

**PS****THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY****ISSUE 723 FEBRUARY 2013**

TB 43-PS-723, 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**

M2/M3 Bradley M242 Automatic Gun PM  
M1A2 SEP Tank HPPDU Cover Gasket  
M1 Tank Roadwheel Arm Bump Stop Brackets  
M109 SP Howitzer Travel Lock Friction Linings  
M119A1 Towed Howitzer DA Form 2408-4

**WHEELED VEHICLES**

FMTV Front Gladhands Coupling  
M978A4 HEMTT Tanker Fuel Pump Replacement  
Winter Weather Safety, Maintenance Tips

**COMBAT ENGINEERING**

HMEE-1 Backhoe PM  
Forklift Tine Adjustment Safety

**CBRN**

PATS Troubleshooting Tips

**AVIATION**

UH-60/AH-64/CH-47 Tow Bar Removal  
Primary Survival Gear Carrier Snap NSNs  
UH-60M Stabilator Protection  
OH-58D Aft Fairing Flange Check  
AH-64A/D TADS Turret Tips

PM Deal or No Deal

2

**SMALL ARMS**

35

2-4 M16 Rifle, M4/M4A1 Carbine Cleaning Kit NSN 35  
5 Close Quarters Battle Kit NSN Changes 35  
6-7 Machine Gun Mounts TM Numbers Wrong 36  
8 Machine Gun Mounts Tripod Serial Number 37  
9 M240H Machine Gun Feed Tray Cover 37  
38-39 Laser Target Locators LILs, EICs 38-39  
M249 Machine Gun MWO Check 39  
M249 Machine Gun Buttstock Clarification 40  
MK 19 Machine Gun Revetment TM 40

**MISSILES**

41

Patriot Antenna Element Removal Tool

**SOLDIER SUPPORT**

42

16-17 VMR2 Minehound Battery Tips 42  
18 Lightweight Performance Hood Provides Protection 43  
Laundry Advanced System Reminder 44  
PDISE Cadmium Corrosion Precautions 45-47

**COMMO/ELECTRONICS**

48

19-21 Generator Grounding Safety 48-50

**LOGISTICS MANAGEMENT**

51

22 DD Form 1348-6 Clarification 51  
23 Improving EOH Readiness Ratings 52-53  
24 Packaging Methods, Part II 54-56  
25 Knowledge Center Key to PA-CSDP 57  
26 PS Magazine Info Usage 58-59

Connie's Post Scripts

60-61

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)**  
**5307 Sparkman Circle**  
**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:

**RAYMOND T. ODIERNO**  
General, United States Army Chief of Staff

Official:

*Joyce E. Morrow*  
**JOYCE E. MORROW**

Administrative Assistant to the Secretary of the Army

1300905

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Redstone Arsenal, AL 35898-5000. 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), 5307 Sparkman Circle, Redstone Arsenal, AL 35898-5000.

Issue 723

**PS**

February  
2013

THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY

TB 43-PS-723

Approved for  
Public Release;  
Distribution is  
Unlimited

**GRARH!**

I'M USING ALL MY  
STRENGTH! WHAT IS  
PROTECTING THESE  
SOLDIERS?

LET OLD MAN  
WINTER DO HIS  
WORST...

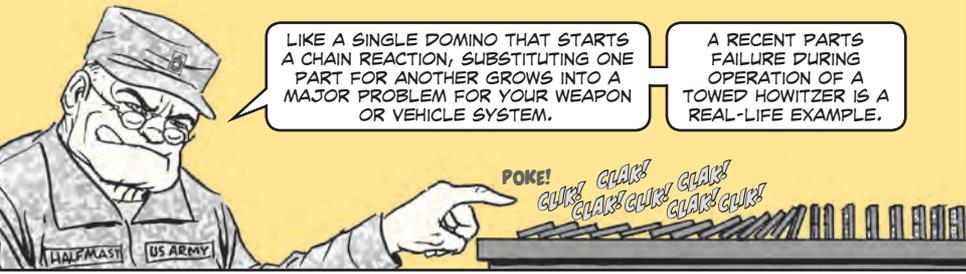
...WE'VE  
DONE OUR  
PM!

**YEP!  
WE'RE  
GOOD-  
TO-GO!**

**THWART  
OLD MAN  
WINTER!  
SEE PAGES  
12-15**



# THE DOMINO EFFECT



Gearbox bolts for that specific howitzer were designed to hold under tremendous stress—the kind of stress that’s created from the weapon’s heavy recoil. But a handful of lower-grade bench stock bolts were used instead. These “substitute” bolts sheared off when the howitzer was fired.

Plain and simple, this failure was caused by four bolts that weren’t called out in the parts manual. The end result was a weapon system that was down for the count!

Mechanics, there should be no doubt about what parts to use on Army equipment. Order and use what’s called out in the TM.

The domino effect is real. Protect yourself, your equipment and your fellow Soldiers by using the right parts every time.



ISSUE 723 FEBRUARY 2013

TB 43-PS-723, 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.

<b>COMBAT VEHICLES</b>	2	<b>SMALL ARMS</b>	35
M2/M3 Bradley M242 Automatic Gun PM	2-4	M16 Rifle, M4/M4A1 Carbine Cleaning Kit NSN	35
M1A2 SEP Tank HPDU Cover Gasket	5	Close Quarters Battle Kit NSN Changes	35
M1 Tank Roadwheel Arm Bump Stop Brackets	6-7	Machine Gun Mounts TM Numbers Wrong	36
M109 SP Howitzer Travel Lock Friction Linings	8	Machine Gun Mounts Tripod Serial Number	37
M119A1 Towed Howitzer DA Form 2408-4	9	M240H Machine Gun Feed Tray Cover	37
		Laser Target Locators LINs, EICs	38-39
<b>WHEELED VEHICLES</b>	10	M249 Machine Gun MWO Check	39
FMTV Front Gladhands Coupling	10	M249 Machine Gun Buttstock Clarification	40
M978A4 HEMTT Tanker Fuel Pump Replacement	11	MK 19 Machine Gun Revised TM	40
Winter Weather Safety, Maintenance Tips	12-15	<b>MISSILES</b>	41
		Patriot Antenna Element Removal Tool	41
<b>COMBAT ENGINEERING</b>	16	<b>SOLDIER SUPPORT</b>	42
HMEE-1 Backhoe PM	16-17	VMR2 Minehound Battery Tips	42
Forklift Tine Adjustment Safety	18	Lightweight Performance Hood Provides Protection	43
		Laundry Advanced System Reminder	44
<b>CBRN</b>	19	PDISE Cadmium Corrosion Precautions	45-47
PATS Troubleshooting Tips	19-21	<b>COMMO/ELECTRONICS</b>	48
		Generator Grounding Safety	48-50
<b>AVIATION</b>	22	<b>LOGISTICS MANAGEMENT</b>	51
UH-60/AH-64/CH-47 Tow Bar Removal	22	DD Form 1348-6 Clarification	51
Primary Survival Gear Carrier Snap NSNs	23	Improving EOH Readiness Ratings	52-53
UH-60M Stabilator Protection	24	Packaging Methods, Part II	54-56
OH-58D Aft Fairing Flange Check	25	Knowledge Center Key to PA-CSDP	57
AH-64A/D TADS Turret Tips	26	PS Magazine Info Usage	58-59
<b>PM Deal or No Deal</b>	27-34	<b>Connie's Post Scripts</b>	60-61

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)**  
**5307 Sparkman Circle**  
**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:  
**RAYMOND T. ODIERNO**  
 General, United States Army Chief of Staff

Official:  
  
**JOYCE E. MORROW**  
 Administrative Assistant to the Secretary of the Army

XXXX

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Redstone Arsenal, AL 35898-5000. 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), 5307 Sparkman Circle, Redstone Arsenal, AL 35898-5000.

# BIG HELP FOR THE BIG GUY!

THE M2/M3-SERIES BRADLEYS' M242 AUTOMATIC GUNS CAN DO **POWERFUL DAMAGE** IF YOU'VE GIVEN 'EM THE **POWERFUL PM** THEY NEED.

HERE ARE A FEW WAYS TO **HELP** THE BIG GUYS...

PM FOR THE BIG GUY!

I LIKE THAT!



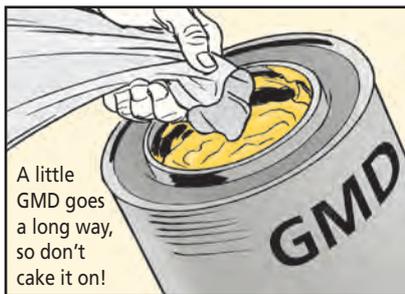
**Clean and lube the M242 according to the TM.** The M242 often goes for long periods without being fired. Unfortunately, it often goes through equally long periods of not being cleaned and lubed. If the M242 sits for long periods without lubrication, corrosion can do its worst. Then your M242 will need major repairs. So clean and lube your M242 weekly, whether you've fired it or not. And remember the **AFTER FIRING PMCS** when you're through firing for the day.

But don't get carried away with the GMD. If you cake GMD on the M242, the grease attracts dirt, which leads to jamming. The barrel is the first place corrosion attacks. It needs a **light** coat of GMD inside the locking lugs and barrel support bearings. Use CLP on the rest of the barrel. Give the outside of the breech a **light** coat of GMD. Follow the -10 of whichever Bradley version you're operating for cleaning and lubing the rest of the M242.



