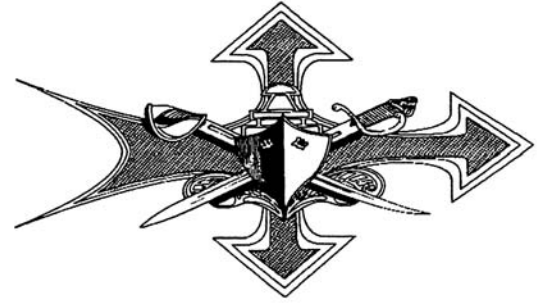


SHIPS' SAFETY BULLETIN

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Suggested routing should include CO, XO, department heads, division officers,
CMC, CPO mess, petty officers' lounge, work-center supervisors, and crew's mess.
Blanks provided for initials following review:

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Clearing Barrel Safety

By GMC(SW) Charles Robinson
Naval Safety Center

What are your procedures for loading and unloading small arms at your clearing barrels? Are your watch-standers supervised when they perform these procedures?

We have received various answers from throughout the fleet to these two questions. However, *Navy Tactical Reference Publication (NTRP) 3-07.2.2, "Force Protection Weapons Handling Standard Procedures And Guidelines,"* has the correct answer to the questions.

It has a wealth of information about force-protection small arms, and it covers service pistols, shotguns, rifles, grenade launchers, machine guns, grenade machine guns, and two types of non-lethal weapons: the riot baton and oleoresin capsicum spray. The NTRP also provides usage, maintenance, and handling procedures for these weapons, whether they're employed on the shooting range or on watch.

Chapter 1 has general guard-mount and clearing barrel procedures. These require a supervisor to read aloud each procedural step, and verify compliance each time someone loads

or prepares to unload a weapon. The Sailor actually loading or clearing the weapon must repeat each of the supervisor's orders. Different chapters provide clearing-barrel procedures for different force protection weapons.

People do make mistakes. It is part of the Navy's daily world-wide routine to have armed watch-standers load and unload their weapons during turnover. Most watch-standers have done it many times without incident. However, carelessness or less than 100 percent compliance with loading and unloading procedures invite disaster.



COMMANDER, NAVAL SAFETY CENTER, 375 A St. NORFOLK, VA 23511-4399

This professional flyer is approved for official distribution to the surface force and to their appropriate staffs, schools and other organizations. The information is designed to advise Department of the Navy personnel of current and emerging safety concerns to enhance their professional development and improve operational readiness. This bulletin should not in itself be used as an authoritative document. However, it will cite the appropriate reference when available.

We also become complacent when we get overly confident of our abilities to handle weapons. We then lose our respect for them and set the stage for a mishap. In other situations, even the most conscientious Sailor loses his edge and makes mistakes when tired. Strict adherence to procedures and close supervision are our protection from deadly blunders. If you don't have NRTP 3-07.2.2, see your command NWP librarian to get one. When you get it, post the procedures and make sure all supervisors maintain strict formality during any weapon-turnover process. Constant monitoring and reminders keep safety standards high. While inconvenient, they're preferable to ending up with a dead shipmate killed during a weapons mishap. Save the bullets for the bad guys.

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Gas-free Engineering

By CW03 Blair Fike
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Recent safety surveys have found most shipboard gas-free engineering (GFE) programs are not in accordance with Revision 4 to Naval Ships' Technical Manual (NSTM 074) Vol. 3, *Gas Free Engineering*, and paragraph B0802 of OpNavInst. 5100.19D, *NAVOSH Program Manual for Forces Afloat*. Here are some common discrepancies we found during recent surveys.

- Gas free indoctrination is not being conducted for newly reported personnel and annually for all hands. Appendix B to NSTM 074 Vol. 3 provides an excellent lesson outline. Additional training resources can be found at the NAVSEA (05P4) damage control website <http://www.dcfp.navy.mil>

- Calibration of test equipment is not being conducted. Prior to daily operation, the four-gas analyzers shall be calibrated using the manufacturer's calibration gas. (Section 074-29.9 of NSTM 074 Vol. 3)
- Gas-free engineering personnel are not CPR-qualified and are not trained in emergency-rescue procedures. (Section 074-18.8 of NSTM 074 Vol. 3)
- The ship's safety officer has not evaluated the GFE program annually. The safety officer may use the GFE checklist on the damage control website <http://www.dcfp.navy.mil>. (Section 074-18.10 of NSTM 074 Vol. 3)
- SAR/SCBA (supplied-air respirator and self-contained breathing apparatus) are inoperable, not maintained according to PMS standard MIP 5519/015, and gauges are not calibrated. This is the primary respirator required for entry into an IDLH (immediately dangerous to life or health) atmosphere, and as lifesaving equipment it must be maintained in pristine condition.

