

From Replica to Real

An Introduction to Firearms Conversions

Introduction

While national firearms regulations often restrict the types of firearms civilians may legally own, such regulations do not necessarily eliminate demand. Prohibitions on handguns in particular have led some parties to devise new means to acquire these or comparable firearms. One common method involves mechanically altering an accessible replica firearm to function in a similar way as a restricted firearm. This process is generally known as a firearms conversion, and has been observed worldwide.

This Issue Brief offers an overview of illicit firearms conversion. Firearms conversion poses a challenge to current efforts to control small arms as it enables individuals to manufacture a functioning firearm, unfettered by government regulations. Firearms conversion is also a product of the same control efforts in that the more difficult it is to obtain real weapons, the greater the appeal of a converted firearm. To combat the proliferation of converted firearms therefore calls for an understanding of why and how such weapons are produced.

Significant findings in this Issue Brief include the following:

- Blank-firing handguns are the most commonly converted replicas worldwide, but many other types of replica firearms are also highly convertible.
- Although conversion is possible for most replica firearms, certain

models are more appealing because of their design, the materials used in their construction, and the ease with which it is possible to circumvent the barriers that manufacturers put in place to prevent conversion.

- Demand for converted firearms is influenced by: the ease of access to conventional firearms; legal restrictions; the high cost of pistols; and the fact that replicas are untraceable, which appeals to criminal elements.
- Globally, law-enforcement agencies frequently confiscate large numbers of replica firearms and often express concern about their possible conversion.
- Firearms conversion is a global practice. While European nations

report the problem most frequently, converted weapons appear in many countries, including most recently in several African countries.

The Issue Brief begins with a brief discussion on terminology. Since 'conversion' is used in several contexts in relation to firearms, there is a need to clarify the term. The Brief then discusses several types of replica firearms used in conversions and explains their unique features.

The Issue Brief presents data on the global proliferation of converted firearms, but in view of the challenges in compiling such data, it presents information on actual conversions and seizures of replicas, in which concerns about their potential conversion were



A man attempting to assassinate Bulgarian politician Ahmed Dogan, using a gas pistol, which failed to fire, Sofia, Bulgaria, January 2013. © BTVnews/AP Photo

mentioned. National records, open source searches, and interviews with law-enforcement agencies provided the data presented in this section. Finally, the Issue Brief examines the motivations for conversion as well as the impact of current small arms control efforts on shaping that demand.

The concept of conversion

There is no common definition of the term ‘converted firearm’. Policy-makers, law-enforcement officers, and firearm enthusiasts may use the term to describe different types of firearm alterations—some legal, others not. A firearms enthusiast, for instance, might use the term ‘conversion’ to describe the process of replacing key components of a firearm with new parts (such as the barrel or buttstock) or new accessories, potentially altering the performance of the original firearm. Depending on the country, many such alterations are legal.

Firearms experts with a law-enforcement role, on the other hand, focus on modifications that produce illicit firearms. In 2014, the Small Arms Survey conducted a survey among firearms experts from nine countries.¹ They each recognized at least one—and sometimes two or three—distinct type of mechanical alteration as fitting their definition of (illicit) conversion. Three general categories of alterations emerged:

1. The alteration of a replica firearm **to fire live ammunition** was the most commonly recognized form of conversion. Again, definitions vary by country, but in general a replica firearm is ‘a device that is not a real firearm, but that was designed to look exactly or almost exactly like a real firearm’ (RCMP, 2013). Replica firearms include blank-firing firearms, air guns, or even toy guns. The conversion changes the nature of the device so that it functions as—and meets the definition of—a real firearm.

2. The **reactivation of a deactivated firearm** is occasionally referred to as a conversion. A deactivated firearm is a genuine firearm which has been rendered inoperable (i.e. incapable of expelling a projectile). This form of conversion involves reversing the deactivation process to enable the item to once again fire a projectile. According to the Firearms Protocol, ‘[a]ll essential parts of a deactivated firearm are to be rendered permanently inoperable’ (UNGA, 2001, art. 9(a)). In practice, however, states adopt deactivation requirements of varying rigour, which in many cases knowledgeable individuals can overcome.
3. A **semi-automatic firearm modified to have fully automatic (select-fire) firing capacity** is the third alteration occasionally referred to as a conversion.² This category differs from the others as it involves alterations to an item that, even without the conversion, functions as a firearm. Yet, as with the two other types of conversion, the item’s function is transformed. While many states permit civilians to own semi-automatic firearms, they almost always prohibit civilian possession of fully automatic firearms (Parker, 2011, pp. 269–73). In this type of conversion, the approved mode of fire of an approved, legally registered firearm is modified.

Each of these types of conversion alters the capability of the pre-converted item (i.e. the replica, deactivated, or semi-automatic firearm), thereby potentially changing the weapon’s legal status. Each method also presents challenges to small arms control efforts. This Issue Brief focuses on the conversion of replica firearms (particularly blank-firing firearms) to fire live ammunition. It is important, however, to recognize that other forms of conversion exist and have implications for national control efforts.

Weapons most suited for conversion

While skilled artisans can convert a variety of objects to fire live ammunition, replica firearms (and specifically blank-firing firearms) are attractive options. This section discusses the types of replica firearms that are most frequently converted.

