The Submarine Division of the Naval Safety Center Presents:

FLASH

Factual Lines About Submarine Hazards

April 2001 – May 2001

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Naval Safety Center
375 A Street
Norfolk, Virginia 23511-4399

submarines@safetycenter.navy.mil
www.safetycenter.navy.mil

FLASH Editor: ETC(SS) Craig Houck Ext. 7098
E-Mail: chouck@safetycenter.navy.mil

Afloat Directorate Head: CDR Tom Warner Ext. 7127
E-Mail: twarner@safetycenter.navy.mil

Commander Naval Safety Center
RADM Frank (Skip) Dirren Ext. 7000
E-Mail: fdirren@safetycenter.navy.mil

THE SURVEYORS

Safety Officer/General Departmental

LCDR Parker Swan Ext. 7201
pswan@safetycenter.navy.mil

DC/Mechanical/Electrical/Electronic

MMCM(SS) John Mosholder Ext. 7099
jmosholder@safetycenter.navy.mil

EMC(SS/SW) Greg Seplak Ext. 7073
gseplak@safetycenter.navy.mil

ETC(SS) Craig Houck Ext. 7098
chouck@safetycenter.navy.mil

Medical

HMCS(SS) Brett Darnell Ext. 7094
bdarnell@safetycenter.navy.mil

Combat Systems/Deck/Divers

MMC(SS) Mark Gallenstein Ext. 7091
mgallenstein@safetycenter.navy.mil

STCM(SS) Bob Krzywdzinski Ext. 7097
bkrzywdzinski@safetycenter.navy.mil

FTC(SS) Jay Bramble Ext. 7202
jbramble@safetycenter.navy.mil

Phone: (757) 444-3520 (DSN 564)
Fax: (757) 444-8636 (DSN 564)

WARNINGS, CAUTIONS AND NOTES

The FLASH is a newsletter that provides safety-related information to the fleet. This information is a summary of research from selected mishaps and surveys done throughout the force. This data is provided to assist you in YOUR mishap prevention program and gives advanced notice of other safety-related information.

This newsletter is NOT authoritative but will cite references when available.

Editor's Note

ETC(SS) Houck

This issue is my first since relieving FTC Bramble as editor. The only major change to Flash is that it now will be a bimonthly publication. I hope to bring you the most current information available. I would also like to encourage all of you to provide me with your comments, suggestions or concerns. Remember, when it comes to safety, **common sense is authorized and desired**!

Shipboard Electrical Modifications

LCDR Swan

Since the beginning of the fiscal year, we have surveyed twenty-seven submarines. During each survey, we have noted an alarming trend. Sailors have been making illegal modifications to 110vac junction boxes in berthing. An example is shown:

These types of modifications raise several questions:

- Is the modification in accordance with ship's drawings?
- Who granted permission for the modification?
- What safety precautions were taken to accomplish this illegal modification?
- Why didn't zone inspections find this illegal modification?
- Are more 110vac outlets needed?

If the command determines that more 110vac outlets are needed to accommodate electronic devices for the crew, submit documentation to the planning yard for the next availability or maintenance period. Ask your squadron for help. Do not allow Sailors to take this task upon themselves to accomplish what they think is the correct answer.

Bench Grinder or Piece of Meat?

ETC(SS) Houck

In Flash (Feb – Mar 2001) you should have noticed two of the most significant deficiencies found during our surveys involved the bench grinder. Our mechanical survey has

eight questions dealing with the bench grinder in one way or another. We find hazards associated with the bench grinder during almost every submarine survey. The hazards we find represent inattention or disregard for the safety requirements in Chapter D8 of OPNAVINST 5100.19D. Here are the bench grinder discrepancies found during recent surveys:

- Tool rest not within 1/8" from the grinding or wire wheels
- Build-up of non-ferrous metals found on the grinding wheel
- Bench grinder safety precaution sign not posted
- Eye and noise hazard signs not posted
- Transparent, shatterproof eye shields are loose, missing, or incorrectly mounted over the wheels
- Face shields and goggles not present near the grinder
- Goggles so dirty they are a hazard to wear
- Light bulbs not installed in sockets under shatterproof eye shields
- Light socket wiring chaffed, broken, or having exposed leads
- Grinding wheel hoods not adjusted properly
- Debris bags not attached to back of grinding wheel assemblies

Considering the material condition of the bench grinders surveyed, we're fortunate that no injuries have occurred recently. If we continue to push the limit though, well, remember what Murphy's Law says!

