J Forensic Sci, May 2009, Vol. 54, No. 3
doi: 10.1111/j.1556-4029.2009.01012.x
Available online at: www.blackwell-synergy.com

TECHNICAL NOTE

Aylin Yalçın Sarıbey,[1] *M.Sc. and Çelik Tarımcı,*[1] *Prof. Dr.*

Modification Methods of Blank Pistols in Turkey in 2006

ABSTRACT: This study describes the modification methods of blank cartridge firing pistols in Turkey. We have examined cases submitted to the Aydın Regional Criminal Laboratory of Turkey in 2006. In total, 95 modified pistols and 300 modified cartridges were examined. The blank cartridge firing pistols are guns which look similar to "real" pistols, however, there are blockages in their barrel in order to prevent the discharge of a bullet. However, as a result of simple modifications, these pistols can be easily converted into "real" firearms. Studied modification methods are removing the obstruction from the barrel, removing the partial obstruction from the barrel, sleeving a smaller diameter tube into the original barrel, using a replacement barrel, and rifling the original barrel. Special cartridges for these modified pistols are also produced. These modified pistols and cartridges were evaluated in respect of the converting methods.

KEYWORDS: forensic science, ballistics, blank pistol, blank cartridge, modification/conversion methods, obstruction

Blank cartridge firing pistols are often used in demonstrations and by entertainment organizations. It was observed that they have often been used in criminal offenses in recent years. They resemble "real" pistols in terms of their shape, size, and working principles. The barrels of these guns are blocked and are therefore not rifled. It was reported that even unmodified blank pistols cause injuries or deaths as a result of close-range shots (1–3). They can function as conventional pistols simply following some modifications on their barrels. Therefore, modified blank cartridge firing pistols can be converted to discharge projectiles and then be subject to a firearms license. These converted guns are submitted as crime evidence to criminal laboratories. In Turkey, anybody who is older than 18 years old can purchase these pistols in their unconverted state without any legal restrictions (4). Nowadays, these guns are preferred and used for criminal activity due to their low production cost, easy accessibility, and the lack of legal loopholes in their control.

The original barrel of a blank pistol is produced from a material which cannot usually withstand the pressures generated when firing a conventional, bulleted cartridge. Moreover, the original chambers are usually of a diameter that is not compatible with these conventional bulleted cartridges. However, by making simple modifications to the barrel and chamber, blank pistols may become compatible with both conventional bulleted ammunition and modified blank cartridges that have been fitted with a projectile.

A blank firing pistol is a weapon that is designed for use only with blank cartridges or, if the barrel is partially obstructed, tear gas cartridges (5). Tear gas cartridges can contain various different lachrymatory agents, identified by different colored mouth closures. The mouth closure of blank-only cartridges is generally green in color (Fig. 1). These cartridges can be converted for use with modified blank pistols. In Turkey, the most commonly encountered modified blank cartridges are produced by the insertion of a spherical buckshot in the case mouth as shown in Fig. 2. It is known that these converted cartridges cause deaths (6). In this study, the modification methods of blank pistols and the cartridges used in these modified blank pistols were examined.

[1]Department of Engineering Physics, Faculty of Engineering, Ankara University, Tandoğan 06100, Turkey.

Received 17 Mar. 2008; and in revised form 24 June 2008; accepted 13 July 2008.

Materials and Methods

The material of this report consists of cases involving modified blank pistols sent to the Aydın Regional Criminal Laboratory in 2006. In total, 95 modified pistols and 300 modified cartridges were examined and had been sent from nine different cities. In addition to identifying and photographing the modification methods, the type of cartridges that could be used in the modified blank pistols was also analyzed in this study.

Results

Converted blank pistols are widely used for criminal purposes in Turkey. The following modification methods are commonly encountered.

