Steel Valley Dolphins

May 2019

The official newsletter of the
USS Requin Base of the USSVI
Pittsburgh, Pennsylvania

USSVI Creed:

"To perpetuate the memory of our shipmates who gave their lives in the pursuit of duties while serving their country. That their dedication, deeds, and supreme sacrifice be a constant source of motivation toward greater accomplishments. Pledge loyalty and patriotism to the United States of America and its Constitution."

Meetings held on the second Saturday of the month normally in BAden at the American Legion Post and quarterly meetings held around our membership area.

- **Make a difference, get to a meeting!**
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---------- Pride Runs Deep ----------

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Next Meeting: 1230 8 June at the American Legion in Columbiana Ohio.

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---------- Pride Runs Deep ----------

Binnacle List

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Aaron Ellis
Terry Swinney
Lukasik
Clyde and Sharon Porter
James Kontier
Diana Gervais
Lois Stewart
Bill Greenlee

After under ice transit, Uss Pittsburgh arrives at Puget Sound Naval Shipyard for Decommissiioning and recycling.

COMMANDERS COLUMN:

What a great meeting we all had this month at the American Legion in Baden, Pa. It was a very informational. Although this month's copy of the SVD is coming out later than normal – all our monthly activities will have passed with Great Success!

It was wonderful to see shipmate Ron Goron in attendance. Ron lives in Connellsville, Pa and always attends our monthly meetings on a regular base's. He has been absent recently because of health relate issues. He gave the members a short story about a 'STOLE' that belonged to Pope John Paul II. Ron also passed out holy cards to members who are of the Catholic Faith. Each member had the opportunity to touch the 'stole' and say a quiet prayer.

Shipmate Jim Messer gave a short presentation on submarine articles that he found while cleaning out his relative's basement – really did a great job.

Since we are short on wall space at our American Legion in Baden, we have hung one of our dolphins at the VFW Post 9199 in Shaler Township. It really looks good and it's a great educational tool to talk about the submarine service. If in the area, stop in and check it out – picture will be in the June's SVD. The post supports our Memorial Service on board the Requin by supplying the Rifle Squad.

Earlier this month, shipmate Elster and myself attended the retirement ceremony of Commander Peter Hoegel, Jr. The Commander was in charge of the Navy Talent Acquisition Group Pittsburgh. (Navy Recruiting – Pittsburgh District). Pictures will be in our next issue. In the mean-time, I am waiting to receive Commanders Hoegel base application – welcome Commander.

Next month I will give a full report on our Parades and activities that were held during Memorial Day week – end.

Keep in mind our future social events .

1. July 26, 2019 – Chief Martin Abel Retirement Ceremony

2. Sept 5th thru 8th 2019 – Shipmate George Brown Boat Reunion (Abe Lincoln)

Our next base meeting will be held at the American Legion Post 290 in Columbiana, Ohio on Saturday, June 8th at 12:30 hours. We expect to have around 30 members/spouces/friends in attendance from the USS Cod – Cleveland, Ohio.

MEMORIALS & CEREMONIES

May 26 - Sunday Memorial Service on Requin (10:00) hours on board the Requin

Arrive at 09:30 hours – Muster at 09:45 on board Requin

May 26 - Carnegie Parade – (14:00) hours

Muster at 13:00 at Carnegie Borough Building Parking Lot-VFW Post 331

May 27 - Sewickley Parade – 10:00 Hours

Muster at (09:30) at flag pole – Frederick & Broad Street

May 27 - Coraopolis Parade – (13:00) hours

Arrive on Main Street by (12:30) hours or VFW Post 402

Please let me know if you will be attending any of the events above?