Meat Slicers

ETC(SS) Houck

You would think that the biggest concern using a meat slicer would be adding a little unauthorized meat-by-product to the roast beast dinner. That's what happens when you think. We also need to remember that meat slicers are run by electrical not hamster power.

Since most food that is cut by a meat slicer has juices, you can expect to have a little mess to clean up once you are done slicing. If you think about collecting the food juices in a pan to keep from cleaning the counter top, refer to the second sentence in this article. The problem with putting the meat slicer in a pan to collect food juices is that the electrical components are located on the bottom of the slicer. The components are covered but the cover is not water, or should I say juice, proof. Can you guess what happens next? A mishap report sent to the Naval Safety Center because of an electrical shock. Another item of concern is that operators tend to turn the slicer on and off with juicy hands and fingers. These juices flow down the on/off switch and build up over a period of time then…Zap!

Operators should follow the safety and cleaning instructions in the owner's manual as well as Chapter D13 of OPNAVINST 5100.19D. If you are concerned that your meat slicer may not be suitable for submarine use you can contact The Source at (757) 825-1400.

Let's try to remember not to take the blow dryer in the shower!

MK-1 Life Preserver Parts List

STSCM(SS) Krzywdzinski

I've received lots of phone calls concerning parts required to construct a MK-1 life preserver. The items below are listed in AEL 2-330013101, 2-330014161,and 2-330014166. The anti-sabotage compound (NSN 8030-01-163-3483) is in the SPMIG.

Cover, life preserver: (NSN 4220-00-926-9462 (small), 9469 (medium), 9476 (large)). The user needs to select the NSN corresponding to the size needed. This just gets the user the outer shell of the life preserver. The current plan is to stay with the color green.

Bladder, life preserver: (NSN 4220-00-935-5528) This gets you the inner part of the life preserver that provides the floatation. It is inserted into the cover.

Cartridge, C02 small thread: (NSN 4220-00-543-6693) This is the CO2 cartridge used to inflate the bladder.

Nut cap: (NSN 5310-01-030-9217) This is used to secure the inflation assembly to the bladder.

AI inflation assembly: The user needs to decide on whether to procure the MIL–I-24739 inflation assembly (NSN 4220-01-302-2560) or the chemical pill inflation assembly (NSN 4220-01-470-9906). The MIL-SPEC assembly is a one-time use inflator, uses an explosive charge and costs about $120. The chemical pill inflator is a multi-use inflator, has no explosive charge and costs about $35. A package of chemical pills cost about $10. (See note 3 on the AEL). The chemical pill inflation

assembly contains an inflation assembly, ten chemical pills, washers and the nut cap. The other inflation assembly (NSN 4220-01-302-2560) just provides the inflation assembly. I prefer the chemical pill inflation assembly because it's more reliable, requires less maintenance, and costs less.

Chemical pill replacements: (NSN 4220-01-470-9908) Replacement pack of ten chemical pills for use in chemical pill inflator. They have a shelf life of two years.

Whistle: (NSN 8465-01-278-6982) Accessory to be attached to the cover.

Float, light strobe: (NSN 6230-01-411-8535) Accessory should be attached to the cover. (Alternate strobe light is NSN 6230-01-378-4077.)

The Galley Can Be A Dangerous Place

HMCS(SS) Darnell

Is That A Finger In My Bread?

Recently, a MS3 was preparing bread dough using a 60-quart mixer in the galley. The mixer was operating, mixing and kneading the dough using the dough hook attachment. Suddenly, the mixing bowl began to fall. The MS3, not wanting to lose his dough, attempted to rescue it by lifting the bowl to place it back on the mixer. This proved to be a difficult task and a costly mistake. With the dough hook still turning, the MS3 had to fight to maintain control of the bowl full of dough. During his struggle, one of the MS3's fingers came between the mixing bowl and the rotating dough hook. The force of the impact was great enough to snap the finger like a twig and leave it hanging, literally, by a thin piece of skin. After emergency surgery to reattach the finger, the MS3 ended up spending 3 weeks on convalescent leave, and will be on limited duty for several months. That's an unnecessarily high price to pay when the "on/off" switch would have done the trick.

How To Cook A Sailor?

Recipe: Combine a wet floor, a moist sponge, two wet hands, a fistful of metal, and an energized griddle. Mix in a highly motivated shipmate with orders to clean the griddle. Bake at 440 volts for two seconds.