Blank-firing firearms

Blank-firing firearms, also known as alarm guns, starter pistols, or gas guns, are typically noise- and flash-producing replicas of real firearms (Ferguson and Williams, 2014, p. 3). Blank-firing firearms have multiple legitimate uses, including military training, hunting-dog training, private collection, use in sporting events, self-defence, and as film props. Most mimic the actions of genuine firearms. These actions include the movement of a firing pin so that it strikes the primer on a blank ammunition cartridge, sometimes (in the case of some blank-firing pistols) expelling the spent cartridge case and reloading a new cartridge in the chamber. The result is an action and a sound similar to those produced by a real firearm, but no projectile is expelled.

Blank-firing firearms, as the name suggests, fire blank ammunition rounds. These rounds produce noise and a flash, though some contain irritant agents (Ferguson and Williams, 2014, p. 5; EC, 2010, 2.6).³ The cartridges are generally shorter than bulleted cartridges and come in two designs: a crimped brass case or a flat-nosed cartridge sealed with a coloured plastic cap. Common calibres include 8 mm or 9 mm PAK (Pistole Automatische Knall), and .380 or 9 mm RK (Revolver Knall), although calibres not identical to bulleted ammunition also exist (Ferguson and Williams, 2014, p. 5; Hannam, 2010, p. 757).⁴

Regulations on blank-firing firearms vary, but are generally significantly less stringent than those applied

to standard firearms. There are, however, a few countries that treat blank-firing firearms in the same way as real firearms. These countries may, for example, require citizens to obtain licences, undergo criminal background checks, and register the blank-firing firearm with the relevant authorities.⁵ More often, countries have few if any regulations concerning blank-firing firearms. Some impose minimum-age requirements on their purchase, but many require no licensing of the person or registration of the blank-firing firearm.

Manufacturers of blank-firing firearms typically add features to prevent their product from firing live ammunition (Hales, 2006, p. 7). These vary by manufacturer, but there are several common features. Most manufacturers place an obstruction in the barrel to prevent a solid object from escaping. They may also incorporate vents at the top or sides of the barrel. These vents disperse the energy that results from firing a cartridge in directions other than the front of the barrel. Some national regulations require that blank-firing firearms vent at a 90° angle to the bore (Ferguson and Williams, 2014, p. 5). This prevents the discharge of a projectile, and significantly reduces muzzle blast.⁶ The chamber might also be smaller in order not to accommodate standard calibres. This prevents the use of the most common bulletted-ammunition calibres without alteration of the ammunition.⁷

The manufacturers of blank-firing firearms often also use inferior or weaker materials in the production of key pressure-bearing components. This is possible because blank cartridges typically contain significantly less propellant than a bulletted-ammunition round, resulting in less pressure when fired. Firing higher-power cartridges can damage or destroy these components (Lee, 2011, p. 19). The person firing the weapon is also at risk of injury. Manufacturers apply barriers of varying intensity to the firing of

live ammunition (in particular, the material used for pressure-bearing components and barrel blockages),⁸ making some blank-firing firearms much better conversion options than others (see Table 1).

Converting blank-firing firearms

Converting a blank-firing firearm essentially involves removing the barriers to normal firearm functionality put in place by manufacturers. While almost any blank-firing firearm is potentially convertible, certain models have features that make them more attractive as potential ‘converts’. While there are plainly considerations such as availability and cost, three design features appear particularly influential in determining how readily a blank-firing firearm can be converted (Ferguson and Williams, 2014, p. 6).

The first consideration is the direction in which the blank-firing firearm expels the gas pressure created from a fired cartridge. Front-venting blank-firing firearms lend themselves more readily to conversion. Whereas top- and side-venting blank-firing firearms require changes to the barrel to direct the projectile’s (bullet’s) energy forward and permit its exit, front-venting barrels automatically direct the pressure to the end of the barrel, just as with a real firearm.

Second, the ammunition that the blank-firing firearm can chamber is an important factor. Many blank-firing pistols have shorter chambers, as blank cartridges are shorter than cartridges fitted with a projectile. Bulletted cartridges are not perfect fits in blank-firing firearms, but can often be manipulated to work (see Box 1).

Finally, blank-firing firearms constructed with harder metals (such as zinc alloy, steel, or gunmetal), especially at key pressure-bearing points, are sought because they improve safety and performance (Hales, 2006, p. 39).

The converted blank-firing firearms observed by law-enforcement officials

Box 1 Modifying ammunition

Standard bulletted ammunition does not typically fit blank-firing handguns given their smaller chamber. These weapons therefore require specific types of ammunition or alterations to industrially manufactured rounds before they can fire live ammunition. Traumatic cartridges (blank ammunition rounds fitted with rubber projectiles) can, in some cases, fit without modification (Ferguson, 2014).

Another option is to modify bulletted or blank ammunition. Certain blank calibres, such as the .22 blank and 9 mm PAK, are similar in size to various standard ammunition calibres (.22 mm Long Rifle and 9 mm Luger). The latter can therefore sometimes fit a blank-firing firearm’s chamber if the bullet is pushed deeper into the cartridge.⁹

Blank ammunition can also be fitted with a projectile. The modification can involve cutting into the crimped end of the cartridge, inserting a projectile and resealing the case, or a projectile can be pressed into the plastic cover of certain blank cartridges (Ferguson, 2014; Saribey and Tarimci, 2009, p. 624). These rounds, however, will not have the same force as standard ammunition, given the blank cartridges’ reduced propellant and the often imperfect fit of make-shift projectiles in the barrels.¹⁰ Nevertheless, ballistics tests show that a .22 calibre blank round can propel a projectile with more than enough force to kill a person (Lee and Meng, 2011, p. 25).