Removing the Obstruction from the Barrel

This is a modification method that is done by removing the barrel obstruction (Fig. 3). The barrel obstruction prevents discharge of a projectile and is located towards the muzzle of the gun. Modified by using this method, we examined 31 pistols of which 21 of them were 9 mm and 10 were 8 mm caliber. As a result of such a modification, these pistols can discharge modified cartridges that have been fitted with buckshot in their case mouth. Figure 4 shows one of 178 examined cartridges which had been modified by this method. Following these modification methods, both the pistols and the cartridges are no longer functioning as manufactured.

Removing the Partial Obstruction from the Barrel

There is a removable partial obstruction, which allows the forward venting of tear gas, in some blank pistols (Fig. 5). The

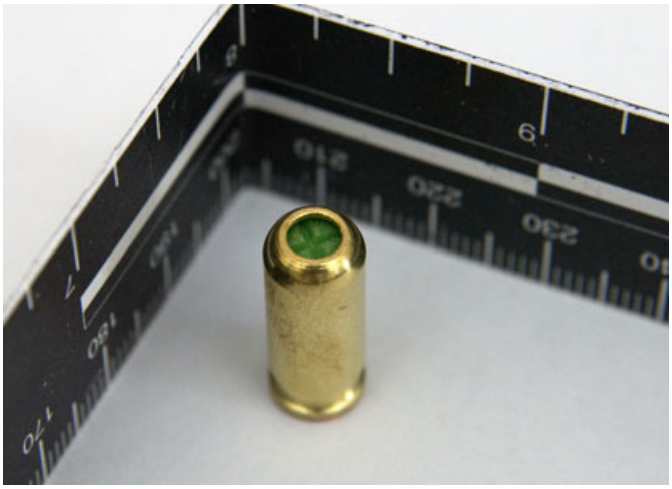

FIG. 1—*Blank cartridge.*

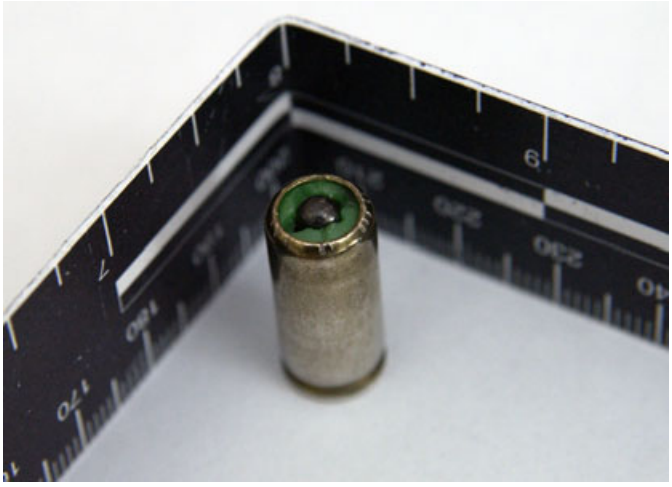

FIG. 2—*A modified blank cartridge fitted with buckshot.*

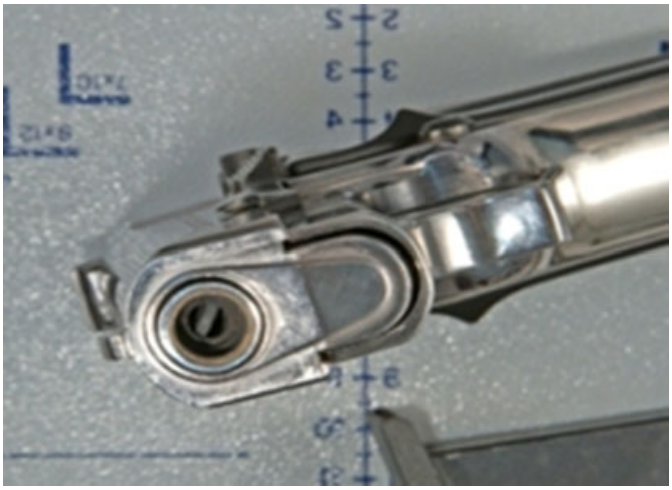

FIG. 3—*Appearances of the barrel obstruction.*

FIG. 4—*Different type of modified blank cartridge fitted with buckshot.*

partial obstruction also prevents the discharge of projectiles from conventional cartridges. These partial obstructions can be screwed, riveted (solid fit), or production cast into the barrel of these blank pistols. As seen in Fig. 6, the partial obstructions can be removed using simple tools. As a result of this, modified blank cartridges containing buckshot or improvised projectiles