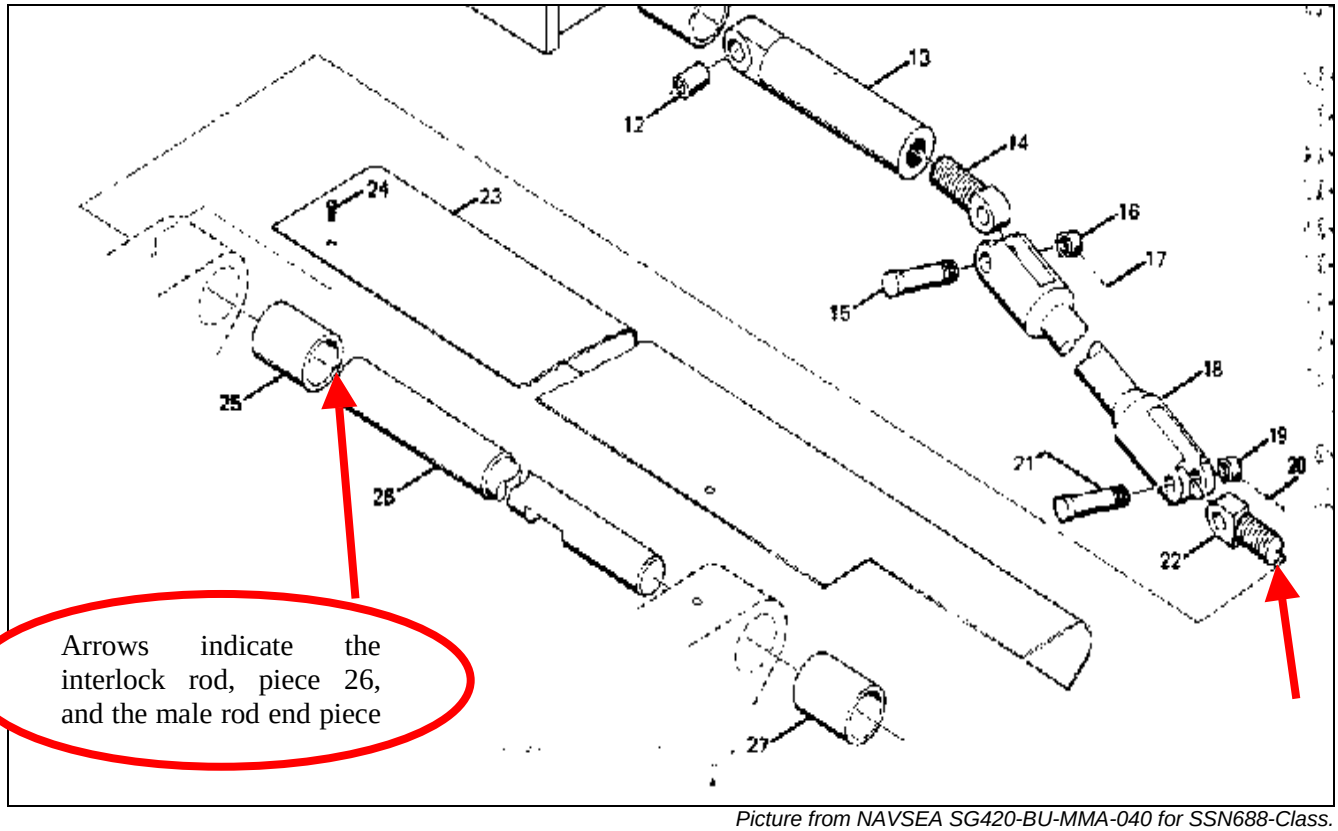
An MSSN was cleaning the galley griddle that had been installed last summer. To clean under it, he had to crouch down under an adjacent preparation table so he could reach through the side to clean the area near the grease trap. He grasped a leg brace of the nearby prep table and reached under the griddle with the wet sponge. While in this position, the MSSN received a 440VAC shock. The griddle was not tagged out properly. Inspection of the area under the griddle revealed no frayed or damaged wires or equipment. However, when the thermostat knob on the front of the griddle is turned "OFF," one end of the heating coil remains energized. The MSSN doesn't recall touching any wire or piece of equipment. Investigation by E Division personnel revealed the most probable cause of the shock was contact with the energized or "hot" end of the heating coil near the grease trap. During previous field days, galley personnel secured power by tripping the three circuit breakers that supply power to the galley equipment. This was not done during the last field day. Proper tag-out procedures have been instituted as standard operating procedure for field days. Supply

Department personnel conducted training on tag-out procedures and electrical safety with emphasis on field days and other cleaning evolutions. The ship's comments on the mishap report, two words, all too common in mishap reports, accent the bottom line in this case: procedures and training. Following proper procedures to ensure all equipment to be cleaned was tagged out properly would have prevented this mishap. A properly trained Sailor would have asked the question, "Is the power secured to this griddle?" Luckily, this MS3 will live on to ask this question the next time.