Sources: Ferguson (n.d., 2014); Lee and Meng (2011); Saribey and Tarimci (2009)

vary significantly in quality (Hannam, 2010, p. 757). All are considered to be less reliable than real firearms and potentially unsafe. In fact, self-injury to users is common. The more sophisticated conversions (e.g. those that include rifling the inside of the barrel) are performed on blank-firing handguns constructed with harder metals. Those converted with weaker materials may survive only a few firings, if that.¹¹

Trauma guns

Certain less-lethal firearms are also prime candidates for illegal conversion. Trauma guns—sometimes referred to as ‘traumatic firearms’—are kinetic-

Table 1 **Select blank-firing weapons, listed by manufacturer**

Manufacturer	Model	Based on	Calibre	Venting	Materials	Conducive to conversion?	Origin
Atak Zoraki	906	Generic sub-compact pistol	9 mm PAK	Front	Zinc/polymer	Yes	Turkey
Atak Zoraki	914	Generic compact pistol	9 mm PAK	Front	Zinc/polymer	Yes	Turkey
Atak Zoraki	917	Glock full-size pistol	9 mm PAK	Front	Zinc/polymer	Yes	Turkey
Atak Zoraki	925	Generic machine pistol	9 mm PAK	Front	Zinc/polymer	Yes	Turkey
Atak Zoraki	R1	Generic revolver	9 mm PAK/.380 RK/ 6 mm Flobert Blank/ 4 mm Flobert	Front	Zinc	Yes	Turkey
Baikal/IzhMech/ Kalashnikov Concern	IZH-79-8	Makarov PM pistol	8 mm PAK	Front	Steel	Yes	Russian Federation
Baikal/IzhMech/ Kalashnikov Concern	MP-341 'Howdy'	IZH-43 double-barrelled shotgun	18 x 45T	Front	Steel	Yes	Russian Federation
Berkut	Streamer	Generic compact pistol	9 mm PAK	Front	Steel	Yes	Ukraine
Blow	F 06	Beretta 92 pistol	9 mm PAK	Front	Zinc alloy	Yes	Turkey
BBM Bruni	Police/New Police	Walther PPK pistol	8 mm/9 mm PAK	Front and top/side	Zinc alloy	Yes/No	Italy
BBM Bruni	38P/ME 38P	Walther P38 pistol	8 mm PAK	Top/side	Zinc alloy	No	Italy
Cuno Melcher/RUAG	ME 1911	Colt 1911 pistol	9 mm PAK	Front	Zinc alloy	Yes	Germany
Ekol/Voltran	Dicle	Beretta 8000 'Cougar' pistol	9 mm PAK	Front	Zinc alloy	Yes	Turkey
Ekol/Voltran	ASI Uzi	IMI Uzi SMG	9 mm PAK	Front	Zinc alloy	Yes	Turkey
Erma-Inter	75P	Generic full-size pistol	9 mm PAK	Front	Steel	Yes	Ukraine
Gun Toys	Brigadier 98	Beretta 951 pistol	.315 blank	Top/side	Zinc alloy	No	Italy
ISSC	M22	Glock full-size pistol	9 mm PAK	Front	Zinc alloy	Yes	Austria
Kimar	Derringer	Remington Double Derringer	6 mm Flobert Blank	Top/side	Zinc alloy	No	Italy
Molot	HPE-501	Tokarev TT pistol	9 mm PAK	Front	Steel	Yes	Russian Federation
Perfecta	El Alamein	Walther PPK pistol	8 mm PAK	Top/side	Zinc alloy	No	Germany
Perfecta	8000	Generic sub-compact pistol	8 mm PAK	Front and top/side	Parts in steel	Yes/No	Germany
Rohm	Vektor CP1	Vektor CP1 pistol	9 mm PAK	Front	Zinc/polymer	Yes	Germany
Target Technologies	Streamer 1014	Generic sub-compact pistol	9 mm PAK/10x22T	Front	Zinc/polymer	Yes	Turkey
Taurus	LOM-13	Taurus Model 905 revolver	9 mm PAK	Front	Steel	Yes	Brazil
Tanfoglio	Inna	Tanfoglio FT9 pistol	9 mm PAK	Front	Zinc/Steel	Yes	Italy
Umarex	Vektor CP1	Vektor CP1 pistol	9 mm PAK	Front	Zinc/polymer	Yes	Germany
Umarex	S&W Chief's Special	S&W revolver	.380 RK	Front	Zinc alloy	No	Germany

Source: Ferguson and Williams (2014, pp. 7-11)

energy weapons, designed to make a blunt or traumatic impact on a target by the firing of a rubber or plastic projectile (Gobinet, 2011, p. 81). The projectile is not meant to penetrate the skin, but is fired with a muzzle energy ranging from 30 to 120 joules, depending on the calibre, a force which is nonetheless sufficient to injure or potentially kill a person (Hannam, 2010, p. 757; Popenker, 2014). Some law-enforcement authorities use these weapons in riot-control settings, for instance. Some states, such as the Russian Federation, also permit civilians to own trauma guns for self-defence (Popenker, 2014). It is important to note that trauma guns come in a wide variety of styles and designs, some of which are replicas of real firearms while others look strikingly different.