BIRTHDAYS **ANNIVERSARIES**

Members	**Spouces**	
Benson, Carl 6/18/44	Benson, Carol 6/07	Bates, Tom & Tammy 6/04
Campisi, Joey 6/29/49	Burdin, Shiela 6/04	Bookmiller, Eric & Maggie 6/19
Cochenour, David 6/25/75	Ellis, Sandy 6/17	Bouts, Clare & Nancy 6/01
Hollingsworth, Herb 6/15/24	Greenwald, Danelle 6/7	Foster, Pete & Stef 6/17
Lindsay, Robert 6/21/44	Carman, Bob 6/02	Greenlee, Bill & Donna 6/16
Lukasik, John 6/18/46	Hamill, Sandy 6/08	Goron, Ron & Patricia 6/14
Messner, James 6/14/52	Hoag, Adriana 6/13	Iden, Larry & Helga 6/30
Nicotra, Frank 6/01/47	Hollingworth, E. 6/01	Mack, John & Vivian 6/01
Rogers, Bill 6/11/39	Keys, Karen 6/18	Markel, Mike & Carmella 6/21
Sipes, John 6/23/59	Wykoff, Tina 6/02	McKinney, Steve & Kelly 6/07
Sutherin, John, Jr 6/17/66		Poole, Greg & Michelle - ?
Wiehagen, James 6/14/68		Schmidt, Bob & Kathy 6/14
_		Sipes, John & Holly 6/12
_		Swords, John & Kimberly 6/07
_		Welts & Robert & Joane 6/17
_		Wise, Herb & Adele 6/10
-		Loskosh, Chuck 7 Nancy 6/06
-		Burleson, Steve & Amy 6/03

Requin Base Meeting Minutes
May 11, 2019
Baden, PA

Base Commander Huey Dietrich called the meeting to order.
Attendees: Mike Allen, Tino & Sally Bolcato, Eric Bookmiller, Lee & Patsy Bookwalter, Clair & Nancy Bouts, George Brown, Joe Campisi, Huey & Edie Dietrich, Reno Farina, Gerry & Linda Gaylor, Dick Geyer, Ron Goron, Bob & Lynn Gourley, Bill & Donna Greenlee, Bob Hall, Lou Hamil, James & Charlene List, Pete & Nancy Lockoch, Bat Masterson, James & Sandra Messer, Vince Metz, Frank Nicotra, Mike Pellegrino, Carl Stigers, Jack & Genny Sutherin, John Swords, Mike & Tina Wyckoff
Base Commander Huey Dietrich: Quotes of the day: "These dolphins, once you pin them on your chest, leave a deep mark right over your heart, long after the uniforms have been put away."
History of the Requin: May 1, 1949 Requin sailed east for here first deployment with the Sixth Fleet. May 14 1949 arriving at Gibralter, Requin operated in the Mediterranean Sea. May 2 1955 Requin sailed for her 5th Mediterranean deployment. Detached at the end of July, she returned to Norfolk VA and remained on the east coast with cruises to the Caribbean until November 1957 when she resumed duty with the Sixth Fleet. May 28 1968 Requin departed Norfolk VA as part of search efforts for the missing nuclear attack submarine Scorpion SSN-589. May 24 1990 Requin was towed to Tampa Shipyard for dry docking and hull repairs in preparation for her move to Pittsburgh PA.
Base Commander Huey Dietrich: Let us at this time, with a moment of silent prayer, remember our Shipmates who made the supreme sacrifice that we may gather here in Peace. We dedicate this meeting to our Shipmates on Eternal Patrol, to perpetuate their memories in our lives and to honor our Shipmates on active duty in the service of the first line of defense of our Nation.
Boats Lost:

USS LAGARTO (SS 371)	May 3, 1945
USS SCORPION (SSN589)	May 22, 1968
USS SQUALUS (SS 192)	May 23, 1939 (Re-commissioned as USS SAILFISH (SS 192) 1940)
USS STICKELBACK (SS 415)	May 30, 1958

We also remember our departed shipmates of the Requin Base Donald Trombolo, Ed Figas, Richard Tat, John Yaksich, and Robert Lindsay. Let us also remember the brave submariners who died performing their duties aboard submarines, some individually and some in groups, but where the submarine itself was not lost.
Chaplain Carl Stigers gave the Invocation.
Shipmate Lou Hamil led the Base in the Pledge of Allegiance.
Members introduced themselves and the boats they qualified on.

Minutes of the previous meeting were published in the SVD. With no objections, the minutes were approved as published.
Treasurer Lee Bookwalter gave an accounting of base assets, expenditures, and deposits. With no objections, the report was approved.
Other Reports:
Binnacle List: Bill Greenlee, James Kontier, John Lukasik, Chip & Sharon Porter, Lois Stewart, Terry Swinny, Diana Gervais (Underkoffer)
Eternal Patrol: Captain Kaufman and Robert Renninger
Membership stands at 182
Storekeeper Frank Nicotra reported on available small stores.

