

COLORADO GUN COLLECTORS

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The Maschinengewehr 42 (MG 42)

Decades ago when I lived in Washington state a friend who was a Smith and Wesson collector and an exhibition shooter called to tell me that a friend of his who regularly bought seized shipments from U.S. Customs had bid on and won a shipment of carpets. In that shipment was a MG 42 machine gun in what appeared to be the original crate. I asked if we go and see it. Now a day had gone by before he could get ahold of his friend. It was too late, his friend fearing it was a sting took it back to Customs. Customs didn't even comment, no "Thanks" or "Oh my God". Did the ATF ever investigate the shipper or the intended recipient? We never heard.

From Wikipedia

The MG 42 (shortened from German: *Maschinengewehr 42*, or "machine gun 42") is a 7.92×57mm Mauser general purpose machine gun designed in Nazi Germany and used extensively by the Wehrmacht and the Waffen-SS during the second half of World War II. It was intended to replace the earlier MG 34, which was more expensive and took much longer to produce, but both weapons were produced until the end of the war.

Designed to be low-cost and easy to build, the MG 42 proved to be highly reliable and easy to operate. It is most notable for its very high cyclic rate for a gun using full power service cartridges, averaging about 1,200 rounds per minute compared to around 850 for the MG 34, and perhaps 450 to 600 for other common machine guns like the M1919 Browning or Bren. This ability made it extremely effective in providing suppressive fire, and its unique sound led to it being nicknamed "Hitler's buzzsaw".

Prior to World War I

Even prior to World War I, the German military was already looking forward to replacing the heavy machine guns which proved to be such a success in that war. The MG13 was one of the first developments toward a goal of producing a weapon that could perform multiple roles, rather than just one. The MG13 was the result of reengineering the Dreyse Water cooled machine gun to fit the new requirement. The twin barreled Gast gun was developed with the goal of providing a high rate of fire weapon for anti-aircraft use which was reported to have reached cyclic rates of fire as high as 1,600 rounds per minute.

This eventually led to the *Einheitsmaschinengewehr* (Universal machine gun) introducing an entirely new concept in automatic firepower. By changing its mount, sights and feed mechanism, the operator could radically transform an *Einheitsmaschinengewehr* for several purposes.

The MG 34 is considered to be the first modern general-purpose machine gun or *Einheitsmaschinengewehr*. It was developed to use the standard German 7.92×57mm Mauser full-power rifle round. It was envisaged and well developed to provide portable light and medium machine gun infantry cover, anti-aircraft coverage, and even sniping ability. Equipped with a quick-change barrel and fed either with non-disintegrating metallic-link belts, or from a 50-round *Gurttrommel* (belt drum) or a 75-round spring-loaded saddle-drum *Patrontrommel 34* magazines (with a simple change of the feed cover for a Trommelhalter magazine hold-

er), the MG 34 could sustain fire for much longer periods of time than other portable squad-level weapons such as the American B.A.R. and the British Bren Gun, both of which were fed by box magazines, while also being much lighter and more portable than crew-served weapons like the Browning M1919 or Vickers machine guns (which also lacked quick-change barrels). The MG 34 was also quite versatile; not only was it able to be fed from belted ammunition or a saddle drum magazine, it could also be fired from a bipod, an innovative *Lafette 34* tripod or various pintle mounts for armored vehicles. Switching between a bipod and a tripod required no special tools, as the mounting latch was spring-loaded. As the **MG 34 Panzerlauf**, it was used throughout the war as secondary armament on panzers and other vehicles. One attempt at improvement was the **MG 34S**, an incremental improvement on the basic 34 design. The MG 34S could cope with a cyclic fire rate of 1,200 rounds per minute. Later in the war, the MG 34 was used as the basis for the Luftwaffe's MG 81 flexible defensive gun. However, the MG 34 did have its drawbacks, such as sensitivity to dirt, mud and comparatively complex and expensive production.

