

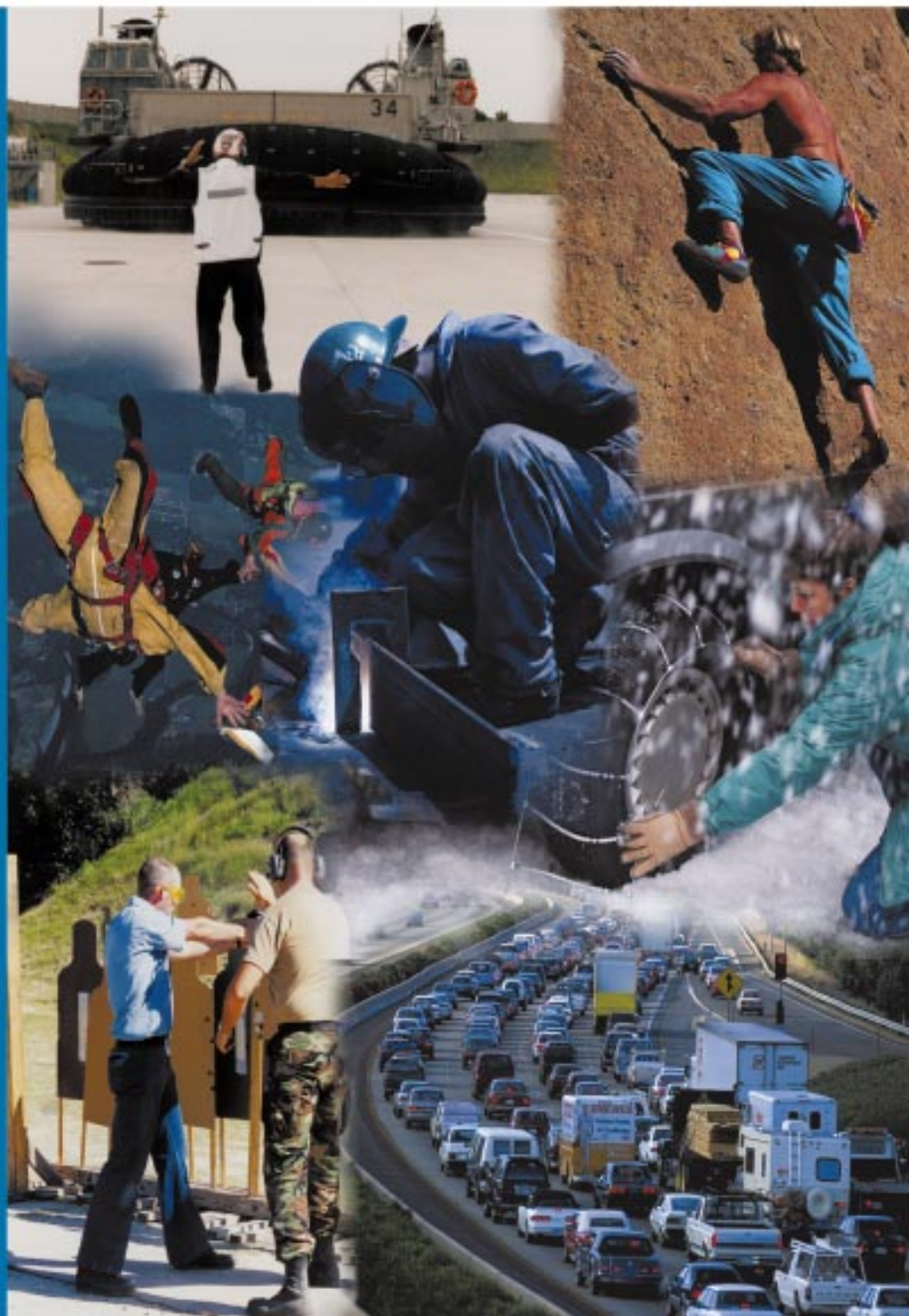
Winter 99-00

The Naval Safety Center's Official Magazine for Shore Safety

# Ashore

**Life Is  
Full of  
Risks...**

Learn  
To Manage  
Them



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# Ashore

The Naval Safety Center's Official Magazine for Shore Safety

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It's Your Choice

About the Cover: Sailors and Marines take risks every day in their jobs. They also take risks when they are off duty. Our aim is not to eliminate these risks, but to teach you how to recognize and manage those risks.

Correction: "Airbags May Be Hazardous After a Crash," Fall 1999. In this article we gave the web page address instead of the e-mail address for the National Highway Traffic Safety Administration. Their e-mail address is: [tis@nhtsa.dot.gov](mailto:tis@nhtsa.dot.gov).



**Re: Pickup Trucks & Kids,  
Summer 1999**

**Dear Editor:**

I disagree with what was said in this article. I have a 1992 Ford F-150 extended cab pickup with an 8-foot bed. Because of my long legs and the shortness of the extended cab, my grandson's car seat goes in the front seat right beside me. He is more safe there than in any car on the road. My truck doesn't have a passenger-side airbag, so there is no problem of snapping my grandson's neck. He has more than 9 feet of solid Detroit metal behind him, more than 7 feet in front of him and 2 feet on each side. My only worry is hitting something bigger than my truck.

If I hit a car, I may have to get a new bumper; that person would have to get a new car.

MM1 Stanley Feret  
Naval Intermediate Maintenance  
Pacific Northwest

*Your beef isn't with us, it's with the automotive experts who wrote this article—Tom and Ray Magliozzi. However, no amount of steel surrounding you is an excuse for not buckling up children where they belong—in the back seat.*

**Re: Training Videos**

**Dear Editor:**

After reviewing our injury reports, I realize that roughly half the Sailors getting hurt are doing so after work. Therefore, I am searching for videos or other information about home and

recreational safety (primarily sports-related). Any help or guidance you can give will be great.

LCdr. Mike Kammerzell  
Base Safety Officer  
NAS Whidbey Island

*Two places send training videos to the fleet—one on the East Coast and one on the West Coast. The center on the East Coast handles requests from everybody except commands in the San Diego area. It distributes VHS or Hi-8 videos that cover a range of subjects from safety issues to general military training. You can write, call or e-mail them a request for a list of titles and subjects.*

Norfolk Regional Electronic  
Media Center (NREMC)  
448 Bullpup Street  
Virginia Beach, VA 23461-2106  
(757) 444-4011/1468 (DSN 564)  
Fax (757) 444-3711 (DSN 564)  
steve.freeman@smtp.cnet.navy.mil

The center on the West Coast distributes videos only to commands in the San Diego area. It doesn't mail them out. You have to go to the center to pick up any videos you want. Here's how to get in touch with that center:

Naval Education and Training  
Professional Development and  
Technology Center (NETPDTTC)  
921 West Broadway Bldg. 110  
San Diego, CA 92132-5105  
(619) 532-1353 (DSN 522)

## *Ashore's* Distribution Policy

Ashore's official distribution is to supervisors and managers who oversee workplace safety, enforce safety rules and prevent mishaps. These readers pass on the contents of the magazine to their personnel and employees via base newspapers, Plans of the Day, and other local internal communication media.

The primary target audience also includes Navy personnel and civilian employees responsible not only for their own safety, but for safety in these fields: occupational safety and health, motor vehicles, explosives and weapons, fire protection, environmental health, recreation and athletics, Marine Corps tactical operations, and training.

Members of the target audience are located at shore bases, in aircraft squadrons, and aboard ships and submarines.

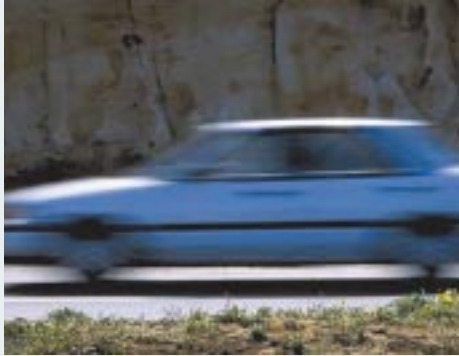
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You can e-mail letters to [vmack@safetycenter.navy.mil](mailto:vmack@safetycenter.navy.mil) or fax them to (757) 444-6791 (DSN 564). Letters may be edited for space and clarity.

# There Is a Way We Can Do Better

## Sailors and Marines Who Died in POV Crashes



FY97	FY98	FY99	Total
135	103	122	360

- 227 of them died at night
- 180 died on a weekend
- 116 weren't wearing a safety belt
- 111 of them died because of a speeding vehicle
- 109 were in wrecks caused by drunk drivers
- 66 were killed by fatigued drivers

Something our statisticians found: If you are 26 years old or younger, your chances of dying in a motor-vehicle crash are twice those of someone who is older than 26.

## Sailors and Marines Who Died in Off-Duty Mishaps

FY97	FY98	FY99	Total
25	30	25	80

- 40 died on a weekend
- 26 of them drowned
- 25 of them had been drinking
- 17 fell (from places such as buildings, cliffs, bridges)
- 13 of them were swimming
- 11 of them were boating

Again, our statisticians found that people 26 years old or younger were more at risk than those older than 26. The death rate for the younger age group was 15 percent higher.