can be fired. Therefore, compared to the previous method, blank pistols modified by this method are compatible with cartridges fitted with wider projectiles. The cartridges used in these pistols are shown in Fig. 7. It was found that 53 of the examined pistols had been modified with this method and 24 of those were 9 mm while 29 were 8 mm caliber.

Sleeving a Smaller Diameter Tube into the Original Barrel

This is the method of inserting a smaller diameter smooth-bored tube into the original barrel of the gun, once the partial or full obstruction has been removed (Fig. 8). As manufactured, the chamber of the blank pistol is not suitable for the use with conventional bulleted cartridges as it is too narrow. In addition, the barrel of the

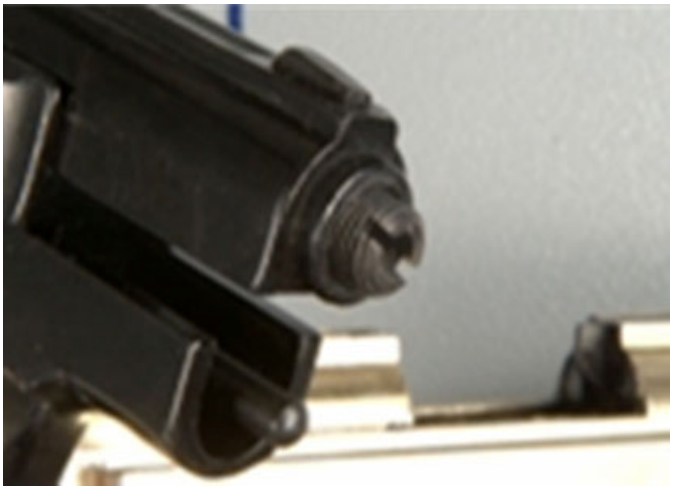

FIG. 5—*Removable partial obstruction in the barrel.*

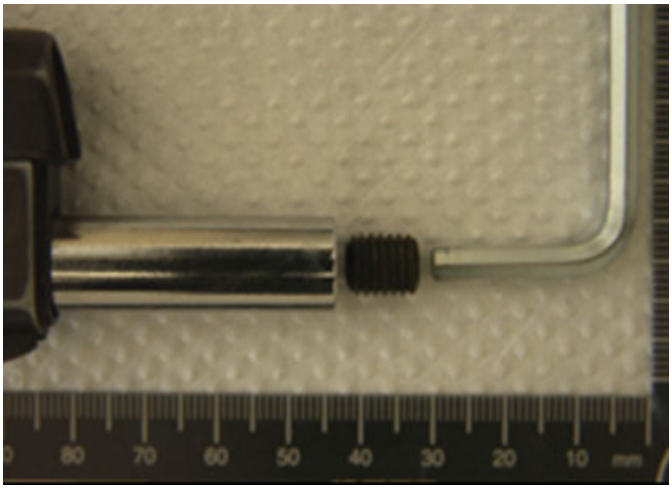

FIG. 6—*Taking out the removable partial obstruction from the barrel.*

FIG. 8—*Sleeving a narrower tube into an original barrel.*

pistol is not of the correct diameter for the bullet. Therefore, the chamber of the blank pistol is widened and afterwards a tube made of smooth or rifled hard metal, i.e., iron or steel, is sleeved into the original barrel. Consequently, the use of conventional cartridges becomes possible and the original weak barrel is strengthened. Additionally, rupturing of the gun is prevented. Two of the examined pistols had been modified in this way, one of which had a rifled barrel. Both of these guns had been converted from 9 mm blank to 7.65 mm Browning caliber.