In order to address these issues, a contest was held for a true MG 34 replacement. Three companies were asked to submit designs: Metall und Lackierwarenfabrik Johannes Großfuß AG of Döbeln, Rheinmetall-Borsig of Sömmerda, and Stübben of Erfurt. Of the number of proposals submitted, Großfuß AG's proved to be the best design by far, employing a unique recoil-operated roller locking mechanism whereas the two competing designs used a gas-actuated system. The company had no earlier experience in weapons manufacture, specializing in pressed and stamped steel components (the company's staple product was sheet metal lanterns). Dr. Werner Gruner, one of the leading design engineers with Großfuß, knew nothing about machine guns when he was given the task of being involved with the project, although he specialized in the technology of mass production. Gruner would attend an army machine gunner's course to familiarize himself with the utility and characteristics of such a weapon, also seeking input from soldiers. He then recycled an existing Mauser-developed operating system and incorporated features from his experiences with army machine gunners and lessons learned during the early stages of the war. Being made largely out of stamped metal, the new design required considerably less machining and fewer high grade steel alloys. It was much simpler to build than other machine guns—it took 75 man hours to complete the new gun as opposed to 150 man hours for the MG 34 (a 50% reduction)—and cost 250 RM as opposed to 327 RM (a 24% reduction).

The resulting **MG 39** remained similar to the earlier MG 34 overall, a deliberate decision made to maintain familiarity. The only major changes from the gunner's perspective were dropping of the drum-magazine feed option, leaving the weapon to fire belted ammunition, or from a single 50-round drum-shaped *Gurttrommel* belt container fitted to the gun's receiver, and simplifying the weapon's open sights for aiming purposes. All these changes were intended to increase, maintain, or accommodate the gun's high practical rate of fire. Although made of relatively inexpensive and simple parts, the prototypes also proved to be consid-

erably more rugged and resistant to jamming than the precisely machined and somewhat temperamental MG 34. A limited run of about 1,500 of its immediate predecessor, the MG 39/41, was completed in 1941 and tested in combat trials

Adoption of the MG 42

The weapon was officially accepted, and the main manufacturing of the production design began in 1942, as the **MG 42**, contracts going to Großfuß, Mauser-Werke, Gustloff-Werke and others. Production during the war amounted to over 400,000 units (17,915 units in 1942, 116,725 in 1943, 211,806 in 1944, and 61,877 in 1945).

Small arms doctrine

The German tactical doctrine of the era based a squad's firepower on the general-purpose machine gun in the light machine gun role so that the role of the rifleman was largely to carry ammunition and provide covering fire for the machine gunners. The advantage of the general purpose machine gun concept was that it added greatly to the overall volume of fire that could be put out by a squad-sized unit. This meant that German forces deployed far more machine guns per equivalent-sized unit than the Allies, and that Allied troops assaulting a German position almost invariably faced the firepower of the MG 42. It was possible for operating crews to lay down a non-stop barrage of fire, pausing only when the barrel had to be replaced. This allowed the MG 42 to tie up significantly larger numbers of enemy troops. Both the Americans and the British trained their troops to take cover from the fire of an MG 42 and assault the position during the small-time window of barrel replacement, which took around 4 to 7 seconds (estimated).

The Allied nations squad tactical doctrines of World War II centered on the rifleman, with the machine gun serving a support role, and they utilized weapons with cyclic rates of fire of typically 450–600 rounds per minute. The American military had standardized a semi-automatic rifle in 1936 (the M1 Garand) that could be effectively fired more rapidly than the preceding bolt-action rifles. The Allied nations had machine guns with similar rates of fire, but mounted them almost exclusively in aircraft, where the fleeting opportunities for firing made such high rates necessary. The only similar Allied weapon was the Vickers K aircraft gun, and that was used by ground forces only in specialized circumstances.

Light machine gun fire support role

A German infantry *Gruppe* (squad) consisted of ten men; a non-commissioned officer or *Unteroffizier* squad leader, deputy squad leader, a three-man machine gun team (machine gunner, assistant gunner/loader and ammunition carrier) and five riflemen. As personal small arms the squad leader was issued a rifle or as of around 1941 a submachine gun, the machine gunner and his assistant were issued pistols and the deputy squad leader, ammunition carrier and the riflemen were issued rifles. The riflemen carried additional ammunition, hand grenades, explosive charges or a machine gun tripod as required and provided security and covering fire for the machine gun team. Two of the standard issue bolt-action Karabiner 98k rifles in the squad could be replaced with semi-automatic Gewehr 43 rifles and occasionally, StG-44 assault rifles could be used to re-arm the whole squad, besides the machine-gun.