**T**ake a good look at the above statistics. To have lost this many people in off-duty and motor-vehicle mishaps is an unpardonable sin—especially in light of the fact that every one of these deaths could have been prevented.

In this issue of *Ashore*, we tell you about mishaps that happened to people. Then we show you how they may have been prevented by using a technique called Operational Risk Management (ORM).

ORM is not a new concept; it is something you already have been using every time you think before you act. What is new is deliberately thinking about the risks you may be taking and their consequences in everything you do—on duty and off.

When you attend ORM training, you will learn four principles and the five-step process. You will learn about

assigning risk-assessment codes to jobs or activities. Sounds like a complicated process to go through before you get on your bicycle for a short ride. And you're right. However, once you're familiar with looking at risks and determining the consequences, you will find that you can use ORM for even the most simple tasks, and it isn't a complicated process after all.

You will note that in some of the stories, we go through the full-blown process, using all the steps. In others, we simplify it to show you that you can do ORM in just a few minutes—sometimes in just a few seconds.

That's what we want you to do: Take a few minutes or seconds to think about what you are going to do and to ask yourself this question. Is it worth the risk? **4**

# What Is Operational Risk Management, And What Can It Do For You?

**F**acing risks is a way of business for Sailors and Marines. In every peacetime operation or enemy action, you rely on your commanders to weigh the risks against the anticipated gain when they plan an operation. This is not a new concept. Commanders have been using risk management since the beginning of time—some successfully, some not so successfully [See pages 8 and 9].

But managing risks isn't only for commanders of forces; it's for everyone. When you're given an order, you're expected to carry it out, but you have the responsibility to follow that order in a way that eliminates as many hazards as you can. The same is true in your off-duty time. To do that, you have to know something about the process of managing risks.

Operational risk management (ORM) isn't meant to eliminate risks from your lives, but to help you control them so you can accomplish your mission with the minimum of loss. There are times when you have to take risks, but you need to take those risks with this thought in mind: Are they worth it?

Say you are trapped on the second floor of a burning building, and your only way of escape is to jump out the window. You would probably risk breaking a leg or arm, because it would be worth breaking a bone to keep from dying in a fire. However, if there was no fire, but you had a friend outside shouting, "Don't be a wimp. Jump out the window to show us how brave you are," would you risk a broken bone when you could walk down the stairs and go out a door? Is a broken leg or arm worth impressing your "friends"?

Likewise, if you were on vacation and wanted to bungee jump off a bridge across a gorge in West Virginia, would you? If you thought the thrill of it

*Our goal is to make ORM part of your daily lives, on duty and off. It is a simple, logical process.*

would be worth the risk, you probably would. Thousands of people do. However, you would do all you could to minimize that risk. For instance, you would make sure you are mentally and physically fit to do this. You would make sure the cords are in good shape, that all your buckles are fastened, and you would have an experienced person helping you. You aren't eliminating the risk, but you are minimizing it.

The ORM process has five steps to help you operate successfully in high-risk environments. You have a responsibility at every level to identify hazards, take measures to reduce the associated risks, and accept risks only when the benefits of the operation exceed the accepted risk.

Our goal is to make ORM part of your daily lives, on duty and off. It is a simple, logical process. Here's how it works.

There are four principles of ORM:

1. Accept risk when benefits outweigh the cost.
2. Accept no unnecessary risks.
3. Anticipate and manage risk by planning.
4. Make decisions about risk at the right level (before you start an activity).

There is a five-step process in risk management:


**1. Identify hazards.** A hazard can injure or kill people or make them sick, damage or destroy equipment and property, or keep you from completing the mission.

**2. Assess hazards** to determine risks. This step examines each hazard in terms of probability and severity to determine what the level of risk is when you're exposed to the hazard.

**3. Make risk decisions.** After assessing each hazard, you develop one or more controls to either eliminate the hazard or reduce the risk of a mishap. When you develop controls, you have to consider the reason for the hazard, not just the hazard itself. (For example, driving your car could be the hazard, but a reason it may be even more of a hazard is driving alone, without rest and in a poorly maintained car.) Once you have developed controls, you must now determine if the risk is justified.

**4. Implement controls.** After you have developed controls, you have to carry them out. You know what you have to do to prevent a mishap, so do it.

**5. Supervise** (watch for changes). If you're at work, make sure those you're supervising use the controls you have put in place. If you're on your own, supervise yourself. For instance, if you're driving, a change in weather may make you develop new controls.

For more in-depth information about the ORM process and how you can get ORM training for your command, visit the Naval Safety Center's ORM web site at [www.safetycenter.navy.mil/orm](http://www.safetycenter.navy.mil/orm). This site consolidates all ORM information, including training tools and resources. Powerpoint briefs tailored for afloat, ashore and aviation units are also available. Send any questions or comments to LCdr. Lance Zahm, [lzahm@safetycenter.navy.mil](mailto:lzahm@safetycenter.navy.mil). 



*“By its nature, the uncertainty of war invariably involves the acceptance of risk... Because risk is often related to gain, leaders weigh risks against the benefit to be gained from an operation.”*

*— NDP-1 Naval Warfare*

# ORM

## Something You May Already Know

By Rae Mack

**M**ilitary people talk in “initial-speak” and say things such as, “I was TAD last week. When I got home, I felt so bad that I was SIQ for two days.” or “The DK messed up my pay, and my LES didn’t show my BAQ allowance.” Civilians are amazed that military people understand each other. However, when someone says, “I’m going on a trip tomorrow. Guess I’ll practice the ORM I learned at work,” even some military people scratch their heads and say, “Huh, ORM? What’s that?”

ORM isn’t just another initial word for Navy people to use to show they’re part of the official military club. There have been other initial-word programs, such as MBO (Management by Objective) that have faded into obscurity. When these programs were started, they were going to be the way military people would do business from then on. Soon, they were as decommissioned as the LSTs, CAs and battlewagons (excuse, me—BBs).

Unlike those programs with the initial names, ORM is not a new way of doing business. It’s the way rational, thinking people have always been




doing business. Unfortunately, we still have people who don't think about their actions and consequences. They are the people you read about in the Summary of Mishaps message the Naval Safety Center sends out. And they are the people who need to know how to use ORM so they can also do business in a rational, thinking manner, not only on the job, but at home as well.

ORM is something you should use every day, for every activity. It's merely a process of stopping (sometimes for only a few seconds) and thinking about what you are about to do. Are there any hazards you need to be aware of? Is being exposed to those hazards worth what you are trying to achieve? If not, don't do it. However, if you have to do it, how do you lessen the danger? That's it, nothing complicated.

In this issue of *Ashore*, we are running personal accounts of mishaps and near mishaps just as we

always do. However, we're adding something. At the end of each article, we show you how the person in the story could have used operational risk management (oops, forgot to use the initial word, ORM) to have avoided the mishap.

When you read these stories, think about things you do, such as ride a bicycle, jog along the side of a road, play "extreme" sports, fix your car, drive home on a weekend, or cut a limb off a tree. Do some quick ORM in your head (we'll show you how in this issue). Then, the next time you actually do those things, run that quick risk-management lesson through your head again.

If you try this, write or e-mail me to let me know if you make any changes in the way you work or play. You may find you have been taking unnecessary risks and putting yourself (and family or friends) in danger. Or you may be surprised to learn you have been an ORM person all along. 

**You May Be Smarter  
Than You Think**



Photo-manipulation by Allan Amen

“Please, Mr. Custer,  
I Don’t Wanna Go.”

# What if Custer Had



Three of  
Custer’s  
Crow scouts  
photographed  
among the  
gravestones  
of Custer’s  
men, many  
years after  
the battle.

By Rae Mack

**I**n late 1875, Sioux and Cheyenne Indians, outraged over the continued intrusions of whites into their sacred lands in the Black Hills, defiantly left their reservations. By the summer of 1876, they had won two battles against U.S. cavalry units. Emboldened by those victories, they gathered in Montana in June with the great warrior Sitting Bull to fight for their lands. *[Ed. note: Sitting Bull never joined in the fighting at Little Bighorn. Chief Crazy Horse was Custer’s main opponent.]*

To force the large Indian army back to the reservations, the Army dispatched the Seventh Cavalry under the command of LtCol. George Armstrong Custer. During the Civil War, Custer had become the Union’s youngest brigadier general at 23

years old because of his brilliant war record. When he was 25, he was a major general. However, following the end of the Civil War, Custer (along with all the other war-time-promoted generals) was reduced in rank to captain.

On June 22, 1876, Custer and the Seventh Cavalry, consisting of 850 soldiers, scouts and guides, left Fort Abraham Lincoln for the Little Bighorn and a showdown with the Sioux.

Three days later, Custer spotted the Sioux village about 15 miles away along the Rosebud River, as well as a nearby group of about 40 warriors. He decided to attack the village before this band could warn the main party in the village. He didn’t realize that the number of warriors in the village was three times his strength.