The SAR/SCBA ship set consists of:

- 2 primary air-supply packs (PASPs)
- 5 reserve air-supply packs (RASPs)
- 8 self-contained breathing apparatuses (SCBAs)
- 4 bags, each containing two 75-foot hose lengths

The SAR/SCBA system was designed to enhance the capability of gas-free engineers by increasing available air supply, thus expanding operational capabilities and durations. The SAR/SCBA provides breathing air--grade D or higher--to shipboard personnel for access to spaces presumed to contain hazardous atmospheres. The equipment is not to be used for firefighting or underwater applications.

Maintenance requirements include:

- **Quarterly Maintenance.** Includes general cleaning and inspection of the PASP, RASP and SCBA units. Inspect for any damage affecting equipment operation. Includes system-tightness tests on PASPs and leak-tests on the SCBA units.
- **Annual Maintenance.** Inspect all HP and LP air hoses and fittings. Check the hydrostatic test data on the hose tag, test if required. Test and adjust the PASP regulator.
- **Eighteen-month Maintenance.** Calibrate the HP and LP pressure gauges on the PASP control panel assembly (CPA) every 18 months.

You can find specific requirements for maintenance and use of the SAR/SCBA in section 077-3.7 of NSTM 077, *Personnel Protection Equipment*, and PMS MIP 5519/015.

The ship's gas-free engineer must make sure program requirements are met and strictly followed. Some requirements are:

- Observe and enforce all procedures specified in NSTM 074 Vol. 3.
- Staff the gas-free engineering program with sufficiently trained, qualified, and certified personnel.
- Have established procedures for contacting and utilizing gas-free service personnel.
- Frequently review gas-free operations for compliance with NSTM 074 Vol. 3.
- Maintain calibrated test instruments used for the gas-free program.
- Train ships force personnel to recognize hazards and safety precautions for confined spaces. Training must include procedures for requesting gas-free services and procedures for helping shipmates in an emergency.

- Documentation using the required records and logs.

NSTM 074 Vol. 3, provides specific guidance and instructions. For the gas-free engineer, it specifies how to perform assigned duties. The commanding officer must designate, in writing on command letterhead stationery, the gas-free engineer, gas-free assistant, and engineering petty officers. Section 074-18.8 of NSTN 074 Vol. 3 delineates the responsibilities of each position and these responsibilities must be included in the CO's appointment letters.

Gas-free engineering requirements must be strictly adhered to because lives depend on them.

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Ocenco EEBD Tamper Seal Information

By DCC (SW) Jake Speed
Naval Safety Center

Here are some tips in case you did not see COMNAVSEASYS COM 241335Z FEB 03 (NOTAL) with guidance about Ocenco M-20.2 EEBD (emergency escape breathing device) units missing their tamper-indicating ball bearing.



Any units missing the ball bearing must be removed from service. NAVSEA and Ocenco Inc. have agreed that Ocenco (the manufacturer) will inspect and recertify all M-20.2 EEBDs that are missing the ball bearing. The recertifying only applies to M-20.2 EEBDs.

All EEBDs being returned must have received a “returned material authorization” (RMA) number from Ocenco either from their web site (<http://www.ocenco.com/rma>) or by calling the company’s international toll free number, (866) 947-3323. The RMA form must also indicate a shipboard point-of-contact for the EEBDs. The RMA number must be received before sending the defective units. Ships sending the EEBDs missing the tamper-indicator ball bearing must pay postage when shipping the units to Ocenco, but there will be no charge for recertification or return shipping to the ship.



Inspection and recertification will take approximately two weeks. Ocenco cannot return the recertified units without the ship’s proper homeport address. APO or FPO addresses will not be accepted.

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Engineering Safety Settings

By LCDR Walter Banks
Naval Safety Center

Fleet engineers recently have asked questions concerning shipboard equipment safety settings. Most shipboard equipment, including that in engineering spaces and throughout the ship have built-in safety devices. These are installed to prevent equipment damage and protect Sailors from injury.

Almost all equipment PMS includes conducting safety checks. Amazingly, most PMS cards have no place where one can document safety check results.

Perhaps you’ll ask, “Where does it say a safety setting list must be maintained?” The answer is in paragraph 4c of Tab N to section 4 of COMNAVSURFORINST 3502.1A, of April 7, 2003 (*SURFORTRAMAN*), where it clearly states there must be an up-to-date list of safety device settings made available to the training team when they arrive aboard your ship for CART II/IA. If completed PMS is not documented, training time may be delayed. Not being able to verify that equipment is operating within PMS, EOP, or within manufacturer’s technical specifications compromise operating safely. Documentation is thus critical--why would you not want to have your safety settings and PMS results easily accessible from one place?