Medium machine gun fire support role

In the German heavy machine gun (HMG) platoons, each platoon served four MG 34/MG 42 machine guns, used in the sustained fire mode mounted on tripods. In 1944 this was altered to six machine guns in three sections with two seven-man heavy

machine gun squads per section as follows:

Squad leader (NCO) MP40

Machine gunner (private) MG 34/MG 42 and pistol

Assistant gunner (private) pistol

Three riflemen (privates) rifles

Horse leader for horse, cart and trailer (private) rifle

The optimum operating crew of an MG 42 in its medium machine gun role was six men: the squad leader, the machine gunner who carried and fired the gun, the assistant gunner/loader who carried the tripod, and three riflemen who carried ammunition, spare barrels, entrenching tools, and other items.

Operation

One of the *Einheitsmaschinengewehr* (Universal machine gun) roles was to provide low level anti-aircraft coverage. A high cyclic rate of fire firing rate is advantageous for use against targets that are exposed to a general-purpose machine gun for a limited time span, like aircraft. For targets that can be fired on by a general-purpose machine gun for longer periods than just a few seconds the cyclic firing rate becomes less important. Consequently, one of the MG 42 most notable features was in its high cyclic rate of fire of about 1,200 to 1,500 rounds per minute, twice the rate of the Vickers and Browning machine guns, which fired at a rate of about 600 rounds per minute. The ear could not easily discern the sound of individual shots being fired, instead hearing a sound described as like "ripping cloth" or a buzzsaw.

The high cyclic rate of fire of the MG 42 sometimes proved a liability mainly in that, while the weapon could be used to devastating effect, it could quickly exhaust its ammunition supply. For this reason, it was not uncommon for all soldiers operating near an MG 42 to carry extra ammunition, thus providing the MG 42 with a backup source when its main supply was exhausted. Another disadvantage of the MG 42 was that the high cyclic rate of fire led to the barrel overheating quickly during rapid fire. After around 150 rounds of fire, the gun operator would open a side hatch (leading to the barrel) and replace the overheated barrel with a new one. The machine gun crew member responsible for a hot barrel change was issued protective asbestos gloves to prevent getting burned.

The German military instructed that sustained fire must be avoided at all costs. They ruled that the results of sustained fire were disappointing and that the expenditure of ammunition involved was "intolerable." In the bipod-mounted light machine gun role MG 42 users were trained to fire short bursts of 3 to 7 rounds and strive to optimize their aim between bursts fired in succession. For its medium machine gun role the MG 42 was matched to the newly developed *Lafette 42* tripod. In the tripod mounted medium machine gun role MG 42 users were trained to fire short bursts and bursts of 20 to 50 rounds and strive to optimize their aim between bursts fired in succession. As a consequence of factors like the time spent reloading, aiming, changing hot barrels if necessary to allow for cooling, the MG 42's practical effective rate of fire was 154 rounds per minute, versus 150 rounds per minute for the MG 34.

Design details

The MG 42 is a 7.92×57mm Mauser, air-cooled, belt fed, open bolt, recoil-operated machine gun with a quick change barrel.

The MG 42 weighed 11.57 kg in the light machine gun role with the bipod, lighter than the MG 34 and easily portable. The bipod, the same one used on the MG 34, could be mounted to the front or the center of the gun depending on how and where it was being used.

The roller-locked bolt assembly consists of a bolt head, two rollers, a striker sleeve, bolt body, and a large return spring, which is responsible for pushing the bolt assembly into battery (the locked position) and returning it there when it is unlocked and

pushed backwards by the recoil of firing or by the charging handle. As the striker sleeve is movable back and forth within the bolt assembly, the return spring is also responsible for pushing the striker sleeve forward during locking (described below). The bolt assembly locks with the barrel's breech (the end the cartridge is loaded into) via a prong type barrel extension behind the breech. As it is recoil-operated and fired from an open bolt, the weapon must be manually charged with the side-mounted charging handle.