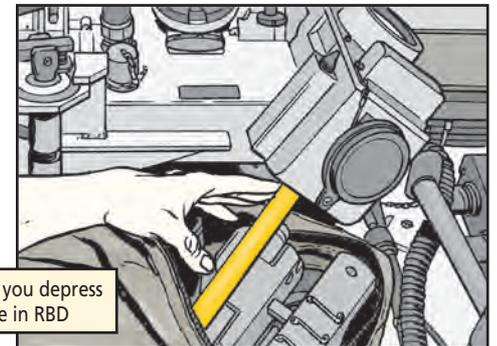
**HEY!** I'VE BEEN SITTING HERE FOR **THREE WEEKS!**

MY M242 NEEDS **CLEANING AND LUBING WEEKLY**, NOT JUST WHEN YOU FEEL LIKE IT!



A little GMD goes a long way, so don't cake it on!

**Make sure the feeder handle is in the locked (down) position before you depress or elevate the gun.** If the handle is up, it catches the commander's remote biocular display (RBD) and punches a hole in it. Both the feeder handle and RBD can be damaged.



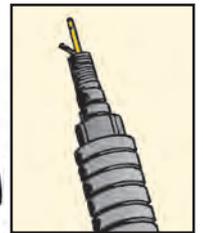
If feeder handle is not down when you depress or elevate gun, handle pokes a hole in RBD

**HANDS OFF THE RECOIL MECHANISM'S FLUID INDICATOR.**

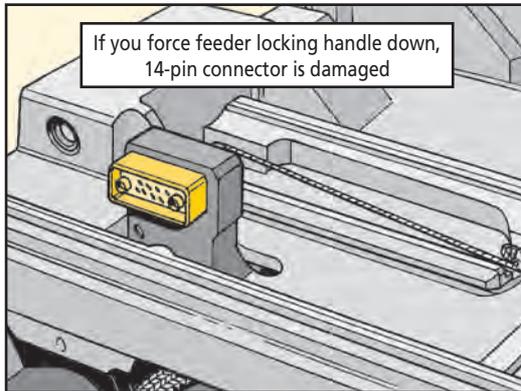
IN THE OLD DAYS, YOU PUSHED IN THE FLUID INDICATOR TO CHECK IF THERE WAS ENOUGH FLUID IN THE RECOIL MECHANISM. NOW THE INDICATOR IS A SELF-RETRACTING ROD.



**NOW IF YOU PUSH IT IN, IT STAYS IN AND THE WHOLE RECOIL MECHANISM HAS TO BE DISASSEMBLED.**



**Don't force the feeder handle down.** The result of muscling the feeder handle down into the locked position is a ruined 14-pin connector. Once you lock the drive shaft handle in place, the feeder handle should lock in place easily by using steady pressure with your thumbs. If it doesn't, call for your repairman. Something is wrong.



**BOLT WON'T LOCK IN SEAR?**

BEFORE YOU CALL YOUR REPAIRMAN, MAKE SURE THE MANUAL SEAR RETRACTOR IS FLUSH WITH THE SIDE OF THE RECEIVER.



**KEEP IT COVERED.**

IF YOUR BRADLEY IS GOING TO BE SITTING, COVER THE TURRET WITH THE BRADLEY'S TARP.

OTHERWISE, WATER COLLECTS IN THE M242'S FEEDER, WHICH LEADS TO MAJOR CORROSION AND OTHER PROBLEMS.

*SWHEW!* I'M GLAD THEY COVERED ME. ALL THIS RAIN COULD RUIN MY FEEDER!



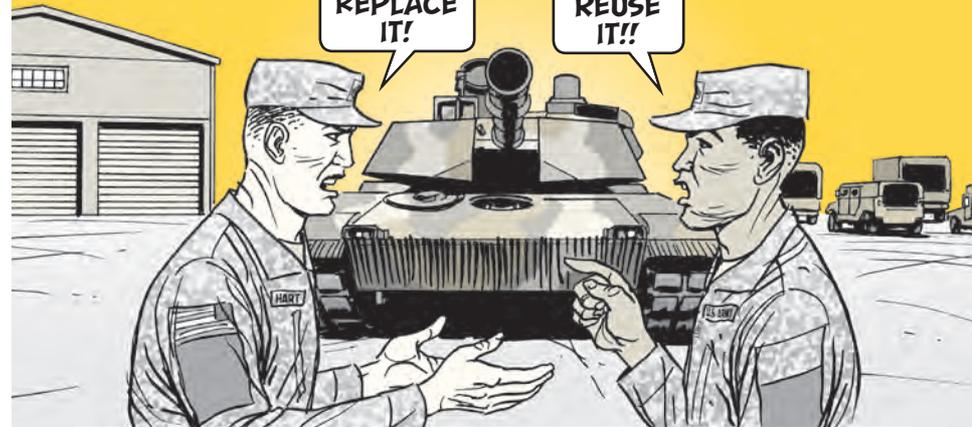
PS END

M1A2 SEP...

# REUSE OR LOSE THE GASKET?

REPLACE IT!

REUSE IT!!



Dear Half-Mast,

I need your help settling an argument. Whenever we have to open the hull power distribution unit (HPDU) on an M1A2 SEP tank for maintenance, I think we should replace the cover gasket, NSN 5330-01-355-6398. Some of the other mechanics in my unit say as long as the gasket isn't damaged, it's OK to reuse it.

The HPDU is very expensive to replace, so it seems to me that a \$25 investment for a new gasket is worth the money. What do you say?

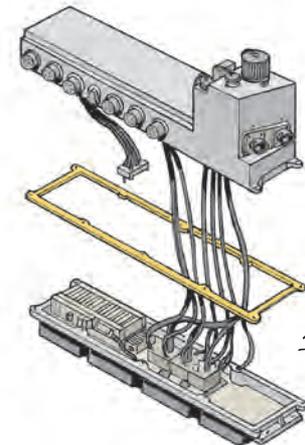
SSG M.S.H.

Dear Sergeant M.S.H.,

I say you hit the nail on the head! My contacts at TACOM tell me that a lot of these HPDUs have been failing because of leaky gaskets. And that's usually due to a mechanic reusing the seal instead of replacing it.

Remember, water and electronics don't mix. That gasket needs to be replaced any time the seal is disturbed or the HPDU is opened. You'll find the gasket replacement procedure in WP 0122 in TM 9-2350-388-40-1 (Feb 09).

Now get out there and spread the news!



Always replace gasket when HPDU is opened

Half-Mast

# SMOOTHING OUT THE BUMPS

M-MY R-R-RIDE WUH-WOULD  
 B-BE A L-LOT  
 SM-SMOOTHER IF THEY...



...W-WOULD J-JUST CH-  
 CHECK MUH-MY B-BUMP  
 STOP BUH-BRACKETS!

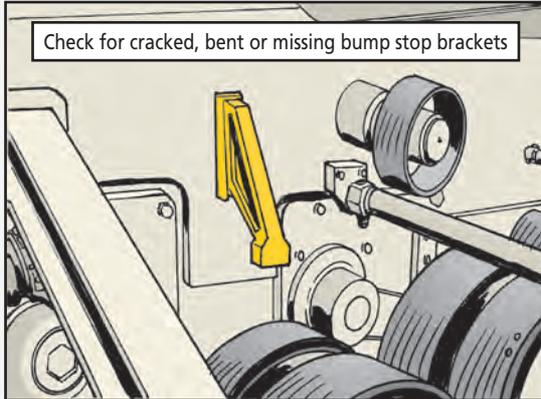
YOUR M1-SERIES TANK ISN'T EXACTLY A HIGH-PERFORMANCE SPORTS SEDAN, BUT YOU STILL WANT THE RIDE TO BE AS SMOOTH AS POSSIBLE.

THAT'S WHY IT'S IMPORTANT TO KEEP AN EYE ON THE ROADWHEEL ARM BUMP STOP BRACKETS!

The brackets are installed at the No. 1, 2 and 7 roadwheel arms to keep them from moving beyond their limits. If the brackets are damaged or missing, the roadwheel arms move too far and you end up with broken shocks and torsion bars.

So eyeball the bump stop brackets as part of your after-operation PMCS. Report any cracked, bent or missing brackets to your mechanic.

Check for cracked, bent or missing bump stop brackets



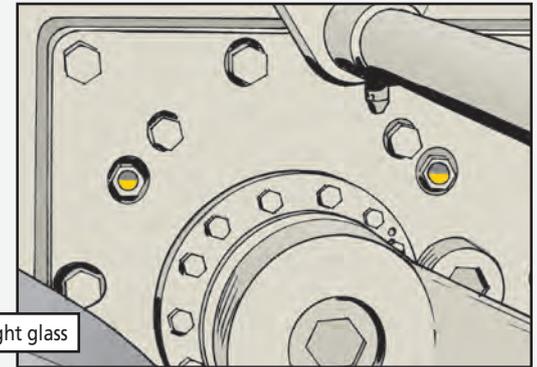
He'll replace the bump stop bracket behind the No. 1 roadwheel with NSN 5340-01-180-9847, behind the No. 2 roadwheel with NSN 5340-01-065-6143, and behind the No. 7 roadwheel with NSN 5340-01-180-9846.

## Shock Inspection

While you're looking at the bump stops, check the shock absorbers for leaks. The oil level should be halfway up the sight glass on the shock housing.

After operation, check for cold shock housings. A housing that's colder than the rest may not be working. Tell your mechanic.

Oil level should be halfway in sight glass



## Torsion Bars

IF YOUR TANK TILTS TO ONE SIDE OR THE NO. 1 OR NO. 7 ROADWHEELS ARE OFF THE GROUND, THE CULPRIT COULD BE A BROKEN TORSION BAR.