# Used ORM?

**Postscript:** After another day's fighting, Reno and Benteen's now united forces escaped when the Indians, after learning that two other columns of soldiers were coming towards them, broke off the fight and retreated. Now that was using ORM. ■

Dividing his forces into thirds, Custer sent troops under Capt. Frederick Benteen to prevent the Indians from escaping through the upper valley of the Little Bighorn River. Maj. Marcus Reno was to pursue the group, cross the river, and charge the Indian village in a coordinated effort with the remaining troops under his command. Custer hoped to strike the Indian encampment at the northern and southern ends simultaneously, but he made this decision without knowing what kind of terrain he would have to cross before making his assault. He belatedly discovered he would have to negotiate a maze of bluffs and ravines to attack.

Reno's squadron of 175 soldiers attacked the northern end. Quickly finding themselves in a desperate battle with little hope of any relief, Reno halted his charging men before they could be trapped, fought for 10 minutes in dismounted formation, and then withdrew into the timber and brush along the river. When that position proved indefensible, they retreated uphill to the bluffs east of the river, pursued hotly by a mix of Cheyenne and Sioux.

Just as they finished driving Reno's soldiers out, the Indians found Custer and his band of men coming toward the other end of the village. They crossed the river and slammed into the advancing soldiers, forcing them back to a long, high ridge to the north. Meanwhile, another Indian force, largely Oglala Sioux led by Crazy Horse, swiftly moved downstream and then doubled back in a sweeping arc, enveloping Custer and his men in a pincer move. They began pouring in gunfire and arrows.

As the Indians closed in, Custer ordered his men to shoot their horses and stack the carcasses to form a wall, but they provided little protection against bullets. In less than an hour, Custer and his men were killed in America's most notorious military disaster.

Before Custer ordered this attack, he clearly didn't identify hazards, assess risks, make risk decisions, or implement controls. Do you think the outcome of this battle would have been different if he had?

Price 25 Cents.

**MASSACRED**

**GEN. CUSTER AND 261 MEN**

**THE VICTIMS.**

**NO OFFICER OR MAN OF 5**

**COMPANIES LEFT TO**

**TELL THE TALE.**

**3 Days Desperate Fighting**

**by Maj. Reno and the**

**Remainder of the**

**Seventh.**

**Full Details of the Battle.**

**LIST OF KILLED AND WOUNDED.**

**THE BISMARCK TRIBUNE'S SPECIAL**

**CORRESPONDENT SLAIN.**

**Squaws Mutilate and Rob the Dead**

**Victims Captured Alive Tortured in a**

**Most Fiercish Manner.**

**What Will Congress Do About It?**

**Shall This Be the Beginning of the**

**End?**

It will be remembered the the Bismarck Tribune sent a special correspondent with Gen. Terry, who was the

How his red-...  
downs was his a...  
ing t his whit...  
Ti dlers then then...  
case arm-pulle...  
final the Gira...  
man scro dest...  
a fe not thro...  
swit he b cron...  
havi side how...  
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Fret gone ched...  
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**"Please, Mr. Custer,  
I Don't Wanna Go."**

*News of the Custer disaster as it first appeared in the Bismarck Tribune on July 6, 1876.*



# Burning Boat Destroys House

**W**hile having morning coffee and talking with her neighbors on her patio, a woman living in Marine Corps housing noticed smoke coming from her carport. She ran into the house, woke up her three children and got them outside. Then, she called the fire department.

While she was on the phone, she heard two loud explosions. Flames rose from the family's boat (a 16-foot outboard) that was parked under the carport.

Neighbors pushed a car that was parked in front of the boat down the driveway. Another neighbor tried to pull out the boat and trailer from underneath the carport, but was unsuccessful. Finally, the heat and smoke were too much for the neighbors, and they retreated. The fire spread rapidly from the carport to the rest of the house. Although the fire department arrived within six minutes of receiving the alarm, the house was destroyed.



*This boat could have sat under this carport for a hundred years without causing any damage—if the owner had removed the battery and stored the portable gas can somewhere else.*

The owner of the boat had last used it a month earlier. When he parked the boat under the carport, he left the battery in the boat to recharge it. Later, he unplugged the charger from the electrical source, but left it connected to the battery. The charger was sitting between the battery and a portable gas tank. Fire inspectors believe one of the plates inside the battery corroded and failed. When that happened, the positive and negative particles in the battery got together and exploded.

The explosion shattered the charger and shot a piece of metal through the portable gas container. The container exploded, and gasoline spread everywhere.

This housing has an area surrounded by a chain-link fence for residents to park their boats and

recreational vehicles. However, the owner didn't want to use it. ■

## Charging a Battery While It Is in a Boat

The National Fire Protection Association recommends that you remove lead-acid-type batteries from boats before you store or charge them. However, if that is impractical because of the batteries' size and weight, you can keep them on a boat if you meet the following conditions:

- There is adequate ventilation in the battery compartment.
- The battery charger is UL listed.
- The charger's power connection is a three-wire cord of not less than No. 14 AWG conductors connected to a source of 110 to 125 volt, single-phase current. It should have a control switch and approved circuit-protection device designed to trip at not more than 125 percent of the rated amperage of the charger.
- There is no connection on the load side of this device from this circuit to any other device, and the boat battery switch is turned off.
- The battery is properly connected to the charger, and the grounding conductor grounds the charger enclosure.

The NFPA also suggests that you check unattended battery chargers every two hours while they are in operation.

## ORM Lesson

To store his boat in his carport without burning down his house, the owner should have followed these ORM steps:

**1. Identify the hazards.** The only hazards here were the battery and gas can. The boat itself didn't pose a hazard to the house by being stored in the carport.

**2. Assess the risks associated with the hazards.** Batteries can fail and explode. With a

gas can stored next to the battery, the risk of a large fire is greatly increased.

**3. Make risk decisions.** Is it worth risking a fire to leave the battery and gas can inside the boat when you could remove them and store them away from buildings?

**4. Implement controls.** Remove the gas can and battery and separate them.

**5. Supervise (watch for changes).** Even if you remove the battery, check it periodically for failure. Also, make sure no one else puts it back into the boat.

# Why I Read Instruction Manuals

By Lt. Jonathon R. Williams  
VAQ-132



**W**hen I buy a new piece of equipment, I always read the instruction manual. Sometimes, it seems to have been written by lawyers who were worried about product-liability suits. However, when I was getting ready for a

backpacking trip, I found out that the manuals aren't just to avoid court cases.

At the end of a cruise, my wife and I were heading for the scenic Olympic Mountains north of Seattle, Wash. I went to my garage to make sure

everything in my box of camping gear was squared away, since the trail is the wrong place to find out if something doesn't work.

The first things I broke out were the camping stove and lantern. I set the lantern in the middle of my work bench and noticed a few parts seemed out of adjustment. After a few turns of a wrench, I was ready to test it.

The can of fuel states clearly on the label, "Pour in an open, well-ventilated area." I felt I was exempt from that warning because I'm really careful. The label also warns not to overfill the tank or tip the lantern on its side to get more gas in it. I felt exempt from that warning, too, because I've been using this gear for years, and I know what I'm doing.

I poured as much gas into the lantern as I could, then tipped it to get even more in. Some of the gas spilled on the work bench. I figured that was OK because it would evaporate quickly.

I put the cap back on the tank, then put a new silk mantel on the burner opening, lit a match, and prepared the new mantel by burning it to an ash.

For those who don't know the mechanics of fuel lanterns, let me explain. The highly volatile fuel is contained in a small tank at the base of the lantern. To start the lantern, you must first press a small bulb to pressurize the fuel tank. The fuel travels along a line called a generator that runs from the tank to the burner opening, where vaporized fuel burns in the silk-ash mantel, glowing a bright yellow and giving me light.

Once it is heated, the generator does a great job of heating and vaporizing the fuel as it rises to the burner opening, thus preventing liquid fuel from spewing out of the tank. That's if everything works like it should.

I pumped the tank, lit a match, held it to the mantel, and opened the fuel valve. The generator malfunctioned, and liquid fuel had escaped into the globe. The lantern went up in flames.


My lantern was on fire, sitting on my workbench in a puddle of fuel. Worse, the fuel valve was still open, and the tank was full of gas. Here's where I journeyed from the realm of the stupid to the land of the idiotic.

I grabbed a towel, reached into the fire and turned the valve to "off." However, fuel was still dripping. Remember the overfilled tank that I had pressurized? The only way to relieve the pressure was to loosen the cap on the fuel tank. I again

reached into the fire to loosen the cap (another thing the instruction manual warns against).

Anyone who knows anything about fuel understands that when you loosen the cap, air is not the only thing that will escape. Vaporized fuel will also. I loosened the cap. Air and fuel escaped. The explosion left both my hands on fire.

By this time, my wife was in the garage. She helped put out the fire on my hands, then ran to get a fire extinguisher. A few short blasts of the chemical agent put out the fire. I don't know why I hadn't thought of using the fire extinguisher in the first place.

Chemical extinguishing agent was all over my garage. After cleaning it up, I actually managed to fix the lantern, this time with a healthier respect for fuel, fire and the instruction manual. 

