

TS 43-PS-728, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all Soldiers assigned to combat and combat support units and all Soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders. The use of product or company names does not constitute endorsement of those products, services or companies by the U.S. Army. The use of non-DoD hyperlinks, along with their content, does not constitute endorsement by DoD or DA. Neither DoD nor DA exercises any editorial control over, and cannot vouch for, content on non-DoD websites.



COMBAT VEHICLES

AVLB Bridge Panel Rivet Replacements
M1117 ASV, M1200 Armored Knight Hydraulic Lines
M1-Series Tank Turret Basket Screens
M2/M3-Series Bradley Maintenance Tips
M2/M3-Series Bradley Ammo Chutes



TACTICAL VEHICLES

Tire Maintenance Tips, POCs
HMMWV Brake System Loop Clamps
Jack Stand Weight Limits
M1070A1 HET Tractor 5th Wheel Teflon Plate
M917A1 Dump Truck Rear Axle Brake Chambers



ROBOTICS/ ROUTE CLEARANCE

XM1216 SUGV Neck Assembly Alignment Marks
XM1216 SUGV OCU Power Button
SPARK II Landing Leg for Stowed Position Only



AVIATION

Foreign Object Damage (FOD) Prevention
Air Warrior ASEK Egress Knife Placement
Apache Helmet NVG Visor Tracks
Aircraft Hammer Types, Use
HH-60M Folding Troop Seat Sequence

The Fobbit

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You are invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems and questions or comments on material published in PS.

Just write to:

MSG Half-Mast
PS, the Preventive Maintenance Monthly
USAMC LOGSA (AMXLS-GP)
Bldg. 3303
Redstone Arsenal, AL 35898

Or email to:

half.mast@us.army.mil or
usarmy.redstone.logsa.mbx.psmag@mail.mil

Internet address:

<https://www.logsa.army.mil/psmag/pshome.cfm>

By order of the Secretary of the Army:

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Administrative Assistant to the Secretary of the Army

1311413

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Redstone Arsenal, AL 35898. Periodical postage is paid at the Huntsville, AL post office and at additional mailing offices.

Postmaster: Send address changes to PS, The Preventive Maintenance Monthly, USAMC LOGSA (AMXLS-GP), Bldg. 3303, Redstone Arsenal, AL 35898.

Issue 728

PS

July
2013

THE
PREVENTIVE
MAINTENANCE
MONTHLY

TB 43-PS-728

Approved for
Public Release;
Distribution is
Unlimited

YOUR BRADLEY IS A...

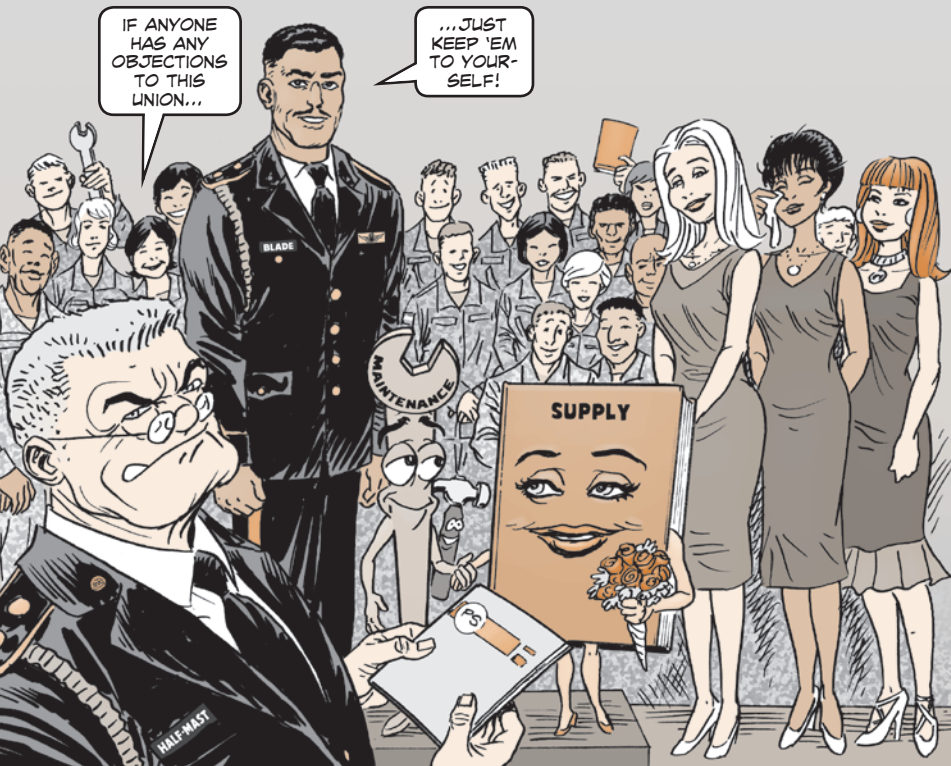
GROWL!

***...POWER-
HUNGRY
BEAST!***

SEE PAGE 6...



You are cordially invited to the marriage of Supply and Maintenance!



Supply and maintenance belong together. They work together as a team. Short of that, your unit's logistics system is broken. But it doesn't have to stay that way.

If supply and maintenance work together, you have the tools and parts you need whenever it's time to do repairs or other maintenance tasks.

If your unit needs rations, ammo, fuel, water, or anything else necessary for completing its mission, supply and maintenance must go hand-in-hand! Rations without a ready Soldier, ammo without a ready weapon, and fuel without a ready vehicle don't quite make the mission a go.










Leaders at all levels must resist the temptation to push supply and maintenance matters to the side. Without command emphasis, supply and maintenance suffer from lack of resources and motivation.

Supply alone is important, and so is maintenance. But when supply and maintenance are combined, the union can produce sweet operational results.



ISSUE 728 JULY 2013

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Internet address:
<https://www.logsa.army.mil/psmag/pshome.cfm>

By order of the Secretary of the Army:

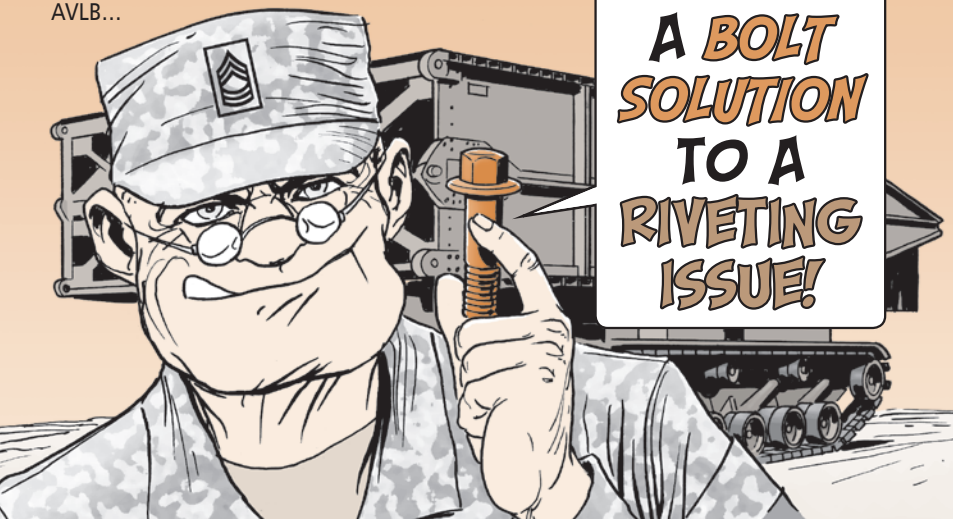
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A BOLT SOLUTION TO A RIVETING ISSUE!

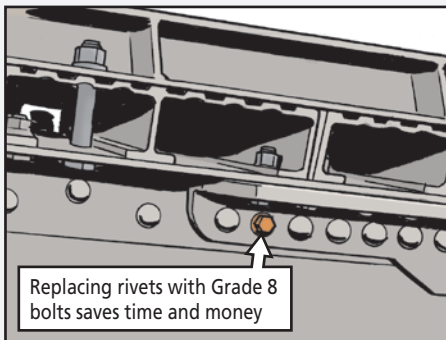
Dear Editor,

Here at Ft Leonard Wood's Engineer School, students give our seven AVLBs a lifetime of use every training cycle.

We started having issues with broken rivets on bridge panels. Because replacing rivets is a depot-level repair, we replaced the panels instead. That costs a *lot* of money.

PM Bridging gave us permission to replace the broken rivets with Grade 8 bolts as a field-level maintenance fix. That saves money and greatly reduces down time.

Here are the bridge panels you can use Grade 8 bolts on:



Replacing rivets with Grade 8 bolts saves time and money

Panel Name	NSN 5420-
MLC 60 panel assembly, center male	00-542-3116
MLC 60 panel assembly, center female	00-542-3115
MLC 60 panel ramp, male	00-542-3117
MLC 60 panel ramp, female	00-542-3118
MLC 70/85 panel assembly, male	01-420-1684
MLC 70/85 panel assembly, female	01-419-9478

Follow these rules when replacing broken rivets with Grade 8 bolts:

1. No more than 15 bolts per section.
2. No more than two bolts in any one hinge.
3. On the bottom base frame support, no more than five bolts in a row.

Here's a list of bolts, nuts, flat washers and lock washers we purchased online at: <http://www.fastenal.com>

Grade 8 flat head socket cap screws

Screw Size	Part Number
3/4 x 10 x 3.5	1124450
3/4 x 10 x 4.5	24452
3/4 x 10 x 5	24453
3/4 x 10 x 5.5	24454
3/4 x 10 x 6	24455
3/4 x 10 x 6.5	13003-00009
3/4 x 10 x 7	24456
3/4 x 10 x 7.5	13003-00010

Grade 8 hex cap screw

Screw Size	Part Number
3/4 x 10 x 4.5	0137868
3/4 x 10 x 7.5	0137869
3/4 x 10 x 8	0137870
3/4 x 10 x 6	0137871
3/4 x 10 x 6.5	0137872
3/4 x 10 x 7	0137873
3/4 x 10 x 7.5	0137874
3/4 x 10 x 8	0137875
3/4 x 10 x 10.5	15384

Other hardware

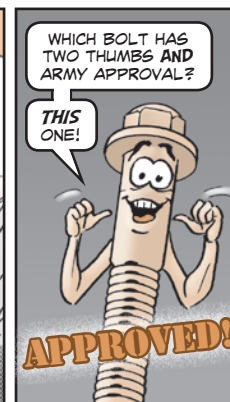
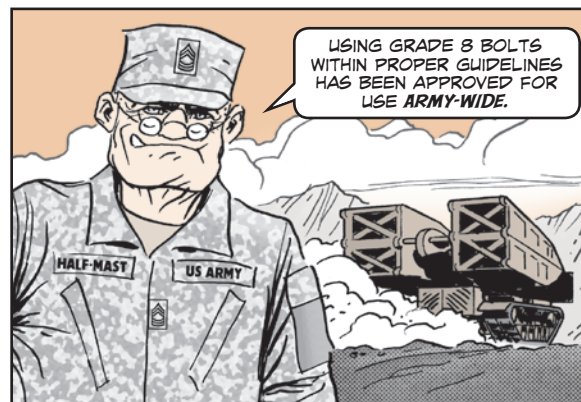
Item	Size	Part Number
Button head bolt	3/4 x 10 x 3.5	13003-00008
Nut	3/4 x 10	1136416
Lock washer	3/4	0157755
Flat washer	3/4	1133864

Refer to TM 5-5420-203-14 (Jun 91, w/Ch 2, Jun 97) for removing rivets. Torque the bolts 150-180 lb-ft.

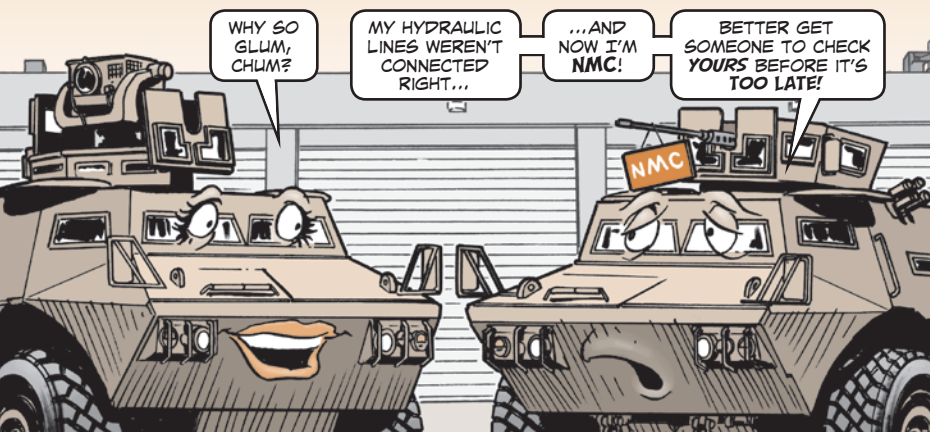
Torque bolts to 150-180 lb-ft

James S. Carmack
Ft Leonard Wood, MO

Editor's note: Thanks for the great information. This should be a big help to Soldiers in the field who have problems with broken AVLB rivets.



QUICK CHECK FOR THE QUICK-DISCONNECT



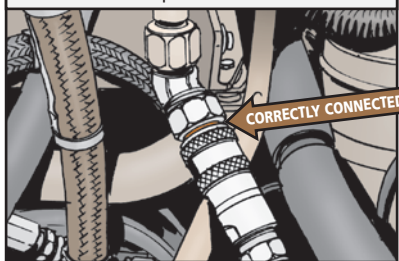
There's been a rash of blown steering gear seals on the M1117 armored security vehicle (ASV) and M1200 Armored Knight fire support vehicle (FSV) lately.

Why?

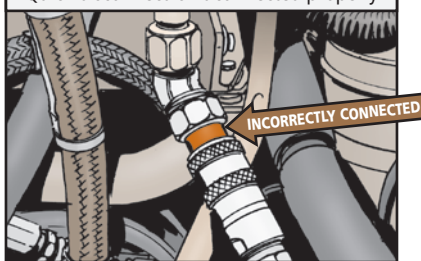
Some mechanics haven't been careful enough when connecting the hydraulic system's supply and return lines. If the quick-disconnect isn't fully seated, the hydraulic system will over-pressurize, causing a blown seal on the steering gearbox. A blown seal makes the vehicle NMC!

When connecting the supply and return line quick-disconnects, make sure there's no more than a $\frac{1}{8}$ -in gap between the shoulder of the male end and the top of the female end. A wider gap means the hose line isn't properly connected.

Check gap between shoulder of male end and top of female end

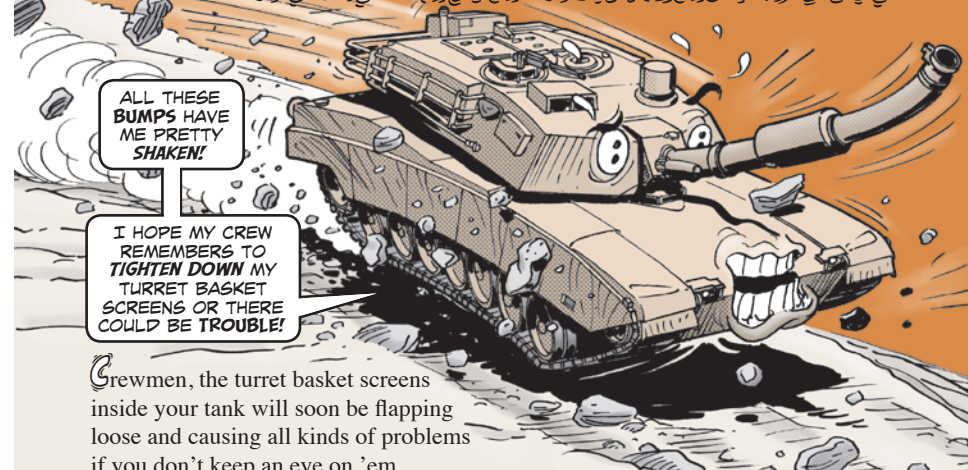


Gap wider than $\frac{1}{8}$ -inch? Quick-disconnect isn't connected properly



This problem is happening more and more often after annual services. So before you finish with services, eyeball the hydraulic line connection for the correct gap.

STOP THE SCREEN PLAY



Crewmen, the turret basket screens inside your tank will soon be flapping loose and causing all kinds of problems if you don't keep an eye on 'em.

Each screen is held in place with a screw, NSN 5305-01-388-5093, and ball stud, NSN 5307-01-100-8166.

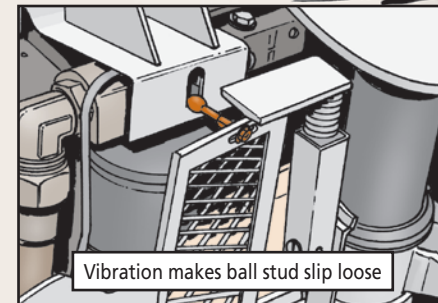
Vibration loosens the screw until it falls out or works the ball stud loose from the friction receptacle on the back of the turret wall bracket.

Either way, the top of the screen sags outward and the next time the turret is traversed, the screen snags and rips cables and connectors.

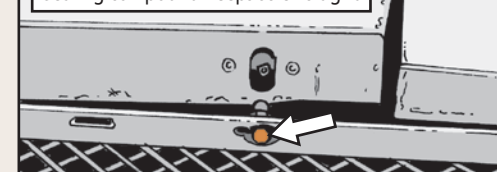
You can stop loose screws by applying a little sealant compound, NSN 8030-00-081-2339, to the threads before you tighten them. Also, put a flat washer, NSN 5310-01-389-9681, between the screw and the screen.

If the ball stud comes loose in its receptacle, use pliers to pinch the two tabs on the friction receptacle back together. That provides enough tension to hold the ball stud in place.