TRY LIFTING THE NO. 2 THROUGH NO. 6 ROADWHEELS USING A TANKER'S BAR.

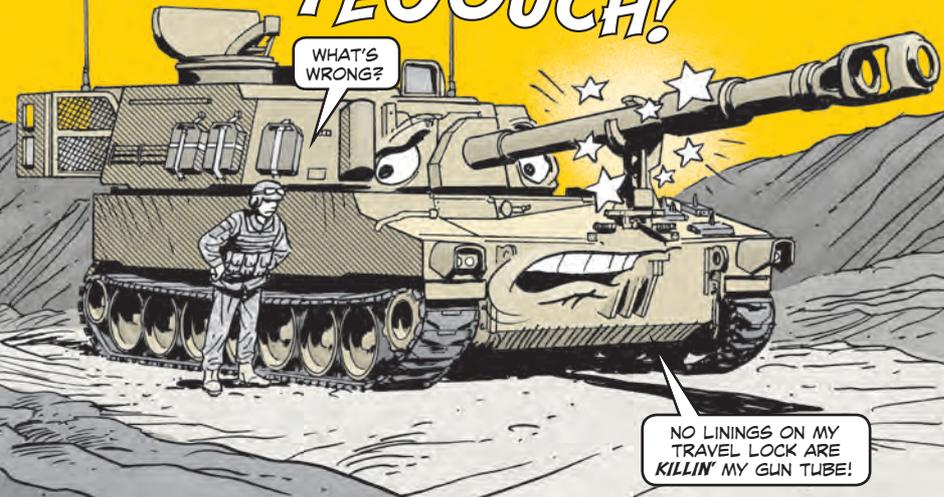
IF THE ROADWHEEL LIFTS, REPORT THE BROKEN TORSION BAR TO YOUR MECHANIC.

HE'LL REPLACE A BROKEN TORSION BAR WITH THESE NSNs...

Vehicle	Left-side, NSN 2510-	Right-side, NSN 2510-
M1A1 SA	01-063-5838	01-063-5837
M1A2 SEP V2	01-345-8881	01-345-8882

# GUN TUBE NEEDS FRICTION LININGS

## YEO OUCH!



**M**echanics, missing or worn-out travel lock friction linings can do a lot of damage to your howitzer's cannon tube. So check the linings and replace them if necessary. After all, linings are easier and cheaper to replace than cannon tubes!

The linings cushion the tube when it's in the travel lock, keeping metal from rubbing and scraping on metal.

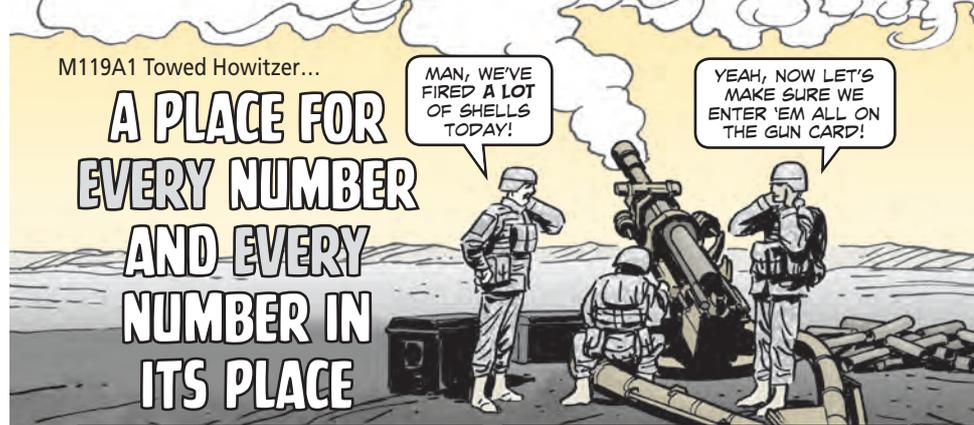
To replace the linings you'll need two of the same lining, NSN 2530-01-060-7229, for M109A2-A5s. The M109A6 takes a bottom lining, NSN 2530-01-354-0400, and a top lining, NSN 2530-01-354-0401.

Remove the old linings and adhesive residue with a wire brush. Apply new adhesive, NSN 8040-01-484-0416, to the replacement linings using an acid swabbing brush, NSN 7920-00-514-2417.

Install the new linings and leave the travel lock open and unused for one hour so the adhesive can dry.



# A PLACE FOR EVERY NUMBER AND EVERY NUMBER IN ITS PLACE

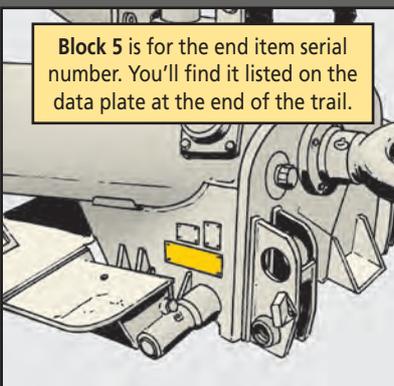


**C**rewmen, when you fill out the DA Form 2408-4, *Weapon Record Data*, after firing your M119A2 howitzer, remember this: Every data block is critical!

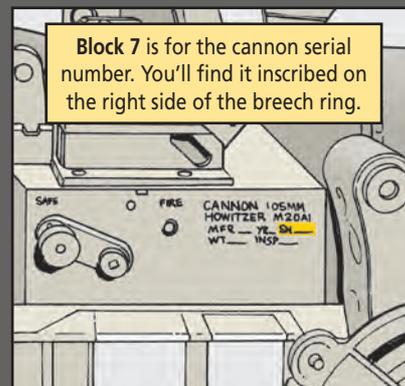
The equivalent full charge (EFC) count (blocks 10e-h) is important because it tracks the life span of the cannon and helps to ensure your safety.

But an accurate EFC count won't do you any good if it can't be tracked back to the right howitzer. That's where blocks 1, 5 and 7 come in.

**Block 1** is for the cannon tube's serial number. You'll find this number inscribed on the end of the tube, visible from the inside of the breech ring.



**Block 5** is for the end item serial number. You'll find it listed on the data plate at the end of the trail.



**Block 7** is for the cannon serial number. You'll find it inscribed on the right side of the breech ring.

And don't forget to keep the gun card updated electronically at the TACOM-Unique Logistics Support Applications (TULSA) website:

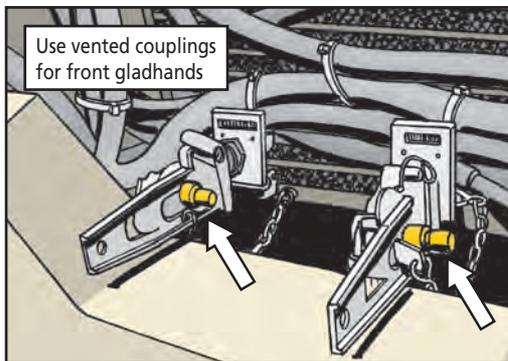
<https://tulsa.tacom.army.mil/guncard/index.cfm>

# GIVE GLADHANDS A HAND FOR GOOD BRAKES



Ever had problems with your FMTV brakes locking or the parking brake failing to engage or disengage? It could be that the front gladhands have been replaced with the wrong part.

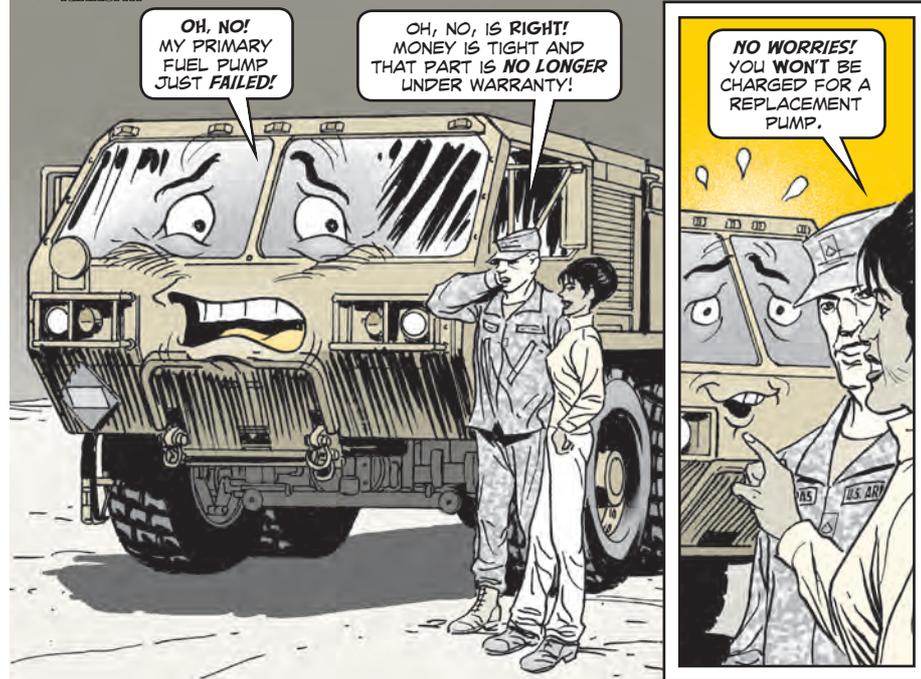
On FMTVs, the front gladhands must be vented to allow excess air pressure to escape from the brake lines. So when replacing the front gladhands, be sure to use the dummy coupling with the vented outlet, NSN 2530-01-477-6586. **Do not** use the same gladhand dummy couplings that are installed on the rear of the truck.