Shipmate Vince Metz reported on Eagle Scouts presentations
Social Events
Martin Abel retirement ceremony July 26, 2019

George Brown boat reunion September 5-8. 2019

Shawn McGinty boat reunion June 2020

Guest Speaker talked about the history of Pearl Harbor

Old Business:
Jacket expenses for USS Pittsburgh sailors was approved by the members present.

New Business:
June Base meeting, Cod Base will attend in Columbiana, Ohio

Week of August 11–17, Cod coming to Pittsburgh

Requin Base going to Cleveland (Cod Based) September 19-22 date to be determined

For The Good Of The Order:
Traveling Dolphins are at VFW Post 9199, Shaler PA
Letter from Mike Cherock was read
Retirement of Commander Peter Hoegel Jr. was attended by Huey Dietrich
Memorial And Ceremonies
Sunday May 26, Memorial Service on USS Requin Muster 0945, service 1000
Sunday May 26, Carnegie parade muster 1330 at VFW Post 331, starts at 1400
Monday May 27, Sewickley parade muster 0900 on Broad Street, starts at 1000
Monday May 27, dedication of plaque for Ronald Kroner in Ambridge PA
Monday May 27, Coraopolis parade muster 1330, starts at 1330
Chaplain Carl Stigers gave the Benediction and blessing of today's meal.
Adjournment: The meeting was adjourned.
Next meeting: Columbiana OH at 1230 hours on June 8, 2019

By Kris Osborn - Warrior Maven
The Navy has begun work on a new generation of attack submarines with never-before-seen weapons, quieting technology, undersea attack drones, sonar and communications networking… to emerge at some point over the next 10 years or more.
Will it be the stealthiest, most lethal attack submarine ever to exist? That ….is the Navy plan.
Plans for the new boats, referred to as a new fleet of Block VI Virginia Class-Attack Attack-class submarines, include launching long-range precision strikes, delivering Special Operations Forces on secret high-risk attack missions, conducting ISR missions, networking with platforms and -- perhaps of greatest significance - *operating undetected in high-threat waters.*
"Block VI will start in 2024. We are currently in the phase of looking at concepts and capabilities and determining their feasibility. Next year we will go through the decision points in terms of requirements of what we want to have in that block," Capt. Christopher Hanson, Program Manager, Virginia Class Submarines, said at the Navy League's 2019 Sea Air Space Symposium.
Speaking at a Naval Sea Systems Command location, Hanson specified that the new submarines will incorporate a specific emphasis upon Special Operations Forces (SOF), new weapons' interfaces and payloads for undersea drones, Unmanned Undersea Vessels.
As part of the Block VI development, the Navy is now conducting a "SOF Optimization" Analysis of Alternatives to, among other things, find ways to engineer an attack submarine well suited for clandestine undersea SOF missions. These can include targeted attack operations, forward intelligence gathering or high-risk surveillance missions, among other things.
Hanson was clear to point out that it is not possible, at the moment, to know everything that a new submarine might include 10 years into the future. With this in mind, the service wants to architect the boats, with established standards and interfaces, so that they can easily integrate new weapons, undersea drones or networking technologies as they emerge.
"Capability comes in two ways. One is the inherent design and how we build the submarine and the other piece is how we design the submarine with interface requirements for future payloads...that maybe right now are only in the power-point stage…. that can be accommodated in the future?" Hanson added.
This conceptual framework, focused on engineering "upgradeable" platforms, was anticipated in earliest days of the Virginia-class program more than 15 years ago. A 2005 Naval War College Review essay cites Virginia-class submarines as a platform benefiting from a modular, or "open architecture" approach. Since its inception, the Virginia-class was built with a mind to prepare for future upgrades, as evidenced in the essay.
One example referenced in the essay is a modernization effort called the Acoustic Rapid COTS Insertion (ARCI) program which, among other things, pushed "toward modularity for the Virginia-class, the SSGN and subsequent classes," the essay states. The success of the ARCI program has continued for more than a decade since its beginning; the program's success was cited in a 2015 DOT&E report. The DOT&E report recommend that the program begin to emphasize countermine missions, due to its track record of successful upgrades.
From a technical or engineering perspective, modularity means building a boat with a software and hardware foundation able to adjust as needed. For instance, while attack submarines currently fire Torpedoes and Tomahawks, it is entirely feasible, if not likely, that new submarine-launched weapons will exist 10 years from now. This kind of scenario is exactly what Hanson seemed to be getting at.
The Naval War College Review essay, interestingly, aligns with Hanson's comment about the need to engineer for future technologies to permit quick integration of new systems. The essay describes it as "*yet-unenvisioned equipment to be installed to counter unimagined threats, and an insistence that core enabling characteristics such as stealth never be compromised*." (From"The Submarine as a Case Study in Transformation:Implications for Future Investment," James H. Patton Jr, 2005)
With this essay in mind, there is substantial precedent for of this kind of modular approach, looking at the multi-year trajectory of Virginia-class development; each Block has incorporated several impactful new technologies not yet present when the previous boats were built. For example, unlike Blocks I and II, Virginia-class Block III boats significantly increase firepower with the introduction of what's called Virginia Payload Tubes adding new missile tubes able to fire 6 Tomahawks each. Block III also includes a new Large Aperture Bow "horseshoe-shaped" sonar, which switches from an "air-backed' spherical sonar to a "water-backed" array, making it easier to maintain pressure, according to a 2014 report in "NavSource Online."
The LAB sonar, which is both more precise and longer range than its predecessor, also advances the curve in that it introduces both a passive and "active" sonar system. Passive systems are used to essential track or "listen" for acoustic pings to identify enemy movements. This can help conceal a submarines position by not emitting a signal, yet can lack the specificity of an "active" sonar system which sends an acoustic "ping" forward. The submarine's technology then analyzes the return signal to deliver a "rendering" of an enemy object to include its contours, speed and distance. In concept, sonar works similar to radar except that it sends acoustic signals instead of electronic ones.