Like blank-firing firearms, trauma guns are rendered incapable of firing bulletted ammunition, primarily through the use of obstructions to the barrel. Barrels in trauma guns are often choked or narrowed towards the front, as opposed to partially blocked as is common with blank-firing firearms (Popenker, 2014). This means that only 'easily deformable' projectiles made of rubber or plastic can be expelled from the barrel; solid projectiles would jam in the bore, resulting in probable and catastrophic damage to the gun and potentially injuring the user. Some later-model trauma guns have been manufactured with weaker components in order to further complicate attempts to convert them.

Converting trauma guns

Usually, trauma guns are easier to convert to fire bulletted ammunition than are blank-firing firearms. As trauma guns are designed to expel projectiles, all are made to vent towards the front of the barrel. Converting a trauma gun to fire bulletted ammunition often therefore simply requires replacing the barrel, as either a purpose-built or custom-manufactured part (Popenker, n.d.).

Although they are often readily convertible, trauma guns do not appear to be as significant a threat of proliferation as blank-firing firearms. This is primarily explained by the legal classification of and regulations relating to trauma guns. Many states categorize trauma guns as real firearms as they are designed to fire projectiles.¹² Because of this, trauma guns are typically regulated in the same way as firearms and are accordingly less appealing to those wishing to carry out an illegal conversion.

Airsoft guns

Airsoft guns¹³ are imitation guns that fire small plastic pellets using compressed air, gas, or a spring drive. 'Airsoft' was originally a brand name, but has become synonymous with a variety of replicas commonly used in war re-enactments and training (Vasquez, 2014). As airsoft components are not designed to contain the pressures generated by a fired cartridge, they are comparatively weak and are therefore often manufactured from light, non-ferrous metals or plastics. Regulations on these weapons vary—for instance they are outlawed in China, but are deemed toys in many countries (Yan, 2014).

Converting airsoft guns

The conversion problem with airsoft guns relates to the level of detail with which they replicate the original firearms. Many airsoft guns pair replica upper assemblies and lower receivers made to the same dimensions as the firearms they replicate. The upper assembly is built with non-firearm components intended to shoot plastic pellets (Vasquez, 2014). The lower receivers, however, are often fabricated to the exact measurement of the original firearm (Vasquez, 2014). These lower receivers have trigger components that function identically to the real firearm. In fact, certain lowers have been so exact that the US Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) declared that they were actual firearm receivers (Vasquez, 2014).

Given this design, it is possible to convert certain airsoft guns to fire real ammunition by swapping the replica upper assembly with an upper assembly from the original firearm.

In one YouTube video example, the upper assembly of an airsoft imitation Colt 1911 was replaced with the upper assembly of a real Colt 1911. The video suggests that the slides on the lower receiver of certain airsoft Colt replicas are compatible with the real Colt 1911



Officers prepare confiscated replica guns for destruction at a police and customs ceremony in Shanghai, China, April 2007. © EyePress/AP Photo

upper slide and barrel assembly (tamachan691, 2013). While YouTube videos cannot usually be authenticated, specialists thought that while the modifications were probably not as simple as suggested in this video, the conversion was nonetheless possible.¹⁴

Airsoft guns are not traditionally considered likely candidates for conversion. The fact that most are constructed with weaker materials does prohibit the conversion of many models. Still, there is evidence that certain models have been converted (Vasquez, 2014). The fact that some airsoft lower receivers can be converted by fitting a real firearm's upper assembly does present a proliferation threat. Airsoft guns are often sold without restrictions, and upper receivers can be purchased in many states without being subject to regulations (see Persi Paoli, 2015). This could represent one means of assembling an unmarked, unregistered firearm using a replica firearm component.

The geographical reach of the problem

This section presents available data on the scale of illicit firearm conversion, notwithstanding the difficulty of collecting such data. For example, law-enforcement officials frequently misidentify converted replica firearms in their initial reports. Given the level of detail of their manufacture and the similar feel, replica weapons can easily be mistaken for the firearms they were designed to replicate. Such reporting errors become evident when firearms experts perform subsequent analysis on the weapons.¹⁵ To date, in many countries police or customs records often inadvertently group replicas and firearms together.

A greater data-related challenge relates to ascertaining the status of a weapon. Criminal or border-seizure data rarely indicates if the seized items were converted or were found in their normal 'non-converted' state. This

difference is critical to understanding the scale of the illegal conversion. For instance, in 2012, the World Customs Organization (WCO) received data on 149,812 weapons seized by reporting states. Of those weapons, 52 per cent (78,392 items) were recorded as air- or gas-firing weapons (WCO, 2012, p. 119).¹⁶ What percentage of those weapons, if any, were converted is unknown.

Accordingly, the following data is not comprehensive. The data is drawn from open-source reports and interviews with firearms experts, customs officers, and law-enforcement officials in nine countries. Most are concentrated in Europe since there is less information available for other regions.

Conversion across Europe

The conversion of replica firearms in Europe is problematic. Records of replica converted firearms seized during arrests or used in crime have appeared since the 1990s and 2000s in some countries. In the United Kingdom, for example, converted blank-firing firearms have made up a significant proportion of the 'firearms' used in criminal activities. Converted firearms began to appear in UK crime statistics in the mid- to late 1990s, around the same time as a 1997 law banning civilian handgun possession came into force (Hales, 2006, pp. 7, 14). By the early 2000s (from 2003 to 2008), 21 per cent of firearms recovered by police from

crime scenes were recorded as converted replicas (Hannam, 2010, p. 758).