Keep equipment PMS safety check settings current. Do not try to complete them the night before an assessment or survey. Include performing and documenting safety checks in your training schedule.

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How Ready Are Your Ready-Service Lockers?

By CW02 Brian Faulkner
Naval Safety Center

This question might sound silly to some; however, it is a question weapons personnel should ask themselves. After numerous surveys and having looked at hundreds of lockers, we have concluded daily inspections and ready-service locker maintenance are being overlooked.

Ready-service lockers require additional attention due to their external location on most ships that exposes the lockers to the elements. Things to look for while conducting daily inspections of ready-service lockers include:

- **Stowage**
Are contents labeled on the locker?
Are contents securely stowed?
Are any unauthorized materials stowed inside?



- **Material Condition**
Are all required warning signs posted?
Are lockers in good repair (gaskets, corrosion and condensation resistant, etc.)?
Are sunshields installed and painted white?
Is there a locking device to hold the door open?



- **Temperature**
Is the proper, bi-metallic thermometer that indicates low and high readings in place?
Is temperature being documented daily and recorded on the temperature card in the locker?

These are just a few items quickly looked at to indicate the conditions of a ship's ready-service lockers. References containing ready-service lockers information, and locker safety requirements, can be found in NAVSEA OP-4, *Ammunition Afloat*, and NSTM 700, *Shipboard Ammunition Handling and Stowage*. For more information on general weapons safety programs:

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Q. Where can I find a copy of the NAVSEA OP-4, *Ammunition Afloat* Revision 7?

A. You can download a copy by logging onto the Naval Ordnance Safety and Security Activity (NOSSA) website at <https://intranet.nossa.navsea.navy.mil>

Some Welding Safety Tips

By CWO3 Blair Fike
Naval Safety Center

How often have you worked for an engineering officer who wanted something welded in a hurry, and you heard, “Just go weld it Chief. I want it fixed, *now!*” The chief relays to the division what needs to be done. The LPO writes a formal work request, routes the work authorization, the job is briefed, and they all “turn to.” Right?

Wrong! Normally, it goes like this: The chief goes to the shop and tells the LPO, “Just go weld it; I need it done right *now!*”

Many of us have performed emergency welding repairs, so processes and procedures are imbedded in our minds and we can do the job in our sleep, right? Wrong!

It’s time to review and refocus our efforts on welding safety. NSTM 074 Vol. 1, *Welding and Allied Processes*, is the welder’s and brazer’s basic reference.

Section 10 is all about safety and covers gas cylinders, torch-handling, equipment placement, shipboard hazards, shock protection, and much more.

One of the most important, yet overlooked, sections is that on personnel protection (074-10.9). Take the time to read, study and implement the requirements in this section. Your life and health depend on it. Highlighted topics include:

- Fall prevention
- Hearing protection
- Helmets and goggles
- Protective clothing
- Working in restricted access spaces
- Working with arc-welding equipment
- Working with OXYFUEL or inert gas welding, cutting and brazing equipment
- Ventilation and health protection
- Respirators

Respiratory protection and ventilation are probably the least understood component of fleet-wide welding safety. If you weld without using local exhaust ventilation or without respiratory protection, you are doing it wrong. All welding and brazing operations pose health hazard risks from gases, fumes or dust the work generates. These hazards make it necessary that welding is done in properly ventilated spaces using local exhaust ventilation, or approved respirators are used, or you do both. Section 074-10.10 of the NSTM and Chapter B6 of OPNAVINST 5100.19D give specific guidance for respirator use and local exhaust ventilation.

Another key area for review is eye protection and lens-shade guidelines.

Table 074-10-1. EYE PROTECTION LENS SHADE GUIDELINES

Welding Operations	Shade Number
Shielded Metal-Arc Welding – 1/16, 3/32, 1/8, 5/32-inch electrodes	10
Inert-Gas Metal-Arc Welding – (Nonferrous) 1/16, 3/32, 1/8, 5/32-inch electrodes	11
Inert-Gas Metal-Arc Welding – (Ferrous) 1/16, 3/32, 1/8, 5/32-inch electrodes	12
Shielded Metal-Arc Welding – 3/16, 7/32, 1/4-inch electrodes	12
Shielded Metal-Arc Welding – 5/16, 3/8-inch electrodes	14
Arc-Air Cutting and Gouging	12-14
Soldering	2
Torch Brazing	3-4
Light Cutting, up to 1 inch	3-4
Medium Cutting, 1 inch to 6 Inches	4-5
Heavy Cutting, 6 inches and over	5-6
Gas Welding (Light) up to 1/8 inch	4-5
Gas Welding (Medium), 1/8 inch to 1/2 inch	5-6
Gas Welding (Heavy), 1/2 inch and over	6-8

Flash burns hurt. Trust me, I know. Save your eyesight and use the recommended shade number for specific processes.