When it comes to tailoring submarines for SOF missions, it would not be surprising if elements of Block IIIs "Lock Out Trunk" were built-upon or expanded for Block VI; the Lock Out Trunk introduces a new specialized area which fills up with water for departure, enabling SOF forces to more easily and quietly exit the submarine while remaining submerged.

BLOCK VI Technologies

So..... given that both future threats and future technologies are not yet known, as Hanson indicated, what might Block VI look like? While particular technical details are often unavailable given the secret nature of these kinds of platforms, over the years senior Navy weapons developers have talked to Warrior about some of the key areas of modernization focus; these include new coating materials to make the submarines stealthier, new antennas for longer-range, more accurate undersea surveillance missions and new "quieting" engine propulsion technology, among other things.

All of these technologies, in fact, already exist in the USS South Dakota attack submarine -- the most advanced submarine ever to be delivered to the Navy. The new boat, which is now operational, began as a prototype, test-bed platform to evolve these new technologies.What all of these USS South Dakota innovations amount to is that, Hanson said, they are informing current conceptual discussions now underway regarding Block VI.

Also, according to Congressional testimony in 2016, cited in a report from SeaPower magazine, former PEO Submarines Rear Adm. Michael E. Jabaley Jr., the USS South Dakota includes a DARPA-engineered Hybrid Propulsor "which brings new acoustic advantages."

Yet another area of innovation quite likely to lay a foundation for Block VI includes Block IIIs "Fly-by-Wire" navigational controls; instead of using mechanically operated hydraulic controls, the Fly-by-Wire system uses a joystick, digital moving maps and various adaptations of computer automation to navigate the boat. This means that computer systems can control the depth and speed of the submarine, while a human remains in a command and control role. It seems almost self-evident, given rapid advances in AI and computer automation, that Block VI will include a new generation of these kinds of technologies.

The technical elements of undersea command and control, quite naturally, are being engineered with a mind to an expected increased use of underwater drones. The Navy is now moving quickly with efforts to build an entire new fleet of UUVs able to destroy mines, conduct lower risk forward surveillance, deliver supplies or even fire weapons with a "human-in-the-loop." Capt. Pete Small, the Program Manager for Unmanned Maritime Systems, addressed this phenomenon at Sea Air Space and said the service's now in development Orca XLUUV - Extra Large Unmanned Undersea Vehicle - is being configured to fire torpedoes.