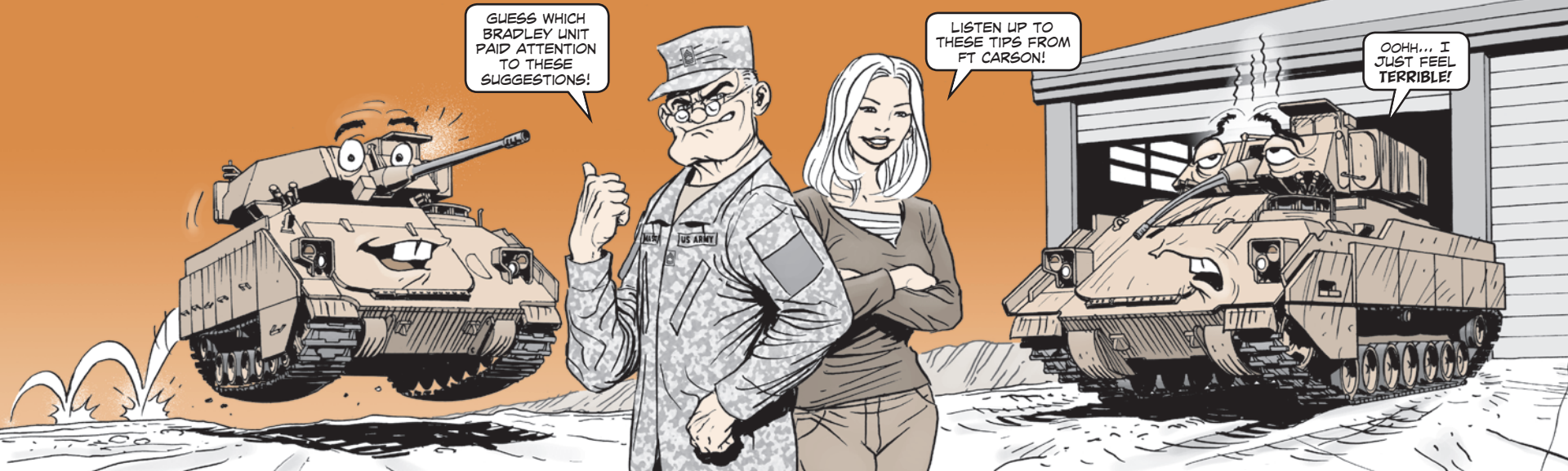
If one of the tabs breaks off, replace the friction receptacle with NSN 5340-01-100-8138.



Sealing compound keeps screws tight



PM Keeps Bradley Bouncing Along!

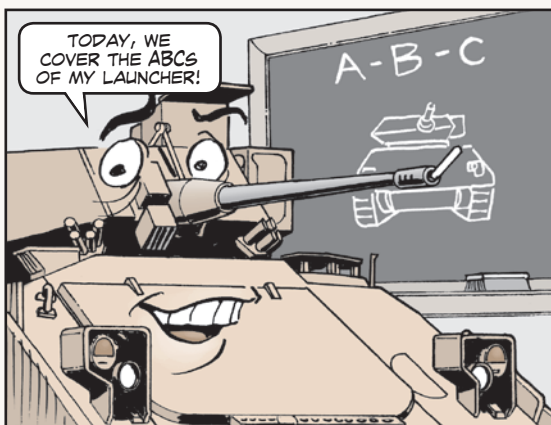


Dear Editor,

We've found while supporting the Bradleys here at Ft Carson that remembering a few simple rules can keep Bradleys bouncing down the trail instead of deadlined in the motor pool:

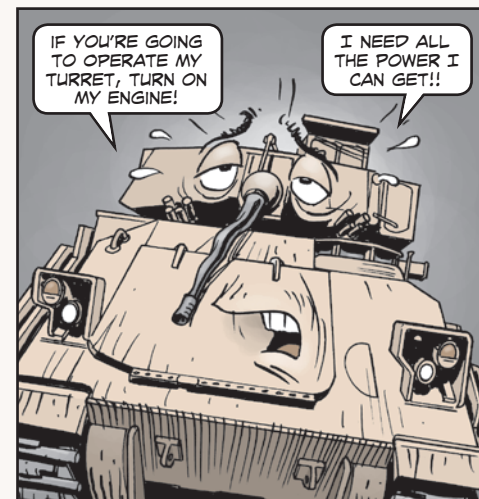
Train, Train, Train.

When Bradley units aren't deployed, they go for long periods without using the Bradley's armament. Soon Soldiers become hazy on how to operate and maintain components like the M242 gun or the TOW launcher. A bit of monthly refresher training during Sergeants' Time can keep Soldiers' skills sharp.



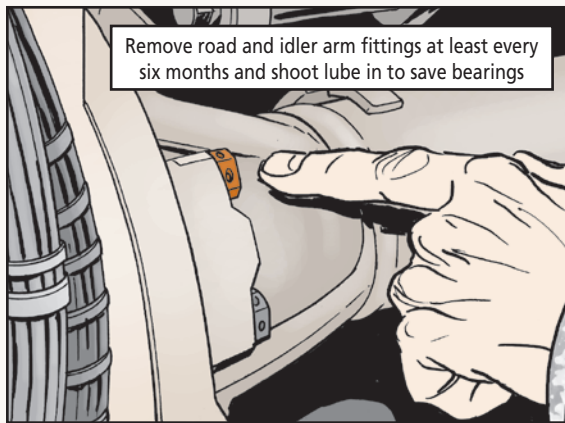
Turn on the Engine When You Power Up the Turret.

The Bradley is a power-hungry beast. If you run the turret without the engine on, you soon have either dead batteries or low voltage. Low voltage causes turret malfunctions and failures in the PCM1, PCM2 and turret power box. If the firmware in those components is affected, it has to be replaced at a cost of thousands of dollars. Low voltage can also make you think you have major problems with the LRUs. You waste time doing needless troubleshooting. All of that can be avoided if you just turn on the engine when you turn on the turret.



Lube Road and Idler Arms at Least Every Six Months.

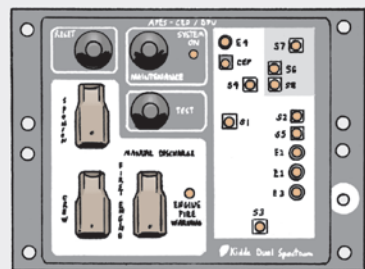
To do the job properly, you must remove all the plugs, install grease zerts and relief valves, lube the arms and then reinstall the plugs. Too often, units don't go to all that trouble. As a result, the bearings for the arms wear out fast. It's a big, expensive job to replace them. Do the job when you're supposed to do it and those bearings will last.



Pay Attention to the Automatic Fire Extinguisher System.

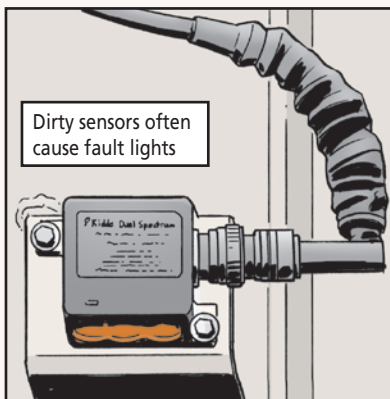
Crews often fail to check the control electronics panel during BEFORE PMCS for fire sensor faults. If a fire were to start, the system could fail, leaving the crew and the Bradley in big trouble. If a fault light comes on, it's usually either a dirty sensor or a bad fire extinguisher bottle. Find the problem and get it fixed.

Check for fire extinguisher
fault lights during PMCS



Dave Whithee
Mike Wood
Bradley Field Support
Ft Carson, CO

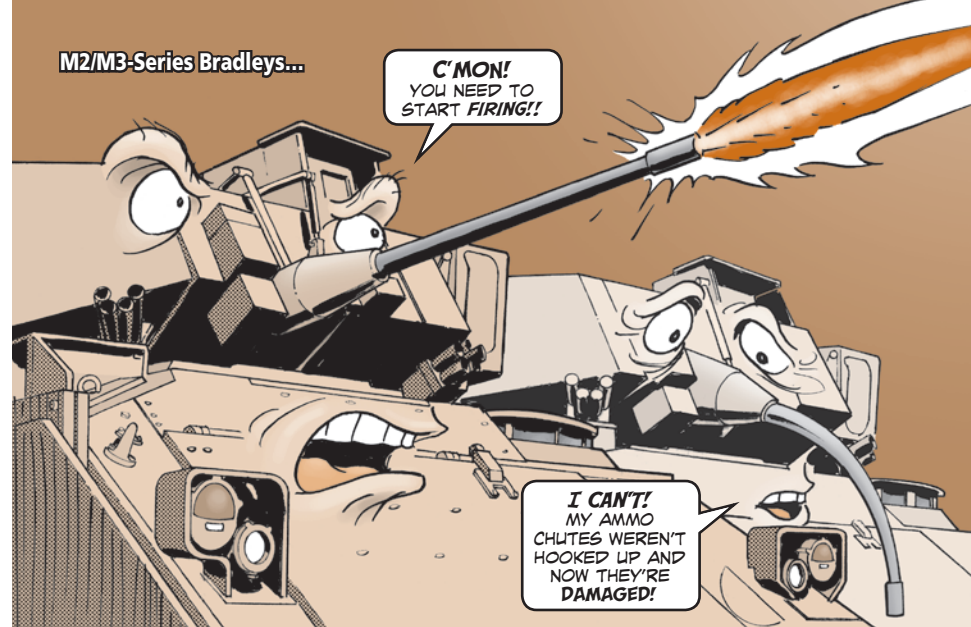
Dirty sensors often
cause fault lights



*Editor's note: These are excellent
ways to keep Bradleys bouncing
along. Thanks for the suggestions!*

M2/M3-Series Bradleys...

C'MON!
YOU NEED TO
START FIRING!!



I CAN'T!
MY AMMO
CHUTES WEREN'T
HOOKED UP AND
NOW THEY'RE
DAMAGED!

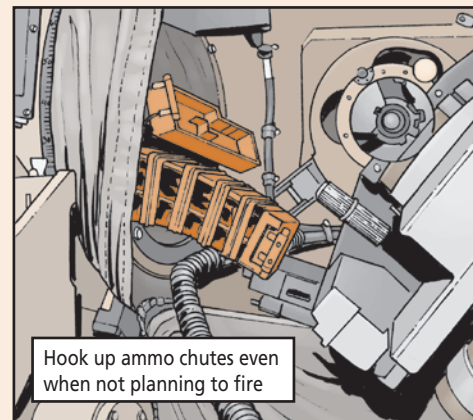
BROKEN CHUTE MEANS NO SHOOTING!

Crewmen, just because you don't plan to fire your Bradley's M242 automatic gun doesn't mean it's OK to leave the ammo chutes disconnected.

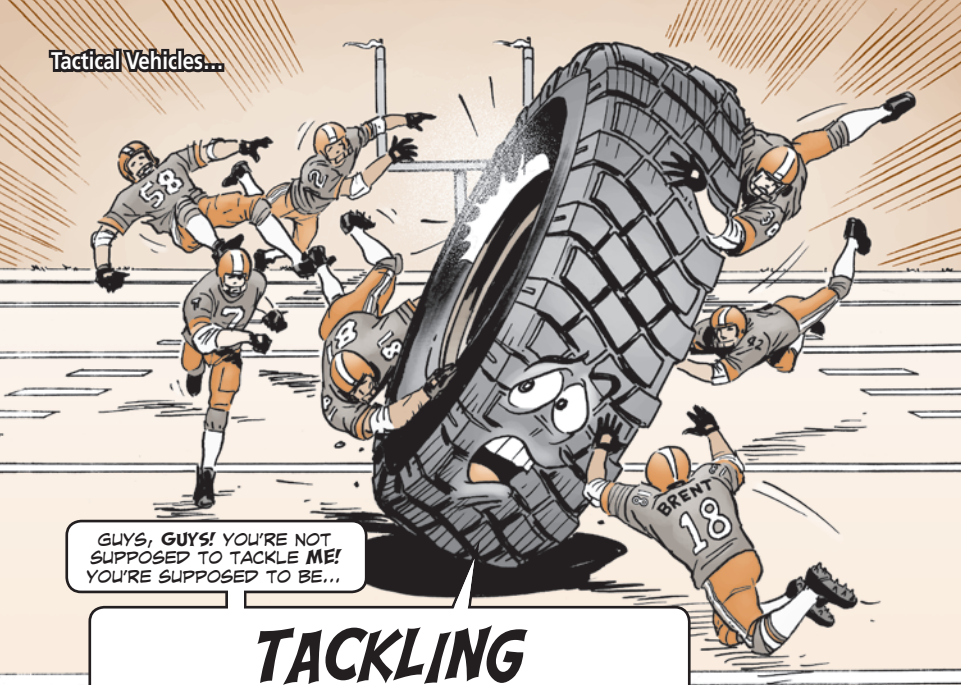
If you leave those chutes dangling, they'll catch on cables when the gun is raised or lowered. That damages the chute locking levers, rips out cables and wiring and locks up the turret. You won't be shooting anything for a long time.

There are four ammo chutes, so make sure you connect all of them.

If an ammo chute is damaged and can't be hooked up, fix it with latch assembly repair kit, NSN 2590-01-268-7915.



Hook up ammo chutes even
when not planning to fire



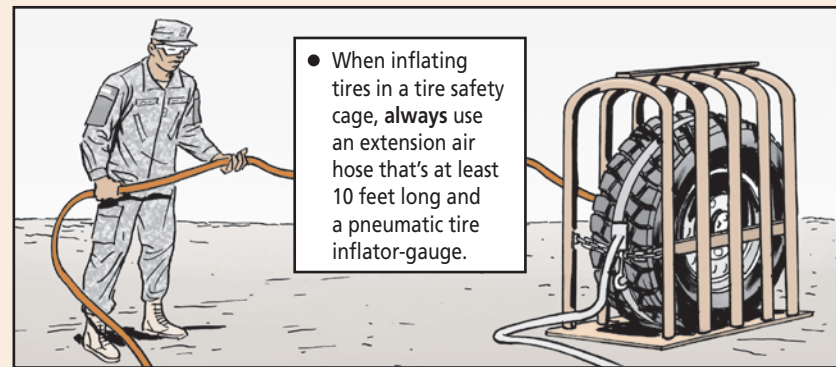
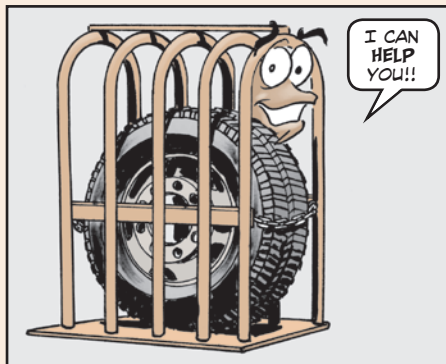
GUYS, GUYS! YOU'RE NOT SUPPOSED TO TACKLE ME! YOU'RE SUPPOSED TO BE...

TACKLING TIRE MAINTENANCE!

Training qualifies you to perform tire maintenance, but the training has to be done the right way. That's because tire maintenance is a high-risk task. Everyone doing it must understand and correctly perform the procedures using the proper tools and equipment. Otherwise, someone could be injured or killed.

For units that choose to mount and de-mount their vehicle's tires, stay safe with these tire maintenance safety tips:

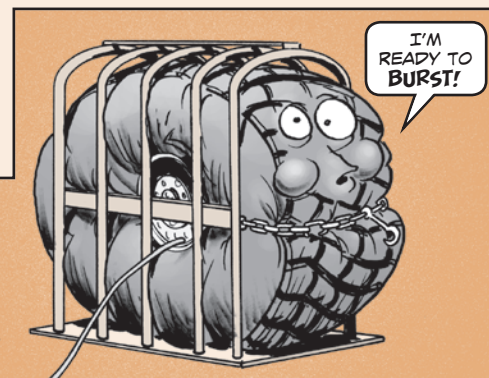
- Follow all the steps outlined in the vehicle's TMs, including cautions and warnings.
- **Always** use a tire safety cage when inflating a tire.
- Never lean, stand or reach over the tire during inflation. And stay out of the possible paths of exploding side ring flanges and lockrings.



- When inflating tires in a tire safety cage, always use an extension air hose that's at least 10 feet long and a pneumatic tire inflator-gauge.

- Make sure you apply composite risk management to all tasks, including tire maintenance. Take into account mission importance, equipment characteristics and environmental conditions.

- Never put hands or fingers near the rim flanges or bead seats. Keep all body parts out of the safety cage during inflation. Don't overinflate tires, either. Just stick to the psi requirements listed in the TM.



Also, order complete wheel assemblies through your SSA and turn in unserviceable wheel assemblies.

WANT MORE HELP WITH TIRE MAINTENANCE?

GO TO TM 9-2610-200-14, CARE, MAINTENANCE, REPAIR, AND INSPECTION OF PNEUMATIC TIRES AND INNER TUBES:
<https://www.logsa.army.mil/etms/welcom.cfm>

OR YOU CAN EYEBALL THESE OTHER RESOURCES ONLINE...

USACR/Safety Center's Driver's Training Toolbox:
<https://safety.army.mil/drivertrainingtoolbox>

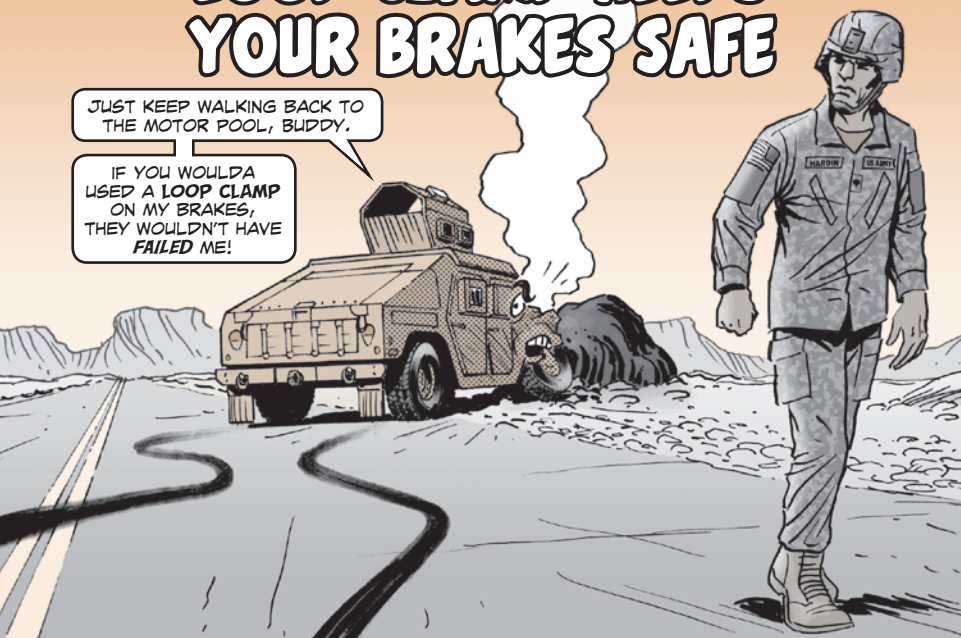
OSHA Servicing Multi-Piece & Single-Piece Rim Booklet:
<http://www.osha.gov/Publications/wheel/wheel-chart-booklet.pdf>

OSHA Dismounting and Mounting Tubeless Tires:
<http://www.osha.gov/Publications/wheel/3401tubeless-truck-bus-tires-wall-chart.pdf>

LOOP CLAMP KEEPS YOUR BRAKES SAFE

JUST KEEP WALKING BACK TO THE MOTOR POOL, BUDDY.

