

Militia Ranger

Summer 2009

Editor

Major Donald R Doyle
Virginia Citizen's Militia

Assistant Editor

Robert L Ingram
Nebraska Militia

Staff Writer(s)

Safe Talker

E-Mail us at Militiaranger92@yahoo.com or Rudyak47@hotmail.com

Your comments and criticisms are welcome. We need more staff writers.

We would like to thank Nebraska Militia for hosting the Militia Ranger.

The Poor man's Crypto

(Safe Communication)

By

Safe Talker

Every time you speak, send data, or text messages you are providing information to anyone who can hear, see, or transcribe your information to a medium that will allow them or someone else to listen, or read that information. While I could care less about most of the information that I put out, there is some of that information which I only want a limited number of people to have access to.

If you make that information too hard for the intended recipient to understand you might as well have kept it to yourself. Likewise if that information was too easy then everyone will know it.

You probably don't mind if the neighbors find out that you have purchased a new car, however your supervisor's home phone number you would probably just as soon not share with the world. Thus you have the dilemma of security, or compromised communications. Within an organization such as a militia all communications is hard as a rule because no one wants to be the bull's-eye on the target at Big Brother central. When you need to provide critical communications outside your group in safety it gets even harder. To accomplish that involves encrypting the data so that if it is seen, heard, or read it will not be understandable.

Encrypting is basically the act of replacing known characters with alternate characters that can be convert back at the other end and let you see what was actually sent. There are a number of ways to accomplish this replacement. You can use one of many commercial encryption programs such as one of the pay per message services on the Internet, but you would have no way of knowing if they were under a court order to share all their data with an officer of the court or not. If you buy one of the dozens of software packages on the market and install it on your computers you wouldn't know if there is a built in back door to the program that installs a universal key that would allow big brother to break all messages encrypted with the software. What I am going to describe here is a measure that is single time single use secure. That is unless you share the keys with too many people.

The Army in Vietnam used Morse code and one time encryption pads. These pads were generated on a computer and allowed the operator to place the message in spaces above lines of predetermined random text and they were then turned into groups of 5 and sent as Morse code messages. These pads were called perfect crypto devices. Problem was, is, how do you carry all that classified information into battle. If you missed a radio contact due to weather, enemy

action, or slept through it, they simply voided all the pads you owned and you had to make it back to base camp and get some more.

To fill in for those times the teams used a prearranged verse of the bible to both identify themselves and let the world know that they were still alive by encrypting a specific set of text. This was less secure, but allowed the base to allow that team to continue using the old one time pads until a normal resupply was scheduled. This resupply ability is tedious in the active military, and impossible in a situation like a militia in the field. That leaves you to use a less secure method and send less in messages, and more in person. The process is fairly simple if you accept a lower security and only encrypt what must be secure we can reduce the probability of anyone breaking our code.

First you take your information, and using predetermined key word replacement, reduce it to under 25 words.

Then you break it into 5 letter groups. Using a simple piece of paper that has been drawn out like a onetime pad with three blank rows instead of two.

Row one is the message text.

Row two is the encryption text.

Row three is the coded value of the two

1 _____ (MSG)

2 _____ (Key)

3 _____ (Code)

We will get to the nuts and bolts later in the article but for now we will keep involved with the procedure.

The encryption text, or key, is best a shared, random text group. However to do that entails an intricate distribution system. This leaves groups like a militia in the lurch. We can barely get each other to talk face to face, let alone send and receive classified information. In the Safe talker's poor man's crypto system we can use something we all have. A Bible, preferably the New Testament because of the size and portability. Some alternates could be the Declaration of Independence, or the Constitution of the United States, or any other document.

The reason I suggested the bible is that in case you are detained you would only have whatever redneck, ultra conservative, bible thumping, gun toting radical would be expected to have. Their copy of the bible with reading notes.

You could use one book of the bible per month. How you do that depends upon who you are sending to. A major HQ, or Cell, would assign the books to specific levels of their unit. Then they use the chapters as the day of the month. If someone is detained they can even tap coded messages on plumbing, floors, or walls to notify others of their presence. Each major unit would have a specific passage as their open key for this purpose.

The only other paper that would be needed is a copy of the Vigenere's square, or Trigraph. This sheet has the alphabet written vertically down the left side, and again across the top that coincides in the top left. To encrypt a message you write the message in five letter groups on the spaces above on row 1 with no spaces. Then you write the passage of the key document on row 2 with no spaces. The third row is filled in by taking letter by letter the message line and finding it on the Top row of the Vigenere's square. Then taking the key letter below it on the message pad and going down the left hand side of the Vigenere's square. Next we go across to where the two letters meet and enter that letter on row 3. When each and every letter has been encoded, we write the groups from row 3 down on a message sheet and destroy the original sheets for security.

