

Article 25

Rafał E. Stolarski

The Production of Arms and Explosive Materials by the Polish Home Army in the Years 1939–1945

INTRODUCTION

The acquisition and production of arms and explosives by the Polish Home Army is a fascinating subject but one so far only partially researched. There are many reasons for this, among others one should mention: the exceptional secrecy surrounding such production, which was quite necessary in face of enemy efforts to stop it; the relatively small number of people actually involved (mainly those with excellent technical qualifications) and also the scarcity of archive material and witness accounts.

SOURCES OF SUPPLY

Like probably every underground resistance movement, the Polish Home Army suffered from a shortage of arms and explosive materials. What it did acquire originated from a number of sources including: arms caches hidden by the Polish Army during the 1939 September Campaign; arms captured from the enemy during ordinary fighting or as a result of special weapons and ammunition gathering operations; arms purchased from the occupant or from soldiers of satellite states (Rumania, Italy, Hungary, Slovakia etc); arms purchased from specialised train thieves; materials stolen from German factories by Polish workers as well as chemicals bought or otherwise acquired on the basis of fake purchase orders from pharmacies, chemists or warehouses.

From 1941 onwards yet another external source of arms and explosives were Allied airdrops.

However, all these sources of supply were still highly inadequate and this was the reason why underground production was also started.

ORGANISATIONAL STRUCTURE AND TASKS

Covert production of arms and explosives was supervised and coordinated by: the Home Army HQ (KGAK) Diversions Command Production Division (*Dział Produkcji Kierownictwa Dywersji Komendy Głównej Armii Krajowej*), the Engineers Department of the 3rd (Operational) KGAK Division and the Productions Department of the 4th AK Supply Division.

The KGAK Diversions Production Department (cryptonyms: 'Teodor' and 'Remiza') started operating in November 1942. The first commander was Lt. Col. Franciszek Niepokólczycki code names 'Franek' and 'Teodor'. In September 1943 the command was taken over by 2nd Lt. Franciszek Hamanowicz code name 'Rębisz'. The purpose of this department, employing 48 people, was to produce arms and explosives for the existing needs of diversionary fighting units.

The Engineers Department of the 3rd Operations KGAK Division (cryptonyms: 32, 'Pas'/Belt and 'Siekiera'/Axe) was already set up in 1939. It was commanded at the start and at the end of the war by Major/Lt Col/Col Franciszek Niepokólczycki (with a break from the autumn of 1942 to the autumn of 1943 when the department was commanded by Col Ryszard Zyms). Subordinate units of this department included the Bureau of Technical Research (which in 1942 was merged with the KGAK 'Kedyw' Diversions Studies Bureau to become Technical Studies and Research Bureau) as well as explosives workshops.

The Technical Studies and Research Bureau (BBT) was organised and subsequently commanded for the rest of the occupation by Lt/Capt Engineer Zbigniew Lewandowski code names 'Szyrna'/Rail and 'Zbigniew'. The Bureau comprised sections dealing with: prototypes and models; munitions studies; sabotage and diversions studies; a transport subdivision; a publications subdivision; a materials and airdrop equipment subdivision; an experimental diversionary operations and testing range patrol as well as an archive and a warehouse. The Bureau's tasks included: utilisation of explosive materials left over from the 1939 September Campaign; the selection and testing of equipment to be used in sabotage and diversionary operations (particularly those concerning trains); the preparation of instructions and instructors for sabotage and diversionary operations as well as the testing and adaptation of airdropped munitions to meet covert combat requirements.

The Bureau, which employed c. 30 people, also had its very own testing range in a forest near Józefów outside Warsaw.

The commanders of the Engineers Department were also in charge of the following Warsaw based explosives workshops: 'Farbiarnia' at 15 Krochmalna Street, 'Kinga' at 103 Solec Street, 'Asfaltowa' at 15 Asfaltowa Street, 'Wola' at 56 Wolska Street as well as 'Powązki' at the junction between Okopowa and Powązkowa streets.