## ORM Lesson

You can avoid a similar mishap by following these ORM steps:

**1. Identify the hazards.** Flammable liquids in an enclosed area, faulty generator in the lamp.

**2. Assess the risks.** What could go wrong? Spilling fuel, setting fuel on fire, burning house, burning you.

**3. Make risk decisions.** Ask yourself if you know the right procedures. When was the last time you filled one of these lanterns? Do you really want to play with flammable liquids in your garage?

**4. Implement controls.** Read the owner's manual and follow manufacturer's safety precautions. If you spill any liquid, wipe it up immediately. Have a fire extinguisher handy.

**5. Supervise (watch for changes).** In this instance, spilling the fuel was a change from the normal. When that happens, stand back and figure out what you have to do to correct this situation before proceeding.



# Being Cool

## Doesn't Matter So Much Anymore

By Lt. Dave Mundy

VAW-113

**H**ave you ever ridden a bicycle without a helmet? I used to when I was in high school and didn't think of the consequences if I had fallen. All I thought about was how uncool it looked to wear one. None of my friends did, and I didn't want to be different or look like a nerd. After all, image was everything.

Then, during my senior year, I took up bike racing. I continued the sport in college. Wearing a helmet was no longer a choice—it was mandatory during the races. After competing in a few races, I realized why. When you're traveling on a one-mile, closed-circuit course with almost 40 other riders—all going more than 28 mph—you can imagine what would happen if one of us had blown a tire.

One race stands out in my mind. My teammates and I were bunched while descending a hill doing more than 45 mph. As we rounded a corner, a rider in front of us hit a patch of gravel and flipped. As he flew through the air, he narrowly missed me but took out my teammate on my right. My teammate crashed into a car coming toward us. His helmet crumpled and cracked in two places, distributing the force of the blow away from his skull. It took 21 staples to tie his arm back together. He may have

been in pain, but he was alive, and he owed his life to an eight-ounce, compressed-foam shell.

After that day, I vowed to never ride my bicycle without my helmet, whether I was racing or just cruising through the neighborhood. **A**

## ORM Lesson

When riding a bicycle, gravel on the road, oncoming cars and other bike riders are just a few of the hazards you may encounter. The risks of sliding on gravel are always present. So are running into other riders or cars; those risks are increased when riding with a group on a highway. Maybe you feel the risk of falling is small; but if you do fall, the risk of injuring your head is great. The best way to avoid a head injury is to wear a helmet approved by ANSI or Snell Foundation. You have to be your own supervisor in this situation and do what is best for your protection.





**Take It  
From  
The Top...**

**It Works!**



# Dying To Get Home

By Rae Mack

**T**his story describes a terrible wreck. The report we received on this mishap was so detailed that all of us in this office were shaken up when we read it. What made it even more poignant was that this mishap was covered by CNN, and we had faces to put on these people.

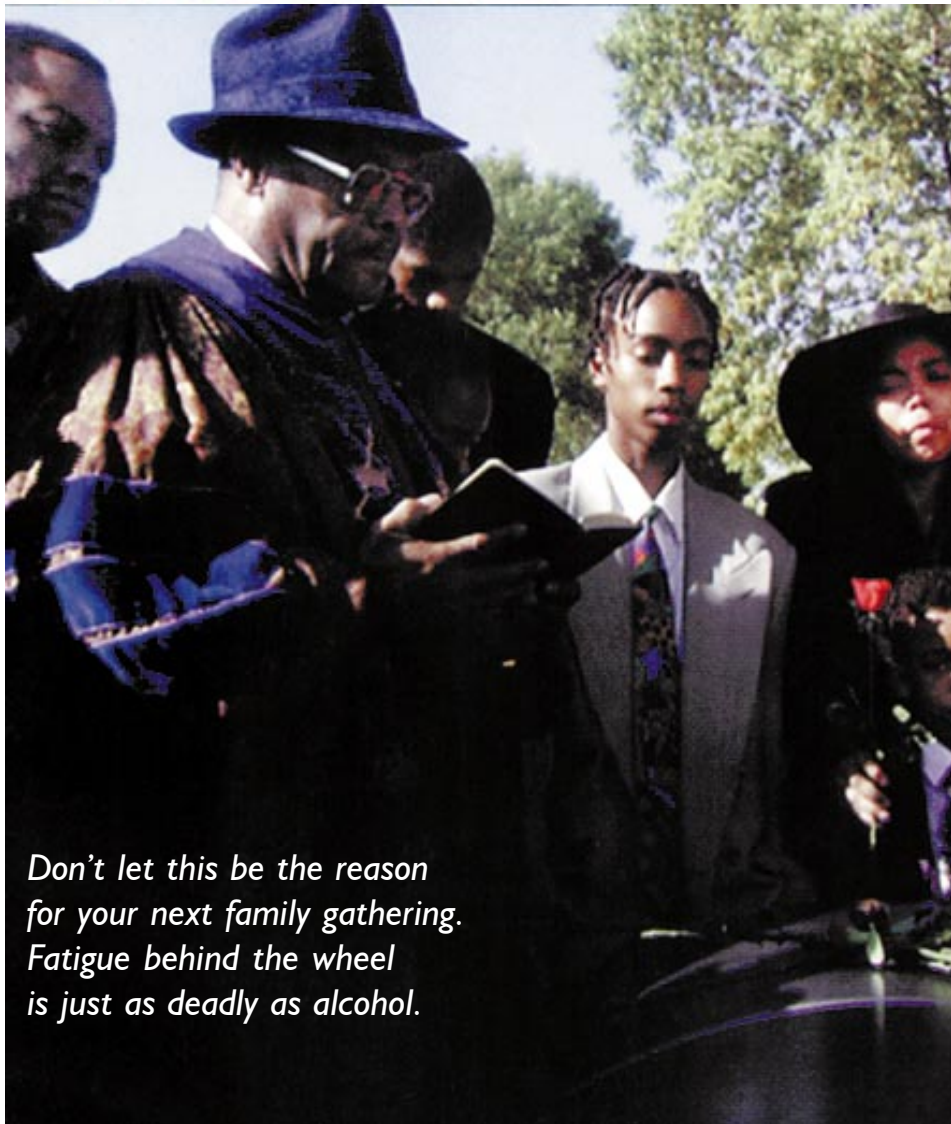
At the end of June 1998, an ABH2 bought a used 1993 Isuzu Rodeo. Even though his driver's license had been suspended since 1996 for multiple traffic offenses, he planned to drive his family from Norfolk, Va., to their hometown in Alabama to visit relatives.

His leave started on July 7. The next day, he took his SUV to the dealership to have it checked by mechanics. They made minor adjustments. The car wasn't ready until 5:30 p.m. on July 9. With two days of his leave eaten up, the ABH2 was in a hurry to leave.

As soon as he brought the car home, the ABH2, his wife, 7-year-old boy-and-girl twins, a 5-year-old son, and his mother-in-law left for the trip.

The next morning at 6:30 a.m., passersby in Alabama found the Rodeo on the side of the road in flames. The ABH2 was dead. So were two of his children and his mother-in-law—all riding in the rear seat. These four weren't wearing safety belts. His wife, sitting in the front passenger seat, was wearing a safety belt. She was holding the 5-year-old, within the same belt, in her lap. The passersby cut the mother and son out of the wreck. They were taken to a hospital. The mother had multiple broken bones, internal injuries and second-degree burns. Even though she is now disabled, she survived. The 5-year-old died from internal injuries.

Investigators put together this scenario. If the family had left at exactly 5:30 p.m., they had traveled 750 miles in 13 hours. If they had never made any



*Don't let this be the reason for your next family gathering. Fatigue behind the wheel is just as deadly as alcohol.*

stops, they would had to have traveled at a constant speed of 58 mph. Since an Isuzu gas tank holds 20 gallons of gas, and the average miles per gallon for this model is 20, the family had to have made at least one stop for gas and an unknown number of rest stops. This would mean their average speed would have to had been higher than 58 mph.

The ABH2 was found in the driver's seat, with his shoes off and tucked under his seat, which was reclined. Does this indicate he was tired? We don't know, but investigators believe he fell asleep while

driving. The car crossed a grass median, where it hit a tree stump. Then it crossed an oncoming traffic lane, slammed into a tree on the shoulder of the road, and burst into flames.

The Alabama police estimate the speed of the Isuzu was 70 mph when it hit the tree. Tire marks on the median and skid marks on the road indicate the

ABH2 woke up when he hit the tree stump and jammed on the brakes. However, there wasn't enough distance between that point and the tree to stop the car.

This trip didn't have to end in tragedy, and wouldn't have if the people involved had looked at the hazards and the risk they were taking, weighed the possibilities of tragedy, and considered the consequences.

Here's how the driver could have done his own risk management exercise before the trip:

"I've already burned

up two days of my leave waiting for this car to be looked at. Now, it's finally ready. Already, it's 5:30 p.m., and I've been up all day, but I'm really anxious to get on the road. Let's see, I've got myself, the wife, the kids, and my mother-in-law. That's six people in this car, and it has only five seat belts. I sure wish my license hadn't been suspended because of all the traffic violations I've had."