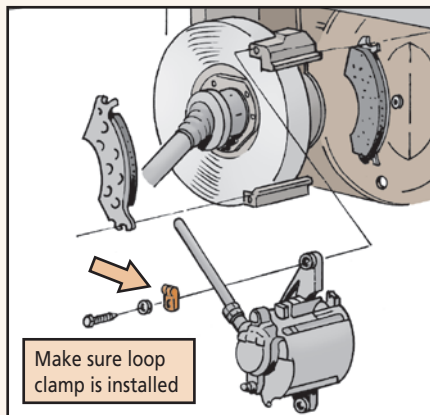
IF YOU WOULD'VE USED A LOOP CLAMP ON MY BRAKES, THEY WOULDN'T HAVE FAILED ME!



If you've just finished brake maintenance, the last thing you want happening to that HMMWV is brake failure! But it can happen to HMMWVs with serial numbers 299,999 and below if you don't give them the special attention they need.

Whenever you pull maintenance on any part of the brake system, make sure the loop clamp, NSN 5340-01-189-7640, that holds the brake line to the caliper on the right side of the vehicle is installed. If you don't, you could be super-sorry! Your HMMWV's brakes may not fail right away, but the jostling and rubbing could eventually lead to a long walk home.

You'll find the loop clamp in Chapter 7, *Brake System (Field Maintenance)*, of TM 9-2320-387-24-1 (Dec 97, w/Ch 6, Jun 09).



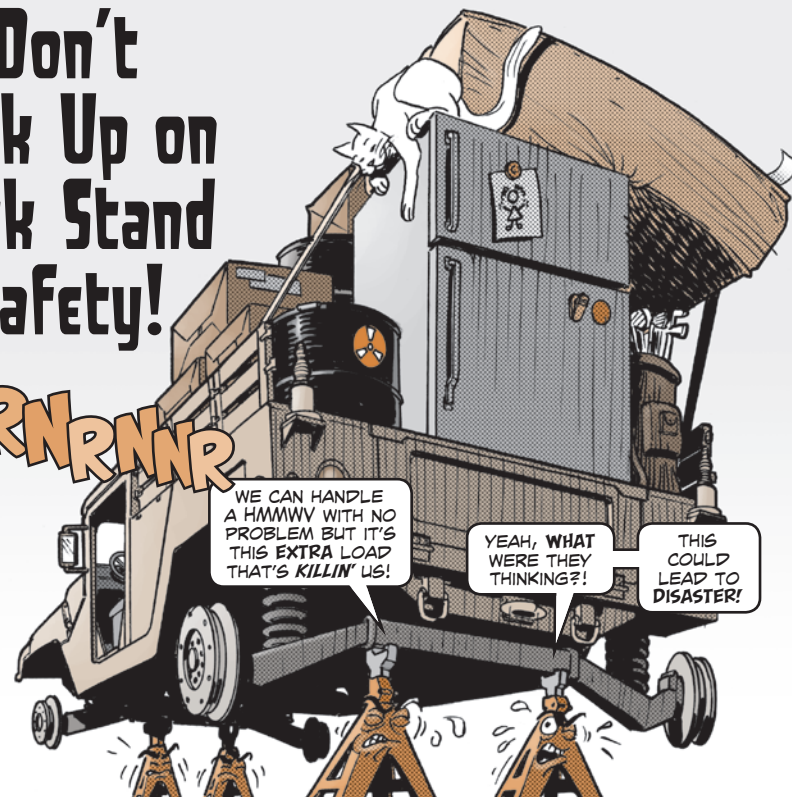
Don't Jack Up on Jack Stand Safety!

GRNRNR

WE CAN HANDLE A HMMWV WITH NO PROBLEM BUT IT'S THIS EXTRA LOAD THAT'S KILLIN' US!

YEAH, WHAT WERE THEY THINKING?!

THIS COULD LEAD TO DISASTER!



Dear Editor,

In my work as a safety officer at Ft Carson, I see units putting cargo, fuel and water-carrying vehicles and trailers that have heavy secondary loads on jack stands. These loads could weigh hundreds of pounds.

A jack stand that can safely support an empty truck or trailer may not be able to carry all the extra weight of the load. And most of the time Soldiers have no idea how much that extra load weighs. Plus the extra load changes the center of balance, which means the vehicle could fall off the jack stands. If a jack stand collapses, someone could be killed.

So I strongly recommend that units unload trucks and trailers *before* they put them up on jack stands. There is no point in taking chances.

Richard Fenner
43rd Sustainment Bde
Ft Carson, CO

Editor's note: Excellent point, Mr. Fenner. Jack stands are the last thing you want to take chances with. Always unload your truck or trailer before putting it on jack stands.

No More Lube for 5th Wheel Plates

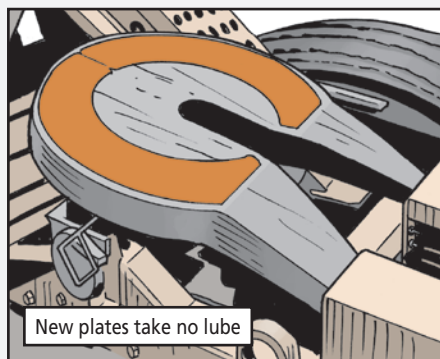


The new M1070A1 HETs have an upgrade that you might not know about, drivers. The 5th wheel now comes equipped with new plates that take **no lubrication**.

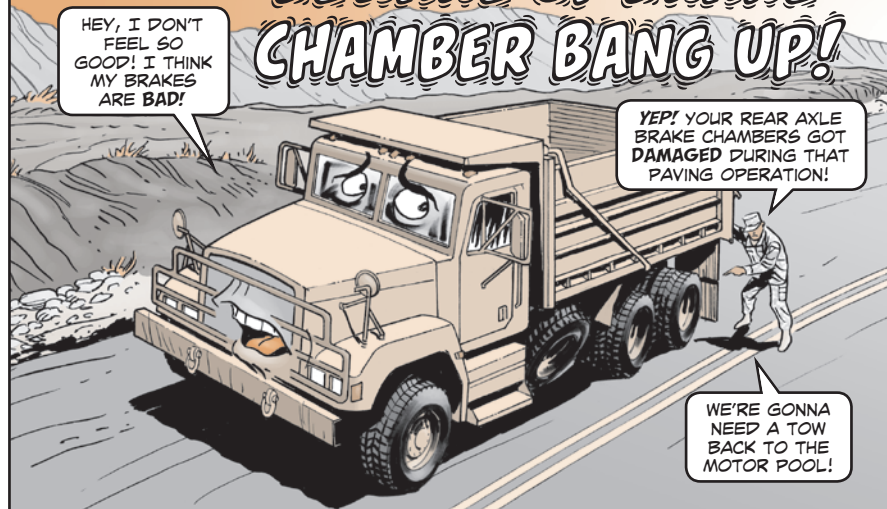
You heard it right! **No lube!** In fact, if you lube the non-lubrication plates, they'll collect sand, dirt and grit that will severely damage the plates.

You should continue putting a coat of GAA on the top surface of the 5th wheel's ramps, just like before. Before hookup, be sure to remove any grease on the M1000 semitrailer that would come into contact with the 5th wheel's non-lubrication plates.

Replacement plates are available as part of a kit, NSN 5340-01-603-7792. Both the left and right plate and 18 mounting screws come with the kit.



BEWARE OF BRAKE CHAMBER BANG UP!

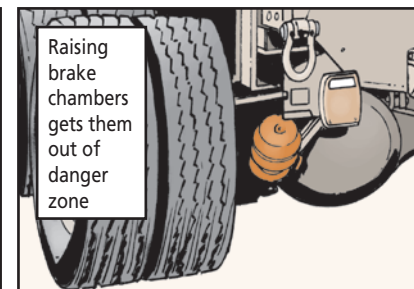
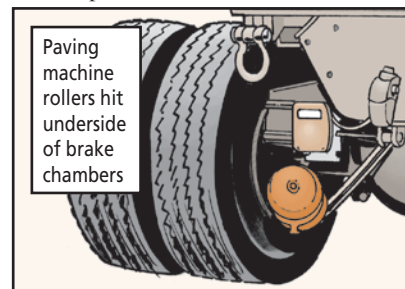


Operators, if you're going to use your M917A1 dump truck in a paving operation with the 780T bituminous paving machine, your mechanic first needs to reposition the vehicle's left and right rear-axle brake chambers.

The chambers are located so low on the truck axle that the rollers from the paving machine hit them during paving. The resulting damage can leave you brakeless.

This problem is nothing new. Just look around the motor pool and you'll probably see plenty of banged-up brake chambers.

To move the chambers, follow the info on Pages 3-4 through 3-10 of TB 43-0001-62-5 (Apr 00).

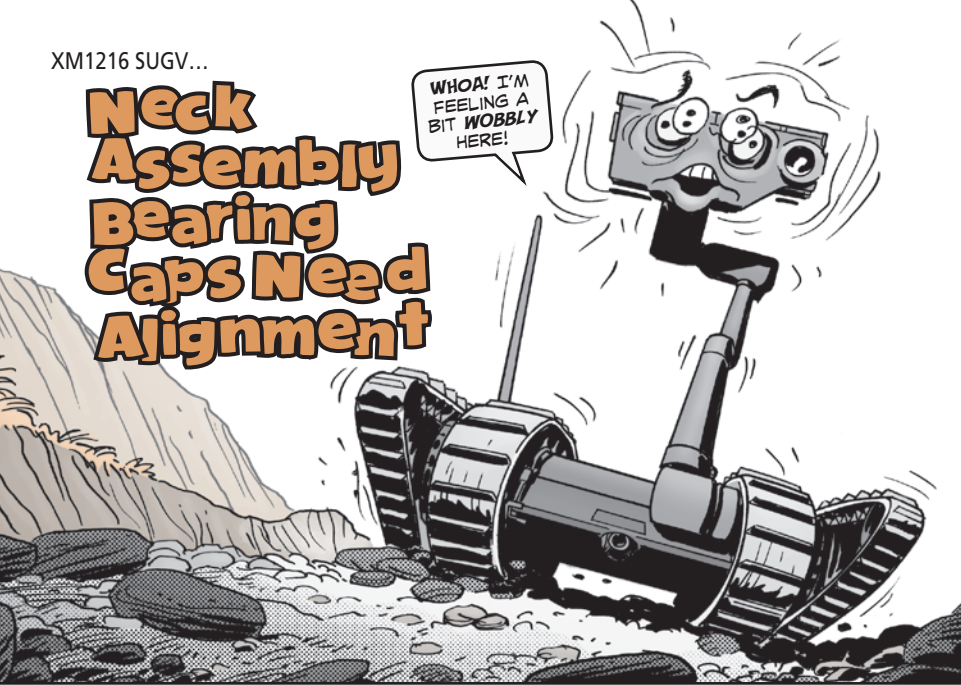


Need a copy? Ask your TACOM logistics assistance representative for help. Or you can ask ol' Half-Mast to send you a copy of the TB pages by e-mail:

half.mast@us.army.mil

XM1216 SUGV...

Neck Assembly Bearing Caps Need Alignment



Over time, vibration can cause the XM1216 small unmanned ground vehicle's (SUGV's) small actuator bearing caps to loosen.

When that happens, the neck assembly can loosen, too. That means the robot's head and neck can wobble. Talk about a hard-to-watch picture!

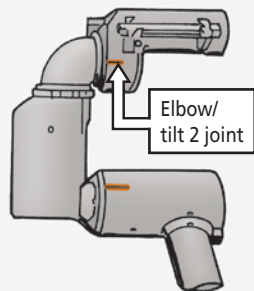
As part of your before and after PMCS, check the alignment marks on the vehicle's neck assembly bearing caps. If they're off by $\frac{1}{16}$ inch or more, send the SUGV to sustainment maintenance for repair.

HERE'S WHERE TO LOOK FOR THE ALIGNMENT MARKS...

Pan module/
elbow joint

Tilt 1/
pan module joint

Check alignment marks in these areas



XM1216 SUGV...

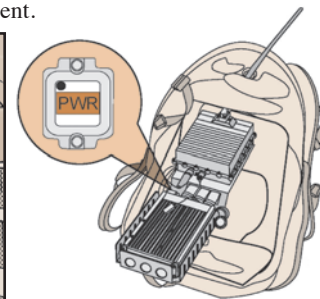
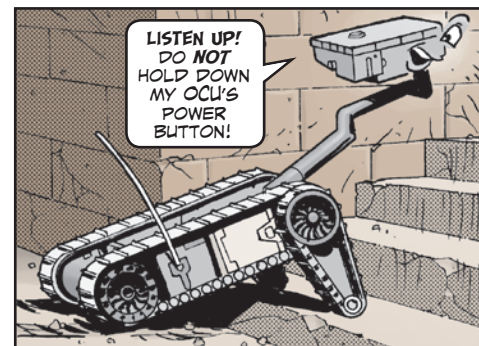
Avoid Heavy Finger on OCU Power Button

OK, PAL!
DO YOUR
STUFF!



Operators, the best way to shut down the XM1216 small unmanned ground vehicle (SUGV) system is to use the hand controller and display screen menu commands. But there may be times when you have to manually power down the system using the operator control unit (OCU) computer.

When those times come, here's a simple reminder: After manually powering down the robot, press, but do not hold down, the OCU power button. The green light on the power button will remain lit while the computer runs through its normal shutdown sequence. That takes about 20 seconds, so be patient.



Press, but do not hold down, the OCU PWR button

Holding down the power button forces a hard shutdown that keeps the computer from completing its proper shutdown sequence. That can damage the computer or corrupt its software, so don't do it unless absolutely necessary!

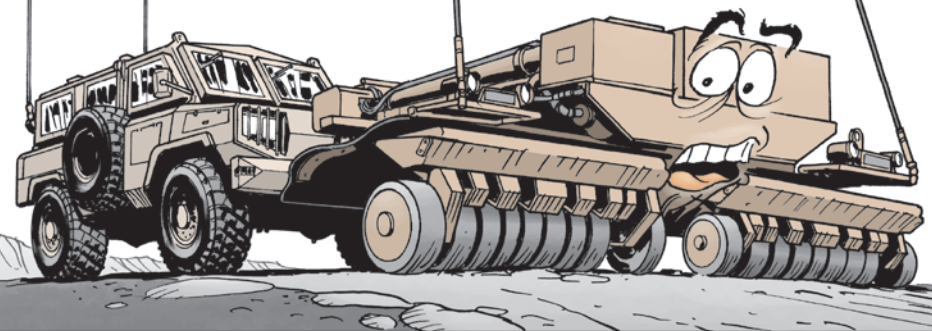
By the way, if the hard shutdown method doesn't work, you can always disconnect the OCU battery located in the OCU backpack.

KNOW WHEN LEG GOES...

... UP OR DOWN

IT'S NEVER A
GOOD IDEA TO USE
MY LANDING LEG...

...EXCEPT WHEN
I'M STOWED AND
NOT BEING USED!

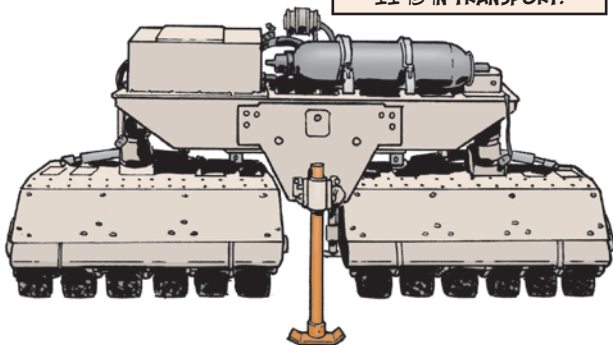


OPERATORS,
THE LANDING LEG
ON THE SELF
PROTECTION
ADAPTIVE ROLLER
KIT II (SPARK II)
HAS ONLY ONE USE...

THAT MEANS YOU **SHOULD NOT** USE THE LANDING LEG TO
ATTACH THE SPARK II TO THE VEHICLE SYSTEM'S PLATFORM.

Use landing leg **only** when SPARK II
is stowed and not in use

THE LEG SHOULD ALSO BE
STOWED WHEN THE SPARK
II IS IN TRANSPORT.



AND **NEVER** HAVE
IT LOWERED
DURING VEHICLE
OPERATION.

THAT'LL EITHER DAMAGE
OR COMPLETELY BREAK
THE LEG ASSEMBLY;
PN 120000940.

IT'LL SET
YOUR UNIT
BACK ABOUT
\$350!

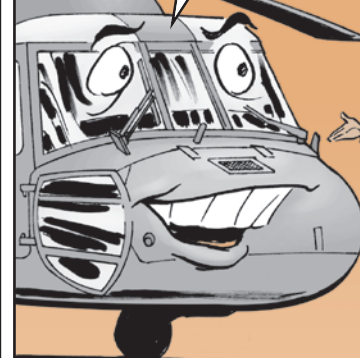
IT'S DESIGNED
TO STABILIZE THE
SPARK II WHEN
IT'S IN THE **STOWED**
POSITION AND **NOT**
BEING USED.

STOP FOREIGN OBJECT DAMAGE!



I KNOW YOU WANT TO DO A
GOOD JOB, BUT YOU'RE GONNA
HAVE TO DE-FOD YOURSELF
BEFORE YOU WORK ON ME!

YEAH, I
BETTER GO
GET THE
TOOL BOX!

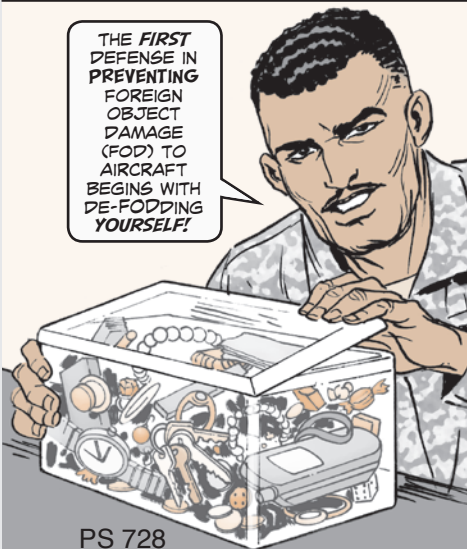


THE **FIRST**
DEFENSE IN
PREVENTING
FOREIGN
OBJECT
DAMAGE
(FOD) TO
AIRCRAFT
BEGINS WITH
**DE-FODDING
YOURSELF!**

Before you perform aircraft maintenance,
check for items on your body and every
pocket or opening in your uniform or flight
suit for loose items.

Remove watches, rings, dog tags and
jewelry from your body. Remove combat
and special skill badges or other items from
your uniform. Remove loose coins, key
chains, cell phones, wallets or other items
from your pockets, including tools! All
these items can fall out and end up inside
moving aircraft parts like the drive shaft
area, the rotor section and flight controls
when you're working on the aircraft.

If you need someplace to store your
accessories and personal items, use a re-
sealable container.