Converted weapons also appear in other European countries. In Germany, for several years, the majority (68.5 per cent in 2012, and 69.6 per cent in 2013) of firearms seized during crimes were blank-firing firearms, many of which were converted (Bundeskriminalamt, 2012, p. 6; 2013, p. 8). In May 2014, about 40 per cent of all firearms seized in the Netherlands were converted or believed to be slated for conversion.¹⁷ This is a marked increase over the approximate 10 per cent from 2002 to 2008 (Simone de Vries, 2011, pp. 205–06). In Sweden, it is believed that between 20 and 40 per cent of public shootings are carried out with converted pistols.¹⁸ The French police recently reported that 4.5 per cent of all seized firearms were converted replicas, but admitted that this number was probably low, as converted replica firearms are often recorded as the weapons they imitate.¹⁹

In the Russian Federation, converted firearms have been used to carry out several high-profile murders. In 2006, the journalist Anna Politkovskaya was shot and killed with a 6P42-76 teargas pistol converted to live-fire and fitted with a silencer, and in 2011 the infamous ex-colonel Yuri Boudanov was gunned down with a converted IZh-79 pistol, also fitted with a silencer (Popenker, 2014). These were not the only incidents. While there was no national data, a police



A 6P42 tear gas pistol, based on a Makarov PM, illegally converted to fire 9 x 18 'lethal' ammunition and fitted with a silencer. © Maxim Popenker, 2014

official in one Russian city stated that every year the authorities confiscate 30 to 50 illegally converted weapons, though only about 30 per cent of them had been used in violent crimes (Popenker, 2014, p. 1).

In total, at least 19 European states have reported confiscating converted blank-firing firearms. In addition to those mentioned above, a 2013 European Commission report adds Belgium, Bulgaria, Ireland, Finland, Greece, and Spain to the list of countries finding converted firearms (EC, 2013, p. 6).²⁰ Additional reports of seized converted firearms were made in Bosnia and Herzegovina, Croatia, Georgia, Italy (Novinite.com, 2011), Kosovo,²¹ Lithuania,²² Portugal, the Russian Federation (Popenker, 2014), Serbia (Nonhthka Online), and Ukraine (Security Service of Ukraine, 2014). The problem is by no means confined to Europe, however, since other regions have also encountered converted replica firearms.

Conversion across the Americas

In the Americas, replica conversions are not generally reported in large numbers although they appear to be a greater problem in Canada. Canadian government statistics show that in 2012, 'firearms like' weapons were recorded in almost 23 per cent of violent crimes in which firearms were used (Cotter, 2014, p. 8). 'Firearms like' categories include blank-firing firearms, airsoft guns, and pellet guns.²³ More troubling was the disproportionately high (54 per cent) use of 'firearms like' weapons in more serious violent offences (termed level-2 assaults) (Cotter, 2014, p. 31). Overall, in Canada it is mainly young offenders who use blank-firing handguns (Consiglio, 2012; Cotter, 2014, p. 21). The Canadian authorities prohibited two models they identified as readily convertible, the Turkish-built Zoraki Models 914 and 925 (Solomon, 2011).²⁴

There have been cases of firearms conversion in the United States, including one involving the use of a con-

verted airsoft in a shooting incident (Vasquez, 2014), although converting replicas to real firearms is not believed to be a large problem. This is likely to be because real firearms are so readily available in the country that there are simply better options than conversions.

There are few reports from Central and South America, and interviews with regional experts suggest that, although converted weapons are likely to be present, they do not appear to be a major problem, particularly because of the high availability of illicit purpose-built firearms.²⁵ That said, in 2007, Peruvian police destroyed 7771 seized firearms, of which 'hundreds' were converted weapons (Obando, n.d., p. 9).²⁶

Conversion across Asia

There is limited data on firearms conversions from Asia. Nonetheless, several countries in the region cited the criminal use of replica firearms, thus suggesting the possible presence of converted firearms. Research found no cases of firearms conversion in China, although the country has witnessed the increased use of 'imitation' firearms in violent criminal acts, such as armed robberies (Stratfor, 2011). This coincides with a rise in arrests for smuggling or illegal ownership of 'imitation' firearms (*China Daily*, 2014). The imitation weapons in question are largely air guns, toys, and other unspecified replica firearms (*China Daily*, 2014; *Shanghai Daily*, 2014). Though the reports lack detail, certain replicas are clearly perceived as greater threats than others. In a 2014 seizure of over 400 replica firearms in Urumqi, China, police classified more than 100 as real firearms because of their potential to cause injury (*China Daily*, 2014). Since civilian ownership of replica and real firearms is prohibited in China (Aredy, 2008), imitation weapons seem to be the most available substitute, although there is no evidence that conversions are occurring.

Taiwan,²⁷ like mainland China, has extremely strict legislation on firearms, and yet the law-enforcement agencies frequently confiscate converted firearms (Lee and Meng, 2011, p. 19). No data has been found as to the number of seizures, but criminals in Taiwan have used converted replica firearms as replacements for real weapons (Lee and Meng, 2012, p. 1102).

India has not reported a conversion problem, but law-enforcement agencies have expressed their concern. Indian police and customs agencies have carried out several large seizures of blank-firing pistols, most recently in August 2014 in which 194 German-manufactured blank pistols were confiscated from the back of a car (India TV, 2014). During two seizures in 2013, Indian customs officials confiscated 31 blank-firing firearms and 5,000 rounds of 9 mm PAK and expressed concerns that they could be modified (Haidar, 2013).