The 4th KGAK Division Armaments Service (cryptonym 'Leśnictwo'/Forestry) was created in May 1940 and its commander throughout the occupation was Lt Col Jan Szypowski, code name 'Leśnik'/Forester. The objectives of this secret service included: creating a plan to meet the underground movement's armament requirements; gathering and analysing information concerning the numbers and types of weapons secretly held in various parts of the country; collating information regarding munitions plants commissioned by the occupant for them eventually to be taken over and operated for the Home Army; gathering technical data regarding the enemy's weapons; increasing the Home Army's arsenal through purchases from the occupant, own production and airdrops as well as technical supervision of Home Army arms caches.

The Productions Department of the 4th KGAK Division (cryptonyms: 'Drzewo'/Tree, 'Perkun', 'Waga'/Scale and 'Cieśla'/Carpenter) was active since April 1942 and its commander throughout the rest of the war was Lt Engineer Witold Gokieli, code name 'Ryszard'. The Department's tasks included the running and financing of the production and repair of weapons for the Home Army throughout the country as well as the purchase or other acquisition of materials and equipment essential for this purpose. For these reasons the Department cooperated with the production units of Kedyw, the Engineers Department and the Armaments Service. It had depot and transport sections as well its own patrol unit to escort the transports. The Department comprised 177 members.

PRODUCTION SITES

Clandestine production of weapons and explosive materials was conducted in all areas of the Secret Polish State but it was most intensive and effective in the following regions: Warsaw, Kielce and Radom, Krakow, Lublin, Wilno and Lwów. The resistance movement's arms production peaked during the Warsaw Uprising.

WEAPONS PRODUCED BY THE HOME ARMY

Submachine gun:

The manufacture of firearms was concentrated in a few hundred workshops producing a homemade version of the English 9 mm Sten submachine gun, which had a very simple and reliable design. In all the Home Army produced approximately 1,000 Stens.

Home Army members (Eng. Waclaw Zawrotny pseudonym 'Blyskawica'/Lightning, Eng. Seweryn Wielanier pseudonym 'Prawa Ręka'/Right Hand and Eng. Kazimierz Czerniewski pseudonym 'Korebko') also designed a Polish version of the 9 mm submachine gun called 'Blyskawica'/Lightning. In all approximately 700 Blyskawica submachine guns were produced.

Hand grenades and Molotov Cocktails:

Many types of grenade were produced. However, the most important types were the secretly designed offensive grenades, the ET-40 'Filipinka' impact grenade (designed by Edward Tymoszak in 1940) and delayed action 'Sidorówka' (the P-42 friction detonator being designed by Władysław Pankowski in 1942). In total the Home Army produced some 400,000 grenades of all types.

Moreover, the Home Army produced exceptionally effective Molotov Cocktails (especially during the Warsaw Uprising). Some of these were technologically quite advanced, the flammable substance being petrol with added concentrated sulphuric acid and a fuse comprising potassium chlorate and ground sugar.

Flamethrowers and catapults for Molotov Cocktails and hand grenades:

The flamethrower was not only a formidable weapon but also one that was fairly simply and safe to produce in clandestine conditions. Thus even a special 'underground' K-type flamethrower was designed. Approximately 900 such flamethrowers were produced.

During the Warsaw Uprising one of the means of making up for the shortage of anti-tank weapons was the production of catapults for Molotov Cocktails and hand grenades (as designed by Henryk Knabe code name 'Glowacki'), crossbow type Molotov Cocktail launchers (Jan Bobrowski and Marian Chmielewski), rubber band type Molotov Cocktail launchers (Engineer Szczepan Kielb) as well as pipe Molotov Cocktail launchers (Sergeant Bogumił Jaszkowski code name 'Jarek').

Grenade launchers and mortars:

During the Warsaw Uprising the very serious shortage of weapons to support the Home Army infantry led to the construction of a number of grenade launchers and mortars including: a 75 mm grenade launcher firing anti-tank missiles (constructed by Engineer Zbigniew Paczkowski and Engineer Ludomir Heger), an 80 mm grenade launcher firing incendiary anti-tank missiles, a 80 mm mortar (Engineer Mieczysław Łopuski and Engineer Eugeniusz Żochowski), a 120 mm mortar. etc.