Another reason for locking brakes is a corroded check valve. A continuous flow of air out of the front gladhand's vent leads to corrosion in the gladhand's one-way check valve. That causes the check valve to stay open. Air will continue to flow through the gladhand, even after the excess pressure is vented. That's not supposed to happen, and your FMTV is considered NMC until the check valve, NSN 4820-01-443-5012, is replaced.

One easy way to stop the corrosion is to service the air dryers on your vehicle every 12,000 miles or annually, like the TM tells you.

# PUMP ELIGIBLE FOR FREE REPLACEMENT



Is your M978A4 HEMTT tanker out of warranty? Well, good news! If the primary fuel pump, NSN 4320-01-579-1044, fails, you can still get a free replacement pump! Just submit a PQDR to:

[warrantyclaims@defense.oshkoshcorp.com](mailto:warrantyclaims@defense.oshkoshcorp.com) and [dami\\_tacomdrs@conus.army.mil](mailto:dami_tacomdrs@conus.army.mil)

Oshkosh Defense Corporation will want a completed warranty claim request form, too. Get the form by contacting their service manager, Chris Schweitzer, at (920)235-9151, ext. 25744 or e-mail: [cschweitzer@defense.oshkoshcorp.com](mailto:cschweitzer@defense.oshkoshcorp.com)

Kenneth Freeman,  
[kenneth.freeman5.civ@mail.mil](mailto:kenneth.freeman5.civ@mail.mil)  
David Sultini,  
[david.d.sultini.civ@mail.mil](mailto:david.d.sultini.civ@mail.mil)  
Thomas Hughes,  
[thomas.w.hughes83.civ@mail.mil](mailto:thomas.w.hughes83.civ@mail.mil)  
Stephen Pedersen,  
[stephen.l.pedersen.civ@mail.mil](mailto:stephen.l.pedersen.civ@mail.mil)  
Carl S. Osterlund,  
[carl.s.osterlund.civ@mail.mil](mailto:carl.s.osterlund.civ@mail.mil)

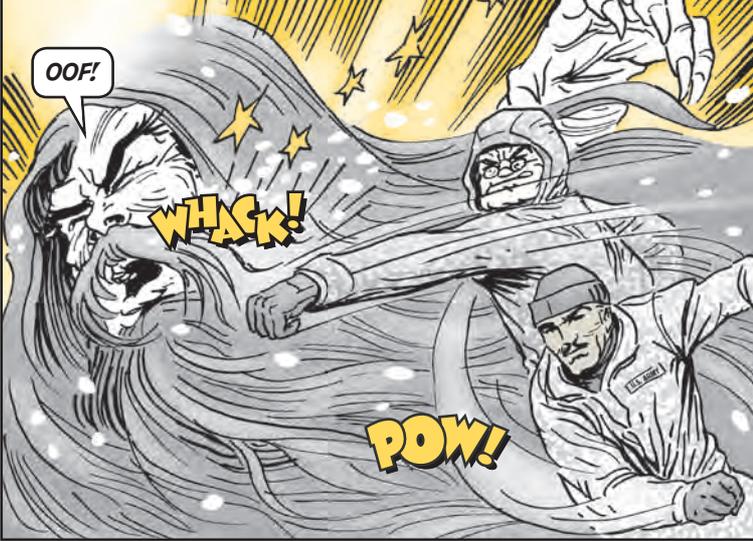


OR YOU CAN GO THROUGH THESE CONTACTS WITH PM HEAVY TACTICAL VEHICLES FOR ASSISTANCE...

Safety... **TACKLING OLD MAN WINTER!**

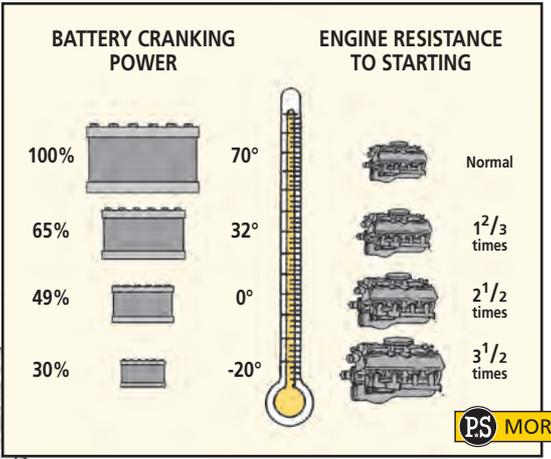
NOW THAT WINTER'S BACK, I'LL BE ABLE TO WREAK HAVOC AND CAUSE GRIEF ALL OVER AGAIN!

AND THERE'S NO ONE WHO CAN STOP ME!



- Winterize vehicles in September or early October, before the coldest weather sets in.
- Do PMCS by the book—your vehicle's TM. Check the following:
  - **Engine coolant.** Make sure the coolant is the recommended mix of antifreeze and water.
  - **Oil.** When the outside temperature changes, it affects the internal engine temperature, so use the right oil for current conditions.
  - **Battery.** Its life can be cut up to 30 percent shorter in winter. Daily start-ups can help recharge and extend battery life if you run the engine long enough. Aim for 30 minutes as an average. See more specific winter battery care tips on Pages 10-11 in PS 696 (Nov 10):

<https://www.logsa.army.mil/psmag/archives/PS2010/696/696-10-11.pdf>

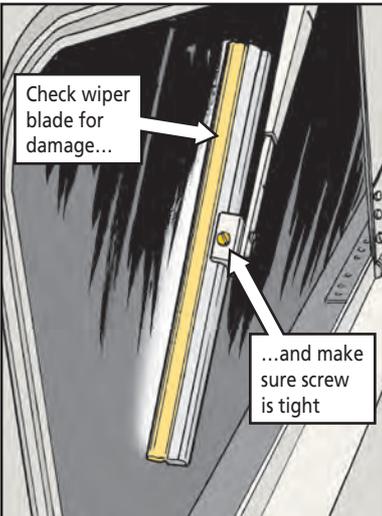


- **Lights, defroster and heater.** Make sure all components are working.

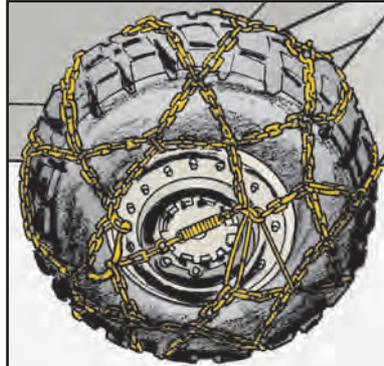
- **Tire-tread depth.** Check that it's within measurements.



- **Tire pressure.** Inflate tires to your vehicle's recommended psi. Properly inflated tires can help you gain better traction in wet or snowy conditions.
- **Brakes.** Ensure the brake lines and hoses are serviceable and brake fluid is at the proper level.
- **Windshield wiper blades and fluid.** Replace worn blades and fill the wiper fluid reservoir. Take time to clean the windshields, too. Precipitation and salt buildup on glass reduces visibility.



- **Basic issue items (BII).** Ensure BII inventory is complete and all items are in your vehicle.
- **Tire chains.** Verify they are the right size and in good condition. When you use chains, make sure they are properly installed. Remove slack. Loose chains can damage tires and axle components.



Install chains in ice and snow

- **Emergency kit.**



## On the Road

- When starting out, accelerate slowly with the front wheels pointed straight ahead. If road conditions deteriorate, don't overreact with quick starts, turns or stops.
- Keep your speed down and increase following distance behind other vehicles. A four-second gap is the minimal interval on slippery roads.
- Don't be overconfident. Even four-wheel drive vehicles slide on ice.
- Apply brakes with steady pressure to help prevent locked wheels and skids. If your vehicle starts skidding, lightly turn into the skid and ease your foot off the gas pedal until you regain control.
- Check and understand road conditions. Know the differences. Vehicle operations may start out as GREEN or AMBER, but could change to RED or BLACK during your mission.

Never slam on the brakes! Front wheels lock with heavy braking and you lose steering.



## Road Conditions Refresher

- GREEN:** Road conditions normal.
- AMBER:** Military vehicles will not be driven on roads except for essential official business. Commander may be directing authority.
- RED:** Same as amber, except directing authority is officer with 0-5 rank or above. Government vehicles required to travel will use tire chains or other similar devices designed for heavy snow conditions.
- BLACK:** Roads generally impassible due to landslides, washouts, ice, etc. All government owned/leased/operated vehicles prohibited from movement. Commanders 0-6 or above may authorize emergency vehicles to operate after risk assessment. If snow or ice caused the road conditions, tire chains or similar are required.