3-Inch Launcher Muzzle Ball/Breech Ring Interlock (SUBSAFE Boundary)

MMC(SS) Gallenstein

Here's something for you to keep an eye on. On several recent surveys, I have found a problem with the muzzle ball/breech ring interlock tail rod. On these units, the tail rod could be turned by hand (actually unthreaded if desired). This problem could prevent proper operation of the breech ring and effect travel of the muzzle ball valve. By design, the tail rod is not staked or pinned in place. Instead, it is only held in position with "lock-tite." When were your launcher barrels removed last for muzzle ball valve repairs?



Picture from NAVSEA SG420-BU-MMA-040 for SSN688-Class. Trident-Class similar.

SUBMARINE QUARTERLY MISHAP SUMMARY FOR 1ST QTR FY01

LCDR Swan

The following are reported mishap statistics involving submarine commands for the first quarter FY01:

Submarine (On Duty)	# Mishaps (Class)				Lost Workdays (Class)	
	A	B	C	Special	B	C
	0	1	4	19	33	430

Off-Duty and Motor Vehicle	# Mishaps (Class)			Lost Workdays (Class)	
	A	B	C	B	C
	1	1	7	75	136

Class A Mishap: DEATH (Off-Duty). A PO3 died due to a fall from a third story roof.

Class B Mishaps: (Permanent Partial Disability):

1. (Motor Vehicle): A driver (civilian) turning left into the path of a motorcycle (PO1) resulted in a collision. PO1 sustained a broken jaw, broken left arm, broken ribs, broken front teeth, and multiple body abrasions. PO1 was hospitalized for 3 days with 70 estimated lost workdays.
2. PO1 lost footing while the ship was executing an angle for training and caught his wedding band on a bolt. Partial degloving of left ring finger. Nerves and tendons were intact; however, circulation was compromised (5 lost workdays).

Class C Mishaps (On Duty):

1. During a refit period, a MMFA, working over the side, stabbed his thigh and cut the artery while removing duct tape from the forward sanitary connection (240 lost workdays).
2. MM3 was cleaning in shaft alley when he slipped and inadvertently placed his foot on the rotating main propulsion shaft. The rotating shaft pushed his left foot under adjacent shaft seal piping, wedging his foot between the piping and rotating shaft.
3. MM2 was removing a bridging rail wrench from a stowage bracket in the torpedo room when he met resistance. When MM2 pulled harder to free the wrench, the wrench came free and hit and broke thumb on an angle frame support.

Class C Mishaps (Off Duty):

1. Four occurred during recreation activities (basketball and mountain biking). The fifth: To regain access to his locked room, a PO2 attempted to cross the ledge to his room window from an adjacent room and fell three stories.

Special Case Mishaps:

There were 17 electrical shocks, one chemical exposure (battery well), and one suicide.

Hail and Farewell

Welcome aboard to EMC(SS/SW) Greg Seplak. Chief Seplak reported to the Submarine Safety Division as one of our safety analysts. His previous duty stations include: USS George Bancroft (SSBN 643); Submarine Training Facility CharlestoN; USS Enterprise (CVN 65); USS Baltimore (SSN 704); USS Hartford (SSN 768); Historic Ship Nautilus (SSN 571). You can reach Chief Seplak at (757) 444-3520 Ext. 7073 (DSN prefix 564), or e-mail him at gseplak@safetycenter.navy.mil

We bid a fond farewell to EMCM(SS) Jose Mediavilla after 3 years as webmaster and submarine safety analyst. He reports to the civilian community after 24 years of naval service. We extend our best wishes to Mr. Mediavilla and his family.

Effective COMNAVSAFECEN Afloat Safety Advisories

Year 2001

13-00	**201909Z OCT 00**	**GPS and Charts**
17-00	**201959Z DEC 00**	**Contract Liberty Boat (Water Taxi) Safety**
1-01	**041730Z JAN 01**	**Effective Afloat Safety Advisories**
2-01	**121615Z JAN 01**	**COMNAVSAFECEN Security Clearance Information**
3-01	**191215Z JAN 01**	**Follow-up on NAVSAFECEN Afloat Advisory 8-00**
4-01	**241845Z JAN 01**	**Summary of Changes and Implementation of OPNAVINST 5100.19**
6-01	**031210Z MAY 01**	**Cancellation of Safety Advisory 11-00**