

NOTES
ON THE
AUTOMATIC
TIME FUSE GRENADE
MODEL 1916

With Appendix 1

Translated from the French editions of
August 22, 1916, and March 16, 1917, at
Headquarters American Expeditionary
Forces, France

Reprinted by the
ARMY WAR COLLEGE
January, 1918

WAR DEPARTMENT
Document No. 731.
Office of The Adjutant General.

WAR DEPARTMENT,
WASHINGTON, *January 14, 1918.*

The following pamphlet, entitled "Notes on the Use of the Automatic Time Fuse Grenade, Model 1916, with Appendix I," is published for the information of all concerned.

[A. G. O., No. 062.1.]

BY ORDER OF THE SECRETARY OF WAR:

TASKER H. BLISS,
General, Chief of Staff.

OFFICIAL:

H. P. McCAIN,
The Adjutant General.

August 22, 1916.

FRENCH MINISTRY
OF WAR.

ARTILLERY.

NOTES ON
THE AUTOMATIC TIME FUSE GRENADE.
MODEL 1916.

I.

DESCRIPTION.

The 1916 model automatic grenade (F₁ or O F) is composed of a grenade body and an automatic fuse-plug, model 1916 B.

The fuse-plug is a tubular body, in which a slow fuse is placed, and on the inner end of which a detonator is set.

The head of the plug contains a widened cavity that is closed by an inserted cover.

Inside this cavity are two primers on either side of the end of the fuse. Between the two primers is a spring shaped like a pair of tongs, the branches of which have a tendency to separate so as to strike simultaneously each primer. A lug that passes through the cover of the firing-plug engages the two branches of the spring and keeps them in place.

This lug is actuated by a spiral spring placed on the outside of the plug; it is held down by an outside lever that is fastened first to a stud on the plug, and, secondly, by a safety split pin with a ringed head.

When this safety split pin is withdrawn by pulling it out by its ring, the outside lever is pushed up by the bolt, which is forced up by its spring.

At that moment the spring striker is freed and hits the primers. Even if one of the primers refuses to act, the other is sufficient to ignite the fuse. The fuse burns during five to seven seconds, then ignites the detonator that explodes the grenade.

II.

TRANSPORT OF THE GRENADES.

The fuse-plugs are sent to the army parks in cardboard boxes containing 50 plugs.

At the army parks the plugs are placed on the grenade bodies and the grenades packed in boxes with hinged cover, locks, and handles for carrying.

The empty boxes are returned to the parks. If these boxes are lacking, the grenades can be wrapped in paper and carried in any box, packed in with sawdust or wood fiber.

Carrying loose grenades in boxes or sacks must be avoided as much as possible. The soldiers must carry the grenades in the special boxes or in the 1916 model grenade belts.

III.

THROWING.

First—Take the grenade fully in the right hand, the plug up, the ring turned towards the chest and even with the root of the thumb. (Figure 1.)

The outside lever is then resting on the palm of the hand, and is easily held tight without effort.

Second—Put the first finger of the left hand in the ring and tear out the safety split pin. (Figure 2.)

The grenade is thus armed (cocked), and the hand must be kept closed to prevent the outside lever from springing off.

Third—Aim at the target with your left hand at arm's length and throw the grenade as prescribed in the "Instructions on Grenade Combat" of April 7, 1916. (Figure 3.)

Remarks—The grenade must be held as close to the plug as possible, so as to have the outside lever well in hand. Remove the safety split pin only at the time of throwing. After the safety split pin is out, hold the grenade firmly, but without straining; the strength needed to maintain the outside lever is insignificant, but must be continuous from the moment the grenade is "cocked" or "armed."

It is absolutely forbidden to hold the grenade when lighted, under the pretext that the time of combustion is too long.



Figure 1.

The grenadier will avoid keeping a "cocked" grenade too long in his hand, and, above all, will not walk with one, as the grenade might be inadvertently dropped in stumbling.

The normal functioning of the grenade is calculated for an elevation of 25 millimeters (1 inch) of the tail of the outside lever, but it may work exceptionally at a much lower elevation because of the tolerance allowed in manufacture. This is why it is recommended to hold the hand closed, and not to play the lever up and down to ascertain if it will work well.



Figure 3.



Figure 2.

The grenadier will soon learn that this grenade is easy to work, and is not dangerous unless it is treated carelessly. If by inadvertence a grenadier should drop a "cocked" grenade, he must keep cool, pick up the grenade, and throw it far away before it explodes.

The instructor, by developing the presence of mind of his grenadiers, may avoid a great part of the accidents always to be feared on account of unskillfulness.