"From essentially a "lone wolf " a decade ago, the submarine is now nearly universally accepted as a key node within network-centric warfare, the purveyor of "undersea dominance," and an essential element of Sea Power 21 (a previously articulated Navy attack vision emphasizing information dominance)," the 2005 Naval War College Review essay writes.

Finally, the now underway Block V Virginia-class boats, known for its fire-power enhancing Virginia Payload Modules (VPM), are also contributing to Block V conversations. VPM, which increases the boats' firepower from 12 to 40 Tomahawk missiles, changes the attack envelope.

"Block 5 has some additional equipment we are developing, which will be added to the USS South Dakota. Our expectation is that that equipment is going to continue on into Block VI," Hanson said.

Most of all, it seems apparent, plans for Block VI want to both remain flexible and explore a wide range of options.

"We have a CONOPS *Concept of Operations" ground that brings in operators of other vehicles on a periodic basis so we can show them what we are looking at," Hanson said.

U.S. Navy Attack Submarine USS Pittsburgh Arrives in Bremerton for Decommissioning

May 31, 2019 DP Press Releases 0 Comments Los Angeles-class SSN, Naval Base Kitsap-Bremerton, Nuclear attack submarine (SSN), U.S. Navy (USN), USA, USS Pittsburgh (SSN-720)

The U.S. Navy's Los Angeles-class fast-attack submarine USS Pittsburgh (SSN 720) arrived at Naval Base Kitsap-Bremerton to commence the inactivation and decommissioning process, May 28.

Under the command of Cmdr. Jason Deichler, a Pittsburgh native, the submarine departed Naval Submarine Base New London in Groton, Connecticut, and made its first arctic transit for its final homeport change.

"We are the first second flight 688 to complete an arctic an arctic transit from Groton to Bremerton for an inactivation," said Deichler. "It was an amazing transit, one that it unique to submarines. There aren't too many people in the history of the world, let alone the submarine force, let alone the Navy, that have done that transit under the ice."

Pittsburgh completed their most recent deployment Feb. 25, 2019. During the deployment, the boat and her crew steamed more than 39,000 nautical miles and conducted three foreign port visits.

"All I heard from the crew during the transit was 'this is the last'," said Deichler. "This is the last meal; this is the last time we are going to eat Pittsburgh steak on Pittsburgh; this is the last turn; this is the last shut down. So the pride that they have in the ship is amazing, the best I have ever seen on any ship I have ever served."

The submarine's ability to support a multitude of missions, including anti-submarine warfare, anti-surface ship warfare, strike warfare, surveillance and reconnaissance, made Bremerton one of the most capable submarines in the world.

"It is a bittersweet feeling to be the last operational commanding officer of Pittsburgh," said Deichler. "I am a native of Pittsburgh, Pennsylvania, so the boat has a special meaning to me. It is bittersweet to see Pittsburgh come for a final mooring here in Bremerton, but I know it will help the Navy in her future mission as we bring more Virginia-class submarines out online and we get our technology upgraded."

During the inactivation process, Puget Sound Naval Shipyard and Intermediate Maintenance Facility will de-fuel the submarine, with the hull retained in safe storage until decommissioning.

"The 35 years of USS Pittsburgh has been an amazing 35 years," said Deichler. "We have been involved in two tomahawk strike exercises and a multitude of missions vital to national security. What I really hope that the public remembers of our ship and our crew is the hard working men and women that helped build the submarine, utilizing materials from Pittsburgh, companies from Pittsburgh, and the support I got from the citizens of Pittsburgh; and then the crew itself, as they supported the ship and conducted operations over these 35 years."
Commissioned Nov. 23, 1985, Pittsburgh is the forth U.S. Navy vessel to be named for the city of Pittsburgh, Pennsylvania. The boat's mission is to seek out and destroy enemy ships and submarines and to protect U.S. national interests. At 360-feet-long and 6,900 tons, Pittsburgh can be armed with sophisticated MK48 advanced capability torpedoes and Tomahawk cruise missiles.