If he had carefully assessed the risks he was taking, the driver could have taken action to ensure

his family's safety. He never would have driven the car in the first place. He had two other adults with valid driver's licenses who could have taken turns. Also, since his vehicle wasn't equipped to carry all those people, he could have left someone behind or bought a bus ticket. Even if he was going to drive, he could have gotten a good night's sleep and started out the next morning.

Not all the responsibility is on the driver to look at hazards and risks. There were two other adults in the car. They could have insisted that they not start the trip until the next morning. The mother-in-law could have volunteered to stay behind to give everyone a chance to be buckled up. The mother could have insisted that all her children be safely secured. Also, both adults knew the husband had a suspended license. They had the responsibility to not let him drive and refuse to ride with him.

Think about this family the next time you go on leave. The possibility of tragedy exists every time you drive a car, either on a vacation or just around town. Look at the risks you may be taking and do your best to lessen them. ❏



The hazards were many for this family. The driver had owned the vehicle only a month before this trip. He started the trip late in the day and drove all night to save leave time. To get home faster, he was speeding. The vehicle wasn't equipped with seat belts for all passengers, and a child had to ride in his mother's lap. The driver had his seat reclined almost in a laying-down position and was driving on a suspended license.

This driver risked not only his own life, but the lives of his family. The people crammed into the car like they were and the speed he was driving almost ensured that any crash would be fatal to someone. Driving all night with a reclined seat may have made him more prone to falling asleep. His license was suspended because of risky actions behind the wheel.

He could have made some decisions that could have lessened the risk to himself and his family. He could have started the trip the next morning after he had rested. He could have left one of his passengers behind or gotten a larger vehicle. He could have put his seat in an upright position. Most importantly, he should have handed the keys to the other adults in the car and let them share the driving.





Secretary of the Navy, the Honorable Richard J. Dansig.

# Hazardous Waste Right Above Your Head

## What This Means To You

You can no longer just toss those old fluorescent lamps into a dumpster. You have to dispose of them as hazardous waste. However, you can order low-mercury lamps from the Defense Supply Center.

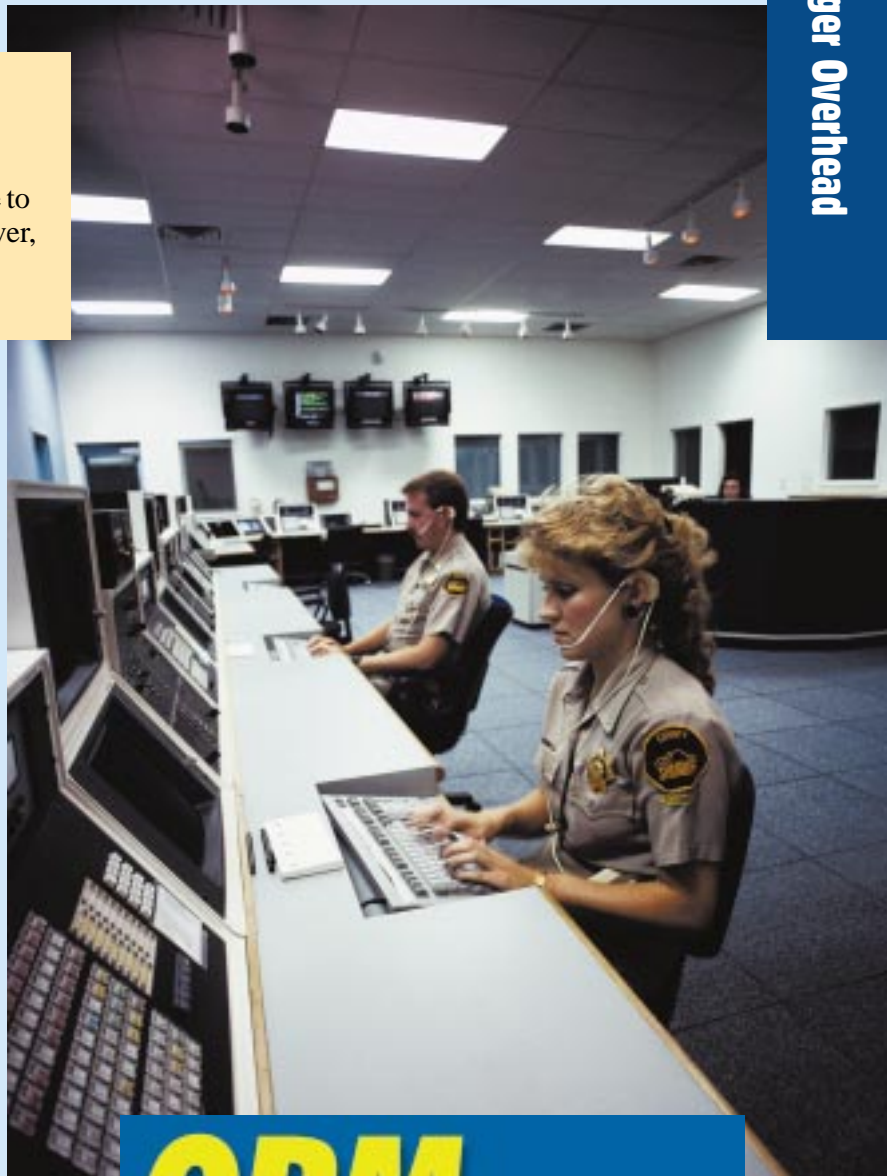
It took more than 20 years, but the Environmental Protection Agency (EPA) has now declared officially that most spent fluorescent and other lamps with toxic heavy metals, such as mercury and lead, are hazardous wastes.

Effective Jan. 6, 2000, most fluorescent lamps will be classified as D009 hazardous waste and must be managed under either full hazardous-waste-management regulations or under a subset of these regulations at 40 CFR 273 known as "Universal Waste."

The term "most" is used in the regulation because several lamp manufacturers have invested heavily in developing a fluorescent lamp with such low mercury concentration that they don't fail the Toxicity Characteristic Leaching Procedure (TCLP) limit of 0.02 ppm leachable mercury and, therefore, pose no hazardous-waste threat. The traditional fluorescent light tube has an average of 12 to 15 mg of mercury per linear foot of tube. The new generations of lamps have only about one-third of that amount.

These low-mercury fluorescent lamps are available through the Federal Supply System by contacting the lighting supplies office at Defense Supply Center Philadelphia at (800) DLA-BULB.

For more information on this ruling, go to this web site: <http://www.epa.gov/greenlights/html>. The EPA also publishes "Lighting Upgrade Manual," EPA 430-R-94, which discusses fluorescent-lamp disposal and contains a list of lamp recyclers. You can get this manual by calling the Green Lights Program office at (888) 782-7937. ■



## ORM Lesson

The hazard is a fluorescent light bulb containing mercury. Throwing the bulb in the trash risks infecting yourself and others with mercury, or cutting people with broken glass. Manage the risk by disposing of these bulbs in accordance with the "Universal Waste" regulations under 40 CFR 273.

# A Stroke of Bad Luck?

By Ltjg. James H. Rowbottom  
VQ-4

Or maybe it was good luck. Whatever the reason for a car wreck I was in seven years ago, it served me well last summer.

I could never forget the date of the first wreck. It was the day before Valentine's Day, 1992. I was an IC3 on a ship at Little Creek, Va. My friend Adam had pawned his children off on our wives, and we spent the day enjoying ourselves on the town. On the way home, we stopped to buy "marriage insurance" (flowers for Valentine's Day).

As we left the flower shop, we stopped at a red light. There was a small pickup on our left, waiting for a left turn signal, and we were in the right lane. The light turned green, and the pickup truck took off. Then it screeched to a halt. We ventured into the intersection and heard a popping sound as a car suddenly slammed into the side of us. The world seemed to be spinning in slow motion.

The guy in the pickup had seen her coming—a middle-aged woman trying to beat the red light. She slammed into us doing about 60 mph and totaled our car. I was in the passenger seat and immediately jumped out. I had been wearing my seatbelt, and although sore, I escaped pretty much unscathed. Adam was wearing his belt as well, but he injured his neck and broke his collarbone.

As I walked around, examining Adam's car, two items caught my attention. The child safety seat behind his seat had taken a direct blow from the speeding car and was badly damaged. The booster seat that was previously behind my seat had been tossed out the back window and was lying on the road next to the flowers we had just bought. I shuddered to think what may have happened if Adam's kids had been in those seats.


On July 5 of this year, I was in a similar wreck, but the situation was a little different. My buddy



wasn't with me—my 14-month-old son was. I had picked up a pizza and was on my way home. As I approached an intersection, the light was green, and I proceeded through. Since that February mishap, I have **always** looked for other cars when going through any intersection. This time, it paid off. A car whizzed through a red light right in front of me. I thought I was going to push the brake pedal through the engine block. The ABS brakes performed flawlessly, and I hit his car on the driver-side door. Because I had anticipated it, I didn't even hit hard enough to activate the airbags. I was relieved to see my son in the rearview mirror, still asleep in his safety seat.