Using a Replacement Barrel

During the production of blank firing pistols the frame is generally manufactured separately to the barrel. It can therefore be relatively easy to remove the original barrel and replace it with a stronger one suitable for use with conventional bulleted cartridges (Fig. 9). These barrels can be rifled or smooth-bored. The replacement barrel is fixed by using a pin or rivet, and the chamber is altered to be of the correct caliber. Eight of the examined pistols had been modified with this method and all of them were

FIG. 9—*Mounting a replacement barrel to the blank pistol.*

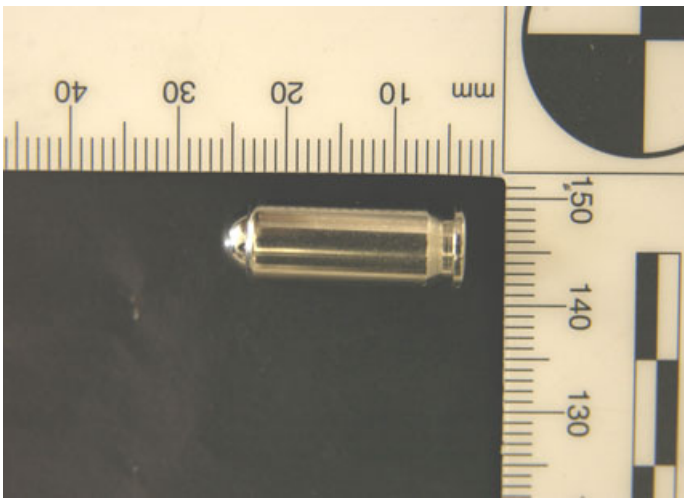

FIG. 7—*Modified blank cartridges fitted with a larger spherical buckshot and an improvised projectile.*

originally 9 mm caliber. Six of these pistols had been converted to 7.65 mm caliber and the remaining two to 9 × 17 mm caliber. Two of the replacement barrels were rifled.

Rifling the Original Barrel

This modification method is used rarely compared to the others. In this method, the partial or full obstructions are removed, the chamber is made suitable for use with conventional cartridges but, unlike the previous methods, the original barrel is not removed. Instead, the available part of the original barrel is rifled. However, because the metal of the original barrel is weak, the risk of rupture is high. Only one gun had been modified with this method and can be seen in Fig. 10. Note the crack towards the muzzle of the gun.

Discussion

Various gun types are used in criminal offenses in Turkey (7). You only have to be 18 years old to own a blank pistol in Turkey, a firearms license is not required for their possession, and they only cost 10% of the price of a "real" gun. They are therefore the preferred gun of choice and can function like a conventional pistol after a few simple modifications. Table 1 shows the original caliber and the modification methods used of the 95 guns examined submitted to the Aydın Regional Criminal Laboratory in 2006.

Thirty-one of the examined guns (33%) had been modified with the first method. However, although the barrel obstruction is removed with this method, the barrel is not widened enough, so it is seen that only 10 of the 31 guns (32%) were 8 mm caliber originally. Since the resultant unobstructed barrel is wider for 9 mm caliber blank pistols, 21 guns (68%) were modified by using pistols that were 9 mm caliber originally. It was found that 178 of the 300 examined modified cartridges (59%) were suitable for use with this type of gun.

Fifty-three of the examined guns (56%) had been modified with the second method. As the second method, in which the partial obstruction is removed, creates a wider diameter bore, this method is applied for both 8 mm (58%) and 9 mm (45%) caliber guns. It is determined that all 300 cartridges are suitable for use with this type of modified gun.