These coded message groups are then integrated with at least twenty other five letter groups of trash, and sent by Morse code, fax, voice, or written notes. To make the message harder to break you can insert these bogus groups in predetermined spaces based upon the day of the month, time of date, etc. You can also run the key through the Square using the units name as the key letters to add difficulty to the breaking. These additions are all information that must be SHARED to make the system work.

Remember, what is shared is also able to be shared with Big Brother. If intercepted the message should take Big Brother around 3 to 5 hours to decode the message. To decipher the message the receiving station using the Vigenere's square, or Trigraph you place the received message on row 1, after deleting the predetermined junk groups. Then entering the Key text on Line 2.

To decipher the message you find the key letter on the left side of the Trigraph, and go across to the encrypted letter from row 1 on the same line. Then look up to that line to the top row and enter that letter into row 3 of the onetime pad.

The Vigenere's square, or Trigraph is simple to make. Using a piece of simple graph paper you enter the alphabet down the left most row. Then using the same A again you write the alphabet across the top of the sheet. Then going either left to right or top to bottom fill in the next letter till you get to Z then the next letter will be A and keep going to the end of the line as set out by the first row.

This way with blank paper and a Bible you can run a secure message center. The key to prevention of the other guys breaking your system and being able to read your messages in near real time is the placement and number of fake groups, and the time driven progression of the bible books and chapters.

The next most important factor is to keep the messages short and preformatted using predetermined message sheets that allow you to be short, and concise. Remember that while you want to add fake groups you don't want your radio broadcasting very long or someone will find it, and you.

Vigenere Square

____ABCDEFGHIJKLMNOPQRSTUVWXYZ

+-----

A		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
B		B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A
C		C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B
D		D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C
E		E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D
F		F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E
G		G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F
H		H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G
I		I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H
J		J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I
K		K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J
L		L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K
M		M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L
N		N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M
O		O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N
P		P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Q		Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
R		R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
S		S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
T		T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
U		U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
V		V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
W		W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
X		X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Y		Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
Z		Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y

Caching

Preparing the Contents

Part 1

By Rudy

Most of us have given some thought to caching or burying some of our long arms and needed supplies. Long arms tend to be the more difficult items to bury. So let's take a look at them first.

For the sake of this paper, we'll cache an AR-15. PVC pipe is the 'standard' for our purposes. I want to use the shortest length and smallest diameter of pipe possible. Remember that we are going to bury this so I want to dig the smallest hole possible. To help deter detection, I will need to have the top of the pipe 12-18" below the surface. Whether I dig a shallow hole just deep enough to lay the pipe in and cover it up or dig a vertical (fence post) hole will make little difference in the amount of dirt I need to move now. It will however make a difference when I need to recover it.

If the Powers that be come searching for my arms, it will make a huge difference. They will certainly use a metal detector. The rifle laying horizontally 18" deep will certainly look like a rifle and it will be confiscated in short order. If however it is placed on end, the metallic footprint will be drastically reduced. It will be nearly a 6"x6". We can hinder its discovery by burying cans, nails, and wire throughout the area. Some steel shot seeded around can also throw off the search. If your site has had some recent construction on it, this seeding will not look out of place.

In order to reduce the signature of the AR, I will need to bury it standing upright.

Because the AR has a pistol grip and a carry handle it is considered a tall weapon. If buried assembled it will require a pipe 10" in diameter and nearly 48" long. This would necessitate a fence post type of hole close to 7' deep and 12-14" in diameter. Once this size pipe is buried, you can forget about ever digging it up again without the use of a backhoe.

First we need to determine how we are going to prepare the AR. We can coat it entirely with protectant to ensure it will not rust or corrode, or we can store it in a 'ready-to-use' condition. In either case there is a trade-off. Completely protected will involve one or 2 hours of cleaning before it can be considered combat ready. If stored in the ready condition, it will have minimal protection while cached.

My personal preference is the protected condition, so that is the one that I'll describe here.

The supplies needed are as follows:

1. Heavy chemical resistant gloves.
2. Parts cleaning solution.
3. Parts brush.
4. Large plastic pan

5. Several newspapers
6. LPS #3
7. 1" paint brush
8. Gun scrubber
9. Clean rags
10. 2 rolls of 4" x5 yd gauze
11. 40+ gallon garbage bag.
12. Electrical tape

Start by insuring that the AR is empty. Remove the plastic parts such as the butt stock, pistol grip and hand guards. Also remove any optics, lights or lasers.