Just four weeks before this wreck, I had helped organize a safety stand-down about the "101 Critical Days of Summer." One of the films showed the

right way to use child-safety seats. I learned that 80% of all children's seats are installed incorrectly and promptly corrected two discrepancies in my own child's seat. I had also researched and developed a presentation on running red lights, after learning that it is the most common type of urban crash and that people die in a large percentage of those crashes.

Increasing my awareness in these topics caused me to react a split second sooner and avoid a major accident; making a few adjustments in my child's seat saved him from being hurt. The message at that stand-down may not have entertained me, but it sure saved my son. 

NEVER...NEVER...NEVER...

...put a rear-facing infant seat in front of an active air bag.

...hold a child on your lap, even with a safety belt.

...let the shoulder part of a lap-shoulder belt fall behind the back or under the arm of a child.

...allow a child to play in or around a vehicle's trunk.

## ORM Lesson

If you were buying a child's safety seat and installing it in your car, here are the ORM steps you would want to follow:

**1. Identify the hazards.** Not having a child-safety seat or installing one improperly. A passenger-side airbag is a definite hazard to a child sitting in a child-safety seat in that area.

**2. Assess the hazards to determine risks.** Ask yourself if the seat is the correct size for the child. Does it fit the vehicle? Does it require a locking clip for the seat belt? If the seat is used, does it have any visual defects? Are there any manufacturer's recalls? Do you have an owner's manual? Are all the buckles and belts working properly? Does that seat require a tether strap?

**3. Make risk decisions.** Traffic crashes are the leading cause of death and injury to children ages 0-15. Six out of 10 children killed in crashes are completely unrestrained. Maybe the chance of your having a crash is low, compared to the number of miles you drive, but in the event of a crash, seat belts increase the chance of surviving a crash by nearly 45 percent. Child-safety seats, if properly installed, reduce the risk of death by 69 percent for infants and 47 percent for toddlers. Now, do you buckle up your children or not? (Information from the National Highway Traffic Safety Administration.)

**4. Implement controls.** Choose and install a seat that meets your child's needs and that fits your vehicle. Read your car's owner's manual to see how to install a seat. If you're not sure it is installed properly, you can call your local fire department or police department for help.

**5. Supervise.** Make sure your children stay in their seats. Set an example by buckling up yourself. As your child outgrows one seat, get a bigger one that fits. Switch the child's seat from rear-facing to forward-facing when the child is the correct weight for that.

# GOT JUICE?

By ATCS James Timmreck  
VP-10

**I**t was a night when nothing seemed to be going right. You know, the kind where you take one step forward and two steps back. I was busy getting some things done around the house for an upcoming PCS move, and my wife had taken the kids shopping.

She had been gone a long time, and it was getting late, so I started fixing dinner. I was interrupted by the ringing phone. It was my wife, telling me her car had overheated and died. She had tried to start it, but it just wouldn't turn over.

I dropped everything, got into my van, and went to the rescue. I gave her car a jump-start, and it started right away. Then I disconnected the battery to see if the motor would keep running. It died immediately. That told me the alternator was shot. I jump-started her car again and let it run a few minutes to charge the battery. Instead of trying to replace the alternator by the side of the road, I "leap-frogged" the car home by running it until it died, then jump-starting it again.

When I got home, I went to a parts store to get a new alternator. Since we needed the car the next day, I felt I had to finish repairing it that night.

I removed the old alternator and replaced it with a new one. That left me with a run-down battery. I knew using a bad battery to start a car with a new alternator wouldn't be good for the alternator, so I removed the battery from my van and put it in the car to start it. I then put the old battery in my van, so I could charge that battery again.

By the time all this was done, it was getting late, and my wife wanted to call it a night. But I was determined to finish this project. All I had to do was switch the batteries back again, and I would be finished.

I left the van running, removed the now-charged battery and put it in the car. It worked fine. Then I put the van battery back in. I hooked up the ground cable, then went to work on the positive. As that





cable touched the post, an arcing spark shot out. I had never seen such a spark from a battery cable, but I was determined to finish. After tightening down the cables, I heard a bang, saw a puff of smoke come out from under the hood, and the van's motor died.

When I investigated, I saw a red battery cable on the terminal marked "-." I knew the red cable

should have been on the "+" terminal—I had put the battery in backward. The cables had been so old and worn that even though the terminals are different sizes, the cable slipped on with no problem—except for the minor fireworks display.

The car worked fine the next day, which was good, because I had to use it to get a new battery, new cables, another alternator, and a fusible link to get my van running. The time I thought I was going to save by rushing the job the night before was eaten up by a trip to the parts store and fixing my van. ❏

## ORM Lesson

Here are things you should consider when doing late-night car repairs.

**1. Identify the hazards.** The initial hazard was a disabled car on the side of the road. If the author had tried a road-side repair, he would have had to deal with different (and more deadly) risks than he did by repairing the car at home, such as being hit by another car. After he got home, the hazard he faced was the battery.

**2. Assess the risks associated with the hazard.** The battery could explode if the terminals are hooked up improperly. You could be blinded or burned by battery acid. Also, you could damage your car's electrical system.

**3. Make risk decisions.** Does the job absolutely have to be finished that night when you are tired, or could it wait until morning? This is a decision where you have to weigh the risks and decide if they are worth it. If you plan to proceed, you have to devise and use new ways to control the risks.

**4. Implement controls.** Make sure you know which leads are positive and which are negative. Check for wear on cables. Don't depend on the color of the lead. Wear safety glasses and gloves. Make sure you have enough light.

**5. Supervise (watch for changes).** In this case, the arcing spark should have signaled the author that something wasn't right, and he should have investigated before proceeding.



# Never Mind The Stuff Oozing Out of That Battery

By AT1 David Snyder  
VP-10

Photograph by PH2 Matthew J. Thomas, USNR



**W**hile working on a security unit for a high-frequency radio system, a junior third-class petty officer removed the battery from the equipment. The battery was leaking fluid from the top, but the petty officer paid no attention to the fluid and continued troubleshooting. A short while later, his hand began to burn. He immediately stopped the job, rinsed his hand, and had a corpsman check him out. Other than minor skin irritation, he had no other injuries.

In a shop like avionics where this petty officer worked, people handle batteries daily. Some take for granted any dangers associated with handling them. Batteries contain acid-based liquids, which helps create an electrical charge. These liquids corrode metals, but burn human flesh.

See how a few seconds of assessing the risks could have prevented this mishap. The time it would have taken to do this assessment is much less than the time the petty officer took to wash off the battery acid and have his hand checked. ❌

*When working around caustic liquids, you need all the protection you can get.*

## **ORM** Lesson

The hazard is leaking battery fluid. If you don't want to risk getting burned by battery acid, wear chemical gloves to avoid touching the fluid. Putting on the gloves and eye protection is an easy control and doesn't take long.

# How I Avoided a Long Cruise But Not on Purpose

By Cdr. Jim Stahlman  
HS-75

**E**ight days before my first LAMPS long cruise, my fiancée and I decided to travel to Florida to visit her folks. At 5 p.m., we threw some stuff into my pickup and headed south.

Four hours later, on a remote two-lane road on the southwest side of Lake Okeechobee, my truck blew a tire. I pulled over to change it.

I immediately ran into a problem when I discovered the mount stud for the spare tire wasn't threaded at the end; I couldn't remove the wing nut. I had no tools and was 15 miles from the nearest town. I couldn't call on my cell phone because this happened 12 years before they were invented. We were stuck.

After waiting 20 minutes, a trooper with the Florida Highway Patrol pulled up and offered to help. Since a hacksaw wasn't part of his equipment, he drove off to see if he could find one. Meanwhile, a Florida Fish and Wildlife game warden stopped. He had a hacksaw with him. He pulled around us on the embankment next to the road and parked his utility vehicle tailgate-to-tailgate with my truck. I got on my knees between the two trucks to set the jack under the rear axle of my truck. That's the last thing I remember until I woke up in an ambulance on the way to a hospital.

Two couples had been partying the evening away at a bar and were on their way home. When the driver saw the game warden's headlights off to his right instead of to the left, he got disoriented (helped out, no doubt, by the number of drinks he'd had). He drove off the road and ran head-on into the game warden's truck, pushing it into my truck.

The state trooper returned to find trucks and people standing all over the highway. Except for me—I was under the crumpled bed of my truck.

I had a mild concussion and was grounded from flying for a year. I didn't make the cruise and lost six months of flight pay. That and a closed-head injury requiring 180 stitches was a lousy way to avoid a six-month deployment. **4**

## ORM Lesson

Mechanical problems are always a hazard when going on a trip. Before starting out, check for mechanical problems. Make sure you have gas, oil and other engine fluids. Check tires. In this case, the tire was worn.

Running with a worn tire risks a blow-out, which could cause a wreck or strand you in some remote area.

You need to ask yourself if your tires are going to make it through the trip? If not, is the equipment to fix it in working order? Ask yourself if you should wait and have the tire replaced before making the trip, or if the trip is so important that you have to get there right away. This trip could have been delayed.

A way to control the situation would be buy a new tire, or make sure the spare is easy to get to and use. If the author had checked the spare tire and equipment when he had first bought the truck, he would have discovered the problem before it really mattered. Once the tire blew out, pulling well off the road would have lessened the risk of another driver running into the disabled car.