Conversion across the Middle East and Africa

The proliferation of converted replicas appears to be significant in the Middle East and North Africa, where Turkey seems to be central to this phenomenon. Turkey is a major manufacturer of blank-firing firearms, with several widely sold brands: Atak Zoraki, Ekol/Voltran, and Blow, and Target Technologies (Ferguson and Williams, 2014, pp. 6–8). In the country itself, Turkish police found converted blank-firing firearms in 16 per cent of all seizures conducted between 2010 and 2012 (World Bulletin, 2013).

Over the past five years, multiple large shipments of blank-firing firearms have been seized at several borders, while many more appeared on the black market (see Table 2). Tens of thousands of these weapons were seized in major shipments to Djibouti, Egypt, Libya, Syria, and Yemen (see Table 2). Turkish police also confiscated shipments destined for Iran, Somalia, and Sudan (Zaman, 2013). Authorities

Table 2 **Recent seizures of Turkish-made blank-firing and trauma guns in the Middle East and Africa**

Destination or seizure country	Date	Type	Number of confiscated firearms	Seized
Yemen	March 2011 ^a	Blank-firing pistols manufactured by Ucyildiz Arms Ind. (Maker of Voltran and Blow)	16,000	Dubai
Djibouti	Sept 2012 ^b	Blank-firing pistols	22,272	Algeciras, Spain
Yemen	3 Nov 2012	Blank-firing pistols	3,000	Aden
Yemen	15 Nov 2012	Blank-firing weapons	3,780 to 10,000	Aden
Libya	24 Jan 2013 ^c	Blank-firing pistols	2,500	Greece
Syria	Feb 2013 ^d	Blank-firing weapons and ammunition	50	Akçakale, Turkey border gate
Yemen	6 July 2013 ^e	Blank-firing weapons	–	Al Hudaydah
Egypt	17 July 2013 ^f	Blank-firing weapons	–	Undisclosed
Egypt	15 Dec 2013 ^g	Blank-firing weapons manufactured by Zoraki	1,500	Port Said

Sources: ^a Seibert (2013); ^b *Latin American Herald Tribune* (2012); ^c UNSC (2014, p. 20); ^d *Hurriyet Daily News* (2013a); ^e Republic of Turkey; ^f *Hurriyet Daily News* (2013b); ^g *Aydinlik Daily* (2013)

in Djibouti, Egypt, and Yemen have expressed concerns about the potential conversion threat posed by the shipments. Converted (Turkish-made) blank-firing firearms shipped from Turkey have also surfaced in Libyan black markets (Jenzen-Jones, 2013). Given the widespread proliferation of weapons in the Middle East, East Africa, and North Africa, it is not surprising that these converted weapons are making their way to neighbouring countries. Converted Turkish-made blank-firing firearms have also been seen in Kenya, Lebanon, and Somalia (Gumbihi, 2014; Slemrod, 2012; UNSC, 2013).

Why convert weapons?

Given the criminal nature of the modifications discussed in this Issue Brief, the danger they pose to the user, and their reduced accuracy, power, and lifespan, the value of converted replica firearms may not be immediately apparent.

In essence, a converted replica firearm appeals to two groups. The first, ‘backyard gunsmiths’, enjoy working on firearms and related devices. Members of this community appreciate the challenge of performing a con-

version or the novelty of the converted device.²⁸ Given that many people with such skills have regular access to real firearms and handle them frequently, they tend to view the devices they create as collectibles rather than as weapons. Such conversions would nonetheless be considered illegal in many countries.

A significant threat to proliferation is posed by those who wish to use converted firearms in place of real handguns. People purchase converted firearms to use as concealable weapons for self-defence, but also for criminal purposes (Jenzen-Jones, 2013). For instance, it is reported that Libyan women frequently purchase converted pistols (along with other low-cost firearms options) for personal protection (Galtier, 2014). Although these weapons are less lethal than purpose-built firearms, their appearance and ability to inflict injury are viewed as sufficient disincentives to spending more for real weapons. Whether the weapons are intended to be used for self-defence or crime, a few key factors appear to influence the decision to choose a converted firearm.

The demand for converted blank-firing firearms appears to be directly

linked to national legislation restricting civilian handgun ownership. Conversions are particularly likely to prevail in states that ban—or heavily restrict—civilian possession of pistols and revolvers, such as the Netherlands and the United Kingdom (Simone de Vries, 2011, p. 214; Hales, 2006, p. 7). Law-enforcement officials from both countries have confiscated substantial quantities of converted blank-firing firearms (see Table 2). On the other hand, Switzerland and the United States, two countries with much less restrictive policies on civilian firearm ownership, have not reported a significant demand for converted blank-firing firearms.²⁹ While further research would be needed to confirm these findings, the information gathered for this Issue Brief indicates that the demand for converted firearms is inversely correlated to the availability of industry-made firearms.

Pricing appears to affect demand. Converted blank-firing firearms, even after their conversion, typically cost far less than real pistols and revolvers. In Turkey, for instance, an unconverted blank-firing pistol costs just 10 per cent of the price of a ‘real’ pistol (Saribey and Tarimci, 2009, p. 626). This price differential is reflected elsewhere. On the Libyan black market, the price of a normal handgun is LYD 2,000–5,000 (USD 1,600–4,100), whereas a converted blank-firing firearm is sold for LYD 150 (about USD 125) (UNSC, 2014, p. 18). In the Netherlands, the converted Tanfoglio Model GT 28 alarm gun reportedly sold for around EUR 100 (USD 136) in 2010, while in 2008 other converted models cost EUR 300–500 (USD 410–660), much less than a real firearm (Starink, 2010; Simone de Vries, 2011, p. 210).