Donning the ASEK Knife

I HOPE THIS IS THE FINAL ANSWER ON KNIFE PLACEMENT!



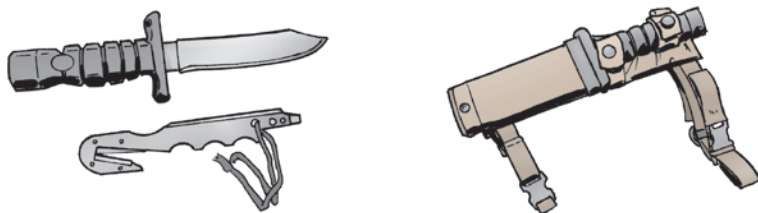
Crews, how to place the aviation survival and egress knife (ASEK), NSN 1095-01-530-0832, on the primary survival gear carrier (PSGC) has been the subject of much debate!

Because there has been no standard on placement of the knife and whether it could be mounted on the GEN II or GEN III vests, most followed their best guess.

There was talk that the knife could only be worn on the leg near the calf. Still others said the knife couldn't be worn on vests because a hard landing or aircraft mishap could cause the knife to stab its wearer.

Let's put the knife issue to rest and bury the hatchet! The final answer is found in the newest TM, dated 12 Mar 2012. Check out WP 0077 00 of TM 1-1680-377-13&P-1. The ASEK **cannot** be worn on the PSGC. That's the bottom line. The TM says the knife must be worn on the inside or outside of either calf.

Authorized placement of knife...inside or outside of either calf!



Because the knife placement has been the subject of much talk, any concerns with the TM procedure must be addressed by submitting a DA Form 2028 change request to the manual.

The TM is available on the LOGSA website at:

<https://www.logsa.army.mil/etms>

DO YOU NEED APACHE HELMET NVG VISOR TRACKS?

SERGEANT BLADE, I'M LOOKING FOR VISOR TRACKS.

DO YOU KNOW WHERE I CAN FIND 'EM?

SOLDIER, YOU'RE IN LUCK! WE'VE GOT YOUR VISOR TRACKS RIGHT HERE!



Dear SFC Blade,

I am looking for the visor track NSNs for the integrated helmet and display sight system (IHADSS) NVG visor. We have enough visors, but all the tracks are worn out. Do I have to order the whole visor just to get the tracks or can I order them separately?

CW2 W.J.

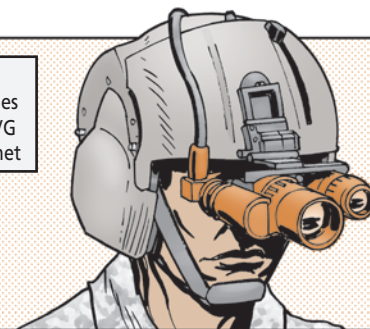
Dear CW2 W.J.,

The tracks do come as separate items. But you'll need two upper tracks and two lower tracks for each visor assembly. NSN 1270-01-584-2374 brings you one upper track and NSN 5340-01-584-4913 brings you one lower track.

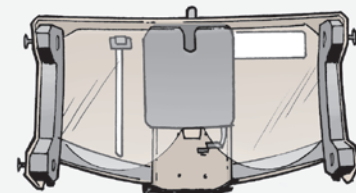
But there's a catch. The supply system is at zero stock on the tracks. A purchase contract is in the works, but it could take a few months to get some relief. So if you need tracks right now, you'll have to order the whole visor assembly for now.

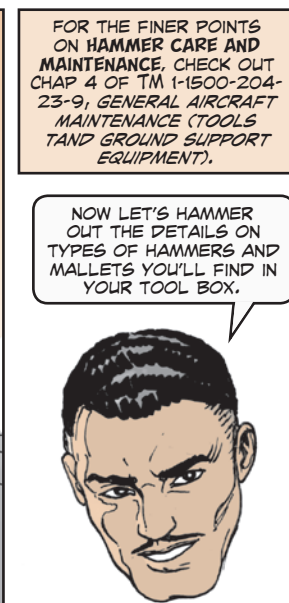
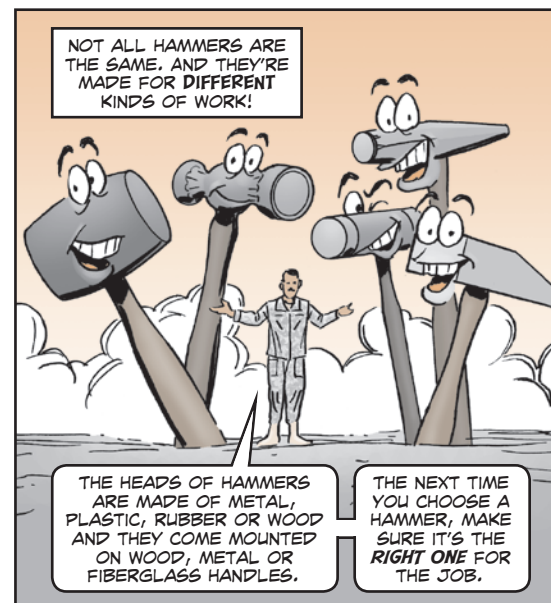
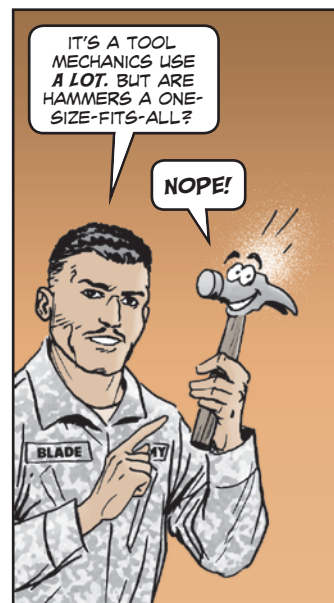
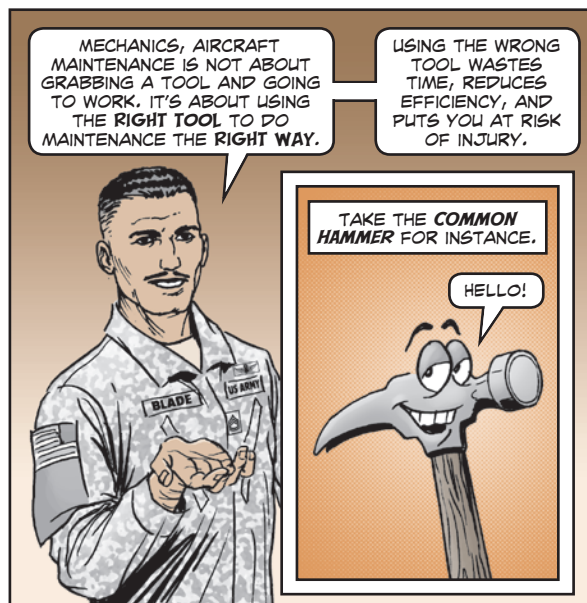
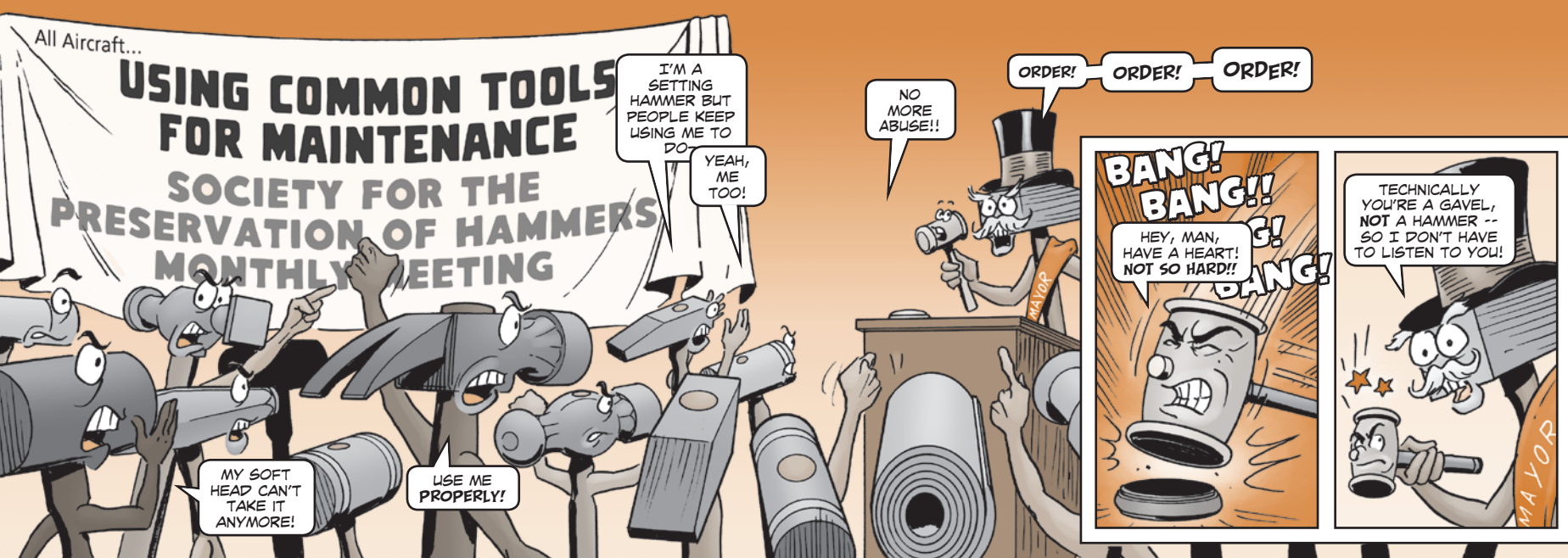
"Rotor" Blade

IHADSS visor goes with NVG on helmet



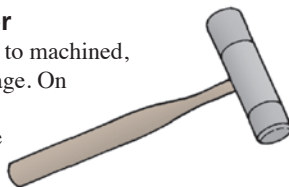
Order whole assembly until supply system is replenished





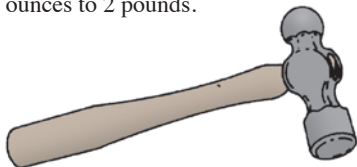
Soft-Faced Hammer

This hammer can be used for power hits and blows to machined, highly polished or soft surfaces without causing damage. On certain models, the hammer faces can be replaced if damaged or if you need a different hardness. They are color-coded for toughness or hardness.



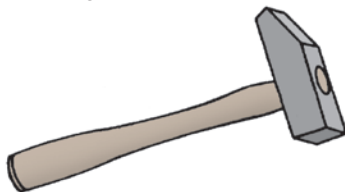
Ball Peen Hammer

This hammer is more commonly used by mechanics. The head is steel and comes in various weights ranging from 4 ounces to 2 pounds.



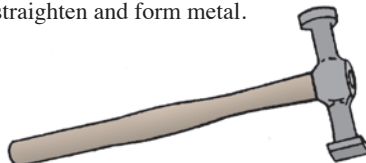
Setting Hammer

This hammer allows you to level sheet metal, bend edges and set double seams. Notice that it has a square, flat face on one end of the head and a sloping, beveled edge on the other end.



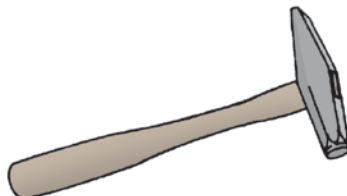
Body Hammer

Always use a body hammer to straighten and form metal.



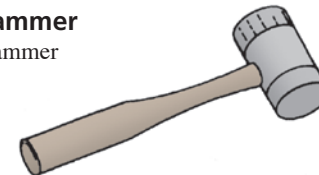
Riveting Hammer

This hammer isn't hard to figure out. Its name identifies its purpose. When driving rivets and doing some light chiseling, this is the best hammer. It has a head that is cross peened on one end with either a square or cambered face on the other.



Lead or Copper Hammer

If you want to align steel surfaces, this is the hammer to use. Remember that you can file the hammer's working surface to restore even faces.



Mallets

When a metal hammer is too much for a job, your maintenance task may require a mallet because the surface of the equipment may need a softer touch. Here are the types of mallets available.

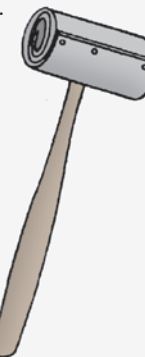
Rubber Mallet

Rubber mallets have a cylindrical head. Use this tool only when you are forming sheet metal or driving dowels and small stakes.



Rawhide Mallet

This mallet forms and shapes metal. You'll notice that it has a cylindrical head. It is made of tightly wrapped and staked sheets of leather.



Tinner's Mallet

The tinner's mallet can be used only to form and shape sheet metal. It has a cylindrical wooden head that's 1 1/4 to 3 1/4 inches in diameter. It's about 3 to 6 inches long.



KEEP THESE TIPS IN MIND WHEN YOU ARE USING HAMMERS AND MALLETS.

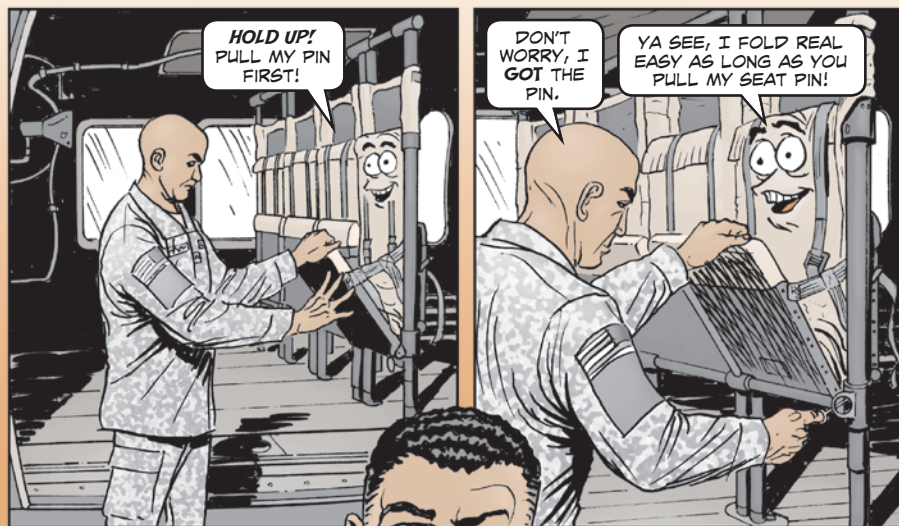
- Never use a hammer for bumping parts.
- Never use a hammer as a pry bar because the handle can split and injure your hand.
- Never repair a damaged handle. Always replace it instead.

- Always wear eye protection when hammering. That keeps metal splinters from getting into your eyes.
- Make sure the hammer head is secure and tight so it won't fly off and injure another person.
- Always grip the hammer near the end of the handle and strike surfaces evenly.

TAKE HAMMER MAINTENANCE SERIOUSLY AND FOLLOW THE TM FOR HAMMER MAINTENANCE.

THEN YOU'LL BE SAFE RATHER THAN SORRY.

FOLDING TROOP SEATS

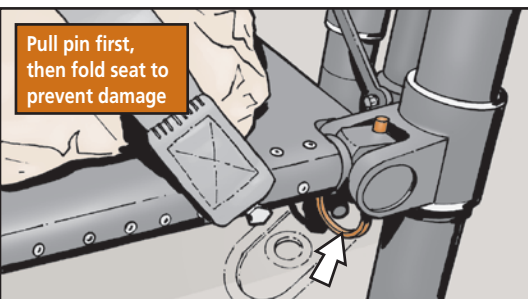


MECHANICS, YOU'VE PROBABLY NOTICED THAT THE M-MODEL BLACK HAWK TROOP SEAT FOLDS DIFFERENTLY.

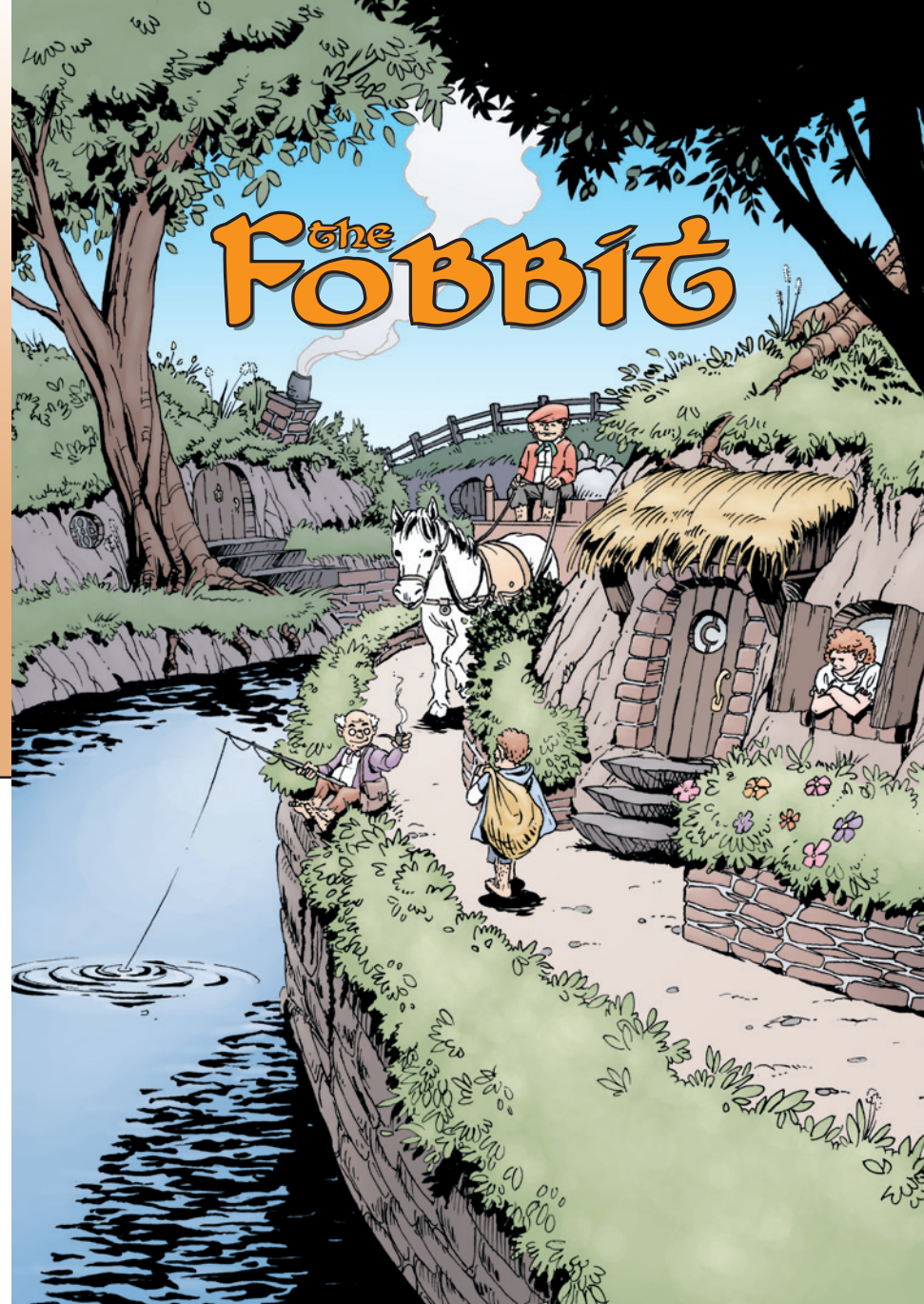
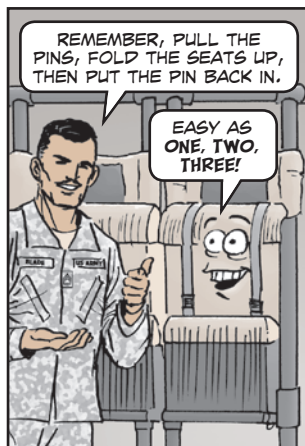
SO, WHEN YOU FOLD THESE TROOP SEATS, MAKE SURE YOU PULL OUT THE PUSH PIN FIRST, THEN FOLD THE SEAT UP AND RE-INSERT THE PIN.