In addition to changes in the barrel, modifications are also carried out to the chamber of the pistol in methods 3, 4, and 5. For this reason, 9 mm diameter blank pistols are preferred for these methods. It is for this reason that guns modified with these methods are able to fire conventional bulleted ammunition as opposed to just modified blank cartridges. In order to carry out the third method of conversion outlined above, a tube with a suitable diameter has to be produced and inserted into the original barrel accurately. Since this is hard to achieve, this method is not encountered very often, consequently there were only two (2%) guns examined that had been modified using this method.

Rather than sleeving a tube into the original barrel, replacing the original barrel is easier. For this reason, the fourth method was encountered more often than the third method (8%).

In the fifth method, the chamber is modified to enable the discharge of conventional ammunition; however because the barrels of blank pistols are produced from a material which cannot resist the higher pressures produced, cracks can appear on the guns during firing. Therefore, as there is a real risk of the gun rupturing during the firing process, this method is not effective.

The first and the second methods appear to be the preferred modes of modifications as they can both be done by an individual without technical support or specialist equipment. Producing cartridges suitable for use in these pistols is also relatively easy and their production cost will also be very low. As the costs involved and the skill needed to carry out the third, fourth, and fifth methods of modification are much greater, they are not seen as often as the other two methods.

FIG. 10—*Cracking of the barrel due to the higher pressures generated from firing a conventional cartridge.*

TABLE 1—*Distribution of blank pistols according to modification methods and original caliber.*

	8 mm (Item)	9 mm (Item)	Total (Item)
First method	10	21	31
Second method	29	24	53
Third method	0	2	2
Fourth method	0	8	8
Fifth method	0	1	1
Total	39	56	95

Conclusions

As blank firing pistols both look and sound like "real" guns, it is often hard to distinguish them from the "real" guns without close examination. Recently, the number of these guns has increased and they are used often for robbery, purse-snatching, coercing, and other similar criminal purposes in Turkey. When the negative effect of these guns on public security and their use creating panic amongst the public are considered, in addition to the often ease with which they can be converted into firearms, the necessity of developing production standards, rendering them incapable of being readily converted and new legislation regarding their possession is vital.

References

1. Grosse Perdekamp M, Peuten M, Sequenc A, Schmidt U, Pollak S. Mandibular fracture caused by absolute close-range gunshot with a blank cartridge fright weapon. Arch Kriminol 2001;208:88–95.
2. Puschel K, Kulle KJ, Koops E. Once again: risk of injury caused by blank pistols. Arch Kriminol 2001;207:26–32.

3. Sozuer EM, Ikizceli I, Avsarogullari L, Özdemir Ç, Sever H, Duymaz H. Kuru sıkı mermi patlamasina bağlı gelişen juguler ven yaralanması: Vaka sunumu; 2003 Oct 30–Nov 2. Kayseri. Türkiye: 2. Anadolu Adli Bilimler Kongresi, 2003.
4. Kurusıkı Ses ve Gaz Tabancaları konulu, 11.06.2001 gün ve Sayı: B.05.1.EGM.0.11.04.03.2001/421 sayılı, İçişleri Bakanlığı Genelgesi, 2001.
5. Yılmaz R, Birincioglu I, Uner HB, Gunce E. Pen guns in Turkey. J Forensic Sci 2007;52(1):116–8.
6. Cantürk N. Kuru sıkı silah fişeğine yabancı cisim yerleştirilmesi ile cinayet. Olgu Sunumu; 2006 Sep 8–11. Samsun. Türkiye: 5. Anadolu Adli Bilimler Kongresi, 2006.
7. Uner HB, Gokdogan MR, Cakan H. Some samples of weapons and instruments used as a weapon in criminal offenses in Turkey. Forensic Sci Int 2003;132(2):113–6.

Additional information and reprint requests:
Aylin Yalçın Sarıbey, M.Sc.
Aydın Regional Criminal Laboratory
09200, Söke, Aydın,
Turkey
E-mail: yalcin.aylin@gmail.com