Criminals are also attracted to blank-firing firearms because they are untraceable (Simone de Vries, 2011, p. 211; Hales, 2006, p. 53). Blank-firing firearms are not subject to the same rules, regulations, and practices as real firearms. These include marking,

at the time of both manufacture and import, and record-keeping. Without marking and record-keeping, weapons cannot be traced. Converted blank-firing firearms also lack the signature forensic evidence of real firearms given that most lack rifling in the barrel. Rifling serves to etch the bullet as it is expelled, creating unique ballistics marks on the projectile, which an investigator can use to link an expelled bullet or cartridge to a specific firearm. This combination—low price, lack of traceability, lethal capability, and the ability to fire at least a few shots—has led to certain criminals treating converted replicas as disposable weapons.³⁰

Normative aspects

All law-enforcement officials consulted for this Issue Brief said that blank-firing conversions are illegal in their countries. This is in line with international norms. In the UN Firearms Protocol, the conversion of a blank-firing firearm falls within the definition of ‘illicit manufacturing’ as it occurs without government authorization and without proper marking (UNGA, 2001, art. 3(d)).

These international instruments do not, however, provide clear guidance on how states should regulate unconverted replica firearms, including blank-firing firearms. The Firearms Protocol, for instance, recognizes items that can be ‘readily converted’ to function as ‘firearms’; but, as noted earlier, it fails to define which items meet the readily convertible test (UNGA, 2001, art. 3(a)). Different countries provide different answers to this question.

Some countries, such as the United Kingdom, regulate the ownership of all replicas and impose stiff penalties on violations of corresponding laws (UK, 2006, s. 31). The UK does, however, distinguish between different categories of blank-firing firearms. For instance, front-venting types are defined as real firearms, whereas side- or top-venting are placed in the less stringent

category of ‘realistic imitation firearms’.³¹ In 2011, Lithuania adopted a law that defined all ‘gas pistols’ as firearms.³² Prior to this, Lithuania, which did not regulate these items, was considered a source for convertible blank-firing firearms in Europe (Alderson, 2007). Other states, such as Canada, regulate certain blank-firing firearms they consider more problematic (those susceptible to conversion).³³ Many other states do not restrict the acquisition of replicas or blank-firing firearms. This disparity among national laws undermines efforts to combat unlawful conversion. Proliferation trends documented in Western Europe suggest that replicas are purchased, and often converted, in countries that do not regulate replica firearms. They

are then trafficked to countries that have stricter controls.³⁴

Conclusion

While all replica firearms can be converted to fire live ammunition, this occurs most often with blank-firing firearms. Among blank-firing firearms, certain models are more readily convertible than others, because of their design and the materials used in their construction. Conversion of blank-firing weapons occurs in many countries worldwide. The availability of blank-firing firearms, their low cost, and the relative ease with which certain models can be converted feed the demand for these weapons, particularly in places where handguns

Box 2 Lithuanian example

Lithuania provides a unique example of a national effort to prevent firearms conversion. The conversion of alarm weapons was seen as a serious problem in the country. Over several years, the government tried several different approaches to control the problem until finally settling on one that appears to have dramatically shifted the demand for blank and other gas pistols.

Before 2011, blank-firing firearms and trauma firearms were popular among criminals (Čiupala, 2014). These devices, in their original state, could be purchased legally by anyone over 18 years of age, without them having to undergo background checks or produce records. From 2000 to 2007, Lithuanian police identified the Russian-made Baikal IZH-78-9 as the most frequently converted gas pistol. The government consequently banned the weapon in 2007, but the ban did not prevent further conversions. Rather, police noticed other gas pistols taking its place. From 2008 on, most confiscations concerned the Olympic ME38 Compact G (Čiupala, 2014).

Lithuania gained a reputation as a source for illegally converted alarm firearms seized in other countries (EC, 2013, p. 6). Converted Baikal IZH-79-8s became a popular weapon among UK gang members. British police were able to trace the weapons back to Lithuania where individuals were purchasing large numbers of blank-firing firearms, converting them locally, and in some cases, smuggling them into the UK (Connolly and Cobain, 2007).

In terms of control, Lithuania had already banned the most commonly converted gas weapon, only to see it immediately replaced by another alternative. The next attempted control involved quality verifications. Consignments of gas weapons were subject to verification tests when they were being imported. Inspectors would test the barrel obstructions to ensure no projectile could pass through, that the barrel and frame were permanently connected and impossible to separate, that the pressure-bearing components of the firearms were not made of steel, and that standard industrial produced cartridges could not be chambered.³⁵ This was not seen as an effective control, as manufacturers ‘change the construction of the gas (alarm) weapon without changing its name’ (Čiupala, 2014).