Note: Check with your garrison or installation safety office for current road conditions. For more information on PMCS and other vehicle-related topics, check out the USACR Driver's Training Toolbox at:

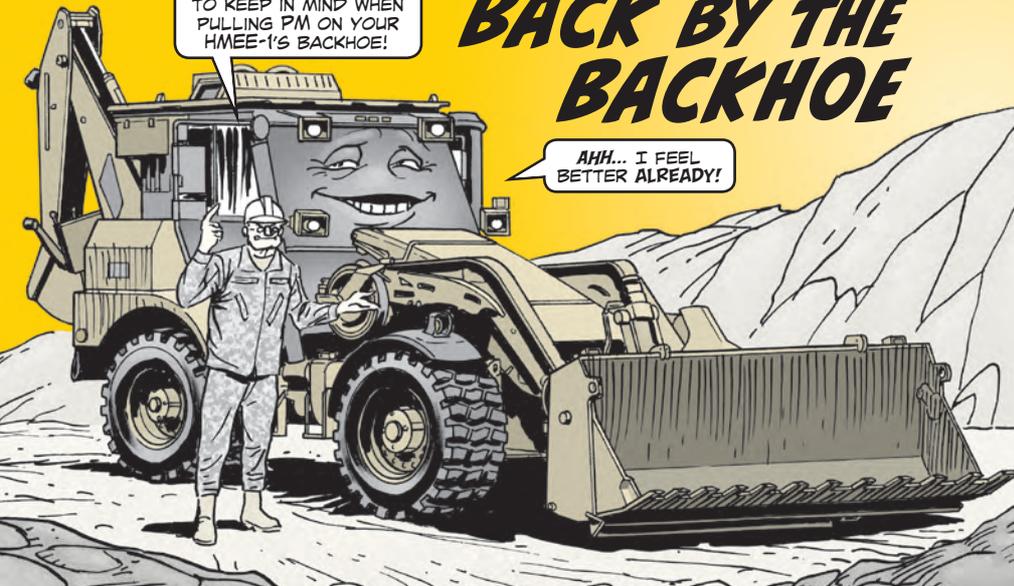
<https://safety.army.mil/drivertrainingtoolbox/>

HMEE-1...

HERE ARE A FEW TIPS TO KEEP IN MIND WHEN PULLING PM ON YOUR HMEE-1'S BACKHOE!

# BACK BY THE BACKHOE

AHH... I FEEL BETTER ALREADY!



KEEP THESE TIPS IN MIND BEFORE THE DAY'S RUN AT THE WORKSITE.



## Swing Lock Pin

Operators, pay close attention to the WARNING statement on Page 0004-79 of TM 5-2420-232-10 (Mar 09 w/Ch1, Sep 12).

Make sure the swing lock pin is installed in the backhoe frame's aligned holes before traveling on the roadway.

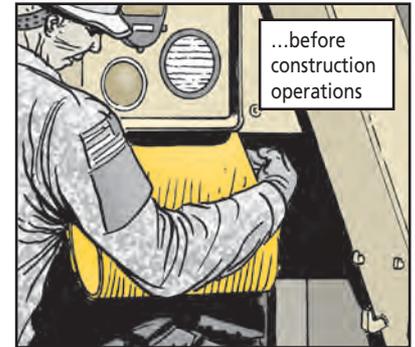
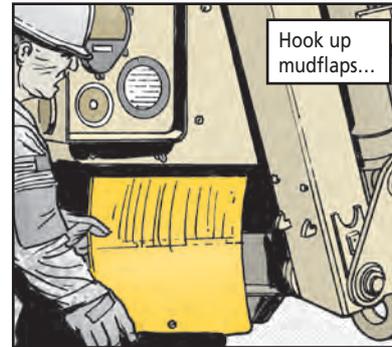


Make sure swing lock pin is installed before travel

That way the backhoe can't swing sideways during travel, causing injury to personnel or equipment. Also, make sure the pin is firmly in place when the vehicle is parked with the backhoe in the stowed position. With the pin in place, there's less wear-and-tear on the vehicle's hydraulics.

## Mud Flaps

Be sure to hook up the excavator's mud flaps before you start construction operations. If you don't, the flaps can end up on the ground.



Flaps can get caught up in brush, concertina wire and the vehicle's rear wheels. Before you know it, they're gone.

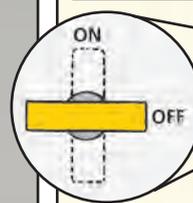
So save a flap. Use the flaps' special hooks and keep 'em out of the way!

## King Post Lube

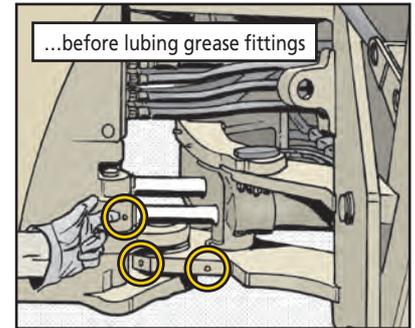
There are nine grease fittings on the king post that need your attention. Make sure you lube 'em once a month.

But before you grab the grease gun, make sure the vehicle's master disconnect switch is turned off. This step keeps the engine from being started while you're working around the backhoe.

Turn battery disconnect switch to OFF...



...before lubing grease fittings



BY THE WAY, YOU'LL FIND THIS SAME INFO AS A WARNING ON PAGE 0017-36 OF THE -10 TM.



# TINE ADJUSTMENT REMINDER

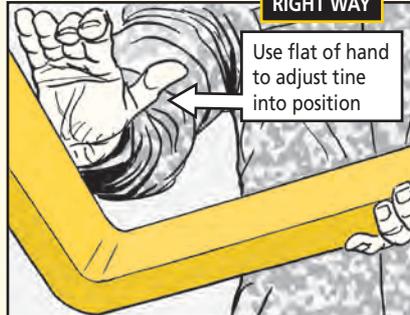
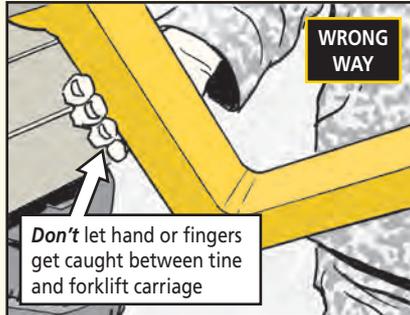
WHAT HAPPENED TO YOUR HAND?

IT GOT CRUNCHED WHEN HE WAS ADJUSTING MY TINES!



Operators, don't throw caution to the wind when you adjust the tines on your forklift.

When you need to adjust the tine laterally (back and forth), grab the end of one tine and lift up. Then use the flat of your other hand to adjust the tine in position. Don't let your hand or fingers get caught between the tine and forklift carriage, though. A dropped tine can easily hurt or sever a finger!



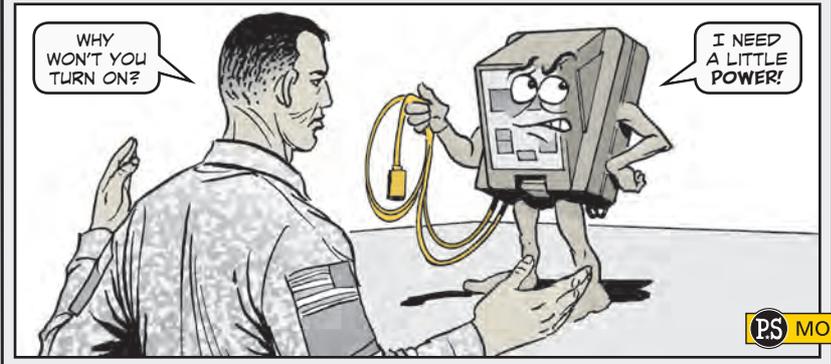
## GET PATS TROUBLESHOOTING DOWN PAT

Dear Editor,

Through years of experience supporting the M41 protection assessment system (PATS), we've developed a troubleshooting guide for common PATS problems. Keep these tips handy:

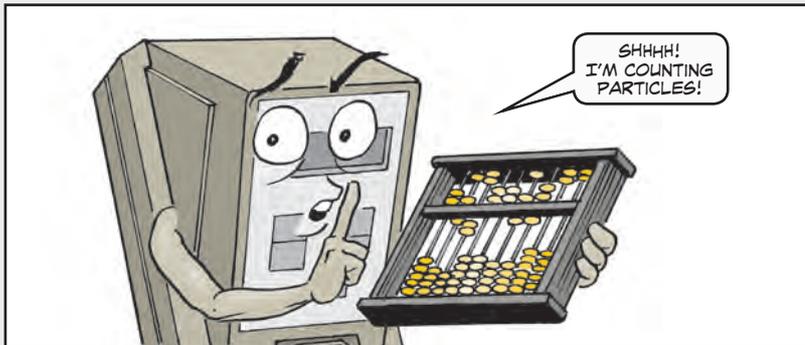
**PATS won't turn on**

- Is the power supply plugged into both the power outlet and PATS?
- Does the power outlet have power?
- Is the power supply working? Try another power supply if available.



### *PATS won't measure any particles*

- Is the alcohol cartridge installed?
- Are you using reagent grade alcohol (99.5 percent or greater) in the alcohol fill capsule?
- Is the alcohol wick properly installed in the alcohol cartridge?
- Is the nozzle blocked? See WP 14 in TM 3-4240-349-12&P (Nov 99) on how to clear it.



### *Alcohol cartridge fits too tight or is difficult to turn*

See the alcohol cartridge technical note in WP 0015 00-1 of TM 3-4240-349-12&P.

### *Low alcohol warning comes on*

Re-soak the alcohol wick in the alcohol fill capsule. But check that the alcohol level is to the fill line in the alcohol fill capsule before re-soaking.

### *Too much humidity*

- Replace the alcohol wick with one of the spare wicks.
- Dry out the wick by putting it in a well-ventilated area with less than 50 percent humidity for at least 16 hours. This will dry out any water in the wick. Never throw out a wick. It can be reused.
- Turn off or lower the output setting of any water-based particle generator, such as an ultrasonic humidifier.



### *Fails zero check*

- Are the green and silver inlet ports loose? If they are, hand-tighten the ports and then use pliers to turn each inlet an additional 1/8 turn.
- Is the HEPA filter leaking? Use a different HEPA filter. If that doesn't work, connect two filters together with a small piece of tubing and try the zero check again.
- Is the ambient particle concentration too high? If a particle generator is being used, move it at least 6 feet from the PortaCount® fit tester.