In addition to NSTM 074 Vol. 1, Chapters C11 and D7 of OPNAVINST 5100.19D also address welding, cutting, and brazing. I encourage all fleet welders to read them and conduct a critical self-assessment of your shop's safety habits. Identify what you are doing wrong, and fix it. Life is too short to cut corners. Stay safe out there.

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Ordering Safety Shorting Probes

By EMC (SW/AW) Manuel Carretero
Naval Safety Center

Along with increased complexity of advanced electrical and electronic systems found today aboard Navy ships, equipment maintenance has become more complex. Many systems include larger and more powerful capacitors that charge to store electrical energy for system operation, and pose a more significant risk during maintenance.

We need shorting probes to discharge this stored energy from these capacitors after de-energizing the equipment.

The Naval Safety Center had several inquiries recently about stock replacement of the copper-rod end of shorting probes. While I searched for a vendor who might be able to supply copper-rod ends (the probe tips), I concluded the tip and the probe are assembled as one unit and cannot be ordered separately. I also found only the following stock numbers are available for ordering safety shorting probes. There are no NSNs for ordering only probe tips.

Carried by the below-listed manufacturers, the shorting probe stock numbers are NSN

5975-01-029-4176 for 25 kilovolt probes and NSN 5975-00-146-1797 for 7 kilovolt probes.

- Delta Lighting Corp (cage 9S515)
POC Vincent Clark
(203) 356-9797
- OK Tool & Die Co (cage 3L549)
(856) 629-5757
- RF Circuits Inc (cage 0T0G3)
POC Michael Belaga
(215) 364-2450
- PolyTechnic Industries Inc. (cage 4K539)
POC Alvin Lanson
(856) 235-6550

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Explosive Paint

By LT William Thomas
Navy Safety Center

I've been at the Safety Center for only a short time; but, during shipboard surveys I've conducted, I've discovered potentially major hazards lurking aboard every ship. Most are not because of laziness or complacency, but show a lack of knowledge--not knowing what is within regulations and what is not.

For instance, there are paint lockers--one of the most overlooked--or should I say--disorganized and mismanaged areas aboard any ship. I have yet to see an outstanding paint locker, or even a satisfactory one. It seems these lockers receive little respect from crewmembers. The lockers I've seen are dirty and disorganized spaces, and, without proper care and maintenance, they can become one of any ship's biggest hazard.

Paragraph C1801b of OPNAVINST 5100.19D states, "Many paints . . . contain flammable solvents and, therefore present a fire hazard." For those who have worked with paint,

this seems obvious. Most paints have a low flash point, and with the massive amounts of paints stowed aboard ship, it is imperative that paint lockers be managed with care. It only takes a little work and attention to detail to make your shipboard paint locker safe and efficient.



The following are tips for improving a paint locker:

- First, and foremost, is get organized. If the paint locker on your ship is “too far gone,” start over. Clear the space, properly clean it and make sure all space equipment is working (paint mixers, ventilation). Once you lay this kind of a foundation, everything else falls into place.
- According to paragraph B0508f of OPNAVINST 5100.19D, paint lockers must contain an eyewash station that is easily accessible, unobstructed and in good working order (be able to continuously pump water for 15 minutes at a flow rate of 0.4 gallons per minute). A green sign with white letters denoting "Eye Wash Station" must mark the station (paragraph C0508c of

OPNAVINST 5100.19D). You can order signs using NSN 9905-01-345-4521.

- Make sure the space is adequately ventilated. This is often difficult because ventilation equipment degrades over time. But, poor ventilation potentially can be your locker’s biggest danger! If not vented, paint vapors collect to create a toxic and highly flammable environment. Your locker’s exhaust vent should be within two feet of the deck, and ventilation grating must be debris-free for proper ventilation. If you suspect your ventilation is not working efficiently, review the related-maintenance schedule and report it to your work-center supervisor. If the space ventilation is out of commission, add the repair job to your ship’s CSMP so this critical discrepancy gets visibility.
- Once all preliminary and preparatory work is finished, it’s time to add paint. Make sure paint is stowed for sea, and does not interfere with the exhaust vent or eye-wash station. You must store paint, brushes, and stirring sticks in closed metal containers (paragraph C1803e of OPNAVINST 5100.19D). Do not stow paints with oxidizers or acids (paragraph C2304a and Appendix C23-F of OPNAVINST 5100.19). Stow your paint neatly so you maintain an orderly appearance in the paint locker.

By taking these precautions seriously, you’ll have an efficient and safe paint locker. Your locker is now in excellent material condition. But, you have one more hurdle - paint accountability. Make sure all paint is issued and returned promptly. Upon completion, properly dispose of all paint and associated material.

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