When the game warden arrived, the author realizes he should have had him turn off his headlights and use his flashers instead so a car wouldn't drive into him. Setting out flares or reflective triangles would have warned other drivers. Also, he never should have placed himself between the two trucks.

# THE DISHWASHER

## What This Means to You

When you move into a house or apartment that has been vacant, hydrogen gas may have built up in hot water lines, which could cause an explosion. The same is true when you return home from a vacation or open up a vacation home that has been shut.

By Ron Cook  
Safety Manager, NAS Key West

**T**hat's the call a fire department received last winter from a base-housing inspector. The inspector had been doing normal bi-monthly checks of vacant units when this happened.

The inspector's usual procedure was to run the cold water in the kitchen sink, turn on the dishwasher, go upstairs to flush the commode, and run the water in the bathroom. About three minutes after she started the dishwasher, it exploded. The blast propelled the dishwasher (which was installed under the kitchen counter) across the kitchen. The cabinets, plumbing and walls were damaged.

The concussion splintered the face of the rear door to the housing unit and blew it open, destroying the lock. Pieces of the dishwasher and cabinets were scattered over 20 feet. The access panel to the attic on the second floor was dislodged, and the front door was blown open and damaged.

At first, investigators thought water in the "s" trap had evaporated, allowing sewer gas to seep into the dishwasher and explode. The next day, Navy Occupational Safety and Health (NAVOSH) technicians tested all kitchen-sink drains in vacant units for signs of sewer gas. The results were negative.

During the course of the investigation, a maintenance worker in the housing department pointed out a paragraph in the dishwasher-owner's manual to the NAVOSH specialist. It read, "...under certain conditions, hydrogen gas may be produced in a hot-



water system that has not been used for two weeks or more. If the hot-water system has not been used for such a period, before using the dishwasher, turn on all hot-water faucets and let the water flow.”

The safety specialist returned to three of the vacant housing units and ran the hot water to test for emission of hydrogen gas. The meter readings went off scale in these units. Then he ran hot water in three occupied units and got zero readings. When he ran hot water in an upstairs bathroom in the unit where the dishwasher exploded, he got an extremely high reading.

After NAVOSH personnel made several calls to the Frigidaire Company about the incident, a person from their legal department returned his call and told him that Frigidaire was sending two engineers to investigate the exploding dishwasher.

The engineers and NAVOSH personnel tested hot water in two vacant units. They placed clear garbage bags over the faucets to sample for gas contents. The first test resulted in the bag filling with about one to two quarts of water and a cubic foot of

# EXPLODED!



gas. They suspected the bulk of the gas was a combination of hydrogen and oxygen, which was generated by electrolysis in the hot-water heating systems.

One of the engineers explained that there is no way to stop hydrogen gas from forming in hot-water heaters because of the metals used in constructing the tanks. Hydrogen gas isn't soluble in water, so it remains in the water-heater plumbing system as a gas under pressure. In most homes, the gas will migrate to the upper levels of the house, where it harmlessly is expelled from water faucets there. However, occasionally, it can end up trapped in the plumbing lines. In that case, when a lower level faucet (or dishwasher) is turned on, the gas is pushed through the outlet rather than finding its way to the upper level.

Hydrogen gas has one of the broadest flammable ranges of any gas. Just about any mixture will be enough to result in an explosion. The engineer theorized that the gas was forced through the dishwasher, and the timer or starter relay had enough

heat to ignite the gas. However, the dishwasher was destroyed, which made it impossible to determine the exact source of ignition.

The engineer said this was the first time he had heard of a dishwasher exploding, but he had heard stories of small fires at faucets because people had cigarettes in their hands when they opened a hot-water faucet that had not been opened for some time. Later, in a telephone conversation, he told the NAVOSH person that he had talked to a few old-timers in the water-heating industry, and one of them had reviewed a mishap about a washing machine blowing up in the '60s. ❏

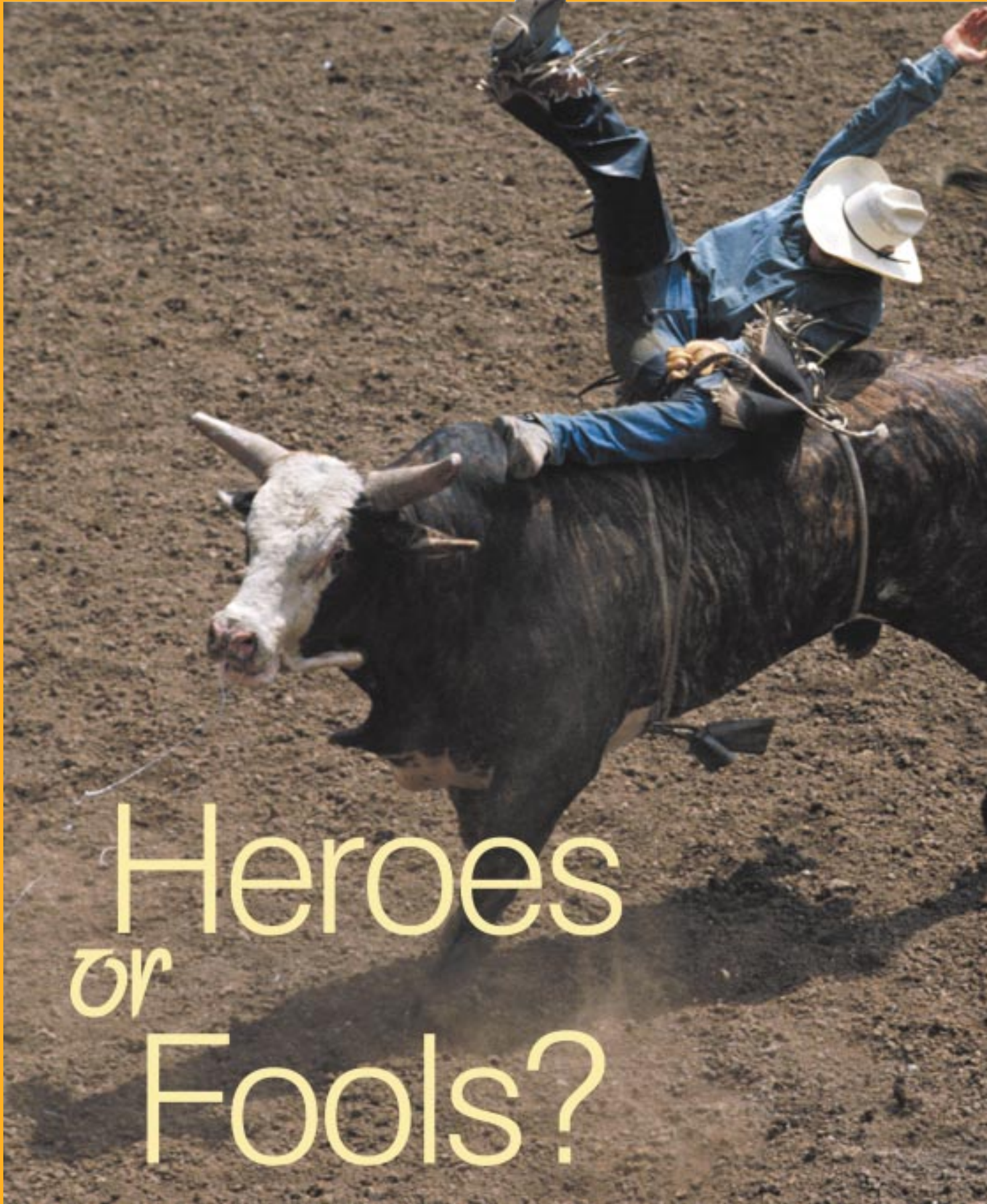
## ORM Lesson

Appliance manufacturers can do nothing to prevent this type of thing from happening again, but you, as a resident or housing inspector, can do a short ORM assessment to prevent such a recurrence. You need to know that hydrogen gas can accumulate in hot-water systems that have not been operated for a period of time. You figure the risk of something going wrong when you turn on a dishwasher to either check it or operate. If you have been using it daily, there is hardly any risk.

When you go to start the dishwasher, ask yourself how long the unit has been vacant. If it's more than a couple of weeks, you need to think about getting rid of the gas before you turn on the dishwasher. If you suspect hydrogen gas may have built up in the hot-water system, flush it by turning on all hot-water faucets in the building and letting them run for several minutes. And don't smoke while you're doing it. Make it a habit of doing this every time you inspect a building.

If you live in the home and are away for a vacation, do this every time you return home.

Fools Rush in  
Where Heroes Never Go



# Heroes or Fools?

## Too many times, people take risks for no good reason.

**P**aramedics sometimes risk their own lives to save others. Firefighters enter burning buildings to rescue people. Medal of Honor winners took extreme risks to save their comrades—some of them died while doing so.

We realize there are times people have to take risks. But too many times, people take risks for no good reason, for example, a person who balances on the railing of a balcony six stories high to impress his friends. You have to know when it's worth the risk. That's what separates the heroes from the fools. Here are some examples of people who have taken risks. You decide—hero or fool?