### *Fails minimum particle check*

The ambient particle concentration may be too low. Use a particle generator to raise the ambient particle concentration. The ideal concentration is 1,000-8,000 pt/cc.

### *The fit test stops or the overall fit factor is below the pass level*

- Is PATS passing the daily checks? If it is, check the mask or mask adapter for particle leaks. Check the mask adapter for dirt, corrosion, nicks or cracks. Clean away dirt or corrosion. Nicks and cracks mean the adapter may need to be replaced. To check the mask, do a quick PMCS like it says in the -10 TM.
- Is the ambient particle concentration too low? Use a particle generator to generate a concentration of 1,000-8,000 pt/cc.

### *Room for Help*

Ideally, the room for testing should be approximately 20 x 20 feet. Position the fit test station near the room's return air grid. Close or cover the supply air diffuser and return air grid. Keep the room's doors closed. And, of course, keep a copy of TM 3-4240-349-12&P handy.

Jerry Young  
Aberdeen Proving Ground, MD

*Editor's note: You do have PATS troubleshooting down pat, Jerry. Read and save this, CBRN specialists. It will help make PATS testing a snap.*



# NO HALF STEPPIN' AND NO KICKIN'!



IF I GOTTA GET YOU LOOSE, I MIGHT AS WELL HAVE FUN DOING IT!

HEY! YOU CAN'T JUST GO KICKING EVERYTHING YOU SEE!

Mechanics, there's a right way and a wrong way to remove the tow bar from your aircraft.

For the Apache A and D models and the Chinook, simply follow the IETM and TM procedures for removal and installation. If your TM does not have the procedure for disconnecting the tow bar from your aircraft, here's the rule of thumb:



FOLLOW THE TOW BAR CONNECTION STEPS IN THE TM IN REVERSE ORDER, WHICH MEANS YOU WOULD DISCONNECT THE TOW BAR FROM THE TOW VEHICLE FIRST, AND THEN FROM THE TAIL WHEEL AXLE TOW POINTS.

HALF-STEPPIN' ON THE JOB TO SAVE SOME TIME BY KICKIN' THE TOW BAR LOOSE FROM THE AIRCRAFT WITHOUT FIRST DISCONNECTING IT FROM THE TOW VEHICLE IS THE **WRONG WAY.**

Any residual load or pressure not removed by disconnecting the tow bar from the tow vehicle first means you add unnecessary and excessive force to disconnect the tow bar from the aircraft. This causes excessive wear and tear to the aircraft's copper alloy bushings that are used on the tow points. Kicking the tow bar loose could also cause it to land on your foot! **Ouch!**

We have the best equipment in the world and it's up to you to take care of it. Start by putting your hands on the tow bar to remove it from the tow vehicle and then from the aircraft. And keep your feet on the ground!

# Snap Into Your PSGC



MY SNAPS ARE ALL SCREWED UP!

I'LL FIX YOUR VEST RIGHT UP. THIS PS ISSUE HAS THE NSNS FOR THE SNAPS.

Snapping into your primary survival gear carrier (PSGC), NSN 8415-01-513-8143, is hard to do when you can't find replacement snaps for the pockets.

If you have defective snaps on your PSGC carrier pockets and there's no stock on hand, you can order them.

The snaps you need can be found in the Expendable and Durable Items List in TM 1-1680-377-13&P-1. Check out WP 0137 00-1, items 23-30. Although the TM lists the snaps by part number, cross referencing each one in FED LOG, will get the NSNs you need.

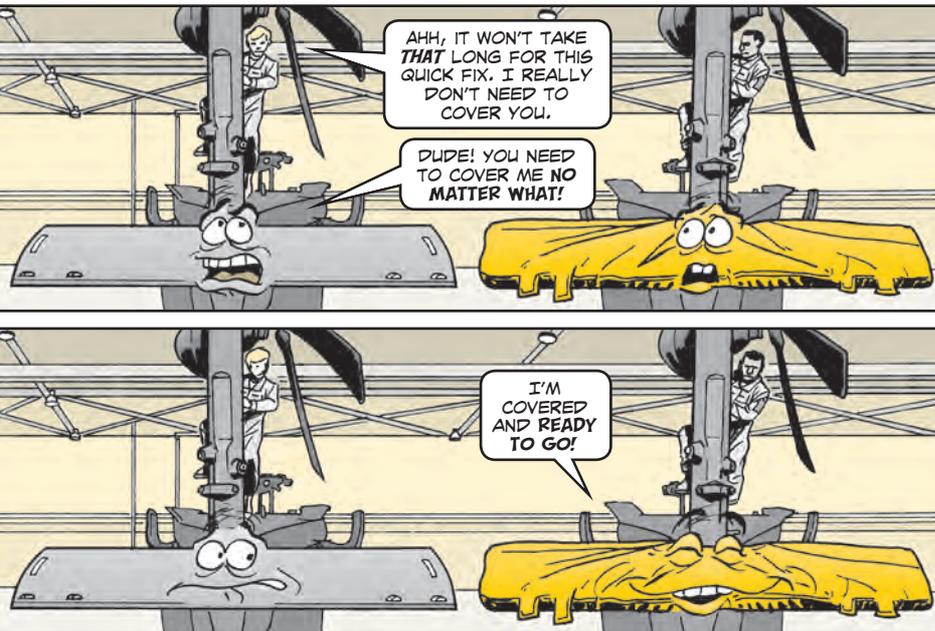
HERE ARE THE NSNS TO SPEED UP THE PROCESS...

IF YOU NEED TO REPLACE DEFECTIVE SNAPS ON THE CARRIER POCKETS, FOLLOW THE GOOD WORDS IN WP 0094 01 OF TM 1-1680-377-13&P.



Part number	NSN 5325-
MS27980-4B	00-350-9035
MS27980-5B	01-112-8744
MS27980-6B	00-285-6250
MS27980-8B	01-023-3843
MS27983-1	00-891-9073
MS27983-2	00-893-6243
MS27983-3	00-276-4908
MS27983-4	00-276-4978

# Protect Aircraft Folding Stabilator



**M**echanics, when you're working on the Black Hawk tail rotor, put a cover on the stabilator no matter how carefully you think you are gripping a tool.

Protecting the Black Hawk stabilator from dropped tools keeps your aircraft off the NMC list. That's why the cover is important. Even the best mechanics get butterfingers every now and then.

Black Hawk M-models have a folding composite stabilator that consists of three sections. One dropped tool means you'll be replacing the damaged section. That's because there are no field repair procedures for composite stabilator sections. That's right, you will have to turn the damaged section of a stabilator in to tech supply for a trip back to the Depot for evaluation and repair.

So, gone are the days when you could call the sheet metal shop to do skin patch repairs and send the aircraft on its way.

Since the new M-model comes with a cover, there is no excuse not to have it in place while doing tail rotor maintenance.

If you forget the cover and drop a tool on the stabilator, you or your unit will be on the hook for the replacement cost to the tune of \$39K for the center section, and \$33K for the left and right sections.

Now that will certainly hurt somebody's pocketbook because the total tab for all three sections of the stabilator cost about \$107K.

# HANDLING THE GAP AND DUCT PLIERS

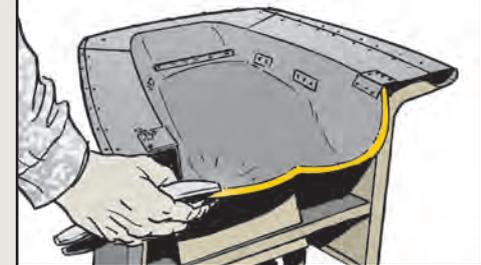


**M**echanics, dealing with the Kiowa Warrior aft fairing can be a headache, especially when you try to install it without the gap.

Before you install the aft fairing, check the flange to see if there are burrs, jagged edges or bends. Use duct pliers to smooth out and straighten the flange. This helps during installation.

When you install the aft fairing to the engine cowl, try not to push the cowl's fire-proof strip out of place or the strip will come off.

Before installing fairing, straighten flange



Without the protection of the fire-proof strip, the metal airframe cowlings and the duct assembly can crack. That allows more heat into the engine area, resulting in an overheated engine.

So instead of jamming the aft fairing in place and damaging the flange and the fire-proof strip, use the gap technique.

When installing the aft fairing, create a 1/4-in gap between the engine pan and the aft firewall fire-proof strip. Here's how:

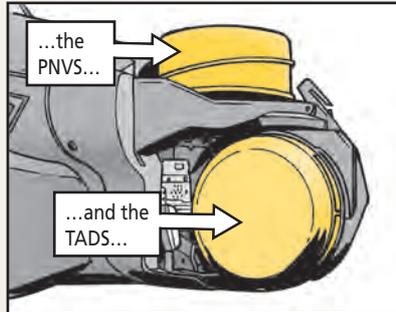
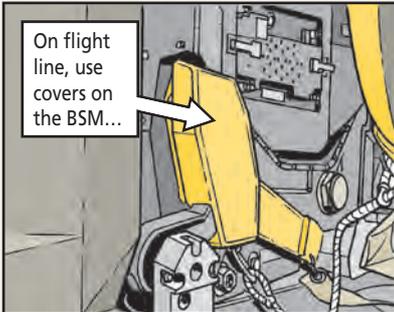
1. Unfasten the dzus fasteners on the aft end of the engine cowl.
2. Open the engine cowl doors.
3. Support the engine cowl doors with prop rods.
4. Lift the aft end of the engine cowl to create a 1/4-in gap between the engine pan and the aft firewall fireproof strip.
5. Place the aft fairing in position and slide it into the gap.
6. Fasten the dzus fasteners and you're good to go for the next mission.