IF YOU FORCE THE SEAT UP WITHOUT PULLING THE PIN, YOU COULD ELONGATE THE PIN HOLE OR BREAK THE PIN WHEN IT CATCHES ON THE OPENING.

Pull pin first, then fold seat to prevent damage



A BROKEN PIN MEANS THE SEAT WILL SAG OPEN AND WON'T STOW PROPERLY IN THE UP POSITION.





I HOPE IT'S NOT THAT TRAVELING SHOE SALESMAN AGAIN!

I'VE ALREADY TOLD HIM...



YOU SHOULD REALLY FIX YOUR DOOR BELL, HILGO.

DON'T YOU LITTLE PEOPLE *EVER* DO ANY MAINTENANCE?



RANDOLPH THE WIZARD???

WHAT BRINGS *YOU* TO MY FOBBIT HOLE?

AND WHY ARE AN ELF AND A DWARF WITH YOU? THIS IS ALL VERY PECULIAR.



WE'RE HERE TO TAKE YOU ON A GREAT BIG ADVENTURE, OF COURSE.

THE KIND WRITTEN ABOUT IN OLD BOOKS AND SHOWN IN HOLLYWOOD TRILOGIES.

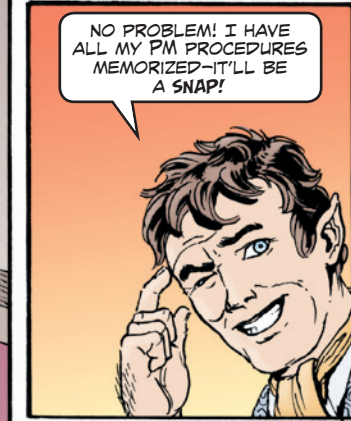
OH, HEAVENS! I'M JUST A LITTLE FOBBIT.

WE FOBBITS NEVER GO ANYWHERE!

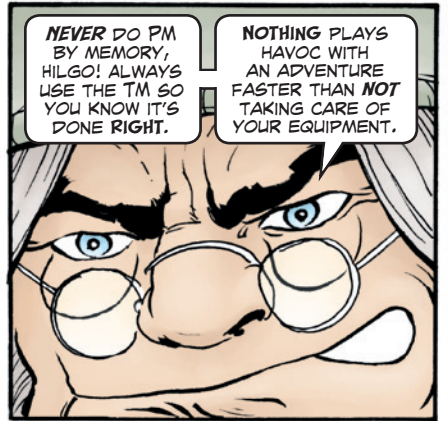


WELL, YOU ARE NOW AND WE LEAVE IN THE MORNING!

SO YOU BETTER MAKE SURE ALL YOUR GEAR IS IN WORKING ORDER AND GIVE YOUR SWORD A GOOD SHARPENING.



NO PROBLEM! I HAVE ALL MY PM PROCEDURES MEMORIZED-IT'LL BE A SNAP!



NEVER DO PM BY MEMORY, HILGO! ALWAYS USE THE TM SO YOU KNOW IT'S DONE RIGHT.

NOTHING PLAYS HAVOC WITH AN ADVENTURE FASTER THAN *NOT* TAKING CARE OF YOUR EQUIPMENT.

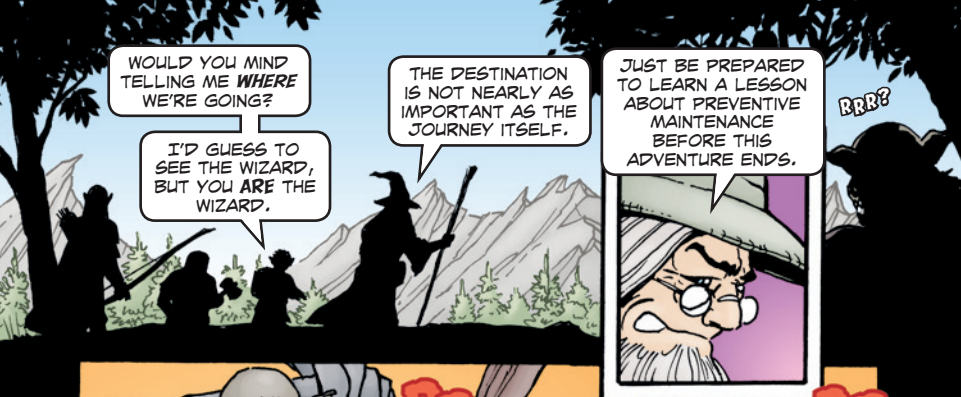


DON'T WORRY! I'LL DO IT LATER. I HAVE A HIGH SCORE TO BREAK NOW.



I CAN'T BELIEVE WE'RE TAKING A FOBBIT ON AN ADVENTURE.

EVERYONE KNOWS THEY'RE *NEVER* PREPARED.



WOULD YOU MIND TELLING ME *WHERE* WE'RE GOING?

I'D GUESS TO SEE THE WIZARD, BUT YOU *ARE* THE WIZARD.

THE DESTINATION IS NOT NEARLY AS IMPORTANT AS THE JOURNEY ITSELF.

JUST BE PREPARED TO LEARN A LESSON ABOUT PREVENTIVE MAINTENANCE BEFORE THIS ADVENTURE ENDS.

RRR?



RRR

RRR

RRR

RRR

RRR



FANTASTIC SHOT, LEGGO!



IT'S A GOOD THING I WAXED MY BOW STRING THIS MORNING.

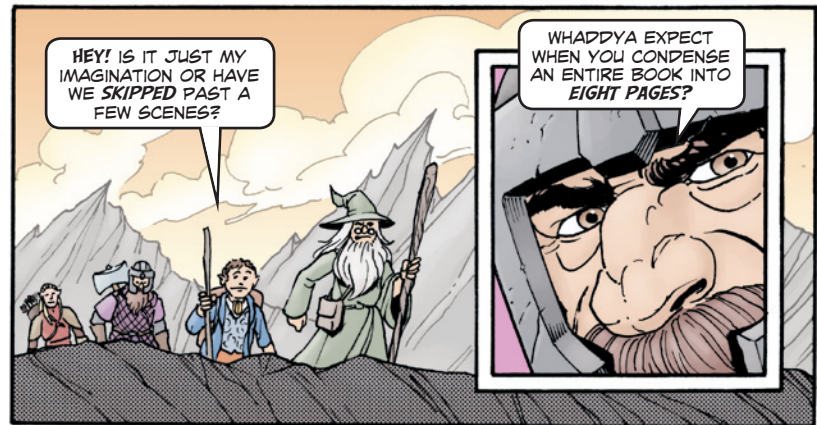
I SHUDDER TO THINK WHAT MIGHT HAVE HAPPENED HAD IT SNAPPED.

WHY, I WAS JUST GETTING READY TO STRIKE THAT ORC DEAD WITH MY TRUSTY SWORD!



OH, REALLY? THIS BLADE IS ABOUT AS SHARP AS YOUR *MIND*, HILGO.

THIS WILL BE A LONG JOURNEY INDEED IF YOU DON'T START TAKING BETTER CARE OF YOUR EQUIPMENT.

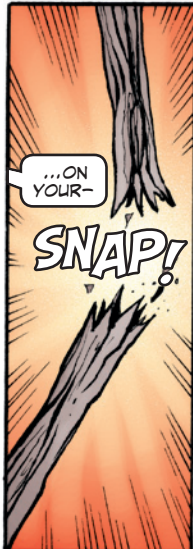


HEY! IS IT JUST MY IMAGINATION OR HAVE WE *SKIPPED* PAST A FEW SCENES?

WHADDYA EXPECT WHEN YOU CONDENSE AN ENTIRE BOOK INTO *EIGHT* PAGES?



HILGO, I HOPE YOU DID PM...



...ON YOUR-
SNAP!

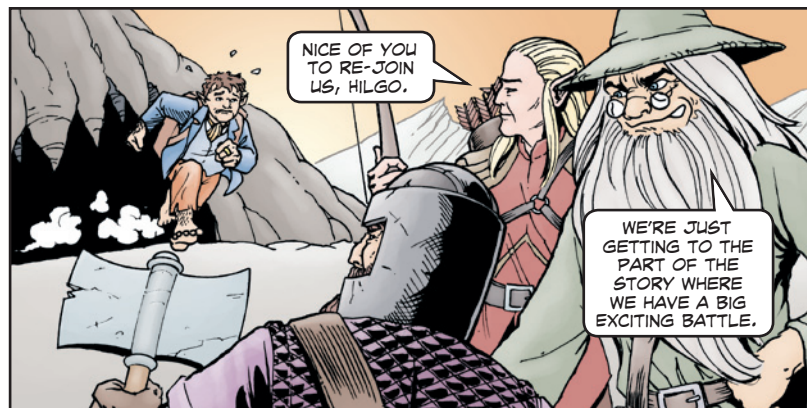
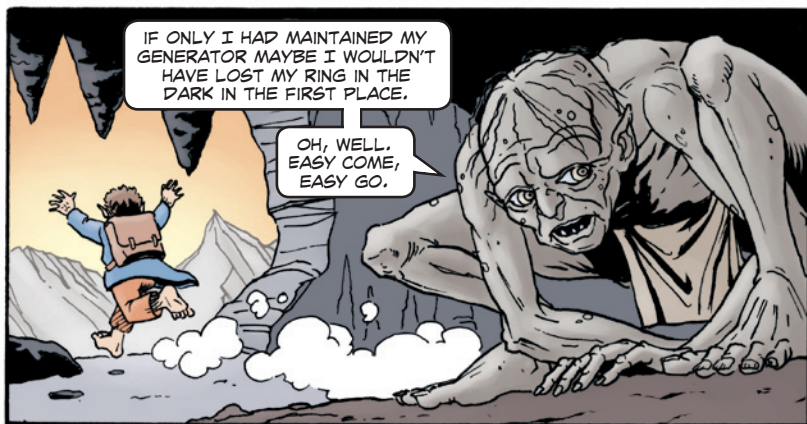
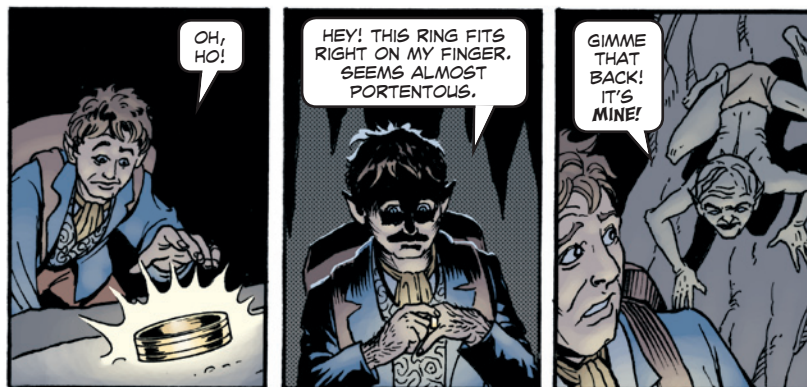


I HATE TO SAY I *TOLD* YOU SO BUT-



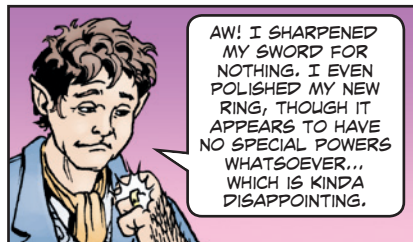
WHERE ARE THE LIGHTS?

SOMEBODY MUST HAVE FORGOTTEN TO DO MAINTENANCE ON THEIR GENERATOR.

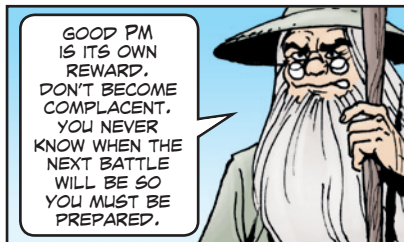




HOLD IT! THIS FIGHT SCENE WILL TAKE AT LEAST A FEW MORE PAGES AND I'M AFRAID WE'RE ALMOST OUTTA SPACE.



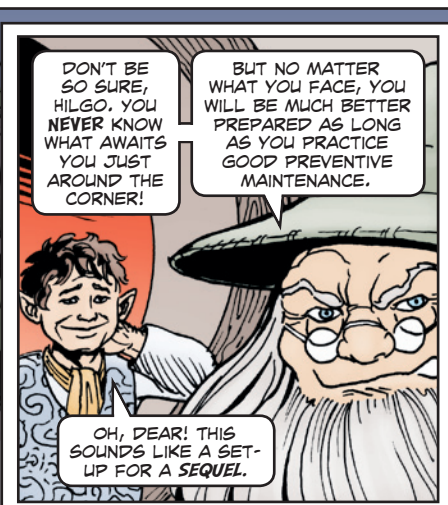
AW! I SHARPENED MY SWORD FOR NOTHING. I EVEN POLISHED MY NEW RING, THOUGH IT APPEARS TO HAVE NO SPECIAL POWERS WHATSOEVER... WHICH IS KINDA DISAPPOINTING.



GOOD PM IS ITS OWN REWARD. DON'T BECOME COMPLACENT. YOU NEVER KNOW WHEN THE NEXT BATTLE WILL BE SO YOU MUST BE PREPARED.



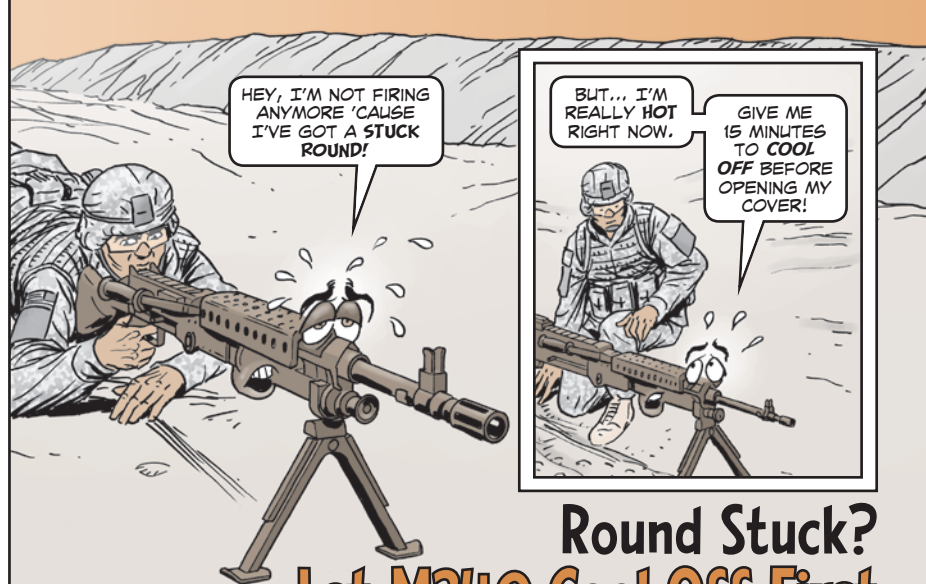
WELL, HERE WE ARE AT THE END. NO MORE GREAT BIG ADVENTURES FOR *THIS* FOBBIT!



DON'T BE SO SURE, HILGO. YOU NEVER KNOW WHAT AWAITS YOU JUST AROUND THE CORNER!

BUT NO MATTER WHAT YOU FACE, YOU WILL BE MUCH BETTER PREPARED AS LONG AS YOU PRACTICE GOOD PREVENTIVE MAINTENANCE.

OH, DEAR! THIS SOUNDS LIKE A SET-UP FOR A SEQUEL.



HEY, I'M NOT FIRING ANYMORE 'CAUSE I'VE GOT A STUCK ROUND!

BUT... I'M REALLY HOT RIGHT NOW.

GIVE ME 15 MINUTES TO COOL OFF BEFORE OPENING MY COVER!

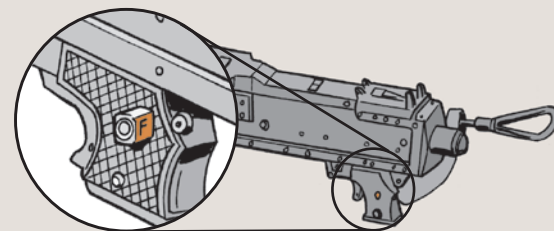
Round Stuck? Let M240 Cool Off First

If you've fired your M240 machine gun long enough for it to get hot and you get a stuck round, **DON'T OPEN THE FEED TRAY COVER**. If you don't wait for your M240 to cool off first, the round could explode in your face when you pop the cover.

What you should do is let your M240 cool down. Set the safety to S, keep the weapon pointed downrange, and stay away from it for 15 minutes. Then you can do the clearing procedure in WP 0010 00 in TM 9-1005-313-10.

But remember, the safety needs to be set to F before you charge your M240. Otherwise, you jam it. Set the safety to F, lock the bolt completely to the rear, and release the charging cable (or return the cocking handle) to the fully forward and locked position. Now that you've charged your M240, you can put the safety on S.