Two Sailors decided to ride their off-road motorcycles—the kind with no headlights—in an area of a California mountain designated for off-roading. This would have been fine in the day, but this was at night. While riding around in the dark, they crashed head-on. One has a fractured eye socket but is back at work; the other suffered severe head injuries that required 18 plates and 47 titanium screws to hold his face and skull together. According to his safety officer, he will be undergoing extensive rehabilitation.

An ensign saw a line handler become entangled in a messenger line. The line handler was being drawn toward a chock. As the ensign struggled to help the line handler, the violently jerking line entangled both of the ensign's legs, dragged him to the chock and severed both limbs below the knee. The line handler also lost a leg.

Two women were planning a weekend trip from Norfolk, Va., to Newport, R.I. After a long day at work Friday, they sat up that night planning their trip. At midnight, they decided not to go to bed, but to leave right then. After being on the road about two hours, they stopped for coffee. Less than two miles down the road, the driver drifted off the road onto the left shoulder. She

overcorrected and swerved to the right shoulder before she gained control again. Her passenger, with a cup of hot coffee in each hand, threw coffee all over them and the car. They pulled off to the side of the road, regained their composure, and drove to the nearest motel for the rest of the night.

A car hurtled through the guard-rail of a bridge and plunged into 10 feet of water. A Sailor was fishing in a small boat and saw the crash. He dived off the boat, located the car and rescued the occupant.

A 60-year-old veteran parachutist plunged to her death when her chute failed to open while jumping off the top of 3,200-foot El Capitan in Yosemite National Park in October. Jan Davis was one of five jumpers who leaped off the sheer granite cliff to protest park rules banning the extreme sport. "She was the fourth jumper, the first three (jumps) were beautiful. And then she jumped. Everybody thought it was OK, and then people said, 'Open up! Open up!' Then we heard a splat, and the whole place turned quiet," said an Associated Press photographer. The protest was meant to demonstrate jumps could be made safely.

In Virginia Beach, Va., a townhouse occupied by six children and two adults caught fire and burned. They barely got out alive. In addition, four units in the same building were damaged. Fire investigators found that the occupants had removed the batteries from the smoke detectors.

TV game-show host Bob Barker is suffering from a possible blocked carotid artery. It seems "The Price Is Right" host wanted to take karate lessons from none other than Chuck Norris. Barker told *TV Guide* he took quite a few blows from Norris during the lessons. "Maybe I should blame it [my blocked artery] on Chuck Norris," Barker joked in the Oct. 30 edition, "He probably kicked me in the neck. God knows he kicked me everywhere else." ❏

# Using **ORM** To Keep My Family Intact

*In the preceding articles, we have told you about mishaps and how people could have used ORM to prevent them. This story tells how a person had the foresight to use ORM at the outset to avoid a mishap.*



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By LtCol. Jeff Thomas  
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In early April, while most of the country is thawing out from blustery winter weather, Tucson, Ariz., is normally basking in sunshine with comfortable temperatures. We had spent two days there for my daughter's tennis matches. The matches had ended late Saturday afternoon, and we headed back to our hotel to get a good night's sleep before driving home to New Mexico.

When we woke up Sunday morning, we were greeted by gray skies and—would you believe it—falling snow! Not just a light dusting, but some of the biggest flakes and worst visibility I'd ever seen.

After waking the kids so they could see the unusual (and, I hoped, short-lived) storm, I started packing our belongings, confident the weather would clear by departure time. Surely the snow wouldn't last long, and we wouldn't get much accumulation. I was wrong on both counts. By the time we were ready to leave, there was a healthy accumulation of snow on the ground and roads, and there was no let-up in sight.

We were faced with a seven-hour-plus drive, not knowing the extent of the storm, the road conditions, or the storm's direction. I remembered that Davis-Monthan AFB was in Tucson. We slipped and slid over to base ops and the weather shop to see what we could find out. The on-duty forecaster pointed out the storm was moving slowly to the east along I-10 (our return route to New Mexico) and was likely to be dumping snow all day. We had two options: We could make the trip regardless of the weather, or we could stay in Tucson another night and wait for the storm to pass.

It was still snowing heavily as we departed base ops. While we were huddled inside the minivan, our family conference centered on these options. The second option seemed to make the most sense to me, but valid arguments about having to go to work and school on Monday filtered through the discussions. Added to the argument for the first option were the questions, "How bad can it be?" and "What are the odds of not making it?" It was obvious that those family members who had never been "pressed" because of bad weather were getting a bad case of get-home-itis.

Maybe they were right. What were the odds of not making it? After all, how often do you hear reports about miles and miles of traffic being wiped out while traveling through a snowstorm? But on the other hand, you hear about folks starting out on similar trips and not making it. Knowing I had a long drive over unknown road conditions and realizing I was responsible for my family's safety, I was inclined toward staying put. After realizing that one day of missed school and work was a small sacrifice to make for greatly increasing the odds of arriving home in one piece, we agreed to stay over.

We considered the cost of another night at the hotel and of our food, but I kept asking myself, "Which is more important, saving money or saving my family?" The decision made, we slipped and slid back to the hotel.

Sure enough, Monday dawned with clear, blue skies, warmer temperatures, and no hint of the previous day's blizzard. There were no reports of massive pileups on I-10, so we climbed into the minivan and made an uneventful trip back home. As we headed east, I kept thinking that maybe the decision I'd made had been too conservative. Maybe we did waste a day for no reason.

However, after we got home, my daughter called another of the tennis players who had been at the tournament. They had chosen to drive through the storm to return home and had spent more than 14 hours on the road, and had dodged single-car wrecks and cars stalled in the snow.

I felt vindicated that I hadn't exposed my family to any unnecessary risks. Faced with the same unknowns and knowns in the future, I'd make the same decision again.

Did I actually sit down at the start of this event and consciously apply ORM principles? No. The steps and decision-making seemed like common sense to me. After all, isn't that what ORM is—a common-sense approach to minimize risk? ■

*This article was adapted from the Fall 1999 issue of Road and Rec, the Air Force Journal of Occupational, Recreational and Driving Safety.*



Photo-composite by Patricia Eaton

By AT2(AW) B. G. Kendall

**I**† was a new gas grill. Because it was on sale for \$50 off the regular price, Joe couldn't resist. He bought it.

He called his neighbor to help assemble the grill. It was an easy, half-hour job. They didn't feel they had to read the instructions because everything fit together so perfectly.

Then it was time to try it out. They turned the knob and pushed the igniter—nothing. They pushed again, still nothing. They turned up the gas, nothing again. After glancing at the picture on the box and checking the connections, they knew they had done everything right. Since the gas was flowing, the problem had to be the igniter.

Joe got impatient. Wanting to get on with the cook-out, he took a match and struck it. After a blinding flash

of light, the smell of burnt hair hung heavily in the air.

Joe looked stunned as he stood there with all his hair singed off his left arm and with his burned hair, mustache and eyebrows.

If he had read the instructions, he would have known he had to remove a protective device from the igniter before he tried to light the grill.

By now, you've read enough ORM lessons at the ends of the stories that you should be able to do your own risk assessments. Suppose you bought a grill, would you read the instructions before you put it together? If you did, wouldn't you know not to try to light the grill before removing the protective device? And if you knew that, you wouldn't have the grill blow up in your face. Reading those instructions is one way to lessen the risk. ■

# The Last Word . . .

## It's Your Choice

Consider this. You're in your barracks or in the lounge aboard ship. It's Tuesday evening, the night before your advancement exam, and your favorite television show is starting. You need to study for that exam tomorrow, but you tell yourself you'll do it later.

As soon as the show ends, one of your buddies stops by, telling you about problems with his girl and work, so, naturally, you have to talk. An hour later, he leaves. By now, you're too tired to study. "I'll study right before quarters tomorrow," you mumble to yourself as your head hits the pillow.

You know the rest of the story. The next day comes, and there's no time to study. The advancement exam is ready for you, but you're not ready for it, and your score shows it. Now, you have to live with the poor score and stay the same pay grade until the next exam rolls around.

What happened? You took a risk, and it didn't work out.

Whatever the nature of the risk, the concept is the same—you are responsible for the consequences of your actions. The more reckless or dangerous the action, the greater the probability that the result could be serious, perhaps even fatal.

We know that at times you face unavoidable risks, such as a person running into you from behind while you're stopped at a red traffic light. However, you can lessen even that risk by wearing a safety belt and having insurance just in case the other person doesn't.

Basically, risk control is a matter of using your head, whether you're studying for an exam, driving a car, hiking, swimming, or working at your job. You are constantly making choices. When you do, ask yourself if your choice will help or harm you. Do you really want to ride a motorcycle without a helmet and risk losing your head? Not passing an exam is one thing, not being around to take it again is another.

When you make these types of decisions, you are in control of what happens to you—good or bad. We've shown you in this issue how to identify hazards, consider the risks, and make decisions. The choice is up to you.

*Virginia Rae Mack*



# Risk a rim—not a limb

Drive until you find a safe  
place to pull off