



NOTES:
ORIGINAL ARTWORK - MARK
MILLER

TITLE: GUN
PROJECT: 1/2 SCALE FOKKER DR1
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The LMG 08/15

The Fokker E1 was the first German aircraft to carry a synchronised machine gun, the LMG 08. It was quickly recognised that a water-cooled weapon was inappropriate on an aircraft and modifications were made specifically on the cooling of the barrel. Standard sized water jackets were manufactured with perforations to allow air flow for cooling while still retaining sufficient strength for the recoil of the mechanism. The front cover was also perforated and the trunnion was adapted on the bottom for a bolt mount.

When the MG 08/15 was introduced into service in 1915 it was soon adapted for aircraft use in a similar fashion to the 08. After modification, the LMG 08/15 weighed 26 lbs compared to the original MG 08 weight of 57 lbs. One very visible modification was the change to the cocking handle (Durchladehebel). Because the guns were fixed and mounted ahead of the pilot, the normal method of clearing blockages, loading and unloading could not be practiced. To overcome this deficiency a series of cocking handle styles were implemented. There appears to be no firm rule as to when a specific style was utilised and it is thought that much of the decision was based on pilot preference.

Two other practical modifications were the introduction of rear mounted safety interlocks, a useful adaptation considering that ground crew had to stand in the line of fire during engine start-up, and round counters. While there were several styles of round counters implemented, all were of the 'rounds remaining' countdown style. All LMG 08 and LMG 08/15 were manufactured at the Spandau Arsenal and, because of the Arsenal imprint on the Fusee cover, quickly became known as Spandau's to the Allies.

LMG 08/15 Specifications

Caliber: 7.92mm x 57

Muzzle velocity: 2,821 feet per second.

Sighting range: 2,200 yards.

Rate of fire: 400-500 rounds per minute synchroniser and engine speed dependent

Length (overall): 46 inches.

Barrel length: 28.35 inches.

Weight: 26 pounds.

An American by birth, Maxim was one of the most successful innovators in the burgeoning field of electricity. Born in Maine in 1840, by 1880 Maxim held over 90 patents in the field of electricity and patented the carbon filament for light bulbs 1 year before Edison. Maxim was so successful and moving so rapidly that industry had difficulty in capitalising on his inventions. So much so that in the late 1870s a business conglomerate named 'The US Electrical Lighting Company' agreed to pay Maxim \$20,000.00 USD per year for 10 years on the condition that he develop no additional electrical inventions. In 1880 Maxim moved to London, England to spend his enforced retirement. One day early in his stay, Maxim was attending a party talking to people about his future and what he should do. An acquaintance is recording as saying "There is always a war in Europe. You need to make a better weapon." It is at this point that Hiram Maxim started to develop the concept that would change the world.

In a very rapid process, Maxim files his first patent for gas recoil in January 1884 and held his first public demonstration 9 months later. What Maxim did was to develop a gas recoil activated, spring assisted mechanism that would automatically load, fire, eject and repeat without any additional assistance. Virtually every fully automatic weapon system since then operates with these basic principals. Lie a current Colt M4 automatic carbine next to a 1916 vintage Maxim 08 and you will see a gas recoil mechanism with spring assisted forward motion. One weighs 6 pounds and one 60 pounds. They have very different feed and firing mechanisms but still, rely on spent gases for the blowback function and a spring to cycle the action forward and have virtually the same cyclical firing rate. With a cyclical rate of 600 rounds per minute, the MG 08 could provide the firepower equivalent of 20 sharpshooters with bolt action rifles.