Headstone Coins ► Tradition Denoting Visits by Others Who Respected the Deceased

Humans have been leaving mementos on and within the final resting places of loved ones almost from the beginning of the species. Excavations of even the earliest graves uncover goods meant to serve the deceased in the next world, such as pottery, weapons and beads. The earliest known coins date to the late seventh century B.C., and as societies began embracing such monetary systems, the practice leaving of coins in the graves of citizens began as yet another way of equipping the dear departed for the afterlife.

Mythologies within certain cultures added specific purpose for coins being left with the dead. In Greek mythology, Charon, the ferryman of Hades, required payment for his services. A coin was therefore placed in the mouth of the dear departed to ensure he would ferry the deceased across the rivers Styx and Acheron and into the world of the dead rather than leave him to wander the shore for a hundred years. In England and the U.S., pennies were routinely placed on the closed eyes of the dead, yet the purpose for that practice was not clear — some say it was to keep the eyes of the corpse from flying open (even though the eyes, once shut by the person laying out the body, do not reopen).

In these more recent days, coins and other small items are sometimes discovered on grave markers, be they plaques resting atop the sod or tombstones erected at the head of the burial plot. These small tokens are left by visitors for no greater purpose than to indicate that someone has visited that particular grave. It has long been a tradition among Jews, for example, to leave a small stone or pebble atop a headstone just to show that someone who cared had stopped by. Coins (especially pennies) are favored by others who wish to demonstrate that the deceased has not been forgotten and that instead his loved ones still visit him.

Sometimes these small remembrances convey meaning specific to the person buried in that plot. For more than twenty years, every month someone has been leaving one Campbell's tomato soup can and a pocketful of change on the plain black granite tombstone that marks the grave of Andy Warhol. The soup can is easy to explain, given Warhol's iconic use of that commodity in his art, but the handful of change remains a bit of a mystery. In similar vein, visitors often leave pebbles, coins and maple leaf pins at the grave of Canadian Prime Minister Lester B. Pearson, the man who replaced Canada's Red Ensign with the Maple Leaf flag.

Regarding the 'tradition' of soldiers leaving on the headstones of fallen comrades varying denominations of coins to denote their relationship with the deceased, the earliest reference to this practice we've found so far dates only to June 2009, when it appeared as a web site post. A version now commonly circulated in e-mail appears to have been drawn from it, albeit some changes have slipped in, such as "A buddy who served in the same outfit, or was with the deceased when he died, might leave a quarter" becoming "By leaving a quarter at the grave, you are telling the family that you were with the soldier when he was killed".

According to Coin Update, regarding the tradition of leaving coins on the headstones of fallen service members in the United States traces back to the time of the Vietnam War. The reason that coins were placed on headstones instead of paying respect directly to the surviving family members at the time was to avoid the awkwardness of discussing the politically charged nature of the conflict in Vietnam. Each denomination means:

- **Cent:** The most simple means of expressing respect to the fallen, a "penny" lets the service member's family know that someone visited their grave in the spirit of honoring their sacrifice.

- **Nickel:** A nickel placed on the headstone of a fallen service member indicates that you trained at boot camp or endured basic training with the individual.

- **Dime:** Leaving a dime on the service member's headstone means that you served with the fallen individual to some degree.

- **Quarter:** One of the most significant coins to be left on a service member's headstone, a quarter means that you were present when the person was killed in action.

- **Challenge coin:** If a challenge coin is found on the headstone of a fallen service member, it is seen as the highest form of respect paid by a comrade-in-arms.

Despite the claim of this tradition's dating back to the days of the Roman Empire, there's no reason to suppose that it does. A coin might be placed in the mouth of a fallen Roman soldier (to get him across the River Styx), but the deceased's comrades would more likely have been expending any further coinage on a funeral banquet in his honor rather than interring it with his remains. Given the lack of documentation attesting to the origins and consistency of this 'tradition,' it is perhaps best regarded not as an actual common practice but instead as someone's idealized legend of what should be. Yet military folk do sometimes leave very special remembrances at the graves of deceased servicemen: challenge coins. These tokens identify their bearers as members of particular units and are prized and cherished by those to whom they have been given; thus any challenge coins found at gravesites were almost certainly left there by comrades-in-arms of the deceased.