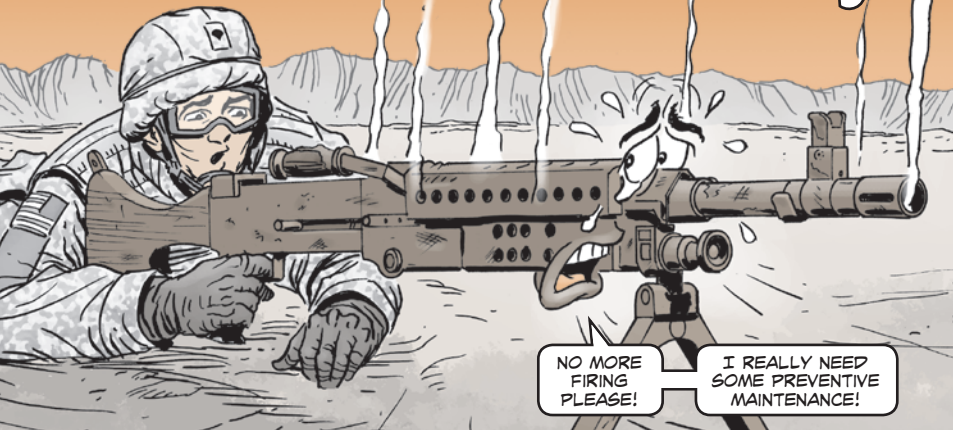
Place safety in F before charging or you'll jam it



Then raise the feed tray cover and look for a round. If there is a stuck round in the chamber, follow the procedure in WP 0016 00. If it's a ruptured cartridge, go by WP 0017 00.

Once you've got the round out, lower the feed tray cover, put the safety on F and you and your M240 are back in business.

PMCS Is Path to Good Firing



Recently there have been several instances on firing ranges of M240 machine guns (particularly the M240L) malfunctioning.

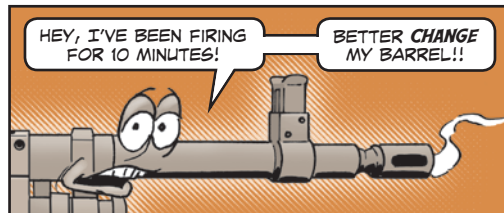
Investigation showed these causes:

- dirty weapons
- rusty barrels
- lack of lubrication
- firing again and again without switching barrels

Four simple letters could have prevented most of these problems: **PMCS**.

BEFORE PMCS: Clean and lube the M240 like TM 9-1005-313-10 says. Do this even if the weapon is newly issued. Look for damaged or missing parts. Make sure you have all the basic issue items (BII) and components of end item (COEI) you'll need in the field, particularly the spare barrel, the -10, lubricants and cleaning materials.

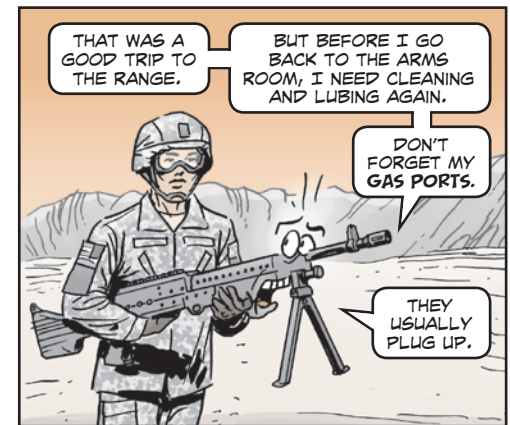
DURING PMCS: Rotate the barrels every 10 minutes during sustained fire and every 2 minutes during rapid fire. If the M240 starts firing sluggishly, stop and clean it.



AFTER PMCS: Clean and lube the M240 before it goes in the arms room for storage. Pay special attention to the gas regulator and gas ports, which tend to gunk up with carbon.

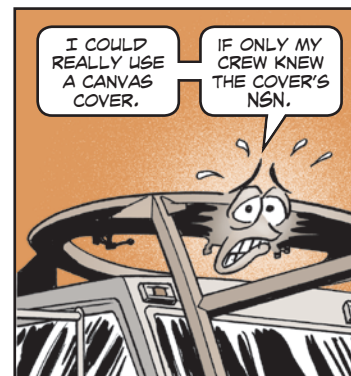
Use training time to go over the cleaning and lubing procedures in the -10 and the procedures in the Service Upon Receipt of Materiel in the -23&P.

Remember those four letters—PMCS—and your firing problems will go up in smoke.



Machine Gun Mounts...

What is M66 Cover NSN?



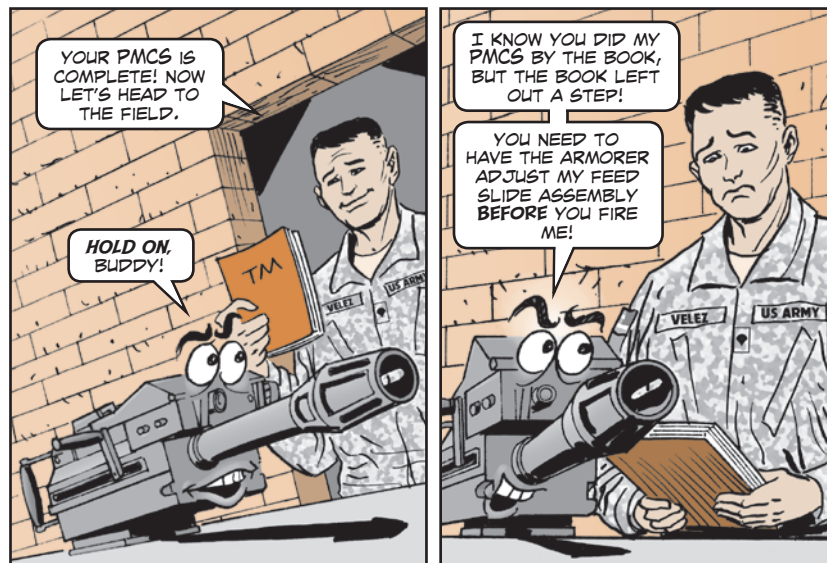
Dear Half-Mast,
We are trying to order a canvas cover for our M66 ring mount, but can't find the NSN for one. Can you help?

CW2 P.R.

Dear Chief P.R.,
Certainly. Order an M66 cover with NSN 1005-00-707-0725. It costs around \$275. You can also now order a plastic "shower cap" cover with NSN 1005-01-610-9108 for around \$300.

Half-Mast

FEED SLIDE ADJUSTMENT MISSED



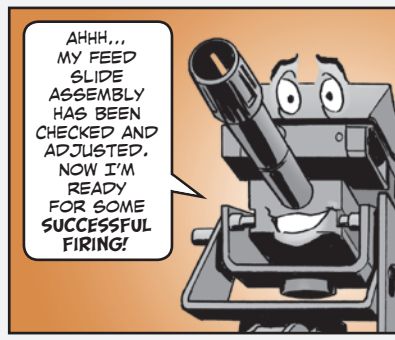
Dear Editor,

Through my work as a small arms inspector for the Iowa National Guard, I have run into a problem concerning the feed slide adjustment for the MK 19 machine gun.

The PMCS in the MK 19's TM 9-1010-230-10 (Aug 12) does not mention that the feed slide adjustment should be checked by field support before firing. As a result, too often the check is not done. A misadjusted feed slide will hurt firing. Both operators and field support should make sure the procedure that begins in WP 0022-6 in the -23&P (Aug 12) is done before the MK 19 is fired.

SSG Kenneth Caldwell
IAARNG

Editor's note: Good point, Sergeant. Operators should add the feed slide adjustment check by field support to their -10's PMCS.



CLEANING KIT NEEDS CLEANING ROD



Dear Editor,

Through my job with the Ft Campbell COMET, I help support the small arms program here. I see too many units with M16 rifle/M4 carbine cleaning kits that don't have a cleaning rod. The kits use a flexible cable instead of a cleaning rod.

It is essential that Soldiers have a cleaning rod. With the rod, they can remove jammed rounds or dirt that plugs the barrel. The flexible cable won't be much use in those situations.

Units need to make a point of ordering only the cleaning kit called out in TM 9-1005-319-10. It comes with a cleaning rod.

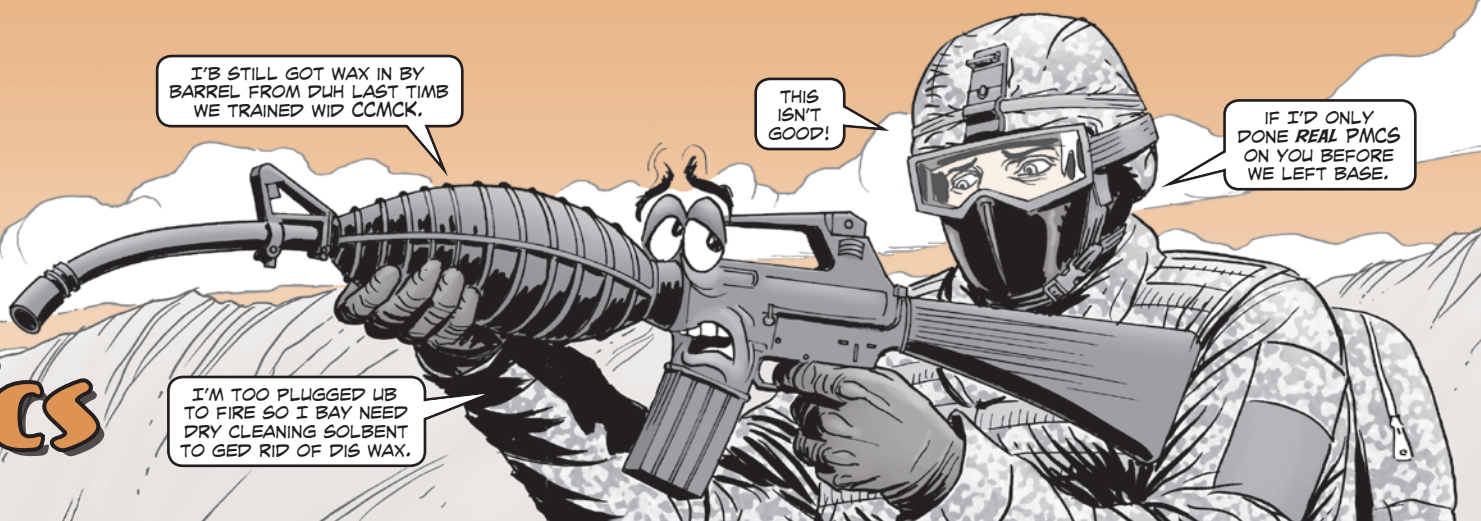
Paul Carver
COMET
Ft Campbell, KY

Editor's note: Good point about the cleaning rod, Paul. But actually the NSN for the cleaning kit has changed. You now order the kit with NSN 1005-01-562-7393. The new NSN will be included in the next change to the -10.

If you do receive a cleaning kit without cleaning rods, submit a PQDR.

If you just need the cleaning rod, order the cleaning rod handle section with NSN 1005-01-113-0321 and the cleaning rod section with NSN 1005-00-050-6357 (this brings a box of 25 sections). You need three of the rod sections for a complete cleaning rod.

CCMCK Training Requires Real PMCS



The good news is the close combat mission capability kit (CCMCK) is approved for not only the M16 rifle and M4 carbine, but also the M249 machine gun and M9 pistol. CCMCK gives you a safe, reliable, and accurate training system that closely mimics firing real rounds.

The bad news is the wax from CCMCK rounds can leave the inside of your weapon a mess. If you don't do a good job cleaning out all the wax, it can plug the barrel. Firing a weapon with a plugged barrel is dangerous to you and your weapon. Avoid that potential catastrophe with this CCMCK PMCS:

BEFORE—Clean and lube your weapon with CLP like it's spelled out in the weapon's -10 TM. You want your weapon as clean as possible before firing CCMCK rounds.

AFTER—Do the same cleaning and lubing procedure, but this time pay special attention to the chamber, barrel and bore. Those are the most likely areas you'll find wax. Really tough wax deposits may require dry cleaning solvent, NSN 6850-01-474-2319. Use solvent under the direction of your armorer. The solvent may need to soak into the wax for several minutes before it will work.

When you think you have all the wax cleaned out of the barrel, run your cleaning rod from muzzle to chamber to make sure there are no obstructions. Look for the end of the cleaning rod in the chamber.

If you can't see the end of the rod, you may have a stuck round. If you can't push out the round yourself, tell your armorer. But make sure the problem is fixed before you turn in the weapon to the arms room.

Armorer, don't use a new M16/M4 barrel that has fired fewer than 200 standard rounds for CCMCK. Older barrels are less likely to have problems with a stuck CCMCK round. M249 barrels come from the manufacturer ready for CCMCK firing. The M9 conversion kit has a blue barrel for firing CCMCK rounds.

After training with CCMCK, it's a good idea to check the M16s and M4s with the barrel straightness gage. See WP 0015-24 in TM 9-1005-319-23&P.

For the complete word on CCMCK, see TM 9-6920-3700-10. It's on the LOGSA ETM website:

<https://www.logsa.army.mil/etms>

Questions? Contact ARDEC's Robert Weissman at DSN 880-3056, (973) 724-3056, or email:

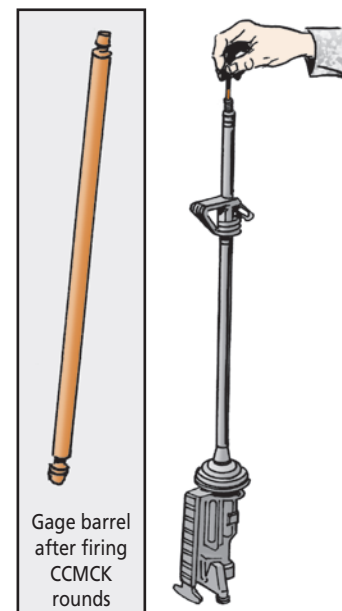
robert.j.weissman.civ@mail.mil

or Edward Gilligan at DSN 880-4992, (973) 724-4992, or email:

edward.gilligan2.civ@mail.mil

You can also contact TACOM's John Kelty at DSN 786-1275, (586) 282-1275, or email:

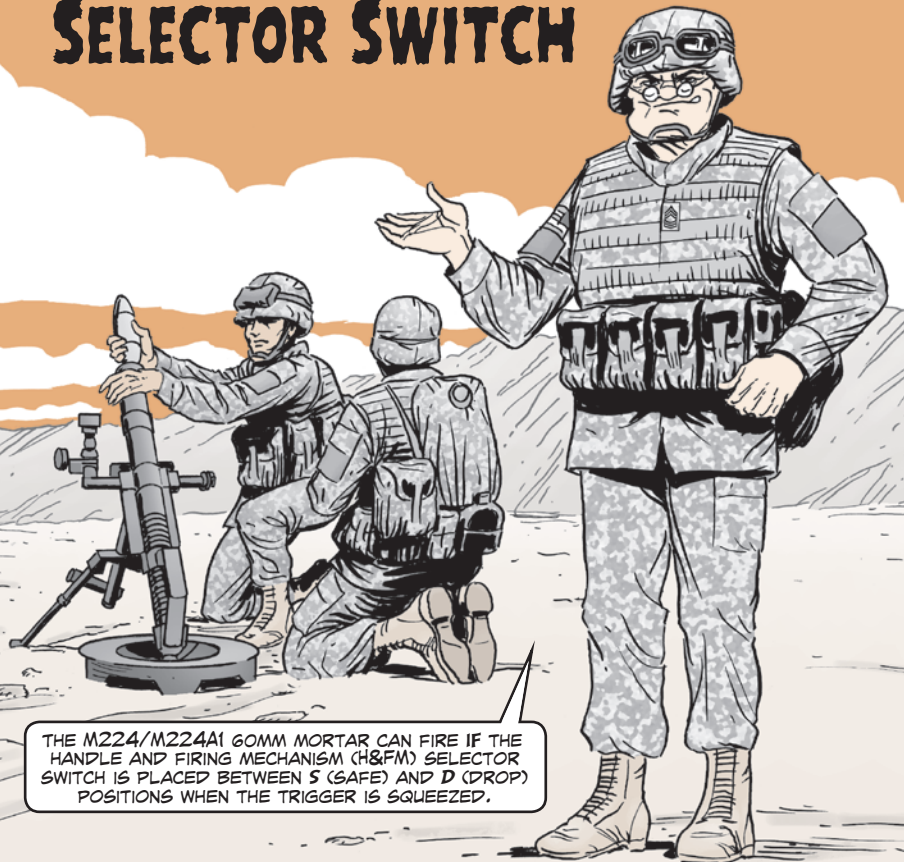
john.m.kelty.civ@mail.mil



M151 Scope NSN Changes

Because of safety concerns, you can no longer order the M151 scope with NSN 6650-01-504-8456, which brought the scope alone. Instead, use NSN 6650-01-557-7444. That brings the scope and the laser filter unit (LFU). The LFU ensures your eyes will be protected from lasers.

CAREFUL WHERE YOU PUT SELECTOR SWITCH



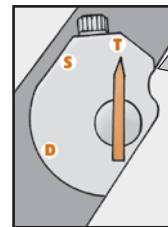
THE M224/M224A1 60MM MORTAR CAN FIRE IF THE HANDLE AND FIRING MECHANISM (H&FM) SELECTOR SWITCH IS PLACED BETWEEN S (SAFE) AND D (DROP) POSITIONS WHEN THE TRIGGER IS SQUEEZED.

This is a characteristic of the M224/M224A1 and is not a cause for it to be deadlined. But operators obviously must check during PMCS that the selector switch aligns correctly with the S, D and T detents and stays in the selected mode during the checks. See the PMCS in WP 0018-5 in TM 9-1010-223-10 (Oct 12) and WP 0021-5 in TM 9-1010-233-10 (Feb 11).

If there is any doubt, have your support check it out.

It's also a good idea to check out the H&FM when it's issued and before it's used for the first time.

IN THE FIELD, MAKE SURE YOU ALWAYS HAVE THE FIRING SELECTOR SET TO THE CORRECT POSITION.



Make sure selector aligns correctly with three positions

THE FOLLOWING UPDATED WARNING IS BEING ADDED TO BOTH TMS...

WARNING LOADING AND FIRING HAZARDS

- Selector must be at S (safe) except when firing.
- Misalignment of safe detent position on firing selector will cause a malfunction that may accidentally arm the mortar and can result in unintentional discharge of round.
- Failure to comply may result in serious injury to personnel and damage to equipment.

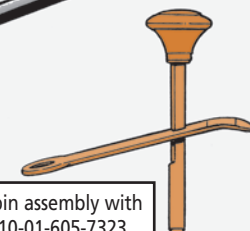
Machine Gun Mounts...

New Pin Assembly Available

A NEW PIN ASSEMBLY IS NOW AVAILABLE FOR THE UNIVERSAL PINTLE ADAPTER AND THE CANTILEVER ARM FOR MK93 MOD 1 AND 2 AND MK64 MOD 9 MACHINE GUN MOUNTS.

THE PIN ASSEMBLY, NSN 1010-01-605-7322 (PN 13036435), DOES AWAY WITH THE NEED FOR A LANYARD AND A SPRING PIN.