We want to clean the rifle better than normal and we want to leave no oil or finger prints on it. While wearing the gloves, disassemble the rifle as if field cleaning. Use the parts cleaning solution, the brush and the large pan. I use a round hog pan made of heavy duty plastic. Hold the parts to be cleaned over the pan while brushing the cleaner over the parts.

After they have been cleaned several times, place them on the papers to dry. Once dry, use the Gun Scrubber to remove any residue or grit left behind. Gun Scrubber evaporates very quickly and leaves a bare unprotected surface, which is what we want. It also removes most paints. If you are like me, you'll need to repaint your AR after it has been retrieved. Gun Scrubber can damage some types of plastic. While it is generally safe for those used on quality firearms, I don't take any chances and remove them from the weapon.

LPS #3 is a wax like coating that blocks water, salt spray and moisture from metal. It is 'self-healing' to minor scratches in its surface. It is a modern day replacement for Cosmoline. I've used it on several firearms. I covered an AK receiver and left it in the backyard for 2 years. No rust.

Place the gauze in an oven at 250 degrees for about 30 minutes. Reassemble the AR into the upper and lower halves. Paint or spray the bolt/carrier group with the LPS #3. Pour or spray some LPS #3 into the chamber and bore and then insert the BCG into the upper receiver. Either paint the LPS3 or spray the outer surfaces of each half. Then replace the plastic furniture. You don't need to coat it, but it wouldn't hurt.

Once the 2 halves are coated, use the gauze to wrap each half like a mummy. Heating the gauze to 250 degrees does 2 things;

1. It removes any moisture in the fabric.
2. It allows the gauze to melt into the LPS #3 thus strengthening its bond.

Use one roll of gauze on each half. You can also put on a second or third coating of LPS with each layer of gauze.

Insert each half into its own garbage bag. Remove as much air as possible from the bags and twist the mouths shut forming a 'tail'. Put 6-10 wraps of electrical tape around the tail as close to the muzzle as possible. Move about 3" further down the tail and repeat the process. Do this until you reach the end of the bag. Twist the tail back over itself and tape together. You can wrap the tape around the bag every few inches.

Now you have each half of your AR sealed from moisture for long term storage. It's time to gather the supplies needed for the actual cache. If you are going to cache just the one rifle, you can use a 6" pipe 36" long. I wish to cache some magazines, ammo and rags with my rifle. Here is what I've used;

1. 1- 48" x 8" PVC schedule pipe.
2. 1- 8" PVC cap.
3. 1- 8" PVC threaded adaptor
4. 1- 8" PVC threaded plug
5. 1- 8" PVC floor drain cover
6. 20' parachute cord
7. Several bags of desiccant.
8. Plastic hog pan as used above.

I use a 48" piece of 8" schedule 40 PVC pipe. I glue/weld a cap on one end. Clean the pipe and cap as recommended by the manufacturer. Place glue on the inside of the cap in several beads. Place a couple of beads of glue around the end of the pipe. Quickly force the cap onto the pipe as far as possible and then twisting it a few degrees. Twisting it helps spread the glue and destroys all voids in the glue made by minute burrs around the edge of the pipe. The threaded adaptor is glued to the other end in the same manner.

Once dry I place a bead of silicone caulk around the rim of the cap as extra insurance against leaks.

Next issue will deal with selecting a cache location.