The roller-locked recoil operation functions as follows: two cylindrical rollers, positioned in tracks on the bolt head, are pushed outwards into matching tracks in the barrel extension by the striker sleeve and lock the bolt in place against the breech. Upon firing, rearward force from the recoil of the cartridge ignition pushes the striker assembly back and allows the rollers to move inwards, back to their previous position, unlocking the bolt head and allowing the bolt assembly to recoil, extracting the spent cartridge and ejecting it down. The return spring then pushes the bolt assembly forwards again, pushing a new cartridge out of the belt into the breech, and the sequence repeats as long as the trigger is depressed. The MG 42 is only capable of fully automatic fire. Single shots are difficult, even for experienced operators, due to the weapon's rate of fire. The usual training objective is to be able to fire a burst of no more than three rounds. The weapon features a recoil booster at the muzzle to increase rearwards force due to recoil, therefore improving functional reliability and rate of fire.

The cyclic firing rate of the MG 42 can be altered by installing different bolts and recoil springs. A heavier bolt uses more recoil energy to overcome inertia, thus slowing the action. It must be noted that those heavy bolts also were used along with stiffer return springs. The standard MG 42 bolt weight for a normal rate of fire is 550 g (19.40 oz)

The shoulder stock is designed to permit gripping with the left hand to hold it secure against the shoulder.

The open-type iron sighting line consists of a "□-type" height adjustable front sight on a folding post and a leaf rear sight with an open V-notch sliding on a ramp, graduated from 200 to 2,000 meters (219 to 2,187 yd) in 100 meters (109 yd) increments. An auxiliary anti-aircraft "spider web" ring sight is kept in the maintenance kit, that can be fitting on the barrel jacket to be used in conjunction with a folding anti-aircraft rear peep sight that is attached by a hinge to the rear sight element base.

The barrel of the MG 42 could be quickly changed by the machine gun crew and weighed 1.8 kg (4.0 lb). The barrels could have traditional rifling or polygonal rifling. Polygonal rifling was an outgrowth of a cold-hammer forging process developed by German engineers prior to World War II. The process addressed the need to produce more durable machine gun barrels in less time than those produced with traditional methods. Later produced barrel bores featured hard-chrome plating to make them more durable. The different versions meant that the service life of an MG 42 barrel varied between 3,500 and 8,000 rounds. The method of barrel change made the MG 42 unsuitable for secondary or co-axial armament on World War II era German tanks with the exception of the Jagdpanzer IV. Early versions of the Jagdpanzer IV carried two standard (no modification made) MG 42s on both sides of the gun mantlet/glacis, firing through a ball slot which was protected by an armored cover (with the MG 42 retracted) when not in use. Later version Jagdpanzer IVs carried only one MG 42 on the left side.

The MG 42 incorporated lessons hard-won on the Eastern Front. Both the cocking handle and the catch for the top cover to the working parts were designed so that the gunner could operate them wearing arctic mittens or with a stick or rod. This was vital for winter conditions where contact by bare flesh on cold metal could cause severe injury, such as instant frostbite. The

MG 42 also functioned well in other climates; dust and dirt in North Africa and Italy was less likely to jam the MG 42 than the more temperamental MG 34.

The MG 42 belt-feed mechanism was copied and used in the design of the M60 machine gun.^[24] The trigger mechanism of the FN MAG or MAG-58 is a virtual copy of the MG 42's and the MAG-58's belt-feed is also very similar.\

Lafette 42 tripod

For the medium machine gun role a large tripod, the *Lafette 42*, was available that included a number of features, such as recoil absorbing buffer springs, MG Z 34 or MG Z 40 periscope-type telescopic sight containing special sighting equipment for indirect fire, or the late World War II MG Z 44, designed for direct fire only. An accessory to lengthen these sights' periscope was available to use these sights behind cover. It could be set up in a prone, kneeling or high position. The *Lafette 42* weighed 20.5 kg (45.2 lb) on its own and was a simplified version of the *Lafette 34* used for the MG 34, as the MG 42 could be operated more easily from a *Lafette* and featured no semi-automatic firing mode. The legs could be extended with a *Lafetteaufsatzstück* to allow it to be used in the anti-aircraft role, and when lowered, it could be placed to allow the gun to be fired "remotely" while it swept an arc in front of the mounting with fire. Mounted to the *Lafette* and aimed through the telescopic sight, the effective range of the MG 42 could be extended out to 3,500 m (3,828 yd) when fired indirectly. The *Lafette 42* tripod also had a bolt box to store a (spare) bolt and return spring