It needs be mentioned that not only coins, medallions, and stones have been found on military headstones. In July 2013, a wife of a deceased serviceman discovered another woman's name on her husband's marker in place of her own. Edna Fielden, widow of Air Force Master Sergeant Billy Fielden (buried at Fort Logan Cemetery in Denver 25 years earlier) was shocked to discover the headstone bore the inscription "Dolores" over the legend "His Wife" when she brought her grandchildren to visit the grave. [Source: Snopes | August 20, 2013 & May 24, 2019 ++]

Morse Code ► 175 Years and Counting

The first message sent by Morse code's dots and dashes across a long distance traveled from Washington, D.C., to Baltimore on Friday, May 24, 1844 – 175 years ago. It signaled the first time in human history that complex thoughts could be communicated at long distances almost instantaneously. Until then, people had to have face-to-face conversations; send coded messages through drums, smoke signals and semaphore systems; or read printed words. Thanks to Samuel F.B. Morse, communication changed rapidly, and has been changing ever faster since. He invented the electric telegraph in 1832. It took six more years for him to standardize a code for communicating over telegraph wires.

In 1843, Congress gave him US$30,000 to string wires between the nation's capital and nearby Baltimore. When the line was completed, he conducted a public demonstration of long-distance communication. Morse wasn't the only one working to develop a means of communicating over the telegraph, but his is the one that has survived. The wires, magnets and keys used in the initial demonstration have given way to smartphones' on-screen keyboards, but Morse code has remained fundamentally the same, and is still – perhaps surprisingly – relevant in the 21st century.

Morse's key insight in constructing the code was considering how frequently each letter is used in English. The most commonly used letters have shorter symbols: "E," which appears most often, is signified by a single "dot." By contrast, "Z," the least used letter in English, was signified by the much longer and more complex "dot-dot-dot (pause) dot." In 1865, the International Telecommunications Union changed the code to account for different character frequencies in other languages. There have been other tweaks since, but "E" is still "dot," though "Z" is now "dash-dash-dot-dot." The reference to letter frequency makes for extremely efficient communications: Simple words with common letters can be transmitted very quickly. Longer words can still be sent, but they take more time.

The communications system that Morse code was designed for – analogue connections over metal wires that carried a lot of interference and needed a clear on-off type signal to be heard – has evolved significantly. The first big change came just a few decades after Morse's demonstration. In the late 19th century, Guglielmo Marconi invented radio-telegraph equipment, which could send Morse code over radio waves, rather than wires. The shipping industry loved this new way to communicate with ships at sea, either from ship to ship or to shore-based stations. By 1910, U.S. law required many passenger ships in U.S. waters to carry wireless sets for sending and receiving messages. After the Titanic sank in 1912, an international agreement required some ships to assign a person to listen for radio distress signals at all times. That same agreement designated "SOS" – "dot-dot-dot dash-dash-dash dot-dot-dot" – as the international distress signal, not as an abbreviation for anything but because it was a simple pattern that was easy to remember and transmit.

The Coast Guard discontinued monitoring in 1995. The requirement that ships monitor for distress signals was removed in 1999, though the U.S. Navy still teaches at least some sailors to read, send and receive Morse code. Aviators also use Morse code to identify automated navigational aids. These are radio beacons that help pilots follow routes, traveling from one transmitter to the next on aeronautical charts. They transmit their identifiers – such as "BAL" for Baltimore – in Morse code. Pilots often learn to recognize familiar-sounding patterns of beacons in areas they fly frequently. There is a thriving community of amateur radio operators who treasure Morse code, too. Among amateur radio operators, Morse code is a cherished tradition tracing back to the earliest days of radio. Some of them may have begun in the Boy Scouts, which has made learning Morse variably optional or required over the years.

The Federal Communications Commission used to require all licensed amateur radio operators to demonstrate proficiency in Morse code, but that ended in 2007. The FCC does still issue commercial licenses that require Morse proficiency, but no jobs require it anymore. Because its signals are so simple – on or off, long or short – Morse code can also be used by flashing lights. Many

navies around the world use blinker lights to communicate from ship to ship when they don't want to use radios or when radio equipment breaks down. The U.S. Navy is actually testing a system that would let a user type words and convert it to blinker light. A receiver would read the flashes and convert it back to text. Skills learned in the military helped an injured man communicate with his wife across a rocky beach using only his flashlight in 2017.

