, with only around 700 units manufactured.

In summary, the Blyskawica had a slightly higher rate of fire, longer range, and better accuracy than the Grease Gun. However, the Grease Gun had a larger production quantity, higher ammunition capacity, and was slightly heavier. Both guns were considered reliable and durable. The choice between these two submachine guns would likely depend on the specific preferences and needs of the user, as well as the situation in which the firearm was being used.

#### *Owen Gun*

The Blyskawica submachine gun and the Owen Gun were both used during World War II. Here is a comparison of the two weapons:

**Design and Construction:** The Blyskawica was a blowback-operated submachine gun designed and produced in Poland, with a slenderer appearance and folding metal stock. The Owen Gun was designed and produced in Australia, with a unique and distinctive appearance, featuring a top-mounted magazine, and a straight wooden stock.

The Blyskawica utilized the 9mm Parabellum cartridge, while the Owen Gun used the .45 ACP cartridge. The Owen Gun had a faster rate of fire, around 700-900 rounds per minute, while the Blyskawica had a slower rate of fire, around 700 rounds per minute.

The Owen Gun had a range of up to 180 meters and was more accurate than the Blyskawica, which had a maximum effective range of 100-150 meters. Magazine Capacity: The Owen Gun had a 33-round magazine capacity, while the Blyskawica had a 32-round magazine capacity.

The Owen Gun and the Blyskawica were both considered lightweight and durable, with the Owen Gun weighing around 3.6 kg and the Blyskawica weighing around 3 kg.

The Owen Gun was produced in relatively large numbers, with over 45,000 units produced during World War II. The Blyskawica, on the other hand, was produced in a limited quantity, with only around 700 units manufactured.

In summary, the Owen Gun had a faster rate of fire and longer range than the Blyskawica, while the Blyskawica was more accurate and had a slightly larger production quantity. Both guns were considered lightweight and durable. The choice between these two submachine guns would likely depend on the specific preferences and needs of the user, as well as the situation in which the firearm was being used.

### 5. Impact of the Blyskawica submachine gun in the military world

The Blyskawica submachine gun played a significant role in the Polish Home Army's armed resistance against the Nazi occupation. Its lightweight design and ease of handling made it popular among Polish resistance fighters, who used it in urban guerrilla warfare. The weapon was used to attack German troops, sabotage supply lines, and gather intelligence. The Blyskawica submachine gun was also used in the Warsaw Uprising of 1944, where Polish resistance fighters held out against Nazi forces for over two months.

Following the war, the Blyskawica submachine gun was widely exported to countries across the world. Its reliability and robustness made it a popular weapon in military operations and conflicts around the globe. For example, the gun was used by both sides in the Korean War, where it proved to be an effective weapon in urban and close-quarter combat. The Blyskawica submachine gun was also used by Portuguese Special Forces during the Mozambican War of Independence in the 1960s and 1970s.

In addition to being widely exported and used in various military operations, the Blyskawica submachine gun had a significant impact on the development of firearms technology. The gun was one of the first to include a quick-change barrel system, which allowed for easy replacement of the barrel without the need for special tools or training. This innovation was later incorporated into many other firearms, including machine guns and assault rifles.

The Blyskawica submachine gun also had a unique firing mechanism known as the "floating firing pin." The firing pin was not fixed to the bolt face but was instead held in place by a spring within the bolt. This design helped to reduce wear and tear on the gun and made it more reliable in adverse conditions.

Additionally, the Blyskawica submachine gun was one of the first guns to use a double-stack magazine, which allowed for a higher ammunition capacity without increasing the size of the magazine. This innovation was later incorporated into many other firearms, including assault rifles.

Apart from its technical innovations, the Blyskawica submachine gun also had a psychological impact on its users and enemies. Its unique shape and distinctive sound gave it an intimidating presence on the battlefield, which helped to boost the morale of those carrying it into battle. According to some reports, German soldiers in World War II feared the weapon so much that they would attempt to surrender rather than face its firepower.

Moreover, the use of the Blyskawica submachine gun by the Polish resistance fighters was a symbol of their resistance to Nazi occupation, and it played a vital role in boosting the morale of the Polish people during the war. The gun became a symbol of resistance and freedom, and many of those who fought with it during the war went on to become notable figures in Poland's post-war history.

In terms of its impact on military tactics, the Blyskawica submachine gun was often used in close-quarters combat, where its lightweight design and short barrel made it effective in confined spaces. It was also used to pin down enemy forces and suppress their fire while other units maneuvered into position.

Overall, the Blyskawica submachine gun was a highly effective weapon that played a significant role in military conflicts around the globe. Its technical innovations, distinctive design, and psychological impact helped to shape the development of firearms and military tactics in the 20th century and beyond.

## 6. Conclusion

In conclusion, the Blyskawica submachine gun is a unique and significant weapon in the history of military arms. It was designed as a simple yet powerful weapon that could be easily produced and maintained. The Blyskawica's use in the Polish resistance movement during World War II displayed the weapon's effectiveness and reliability in urban guerrilla warfare. Following the war, the gun was exported to countries across the world and played a critical role in various conflicts and military operations. The Blyskawica submachine gun proved to be a reliable and effective weapon that was instrumental in many key battles throughout history. Although it is no longer in use by modern militaries, its legacy lives on as a symbol of Polish engineering and design excellence. Overall, the Blyskawica submachine gun is a significant piece of military history that has left an indelible mark on the world of arms and will continue to be studied and appreciated by historians, collectors, and enthusiasts alike for years to come.

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