Another unique feature of German World War II machine guns was the *Tiefenfeuerautomat* feature on the *Lafette 42* tripod. If selected, this feature mechanically controlled the rise and fall of the gun, elevating the gun for five rounds and then depressing it for four rounds. It lengthened the beaten zone by walking the fire in wave like motions up and down the range in a predefined area. The length of the beaten zone could be set on the *Tiefenfeuerautomat*. For example, being unsure whether the real distance was 2,000 or 2,300 m (2,187 or 2,515 yd), the gunner could make the mount do an automatic sweep between the elevations for 1,900 to 2,400 m (2,078 to 2,625 yd) and back. This sweeping of a selected beaten zone continued as long as the gun fired.

From WW2 Weapons

Through the use of the MG 34 and MG 42, an infantry platoon of the Wehrmacht reached about a fire power surplus of 1.6 against their opponents, which clearly affected the fighting power and was responsible for a considerable portion of the Allied infantry losses. Considering that the majority of all battles over hundreds of front miles are mainly carried by the infantry, a considerable advantage for the German troops.

On the Omaha Beach at the Allied invasion of Normandy on June 6, 1944, a single machine gunman with 5 men in support was responsible for 2,000 losses from the American troops.



GUN SHOWS 2018

Dates change and Shows are cancelled, so check before you travel

Sep. 15-16,	Colorado Springs, CO Colorado Springs Event Cntr.	RJ Promotions	816-396-9246
Sep. 22-23,	Denver, CO Merchandise Mart	Tanner Gun Show	720-514-0114
Sep. 29-30,	Rifle, CO Garfield County Fairgrounds	Colorado Militaria Collector	720-621-6339
Oct. 5-7,	Rawlins, WY Carbon County Fairgrounds	Wyoming Sportsmans Gun Shows	307-760-1841
Oct. 13-14,	Colorado Springs Norris-Penrose Arena	Tanner Gun Show	720-514-0114
Oct. 19-21,	Sheridan, WY Sheridan County Fairgrounds	Wyoming Sportsmans Gun Shows	307-760-1841
Oct. 20-21,	Paola, KS Fraternal Order of Eagles Bldg	Paola Masonic Lodge	913-757-2302
Oct. 27-28,	Colorado Springs, CO Colorado Springs Event Cntr.	RJ Promotions	816-396-9246
Nov. 10-11,	Tulsa, OK Expo Square Tulsa Fairgrounds	Wanemacher Tulsa Arms Show	918-492-0401
Nov. 10-11,	Loveland, CO Larimer County Fairgrounds	Tanner Gun Show	720-514-0114
Dec. 1-2,	Denver, CO Merchandise Mart	Tanner Gun Show	720-514-0114
Dec. 29-30,	Denver, CO Merchandise Mart	Tanner Gun Show	720-514-0114

Colorado Gun Collectors Association 54th Annual Gun Show

Denver, CO May 2019

Setup: Thursday May 16, 3:00 PM to 8:00 PM Friday May 17, 9:00 AM to 6:00PM

Show open to the Public May 18th 9:am to 5:00 pm & 19th 9:00m to 3:00 pm

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Monthly Meeting Schedule

Monthly Meetings are on the 3rd Tuesday of each month, except for the December meeting. In December we have Christmas Dinner on the first Saturday. Meetings start promptly at 7:00 P.M. They are held in the American Legion Hall at I-25 and Yale Ave., Exit #202 from I-25, East on Yale and take the 1st right.

September 18, 2018	February 19, 2019	July 16, 2019
October 16, 2018	March 19, 2019	August 20, 2019
November 20, 2018	April 16, 2019	September 17, 2019
December 1, 2018	May 21, 2019	October 15, 2019
January 15, 2019	June 18, 2019	November 19, 2019