Life is good

by Major Donald R Doyle

Just recently I turned the big FIVE-O and got a few, you don't look that old comments, but I do feel it. The happy birthday e-mail from an old High School sweetheart was nice. My vision is becoming a problem I have to hold a piece of paper at arms length to read it and concentrating on my firearms front sight is really getting hard, Thank God for my scoped Steyr-AUG rifle and soon to be lighted and lasered Glock pistols. It's not good to stay up late either 11pm feels more like 3am. How come all this AARP stuff starts showing up in my mail how did they know my birthday? I celebrated by buying myself an Explorer Sport-Trac with the dreaded automatic transmission. That's something I have sworn for years I would never have but I love it now. I wanted something big to haul the newest edition to my family around in safely, my first grandchild! I suggested the name Jeremiah Johnson which I really liked but he's *Collin Joshua Gravely 8lbs 5.4 ozs.* and very healthy. Christmas is going to be fun again. My job at Yokohama tire is rolling along well. Marriage is good, everybody in my family is healthy, and life is truly good as long as I don't read the paper or watch the gloom and doom news. The snail-mail and magazines are piling up on my desk. Soldier of Fortune magazine a very anti-militia publication says *the DOD has plans to deploy 20,000 U.S. troops nationwide by 2011 to quash civil unrest.* Even S.W.A.T. a pro-police magazine has numerous articles telling you to put back food and lots of ammo, yeah, yeah I've been doing that for years. Now we have the latest government Gestapo organization, Homeland Security calling many of us with Christian values or veterans "*domestic terrorists*". Hillary is using the Mexican drug war as an excuse for gun control. With the democrats controlling the three branches of government ,it's just a matter of time before some Nazi style gun control legislation becomes law. It's the confiscation that I'll be locking and loading for. The childhood stories we grew up with really do come into play now in adult life like the story of the Ant and the Grasshopper, we ran a good parody of it in our last issue. You all should have been ants a long time ago. I went to a recent gun show and saw a lot of grasshoppers trying to rapidly convert themselves to ants buying up anything and everything. Well, better late than never I guess. Then there's the Three Pigs, you know the first pig lives in a trailer park, the second on a flood plain with an adjustable rate mortgage, then there's me with a brick house on a hill. Just ask for God's guidance, try to be part ant, part third piggy and life can truly be good!

Think you have a tough job?

By Major Donald R Doyle

I thought I had a tough job at my tire plant but Air National Guard Chaplain Norris Burkes has me beat. Here's his story from the Air Force Times.

As we pulled a family photo from the pocket of one of the three soldiers killed in action, an airman said, "I can't imagine what it will be like for the people who will notify their families." I can imagine all too well. In the next few moments, flashbacks filled my mind with the images of the nearly 25 times I've put on my dress uniform and met a sergeant I didn't know in the middle of a town I'd never visited to deliver the news I never want to hear. In that moment, I could see the home where I prayed with a man who lost his daughter on Christmas Eve. In another home, I could hear an anguished father pound the kitchen table as he railed against the government policies he blamed for his son's death. I could feel the darkness of the mobile home park where I waited for parents to return from a winning bingo game, only to find out they'd experienced the loss of a lifetime. I shook as I recalled stopping a family in their driveway before they could leave to pick up their son at the airport. He wasn't coming home. The soldier's photo evoked every memory imaginable, even some you can't imagine. I could imagine it all, because I've driven five hours one way to tell a father that there would be no miraculous recovery for his son who finally died of the brain injury he's suffered from an improvised explosive device the prior year. I remember standing in the darkness on the other side of a screen door and the chorus of screams that erupted as someone turned on the porch light to reveal our uniformed team. But most of all, it was the children in the dead soldier's photo who reminded me of the birthday party we interrupted, of the 9-year-old twins who exchanged vacant stares, and of the 4-year-old who just didn't understand. As we stood saluting these soldiers for the last time in our morgue, I wasn't blessed with the innocence of ignorance. I could easily imagine delivering the unspeakable news to these families. However, as I contemplated the airman's original concern for those notifying the family, I uncovered her unspoken question: "How can you do it?" The answer to that question is simple. I rely on the inspiration I find in the ultimate sacrifice this soldier was willing to risk. Yes, sometimes, I find my hand shaking as I knock on those doors, but I tell myself, "If these soldiers could do their job without flinching, then, by God's grace, I can do mine." They did their jobs in a professional manner because they trusted that their comrades and their chaplains would also be professional as they did this unspeakable duty. So, next month when I return home and I get a call requesting a chaplain for a death notification, I will answer the call like the prophet Samuel said, "Here am I, Lord. Send me."