# TADS Turret Tips



**A**ircraft armament personnel, treat your AH-64's target acquisition designation sight (TADS) with care to ensure uninterrupted operation. Here are some tips to make that happen.

When the aircraft sits on the flight line, leave the covers in place on the boresight, dayside and nightside optic lenses to protect them from dirt and debris being thrown around by taxiing aircraft. Also, make sure you keep the pilot night vision sensor (PNVS) cover on when not in use. That goes for the boresight module (BSM), too. They have lenses. If the lenses get scratched, the TADS can't see and will not auto align. That makes your aircraft partially non-mission capable.

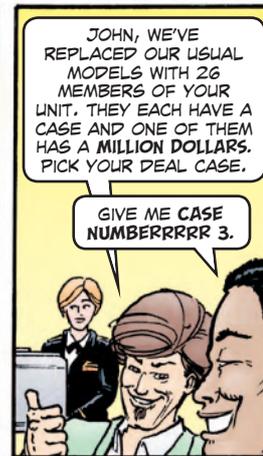


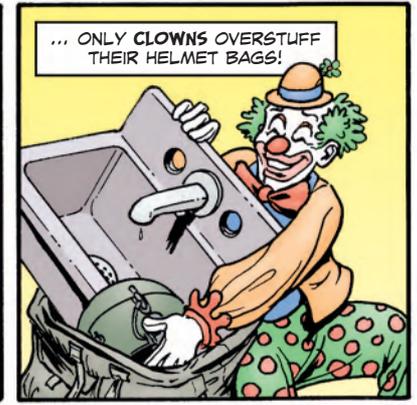
Another tip is to remove the covers from the TADS lenses before powering up the aircraft. If you don't, there won't be enough clearance between the TADS components to rotate the turret. If you force it as you move the TADS without removing the covers, you could damage the system. Also, if the covers are left on while powering up the aircraft, their elastic cords could get jammed into the TADS drive gear and bearing plate.

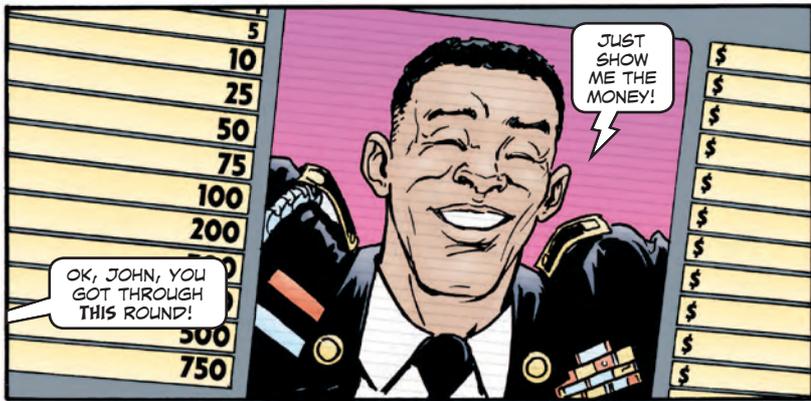
To give your TADS the best protection, use the covers when the system is not in use and remove the covers before you power up your aircraft.

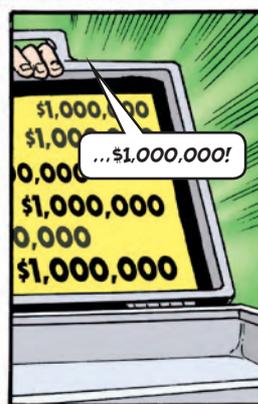


## PM DEAL NO DEAL











# M16-Series Rifle, M4/M4A1 Carbine... Cleaning Kit NSN Changes



If you need the improved cleaning kit for your M16 rifle or M4/M4A1 carbine, don't use NSN 1005-01-558-7980 to order it. That NSN is no longer any good.

Instead, use NSN 1005-01-562-7393. This NSN will be added to the next update to TM 9-1005-319-10.

Remember that the cleaning kit doesn't include every single thing you may need for cleaning your weapon. The -10's Expendable and Durable Items section lists other items you may need, such as wiping rags or arctic lubricating oil.

Keep in mind, too, that this cleaning kit shouldn't be used with other weapons. The M249 machine gun, for example, may fire the same ammo as the M16 or M4/M4A1, but the M249 needs different cleaning brushes. If you use the M16's bore brush on an M249, you could damage the machine gun's barrel.

Be smart and read your TM before you start. Then do what it tells you.

## Close Quarters Battle Kit Changing

NSNs for several of the items in the close quarters battle (CQB) kit are changing. TM 9-1005-319-10 will be updated to include the new NSNs, but in the meantime note these changes:

**Improved weapons cleaning kit:**

NSN 1005-01-558-7980 changes to NSN 1005-01-562-7393

**Grip bipod:**

NSN 1005-01-541-1772 changes to NSN 1005-01-563-8451

**Forward rail bracket:**

NSN 1005-01-541-2476 changes to NSN 1005-01-562-1866

**Multi magazine holder:**

NSN 1005-01-541-2477 changes to 1005-01-562-9455

**Tactical (quick-release) sling:**

NSN 1005-01-541-1771 changes to NSN 1005-01-562-9457

**Squad designated marksman (SDM) bipod:**

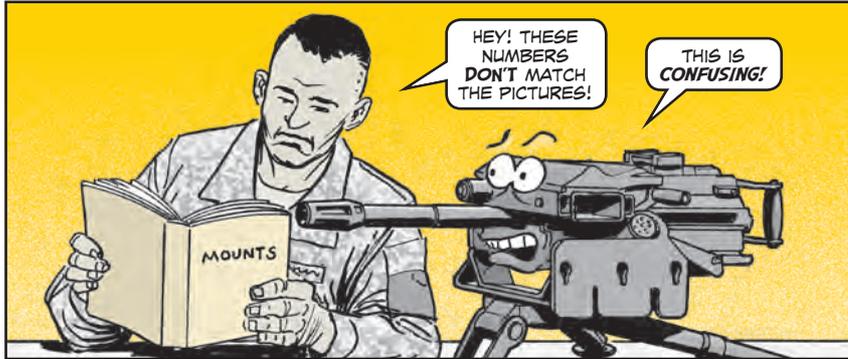
NSN 1005-01-558-6664 changes to NSN 1005-01-563-0152



ONLY THE NSNs ARE CHANGING FOR THESE ITEMS, NOT THE ITEMS THEMSELVES.

CONTINUE TO USE THE ITEMS YOU ALREADY HAVE. THEY ARE STILL AAL FOR YOUR WEAPON.

# Mount TM Numbers Wrong



Dear Editor,

The machine gun mounts' TM 9-1005-245-13&P (Apr 05) needs a little fixing. It has the numbers wrong on the equipment description for the MK64 machine gun mounts MOD 5 and MOD 6 on WP 0071 00-1. After #4, the numbers don't match the items shown on the page. That makes it a real puzzle when you try to cross reference from Table 2 on WP 0071 00-8.

The second sentence should read like this:

"The modifications are composed of various combinations of major components consisting of a Carriage and Cradle Assembly (1), Pintle Adapter Assembly (2), Universal Pintle Adapter (3), Elevation Mechanism Assembly (4), .50 Caliber Mounting Adapter Assembly (5), Platform Assembly (6), Machine Gun Mount Cover (7), Catch Bag Assembly (8), .50 Caliber Ammunition Can Adapter Assembly (9), Multipurpose Ammunition Can Bracket Assembly (10), Train and Elevation Assembly (11)."

SSG Michael Blaz  
Mountain View, CA

*Editor's note: Good catch, Sergeant. This will be corrected in the next change to the TM. In the meantime, repairmen, update the TM with the correct numbers.*



# Why No Tripod Serial Number?



Dear Half-Mast,

In the past, the M3 tripod had a serial number stamped on it by the manufacturer. But the new M3s come without a number, which makes it difficult for property book officers and supply sergeants to keep track of them. What is the solution?

SGT C.H.

Dear Sergeant C.H.,

The Army now has a rule that they don't put a serial number on any item that costs less than \$5,000. The M3 falls into that category.

The easiest solution for tracking the M3 is to create a serial number for each tripod. But don't stamp the number on it. That causes problems when you turn in the tripod because it's considered a modification. Instead, stencil the number on.

One other option is to have your property book officer create an exception code for the mount in PBUSE.

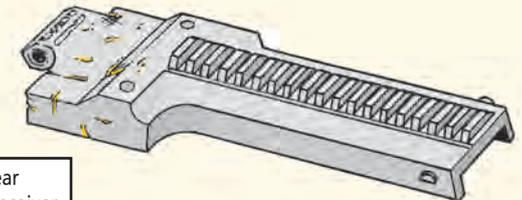
*Half-Mast*

# HANG ON TO FEED TRAY COVER

**P**owerful aircraft rotor wash is pushing the M240H machine gun's feed tray cover to the cracking point. Once the cover is cracked, it must be replaced.