During the practice he may, as an example, drop unexpectedly an unloaded grenade and count out loud from second to second; the grenade must be picked up, thrown, and all the men be in the dugouts before he reaches the number "five."

UNEXPLODED GRENADES.

All unexploded grenades must be considered as dangerous to the same degree as a fired and unexploded shell. Leaving unexploded grenades on the practice grounds must be avoided.

Because of the length of combustion of the fuse there is no danger in picking up an unexploded grenade as long as one takes the necessary precautions and throws it far away if it should ignite.

If a body of troops happens to camp on a place where there are unexploded grenades lying about, they must be removed as soon as possible.

To do this, all the men must take cover while one man proceeds to remove one grenade after another, possibly marking them beforehand by a twig or any other object.

Usually the failures come from non-ignition of the fuse or from non-ignition of the detonator; sometimes from a misplaced fuse-plug, and less frequently from unexploded primers.

When the hole of the lug is not filled with mud, it is easy to see if the caps have been fired, because in that case the tube is blackened. If so, the grenade is no more dangerous to handle than an ordinary grenade.

If the sides of the tube are white and shining, on the contrary, then the primers have not been exploded, and in that case the spring striker being in contact with the primers, a shock may be expected to ignite them. As a matter of fact, when a practice grenade, the primers of which have failed to work, is struck against a rock or a hard body, it is possible to break the plug in pieces before the primers will explode, and this is explainable by the small mass of the striker spring.

Be that as it may, when it is uncertain as to whether the primers have gone off, it is best to carry off the grenades by hand, one at a time, watching them so as to be ready to throw any that might become ignited.

The unexploded grenades are placed in a pile and exploded by a petard.

It is advantageous to use unexploded grenades in loading a fougasse.

It is absolutely forbidden to unscrew the firing-plug of a loaded grenade without using the special apparatus made to that effect with an arrangement to protect the operator from fragments.

If more than six (6) per cent failures are noted, it is best to report the fact, indicating the marks stamped on the fuse-plugs, so that the fabrication service can watch more thoroughly the machine shops whose products are defective.

PRACTICE GRENADES.

For grenade practice, use can be made of inert grenades, of grenades weighted and supplied with active detonators, or of regular war-loaded grenades.

To prevent confusion, the following conventions are established:

Grenades painted **grey** are war-loaded grenades.

Grenades painted **white** are weighted and supplied with active fuse-plugs.

Grenades painted **red** are provided with inert detonators (bored through) or without detonators (from condemned "lots").

"Lots" of fuse-plugs not satisfying the receiving conditions can be used for practice with weighted grenades, but not on war-loaded grenades. They will be stamped with a cross.

The firing-plugs that can be taken apart, that are furnished to instructors, are provided with inert detonators and bored through to prevent any uncertainty.

Note.—The outside levers and the fragments of tin that remain on the ground after a grenade practice represent a considerable value (about 25 centimes per grenade), and must be sent to the nearest artillery establishment when there is time to pick them up.

March 16, 1917.

MINISTRY OF
ARMAMENTS AND
WAR FABRICATIONS.

NOTES ON
THE AUTOMATIC TIME FUSE GRENADE.
MODEL 1916.

Approved August 22, 1916.

FIRST APPENDIX.

The aim of the present appendix is to bring to the attention of the grenadiers the danger that is run during the transport of automatic time-fuse grenades in which the safety split pin has not been sufficiently opened.

Some badly manufactured pins are, as a matter of fact, difficult to extract, and grenadiers may be tempted to close more or less the ends of the split pin before placing them in their grenade belt so as to suffer no interruption during an engagement and to obtain a maximum rapidity in throwing.

Such a proceeding is to be avoided, as the split pin, too far shut, may fall out at the slightest push, almost by itself, and provoke an unexpected explosion of a grenade.

It is necessary to leave the split pin just as it was placed at the factory until the very moment of throwing.

The transportation of grenades on which the branches of the split pins are less than seven millimeters (.28 inch) apart must be considered as dangerous.

As a precaution against the possibility that the safety split pins have not been properly opened at the factory, lifting grenades out of the packing cases and belts by their rings will be avoided.

N. B.—Mention of the present appendix will be made in red ink at the head of the "Notes."

Paris, March 13, 1917.
The General of Division
Inspector of Technical Studies and Experiments
of the Artillery.
GOSSOT.

APPROVED:
Paris, March 16, 1917.
For the Minister and by his order
The General in charge of the Artillery.
SIGNED: RONNEAUX.