Perhaps the most notable modern use of Morse code was by Navy pilot Jeremiah Denton, while he was a prisoner of war in Vietnam. In 1966, about one year into a nearly eight-year imprisonment, Denton was forced by his North Vietnamese captors to participate in a video interview about his treatment. While the camera focused on his face, he blinked the Morse code symbols for "torture," confirming for the first time U.S. fears about the treatment of service members held captive in North Vietnam. Blinking Morse code is slow, but has also helped people with medical conditions that prevent them from speaking or communicating in other ways. A number of devices – including iPhones and Android smartphones – can be set up to accept Morse code input from people with limited motor skills.

There are still many ways people can learn Morse code, and practice using it, even online. In emergency situations, it can be the only mode of communications that will get through. Beyond that, there is an art to Morse code, a rhythmic, musical fluidity to the sound. Sending and receiving it can have a soothing or meditative feeling, too, as the person focuses on the flow of individual characters, words and sentences. Overall, sometimes the simplest tool is all that's needed to accomplish the task. [Source: NavyTimes | Eddie King | May 21, 2019 ++]

Most Dangerous Cars ► Top Fourteen in America

If you own a Mitsubishi Mirage, you might want to be extra careful the next time you back out of your driveway and take to the road. The Mirage is the most dangerous car to drive in the U.S., according to a recent study by automotive research firm and car search engine www.iseecars.com. The Chevrolet Corvette and the Honda Fit round out the top three cars with the most frequent occupant fatalities. Not surprisingly, small cars and sports cars are most likely to put your life in jeopardy. In fact, fatalities are almost twice as likely to occur in car crashes if you are traveling in a subcompact or sports car.

In reaching its conclusions, iSeeCars.com analyzed fatality data from the U.S. Fatality Analysis Reporting System for cars from the model years 2013-2017. Fourteen models were found to be at least twice as likely as the average car to be involved in a fatal accident. Those that made the list — and their fatal accident rate — are:

- Mitsubishi Mirage (subcompact car): 10.2 cars per billion vehicle miles (meaning 10.2 vehicles are in fatal crashes for every billion miles traveled)
- Chevrolet Corvette (sports car): 9.8
- Honda Fit (subcompact car): 7.7
- Kia Forte (compact car): 7.4
- Chevrolet Spark (subcompact car): 7.2
- Subaru BRZ (sports car): 6.9
- Nissan 370Z (sports car): 6.2
- Nissan Versa (subcompact car): 6.1
- Kia Rio (subcompact car): 5.9
- Dodge Challenger (sports car): 5.8
- Chevrolet Camaro (sports car): 5.5
- Kia Soul (compact car): 5.3
- Hyundai Veloster Turbo (sports car): 5.2
- Nissan Versa Note (subcompact car): 5.2

Compare those numbers with the average for all vehicles: 2.6. Subcompact cars and sports cars are the most represented vehicle categories on the list, with a half-dozen cars from each category. iSeeCars CEO Phong Ly says that recent advances in safety technology have not made small vehicles as safe as larger vehicles when they are involved in serious accidents. He continues:

"Subcompact cars have a fatal accident rate of 4.5 cars per billion vehicle miles, which is almost double the overall average. Sports cars are the vehicle segment with the highest fatal accident rate of 4.6 cars per billion vehicle miles."

Ly notes that subcompact cars routinely lack some safety features found in bigger models, and that these cars continue to suffer below-average performance on crash safety tests. Meanwhile, he says sports cars "are designed to prioritize speed and acceleration, so it is perhaps no surprise that their accidents result in a high number of fatalities." While bigger cars may be safer to drive than smaller alternatives, no car is safe if you fail to care for it properly.

As the weather and summer travel season both heat up, it's crucial to have a mechanic look over your car to make sure it's in road-ready condition. For example, checking your tires regularly could save your life. As we note in "7 Simple Ways to Keep Your Car Safe for Summer Driving": "Under inflation stresses a tire's internal fabric and steel cord so that they flex beyond designed limits and lose their bond to the rubber. The result can be a blowout." So, have a professional inspect your tires and other parts of your car. Looking for a good mechanic? Check out "11 Keys to Finding a Car Mechanic You Can Trust." [Source: MoneyTalk-sNews | Chris Kissell | May 24, 2019 ++]