IT REPLACES THE PIN AND CABLE ASSEMBLY THAT CAME WITH NSN 5315-01-447-2233 (PN 12012064).



Order pin assembly with NSN 1010-01-605-7323

THE NEW PIN ASSEMBLY **CAN'T** BE USED WITH THE GUNNER'S PROTECTION KIT (GPK) UNIVERSAL PINTLE ADAPTER.

CONTINUE TO USE THE OLD ASSEMBLY WITH IT.

Safety... **BEWARE OF FLARE DANGERS!**

SLAP FLARES ARE A **VALUABLE** TOOL IN COMBAT, ALLOWING YOU TO SIGNAL YOUR POSITION TO YOUR FELLOW SOLDIERS.



BUT FLARES CAN ALSO BE **DANGEROUS**, AS SEVERAL SOLDIERS UNFORTUNATELY DISCOVERED.



FLARES ROCKET OUT OF THEIR TUBES AT MORE THAN 100 MPH AND CAN GENERATE TEMPERATURES UP TO **1,000°F**

SLAP FLARES CAN ACT AS PROJECTILES, INJURING ANYONE IN THEIR WAY.



When mishandled, flares can be a danger to you and those around you



THAT'S WHY IT'S IMPORTANT YOU LEARN HOW TO PROPERLY HANDLE AND STORE SLAP FLARES.

TO HELP EDUCATE SOLDIERS ON FLARE SAFETY, THE ARMY HAS PREPARED A DVD, **SLAP FLARE SAFETY**, THAT YOU CAN GET FOR FREE.

TO GET A COPY, EMAIL LARRY BAKER AT:
larry.v.baker2.civ@mail.mil

SLAP FLARE SAFETY

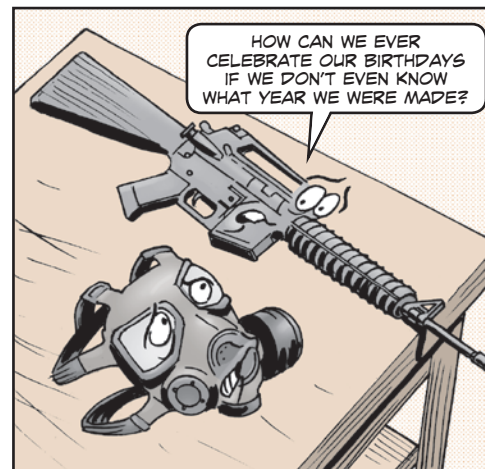
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Media Production Branch
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Small Arms, CBRN Masks....



HOW CAN WE EVER CELEBRATE OUR BIRTHDAYS IF WE DON'T EVEN KNOW WHAT YEAR WE WERE MADE?

CHEER UP YOU TWO! I KNOW THE WAY TO FIND OUT!



How Do You Find Year of Manufacture?

Dear Half-Mast,

I have been told to enter the year of manufacture for each of our unit's small arms and masks in SAMS-E. Do you know where I can find that info?

SFC O.G.

Dear Sergeant O.G.,

Sure do. For small arms, enter the weapon's serial number in the Unique Item Tracking (UIT) in LOGSA's Logistics Information Warehouse (LIW). As long as the weapon was not manufactured before 1995, you should find the correct year there. Look for the "P" transaction to see the first production date. Go to:

<https://www.logsa.army.mil/index.cfm>

Click on the LIW down arrow, then LIW Portal. Go to the App Warehouse to do a search for UIT.

For M40/M42 and M45 masks only, check the lot number that is on the lower right strap. If it says PBA11A203-010, for example, that stands for:

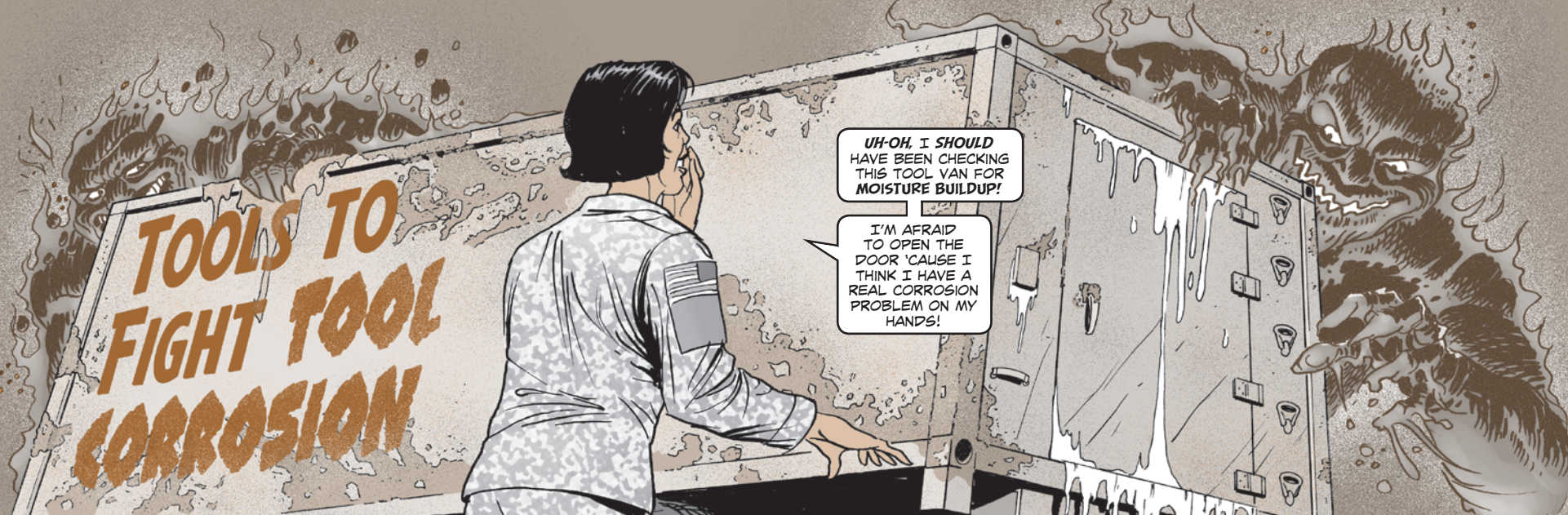
- PBA (Pine Bluff Arsenal)
- 11 (2011)
- A (January)
- 203 (medium size)
- 010 (lot number)

So the mask was manufactured in Jan 2011. B would be February, C March, etc.

The new M50/M51 mask uses a lot number in this form: MMMYYWWSEE.

- MMM- manufacturer
- YY- year
- WW- week 1 through 52
- S-facepiece size (S, M, L)
- EE-engineering version

Half-Mast



UH-OH, I SHOULD HAVE BEEN CHECKING THIS TOOL VAN FOR MOISTURE BUILDUP!

I'M AFRAID TO OPEN THE DOOR 'CAUSE I THINK I HAVE A REAL CORROSION PROBLEM ON MY HANDS!

TOOLS TO FIGHT TOOL CORROSION

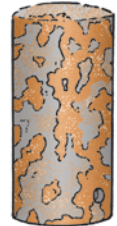
Dear Editor,

High humidity can quickly cause moisture to build up in the vans where some of the larger tool sets are kept. Often you may not use those tools for several weeks. Then when you open up the van after all that time, you find moisture has started to corrode some of the tools, especially those with worn finishes. Sockets are a good example.

If the corrosion is too bad, you must go through the hassle and expense of replacing the tools. These PM tools can help you fight corrosion:

- The vapor capsules that hang in the van help absorb moisture, but they need to be changed at least yearly—more often in humid areas. If you're operating in humid areas, it's a good idea to add extra vapor capsules, too. NSN 6850-01-590-1676 gets four capsules.

- Make sure tools are wiped completely clean of dirt, grease and moisture before they're stored in the drawers. If tools are clean and dry, they are less likely to corrode during storage.



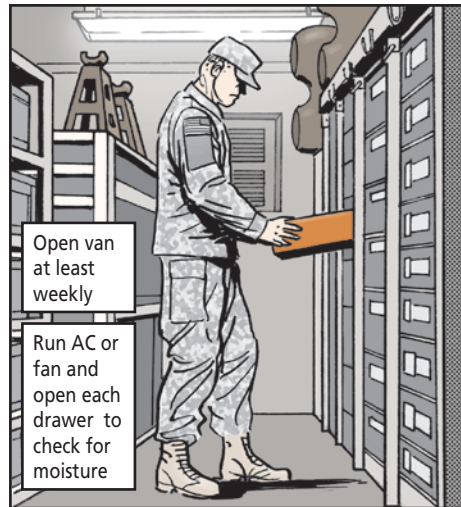
Corrosion can quickly ruin tools like sockets



Wipe tools clean and dry before storing

- Keep the van inside a temperature-controlled part of the motor pool complex if possible. That will avoid the temperature extremes that make the moisture buildup worse.
- At least weekly (more often in really humid areas like Louisiana), open up the van and turn on the AC. If the van doesn't have AC, open up the door and vents and run a fan. That will help push moisture out of the van.
Open up every drawer and check for wet tools. Wipe them dry if necessary.
If you run into minor corrosion, it can usually be removed with a wire brush.

SPC Matthew Robertson
B Co, 88th BSB
Ft Polk, LA



Open van at least weekly

Run AC or fan and open each drawer to check for moisture

Editor's note: Just a weekly check of your tool vans can help you avoid a collision with corrosion. Thanks, Specialist.

M59A
Field
Range...

Bad Rollers + Hot Pot = SCALDED HANDS!



Food service specialists, take extra care when cooking with the M59A field range, NSN 7360-01-479-0312, or you could get burned.

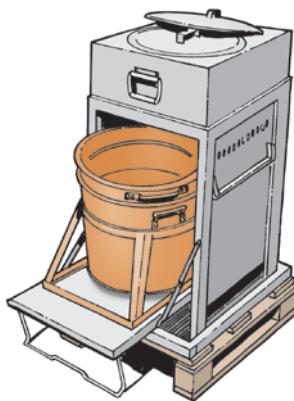
Units have reported a safety hazard while heating liquid in a 10- to 15-gal stock pot in the range: The pot jams on the rollers as it's being removed. Hot liquid spills out. Soldiers not wearing protective gloves get their hands and forearms severely scalded.

When cooking with the M59A range you must wear the protective gloves, NSN 8415-01-511-4637, included with the basic issue items (BI) of both the Army kitchen module (assault) and the food sanitation center (FSC).

Wear gloves
when cooking
with field
range!

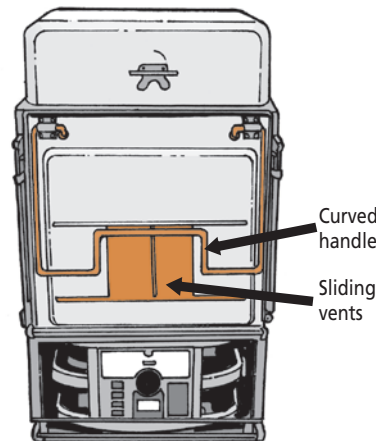


Pot jams on rollers and
hot liquid spills out

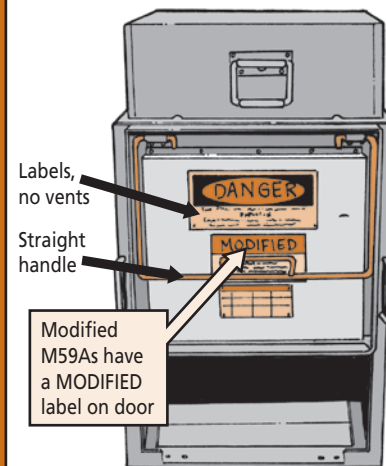


Differences Between M59s and M59As

M59 Field Range



M59A Field Range



The following
field feeding
equipment may
have an M59A as
a component of
end item (COEI)...

Item	NSN 7360-	Item	NSN 7360-
Army kitchen module (assault)	01-558-3100	Mobile kitchen trailer (MKT)	00-138-7782
Kitchen, company level field feeding (KCLFF)	01-200-9828		01-092-0470
Kitchen, company level field feeding-enhanced (KCLFF-E)	01-374-1980		01-155-6020
			01-214-1176
			01-246-4646
			01-313-2238
			01-417-4635
			01-483-8617

All M59As issued from the Defense Logistics Agency (DLA) since March 2012 have been modified by replacing the defective rollers. These ranges have a MODIFIED label on the door. Inspect your range for the MODIFIED label. If it has one, the range is safe for cooking, but you should still wear the protective gloves. The old M59, NSN 7360-00-702-1719, does not present this safety hazard.

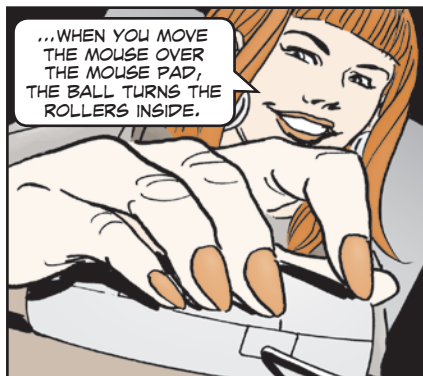
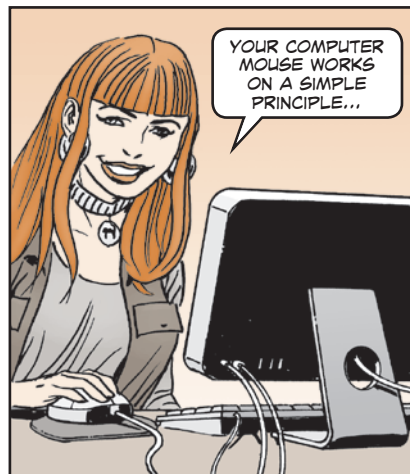
If your range doesn't have a label, replace the rollers by getting the free M59A roller kit, NSN 7310-01-600-2290, from DLA. It comes with installation instructions, parts, tools and a MODIFIED label. You can also find installation instructions online at the U.S. Army TACOM-Unique Logistics Support Applications (TULSA) website:

https://tulsa.tacom.army.mil/SAFETY/soum/tacom_wn/M59SOUKitinstalation.pdf

For the whole story on the M59A safety hazard, see TACOM LCMC SOUM 12-011 at the TULSA LCMC Safety First website:

<https://tulsa.tacom.army.mil/SAFETY/message.cfm?id=SOUM12.011.html>

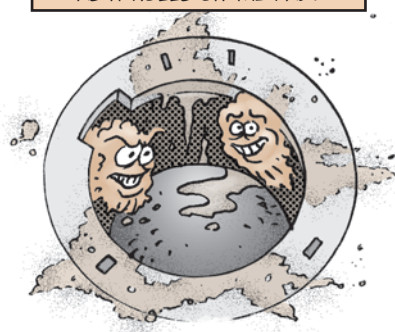
Of Mouses and Men



THE MOVING ROLLERS SEND ELECTRICAL SIGNALS TO THE COMPUTER.

THE COMPUTER, IN TURN, SENDS SIGNALS THAT MOVE THE POINTER ON THE SCREEN.

PROBLEM IS, OVER TIME THE MOUSE PICKS UP ALL KINDS OF DIRT, LINT, HAIR AND STICKY GUNK AS IT ROLLS ON THE PAD.



REGULAR CLEANING HELPS KEEP YOUR MOUSE WORKING SMOOTHLY.

THE JOB IS EASY AND TAKES ONLY ABOUT 10 MINUTES.



Basic Cleaning Materials

USE THESE INEXPENSIVE ITEMS FOR CLEANING...

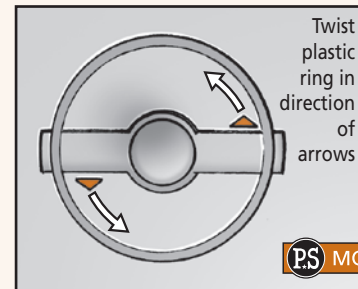
- foam swabs, NSN 4920-01-243-0571
- can of compressed gas duster. NSN 7930-01-398-2473 brings a box of six 10-oz cans.
- isopropyl alcohol, NSN 6505-00-655-8366
- tweezers
- water
- mild soap
- old toothbrush
- clean, soft, lint-free cloth. A scrap from a cotton t-shirt works best.

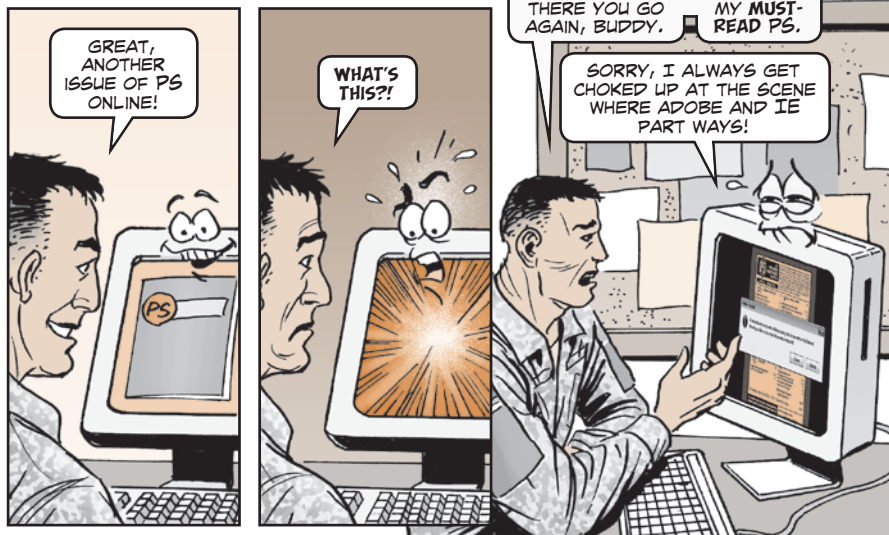


*This NSN is not on the AMDF. Order it on DD Form 1348-6 and put "NSN not on AMDF" in the REMARKS block.)

Cleaning, Step by Mouse Step

1. Turn off your computer and shut down the power.
2. Unplug the mouse cable from the computer.
3. Turn the mouse upside down. Remove the plastic ring that holds the ball in place by twisting it in the direction of the arrows. Turn the mouse right side up and dump the ring and ball into your hand. Shake the mouse gently if you have to.
4. Scrub the ball and ring with a toothbrush in warm, soapy water. Make sure to get any oily film off the ball. Dry them with a clean, lint-free cloth and set them aside.

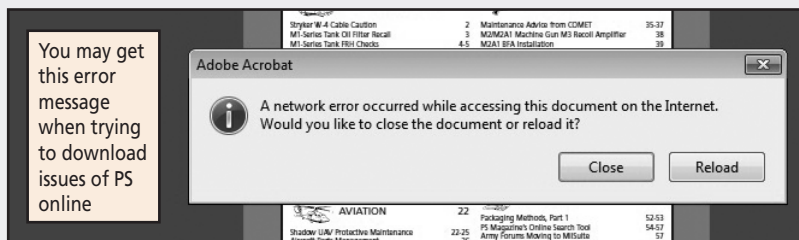




SOLVING PS DOWNLOAD PROBLEMS

Question: Why does my web browser choke or crash when I try to open a *PS Magazine* pdf online?