History of Dog Tags

by Major Donald R Doyle

DOYLE DONALD R
A POS CATHOLIC
NO MED ALLERGY
DOB 18 MAR 59
VINTON VA

One of my favorite groups of guys in history, the Spartans, was the first to come up with the idea. A soldier would make his "mark" on both ends of a twig then break it in half leaving one end in a bowl behind the lines and placing the other half in a piece of leather on his wrist. When the battle was over he would come back to the rear area and pick up his marked twig from the bowl. Those twigs not claimed would be used to search the dead for matching twigs. This system worked well for the small, very professional Spartan army since they suffered few fatalities most of the time. But as armies grew larger and casualties especially those killed in action grew, a better method was needed for identifying the dead and wounded. Many battles with frontal charges saw entire units wiped out and no one could identify the dead. Just visit Gettysburg to see the huge mounds with just a stone saying, Rhode Island 112 dead. The Russians lost one million men defending Moscow, outside the city there are mountains of dead as big as the pyramids of Giza. Until recent times few men could swim when a wooden sailing ship went down it really was "lost with all hands." It was during the American Civil War where men marched shoulder to shoulder with relatives and neighbors and as the men saw the massive casualties, got an idea. Men did not fear death as much as being buried "unknown." So they started sewing a piece of paper on the back of their uniform with their name, unit, county, and state. That's the reason you see so many marked graves after major Civil War battles. Of course the guys that marched into the cannons firing double canister shot (that's 200 marble sized lead balls with a lot of black powder behind it) didn't have to be concerned about burial because there was nothing left to bury. Confederate artillery was always short of lead shot and would fire broken glass and nails into the union infantry. *Remember we had more men killed in the Civil War than all other American wars put together.* A New York man came up with the idea of a metal tag with a man's name, unit and state engraved on it with a piece of leather looped through a hole in the top to be worn around his neck, but the Union War Dept. said no to the idea. As World War I was raging and news of the massive casualties filled the newspapers the U.S. War Dept. adopted the metal tag by the time we got involved in 1917. Most of the major warring powers had some type of metal tag for their troops and it really helped with burying the 30 million killed in action in the "Great War" as it was called then. The 1930's saw big advances in the metal tag soldiers themselves came up with the name "Dog Tag" since they called themselves dog faces and the tag

reminded them of their dogs back home. Advances in medicine between the world wars gave doctors an idea as to how to use the tag to save lives instead of just identifying the dead. Soldiers blood type would be put on the tag since so many wounded were unconscious when a doctor arrived and blood typing took precious time. Catholic soldiers expressed a concern for "Last Rights" and a religious preference was put on the tag. Also every soldier was given a service number that only he had to put on the tag since so many last names could be mixed up. Later this would become the social security number. Mix ups still happen as recently as the 1991 Gulf War one U.S. Army soldier's family was notified of their son's death only to have him call home two days later. The family didn't believe him thinking it was some ones cruel joke and the Army had to send him home to tell them. Another improvement would be to have two identical tags around a soldier's neck. One tag would be removed by surviving troops to turn into headquarters and notify the next of kin, the other tag was for the burial team. One urban rumor about the tags was that the indentation on the upper right hand corner of the tag was to be put in the dead soldier's mouth. The real reason was the machine that stamped out the tag needed the notch to help count and move the tags along in the manufacturing process. During the Vietnam War rubber was placed around the edges of the tags to keep them silent since the clinking metal could give away ones position, especially at night in the jungle. Troops taking their shirts off working in the hot sun realized the bright sun reflected off of the "tag" and started painting them black. Recent changes include the Army experimenting with putting a "computer chip" in the tag with all military and medical info on it. All troops now get a DNA sample taken in basic training so there will be no more "unknowns." The British military has added a new twist to the old idea used during our Civil War. Their troops in Afghanistan and Iraq now wear on the sleeves of their uniform a large cloth patch with their blood type and any allergic medicine info on it. This gives quick vital information to medical people. It's a good idea to wear a "tag" even for civilians with your blood type, allergy to medicine if applicable, name and hometown. Use a separate **RED TAG** to indicate what medicine you're on and forget the social security # part. It's somewhat fashionable today to wear a tag; many young people do minus any important information though. A lot of soldiers have several "tags" to give to wives, girlfriends their moms and of course one on their car/house keychain. When you think of plane crashes, fires, explosions, even a car wreck if you're unconscious and unable to speak for yourself your "tag" will relay vital medical information that could save your life and keep you from being "unknown." If your die in an explosion or fire your relatives would be saved the shock and horror of having to identify your charred remains. Most military goods stores have a special Dog Tag typewriter and cost should be around \$15 a set.

Armed America

Condensed from *Small Arms Review*

The ATF has released its annual U.S. firearms manufacturing and export report for the year 2007.

Handguns

Revolvers 391,334

Other types 1,216,479

Smith & Wesson 302,623 Sturm-Ruger 141,917 Sig-Sauer 111,653

Kel-Tec 103,893 Beretta 87,631 Kimber 55,722 Colt 17,833

Rifles

Remington 283,588 Marlin 227,855 H&R 97,390 Henry Repeating Arms 96,376

Bushmaster 59,388 DPMS 58,674 Keystone 47,438 Thompson-Center 47,564

Smith&Wesson 24,676 Century Arms 24,185 Colt 11,138 Barrett 4,479

Shotguns

Mossberg 250,211 Remington 238,245 H&R 73,145 Sturm-Ruger 2,479

Exports

45,023 pistols 34,662 revolvers 74,753 rifles 26,998 shotguns