Sabotage materials:

The Home Army developed the manufacturing of specialist materials to be used in diversionary actions against German industrial plants as well as road and rail transport. Among other items produced there were: tyre puncturing spikes (so-called 'żabki'/frogs), special tool kits for unbolting rail girders, igniting charges, termite bombs, clock bombs, smoke and signalling torches as well as chemical substances used to 'gas' cinema theatres.

Armoured vehicles:

During the Warsaw Uprising Engineer Walerian Bielecki pseudonym 'Jan' and Jozef Fernik pseudonym 'Globus' converted a Chevrolet truck to construct an armoured vehicle called 'Kubus'.

Explosive materials and ammunition:

The Home Army identified, analysed and produced the following explosives: initiators such as mercury fulminate, lead azide, tetryl and lead trinitroresorcinate as well as brisant chemicals such as cheddite, ammonite and trinitrotoluene.

Approximately 300 kg were produced of the essential primer tetryl.

Cheddite, acquired from potassium chlorate, was the easiest and therefore most popular explosive to be produced by the underground movement: c. 65,000 kg. Moreover, approximately 4,000 kg of ammonite were produced.

Trinitrotoluene was acquired from Polish Army supplies left over after the 1939 September Campaign and from Allied airdrops. It was also exclusively from the latter source that another excellent brisant material reached the Home Army: plastic explosive

One should also mention the considerable amounts of explosive materials that were acquired during the Warsaw Uprising from unexploded enemy bombs and artillery shells.

Among those who made outstanding contributions to the production of explosives were: Engineer Boleslaw Andrzej Honowski – code name 'Antoni', Capt. Tadeusz Smisniewicz – code name 'Hrabia/Count', Engineer Janina Szabatowska – code name 'Janka', Engineer Ludomir Heger – code name 'Andrzej' and Engineer Franciszek Przeździecki – code name 'Rafal'.

The Home Army did not produce its own ammunition but it did have a network of workshops sorting pistol and rifle bullets stolen by Polish workers from factories in Skarżysko-Kamienna a Czestochowa. Thus over 1.5 million rounds were collected.

One should also remember about three workshops that were specially set up during the Warsaw Uprising to repair damaged ammunition from badly prepared Soviet airdrops. There were two in the Srodmiescie district (commanded by Lt Mieczyslaw Przepiorkiewicz – code name 'Lt Marek', and Capt Engineer Franciszek J. Pogonowski – pseudonym Capt 'Marek') and one in the Zoliborz district.

To complete this overview of the Home Army's extensive and unique clandestine effort to produce weapons and explosives one should mention the numerous workshops of locksmiths and blacksmiths or even improvised gunsmith workshops which repaired partisan weapons and even produced simple diversionary devices.

Rafal E. Stolarski (Warszawa)

BIBLIOGRAPHY

- *Bohaterowie drugiej linii. Dorobek polskich podziemnych zbrojowni 1939–1944. Materiały z sympozjum, Muzeum Wojska Polskiego, Warszawa 11 maja 1998*
- Stanisław M. Jankowski, „Steny” z ulicy Mogiłskiej, Kraków, 1977
- Stanisław M. Jankowski, „Steny” biją celnie, Kraków, 1983
- Marek Ney-Krwawicz, *Komenda Główna Armii Krajowej 1939–1945*, Warszawa, 1990
- Franciszek Jan Pogonowski, *Podziemna zbrojownia*, Warszawa, 1975
- *Polskie Siły Zbrojne w drugiej wojnie światowej*, t. III, 'Armia Krajowa', London, 1950
- Kazimierz Satora, *Podziemne zbrojownie polskie 1939–1944*, Warszawa, 2001
- Kazimierz Satora, *Produkcja uzbrojenia w polskim ruchu oporu 1939–1944*, Warszawa, 1985