Answer: Many of you have emailed to alert us to this problem. When trying to open a large pdf file of PS on our website, like a full issue or large article, you get an error message and then your Internet browser chokes. Reloading seldom helps.



The problem is caused by a conflict between Adobe Reader® (versions X and XI) and the Internet Explorer® web browser. Adobe hasn't found a solution in more than a year now and we're not holding our breath. Unfortunately, we can't fix this on our end since it's a software conflict. We're just as annoyed as you!

The best workaround we've found is to download the full issue of *PS* you want to your hard drive. Then open it directly in Adobe Reader instead of your Internet browser.

Here's how: When you find the PS issue you want to read, **right** mouse click on the issue's cover, then select "Save Target As." On PCs, a box will open allowing you to select where on your hard drive you want to save the issue.

When you open the issue from your hard drive, you should still be able to open individual articles (the red boxes at the bottom of the pages that read "Click here for a copy of this article to save or email.").

You can also try using the Mozilla Firefox® browser instead, but that isn't an option on some Army networks. If you read *PS* on your personal PC at home, though, that might be the easiest solution.



Training...

UTAP Offers MSD V3 Videos

The Unit Training Assistance Program (UTAP) offers an eight-chapter video informational series for the Maintenance Support Device (MSD) Version 3. You will find it at the Library of TACOM Training Information Site (LOTTIS) website. Visit: <https://utap.army.mil>

Once you are in LOTTIS, look under "UTAP Produced Information Videos" and click on Maintenance Support Device V3 (MSD V3). Download any or all chapters. If you have problems downloading the videos, you can order a DVD. Click on the Customer Assistance tab on the home page, then fill out and submit the required information.

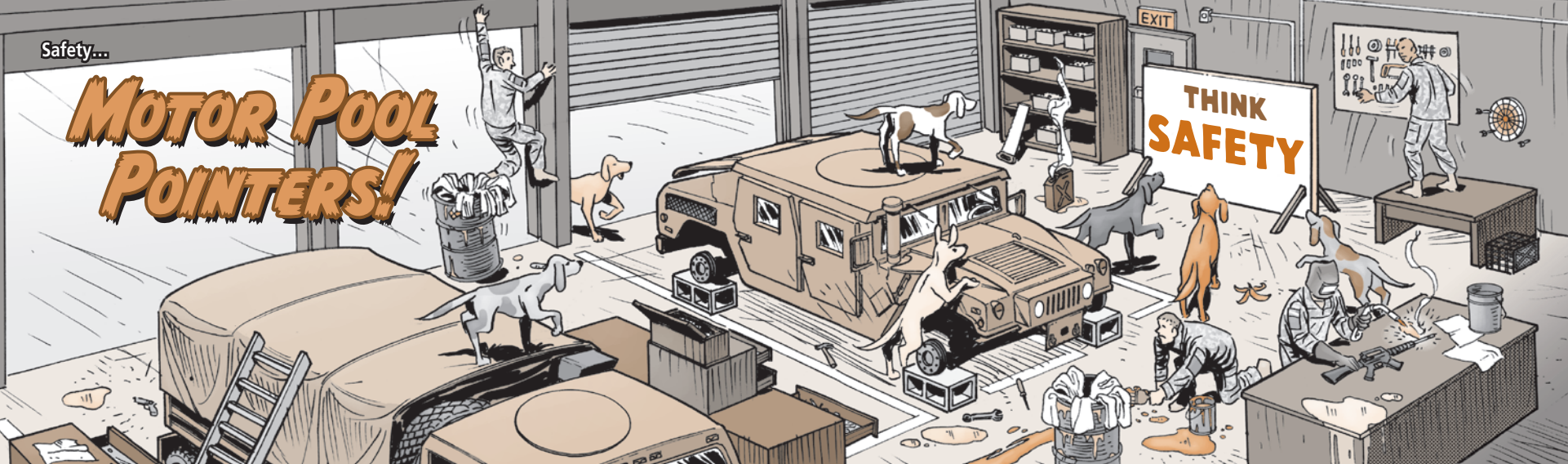
Maintenance Support Device V3 (MSD V3)

Video
MSD V3 Sust Chapter 1 Introduction Features and Benefits (Army).wmv
MSD V3 Sust Chapter 2 Opening Self-Test Software CBT (Army).wmv
MSD V3 Sust Chapter 3 PMCS (Army).wmv
MSD V3 Sust Chapter 4 Smart Wireless Ice (Army).wmv
MSD V3 Sust Chapter 5 PMCS Smart Wireless Ice (Army).wmv
MSD V3 Sust Chapter 6 MSD V3 Diagnostic Software (Army).wmv
MSD V3 Sust Chapter 7 Warranty and MSD Website (Army).wmv
MSD V3 Sust Chapter 8 Comparison Between Type 1 and Type 2 MSD V3 (Army).wmv

1 - 8

UTAP offers eight video chapters for the MSD V3

MOTOR POOL POINTERS!



FOLLOWING ARMY SAFETY STANDARDS MEANS PROTECTING WORKERS AND EQUIPMENT, AT HOME OR ON THE BATTLEFIELD.

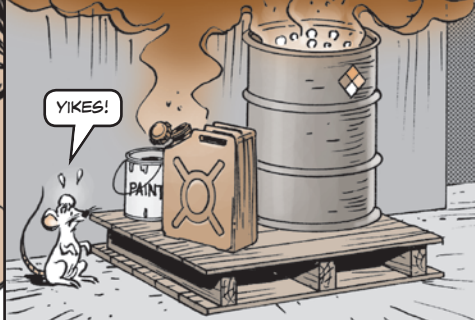
A SOLID UNIT SAFETY PROGRAM ALSO REDUCES COSTS AND TIME LOST DUE TO PREVENTABLE INJURIES, ACCIDENTS OR EQUIPMENT DAMAGE.

WHETHER WORKING IN A MAINTENANCE TENT OR MOTOR POOL, ALONE OR WITH OTHERS, REMEMBER...

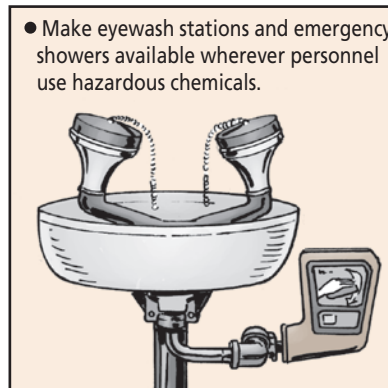
SAFETY IS KEY!

HERE ARE SOME TIPS FOR PREVENTING MOTOR POOL MISHAPS...

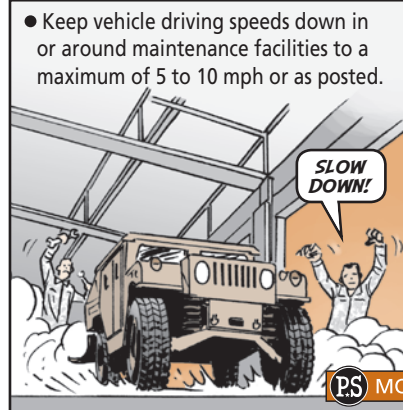
- Make frequent inspections where hazardous materials are stored. Check all areas for things left out of place that create potential fire hazards (chemicals, fuels, rags, wood or paper products—anything that might catch fire.)
- Never store gasoline/gasoline by-products (rags, pans, brushes, etc.) inside any maintenance or storage facility.
- Store petroleum, oil and lubricants in approved containers in well-ventilated, marked areas.



- Create and post safety boards that are easily seen and accessed by all.
- Keep maintenance bays neat and clean when not in use.
- Post and observe all floor, load-bearing and lifting equipment capacities.
- Make eyewash stations and emergency showers available wherever personnel use hazardous chemicals.



- Use ground guides at all times.
- Conduct refueling operations safely and with proper equipment, including grounding and bonding connections, to reduce risk of flash fires.



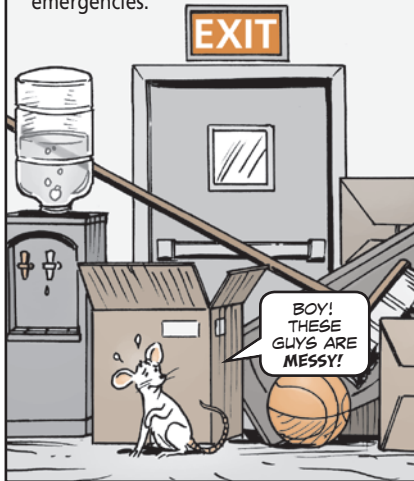
- Clearly mark designated smoking areas and strictly enforce rules in no-smoking areas. Prominently display "NO SMOKING WITHIN 50 FEET" signs near flammable items or hazardous areas.

- Keep all lifting devices (jacks, jack stands, hoists, cranes) properly maintained and in usable condition. Do regular inspections by the TMs.

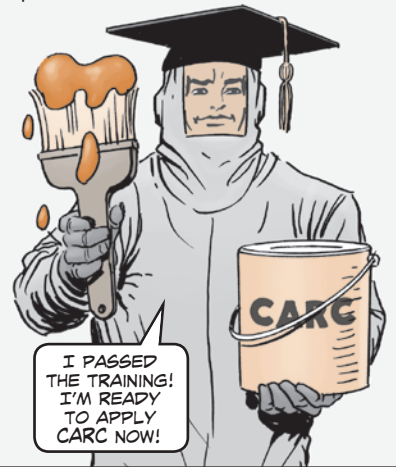


- Use lubrication pits for servicing military vehicles only. Keep pits well-ventilated and illuminated. Place steel fences around pits when vehicles are not being serviced.

- Keep large, bulky or heavy items away from doors to allow quick exit in emergencies.



- Only trained and authorized personnel wearing appropriate personal protective equipment (PPE) should handle Chemical Agent Resistant Coating (CARC) paint. Painting areas must be covered and protected from debris.



- Store and secure gas cylinders to walls or fixed surfaces to prevent them from tipping, falling or rolling.
- Stencil maximum load capacity on both sides of support assemblies for overhead cranes and hoist assemblies. Be sure they are readily visible.

- Close off the battery shop from the general maintenance area. Make sure the shop is clearly marked.



- Store battery packs away from other metal objects.

- Operate power tools away from explosives, flammable liquids, gases, or dust. Power tools create sparks that may ignite dust or fumes.



REMEMBER, THE EFFECTIVENESS OF ANY SAFETY PROGRAM DEPENDS ON LEADERSHIP ENGAGEMENT, INVOLVEMENT AND SUPERVISION!



- Remember, only fully trained and qualified licensed personnel are authorized to weld. Use an exhaust system when welding.



- Ensure serviceable PPE is available and used by all personnel.

LEADERS, INSIST **EVERYONE** FOLLOW ESTABLISHED SAFETY RULES AND STANDARDS, AND CONTINUALLY LOOK FOR WAYS TO IMPROVE YOUR UNIT'S SAFETY PROGRAM.



For more info

US Army Combat Readiness/Safety Center:

<https://safety.army.mil>

The Ground Risk Assessment Tool (GRAT) can assist users in identifying, assessing and controlling hazards for missions or tasks related to maintenance operations. GRAT can also be used to create DA Form 7566, *Composite Risk Management Worksheet*. Visit:

<https://lgrat.safety.army.mil/GRAT/>

For more safety guidance, review FM 5-19, *Composite Risk Management*, at: http://armypubs.army.mil/doctrine/DR_pubs/DR_a/pdf/fm5_19.pdf

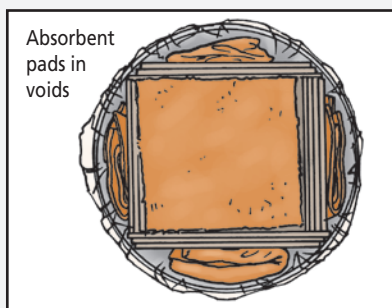
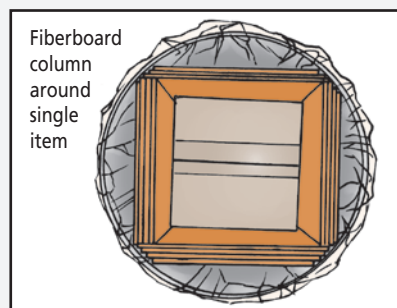
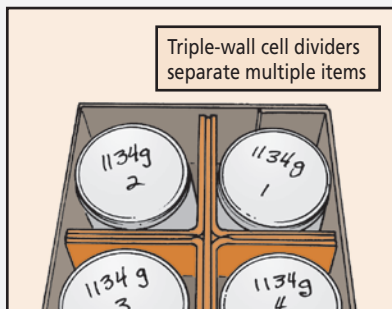


Packaging... PSSC Bags HAZMAT Loose Fill



Common loose-fill packing materials used for shipping liquid hazardous materials (HAZMAT), like vermiculite or ground paper, are dusty and messy. Storage and disposal of loose fill has challenged units for years.

Good news! The Logistics Support Activity's (LOGSA) Packaging, Storage, and Containerization Center (PSSC) Packaging Applications Testing Facility came up with a packaging solution that doesn't use loose fill. Instead, liquid HAZMAT items (cans, bottles, jars, etc.) are put in corrugated fiberboard boxes inside steel drums with fiberboard pads and absorbent sheets. Individual packages inside the boxes are separated by at least 3-ply cell dividers.



The fiberboard and absorbent sheets are easy to store, reusable, recyclable and readily available. Six new packaging designs are already approved and certified for DOD use.

For more info, contact Charlotte Lent at DSN 795-7160, (570) 615-7160, or email:

charlotte.a.lent.civ@mail.mil

Connie's POST SCRIPTS

ILAP Support at LOGSA Help Desk

For all issues with the Army's Integrated Logistics Analysis Program (ILAP), please email the LOGSA Help Desk at: usarmy.redstone.logsa.mbx.help-desk@mail.mil Or call the LOGSA Help Desk at Toll Free 1-866-211-3367, commercial 256-955-7716 or OCONUS DSN 312-645-7716. **Note:** The former ILAP support email address (support@ilap.army.mil) no longer works. Any email sent there will **not** be forwarded.

M1235A2 MaxxPro Dash Ambulance Seatbelt NSN

Get a new seatbelt for the crew seat in the back of the M1235A2 MaxxPro Dash ambulance with NSN 2540-01-600-6825. Make a note until the TM is updated.

M16 Bore Brush OK for M249

Page 35 of PS 723 (Feb 13) said not to use the M16/M4 bore brush in the M249 machine gun. That's wrong. The M249 uses the same bore brush, NSN 1005-00-903-1296. It's the chamber brushes that are different. The M16/M4 chamber brush comes with NSN 1005-00-999-1435 and the M249's with NSN 1005-01-131-2121. If you used the wrong chamber brush, it could get stuck in the chamber.

M119A2 Brake Fluid Check

Page 3 in PS 725 (Apr 13) told you to check the M119A2 howitzer's brake fluid reservoir for fluid within 1/2 inch of the top of the reservoir. Actually, the fluid level should be within .12 inch (approximately 1/8 inch) of the top of the drop-in filter. Do this as part of your BEFORE PMCS and make a note until this info is changed in TM 9-1015-252-10 and -24.

Service Kit Info Available on DLA Website

Need a list of service kit NSNs for your unit's trucks, trailers or other equipment? DLA Land and Maritime has a kit website that'll really help you. Eyeball it at:

<http://www.dlsc.dla.mil/programs/kitting/search.aspx>

M-ATV MRAP Surge Tank NSN

Get a new surge tank kit for your M-ATV MRAP with NSN 2930-01-613-7146. Make a note until the NSN is added to TM 9-2355-335-24P.

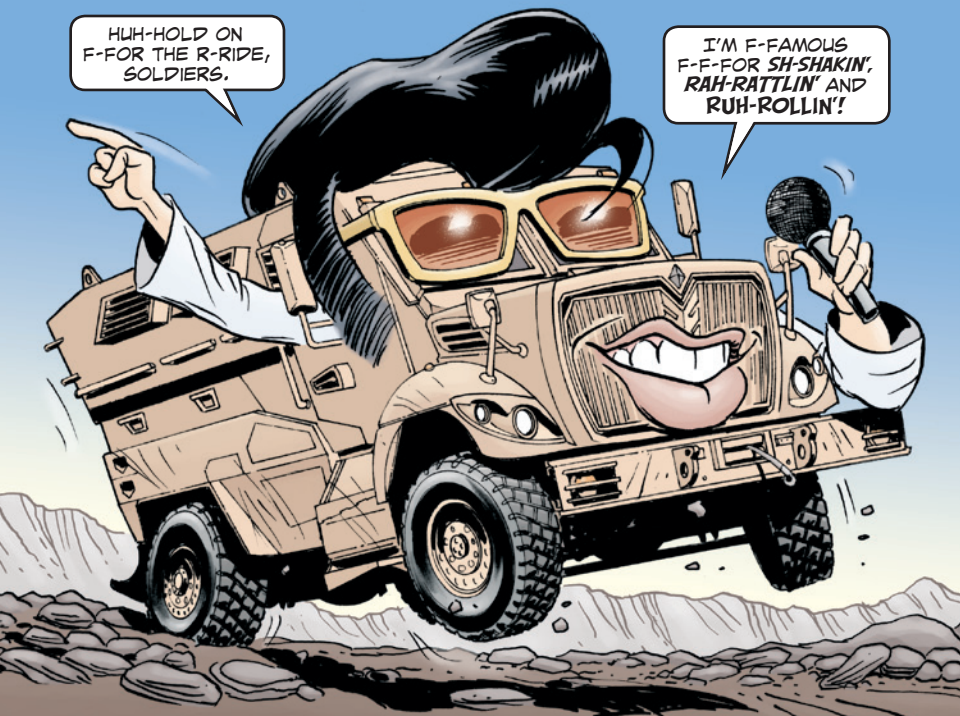
DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 340312, requirements for TB 43-PS-Series.

Would You Stake Your Life ^{right now} on the Condition of Your Equipment?

ALL SHOOK UP

HUH-HOLD ON
F-FOR THE R-RIDE,
SOLDIERS.

I'M F-FAMOUS
F-F-FOR SH-SHAKIN',
RAH-RATTLIN' AND
RUH-ROLLIN'!



**DON'T LET THAT MRAP
ROCK OR ROLL YOU!!**

KEEP ROLLOVER TRAINING UP-TO-DATE!

VISIT THE DRIVER'S TRAINING TOOLBOX

<https://safety.army.mil/drivertrainingtoolbox/>