Still facing a conversion problem, in March 2011 Lithuania passed a law requiring the registration of all gas weapons and for purchasers to receive a permit beforehand. (This law also applies to low-power firearms with a projectile energy of between 2.5 and 7.5 joules, and to replica antique firearms.) All previously purchased gas firearms had to be registered by January 2014. The law essentially mandates sellers and purchasers to adhere to the same requirements that apply to conventional firearms. While it is unclear whether the law has reduced the criminal use of converted firearms, it has dramatically affected the consumer demand for gas weapons; 90 per cent fewer gas weapons were sold in Lithuania in 2012 compared to 2010 (Čiupala, 2014).

are difficult to acquire because of legislative restrictions or high prices. Recent seizure trends suggest that the proliferation of converted blank-firing firearms could pose a significant threat to countries in the Middle East and Africa. To date, however, multilateral control regimes have ignored the problem. ■

Abbreviations and acronyms

ATF	United States Bureau of Alcohol, Tobacco, Firearms and Explosives
EC	European Commission
LYD	Libyan Dinar
PAK	Pistole Automatische Knall
RCMP	Royal Canadian Mounted Police
UNGA	United Nations General Assembly
UNSC	United Nations Security Council
USD	United States Dollar
WCO	World Customs Organization

Endnotes

- Firearms experts interviewed by the Small Arms Survey came from Belgium, Canada, France, Germany, Lithuania, the Netherlands, Sweden, Switzerland, and the United States.
- There are three types of semi-to-fully-automatic conversions: true conversions that modify the internal mechanisms of the firearm to give it true 'machine gun' capability; improvised modifications involving the deactivation of the disconnect—the component inside a semi-automatic rifle that forces the trigger to reset before firing again—at an appropriate time during the firing cycle to enable continuous firing without the operator releasing the trigger; and pseudo-conversions that allow the operator to manipulate the trigger faster than would otherwise be possible (Ferguson and Williams, 2014, pp. 13–16). Pseudo-conversions are carried out with commercially available products and, while simulating rapid fire, they do not necessarily result in the firearm being classified as a machine gun, although this varies by country (Ferguson and Williams, 2014, p. 17).
- Loads other than simple blanks are available in 9 mm PA. These include irritant (or tear gas) loads which can be fired from almost any 9 mm PA chambered, front-venting blank-firing firearm. Rubber ball (9 mm PA rubber) loads that require a bore capable of permitting a rubber projectile to pass (Ferguson, 2014) are often called kinetic-energy weapons or trauma guns, and are discussed in a later section.

- Author interview with Murray Smith, Royal Canadian Mounted Police, 19 March 2014.
- For instance, in 2011 the government of Lithuania passed a law requiring citizens to present a permit before purchasing a blank-firing firearm (author email correspondence with Audrius Čiupala, Head of Licensing Division of Public Police Board, Lithuanian Police, 15 April 2014).
- Email correspondence with Jonathan Ferguson, 25 August 2014.
- Author interview with Murray Smith, Royal Canadian Mounted Police, 19 March 2014.
- Author interview with Murray Smith, Royal Canadian Mounted Police, 19 March 2014.
- Author interview with Murray Smith, Royal Canadian Mounted Police, 19 March 2014.
- Author email correspondence with small arms researcher Maxim Popenker, 24 June 2014.
- Author interview with Francois Remue, World Customs Organization, 5 May 2014.
- Author email correspondence with small arms researcher Maxim Popenker, 24 June 2014.
- Airsoft guns are similar to BB guns. Both use spring, air, gas, or CO₂ as the propulsion to expel small round projectiles. BB guns generally shoot 4.5 mm steel or lead BBs, whereas airsoft guns shoot 6 mm plastic 'BBs'. Airsoft guns are used in tactical situational training and games so they are made to have an identical appearance and action to real firearms, while shooting a projectile with less force than a standard BB gun (replicaairguns.com, 2012).
- Author email correspondence with Nic Jenzen-Jones, Director, ARES, 24 June 2014.
- Responses to a questionnaire provided by French Police, 18 April 2014.
- They were categorized as 'Other Weapons – Pneumatic (air/gas) weapons'.
- Author email correspondence with Alex Korte, Netherlands Police, 20 May 2014.
- Email correspondence with Karl Hertting, Swedish Customs, 14 April 2014.
- Response to a questionnaire provided by the Head of the Firearms and Explosives Unit, Direction Centrale de la Police Judiciaire, France.
- The same report identified the Czech Republic, Germany, Italy, Lithuania, and Turkey as source countries.
- The designation of Kosovo is without prejudice to positions on status, and is in line with UN Security Council Resolution 1244 and the International Court of Justice Opinion on the Kosovo declaration of independence. See also Gashi (2007).
- Author email correspondence with Audrius Čiupala, Head of Licensing

- Division of Public Police Board, Lithuanian Police, 15 April 2014.
- Author email correspondence with StatsCanada, 27 June 2014.
- Author interview with Murray Smith, Royal Canadian Mounted Police, 19 March 2014.
- Author email correspondence with Rodolfo Gamboa, UN Regional Centre for Peace, Disarmament, and Development in Latin America and the Caribbean (UNLIREC), 24 June 2014.
- Author email correspondence with Rodolfo Gamboa, UNLIREC, 24 June 2014.
- The United Nations recognized Taiwan as a province of China in 1971.
- Interview with François Remue, World Customs Organization, 5 May 2014.
- Author email correspondence with Swiss Federal Police representative, 18 March 2014; author interview with Europol/ATF representative, 24 February 2014.
- Author interview with François Remue, World Customs Organization, 5 May 2014.
- Author email correspondence with Jonathan Ferguson, 25 August 2014.
- Author email correspondence with Audrius Čiupala, Head of Licensing Division of Public Police Board, Lithuanian Police, 17 April 2014.
- Author interview with Murray Smith, Royal Canadian Mounted Police, 19 March 2014.
- For examples, see Simone de Vries (2011) and Starink (2010).
- Email correspondence with Audrius Čiupala, Head of Licensing Division of Public Police Board, Lithuanian Police, 17 April 2014.

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