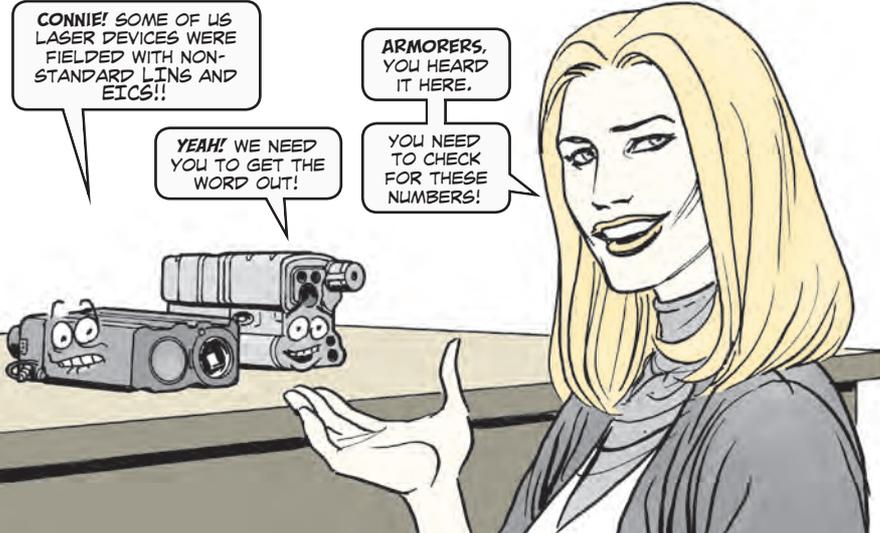
There's an easy way to protect the cover from cracks: If you're loading, unloading, or clearing the M240H while the rotor is turning, you must maintain control of the cover so it can't be pushed to the cracking point by rotor wash.

Make sure your M240H's cover hasn't already cracked. Look for cracks on the cover near its pivot point with the receiver. If you find any, tell your armorer.



Look for cracks near pivot point with receiver

# Use Correct LINs and EICs



**D**uring the rapid fielding initiative (RFI), several laser target locators were fielded using non-standard line item numbers (NSLINS), such as Z00692. Some of these systems may have been picked up as a substitute for the AN/PVS-6 (LIN M74849).

Property book officers should immediately change these NSLINS to the correct LINs to ensure asset visibility and property accountability. In addition, end item codes (EICs) have been assigned to all laser range finders and laser target locators. These should be added to the property book.

Here are the correct LINs and EICs:

LIN	Model	NSN	Common name	Official nomenclature	End item code
T27471	AN/PED-3	1240-01-538-4212	Mark VII LTLS	Target locator module	4XD
T27471	AN/PED-3A	1240-01-562-8083	Vector21 LTLS	Target locator module	4XE
L05003	AN/PED-4	1240-01-562-8084	Mark VIII LTLM	Target locator module	4XB
L05003	AN/PED-5	1240-01-590-4552	TRIGR LTLM	Target locator module	4XC
J68653	AN/PSQ-23	5855-01-535-1905	STORM (black)	Integrated small arms illuminator	4XF
J68653	AN/PSQ-23	5855-01-577-5946	STORM (tan)	Integrated small arms illuminator	4XG

If you have unserviceable laser range finders or laser target locators, turn them in so they can be fixed and returned to the field. Your property book officer should report them to National Inventory Control Point (NICP) B14 using an FTE (report of excess) and follow the instructions in Chap 7 of AR 725-50 (Nov 95), *Requisition and Issue of Supplies and Equipment*. The NICP will provide disposition instructions through an FTR (reply to report of excess) with exception data that includes detailed disposition and shipping instructions. All items **must** be turned in complete.

If you have questions about laser target locators, contact Mauricio Martinez at DSN 312-654-3320, (703) 704-3320, or email:

[mauricio.d.martinez.civ@mail.mil](mailto:mauricio.d.martinez.civ@mail.mil)

Direct laser range finder questions to Scott Vance at DSN 312-654-4808, (703) 704-4808, or email:

[louis.s.vance.ctr@mail.mil](mailto:louis.s.vance.ctr@mail.mil)

Questions about turn-in or maintenance of laser range finders or target locators go to Jeffrey York at DSN 312-786-1344, (586) 282-1344, or email:

[jeffrey.l.york2.civ@mail.mil](mailto:jeffrey.l.york2.civ@mail.mil)

M249  
Machine  
Gun...

## MWO MISSED

IF YOUR M249 HAS BEEN MWO'D... ...IT SHOULD LOOK LIKE THIS!



Dear Editor,

As a member of the COMET team at Joint Base Lewis-McChord (JBLM), I see numerous M249 machine guns that have not had MWO 9-1005-201-30-6 applied.

The MWO, which added a new rail system and pistol grip, should have been applied by June, 2010. Armorers need to check all their M249s for the new flat-top rail system, which makes it easier to mount optics.

The MWO can be found on the ETM site:

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

Your direct support performs the MWO.

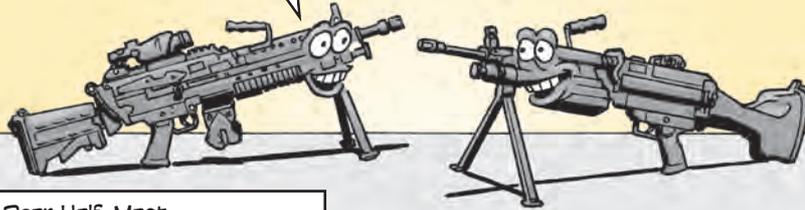
Doug Stewart  
COMET  
JBLM, WA

*Editor's note: Thanks for the heads-up, Doug. Armorers, don't let your M249s get out of date. If you have any questions, contact your local TACOM logistics assistance representative (LAR).*

# SOLID BUTTSTOCK REQUIRED?

MY BUTTSTOCK IS AAL AND YOURS IS BII...

...THAT MEANS ARMORERS NEED TO ALWAYS KEEP THE SOLID BUTTSTOCK, EVEN IF THE COLLAPSIBLE ONE IS BEING USED!



Dear Half-Mast,

I know PS said that armorers need to keep the standard barrel for the M249 even though the short barrel is the one being used. That's because the standard barrel is a basic issue item (BII) and must be with the M249 when it's turned in.

But what about the solid buttstock? Do armorers need to keep it if the collapsible buttstock is what's installed on the M249?

J.C.

Dear Mr. J.C.,

Yes, the solid buttstock needs to be kept. Before an M249 can be turned in or transferred to another unit it must be returned to its original configuration, which is the solid buttstock with the two standard barrels. So you need to keep that solid buttstock and two standard barrels where you can find them when needed.

And hang on to the short barrel and collapsible buttstock.

You'll be able to use them on another M249.

*Half-Mast*

LET'S MAKE SURE WE HAVE THE NEW TM!

YOU GOT THAT RIGHT, BUDDY!



# TM Changes Here

A new revision of the MK 19 machine gun's TM 9-1010-230-23&P just came out. It has a few changes armorers need to make a note of:

- The mandatory replacement parts list that was in WP 00122 of the old TM has been removed. From now on, replace parts only as needed.
- The detailed technical inspection that is in the PMCS Steps 13-15 in WP 0021 now says "Not for Army Use." Cross that out. The detailed technical inspection (DTI) should be done by all services, including the Army.

HERE'S AN EXCELLENT WAY TO SAVE HUNDREDS OF DOLLARS NEXT TIME THE ANTENNA ELEMENT REMOVAL TOOL BREAKS...

# DON'T Order Whole Element Tool!



Dear Editor,

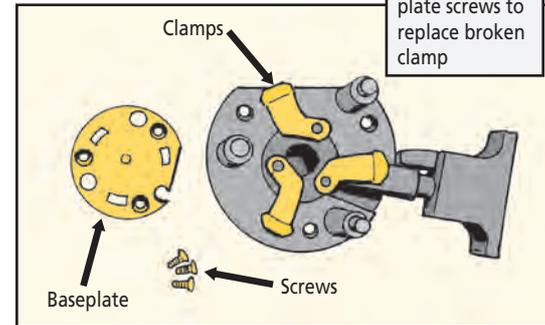
When a clamp breaks on the Patriot's antenna element removal tool, NSN 4935-01-381-5474, units usually order a whole new tool for \$827. Save money by ordering just the clamp itself for about \$160 with NSN 4935-01-380-9037.

DLA doesn't have the clamp in stock right now, but once they receive enough requests they will order the clamp.

It's simple to replace the clamp. Just remove the three #2 cross-tip screws and lift off the base plate. Take off the broken clamp, replace it with a good one and screw the base plate back on. It takes two minutes.

Don Warnell  
Patriot LAR  
OCONUS

Just remove three base plate screws to replace broken clamp



**Editor's note:** What an excellent way for Patriot units to shoot down maintenance costs! The clamps are the only parts of the tool that can be replaced. Thanks for the tip, Don.

# ERASE BATTERY PROBLEMS!



Just a little dirt in the battery compartment of your VMR2 minehound will put it in the mine detection doghouse. Poor battery contact puts the minehound out of action.

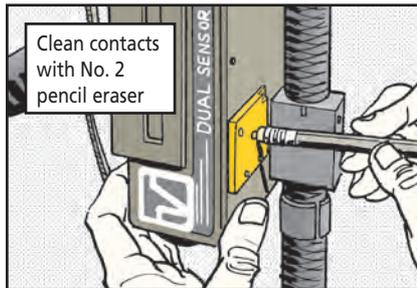
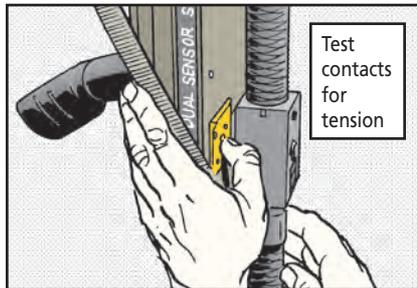
But a little battery PMCS by operators can keep the minehound sniffing out mines.

Test the spring-loaded contacts for tension. You should be able to depress the contacts and see them move. If they don't move or don't spring back when released, tell your repairman. Also, look for pitting and other signs of arcing. They indicate poor battery contact.

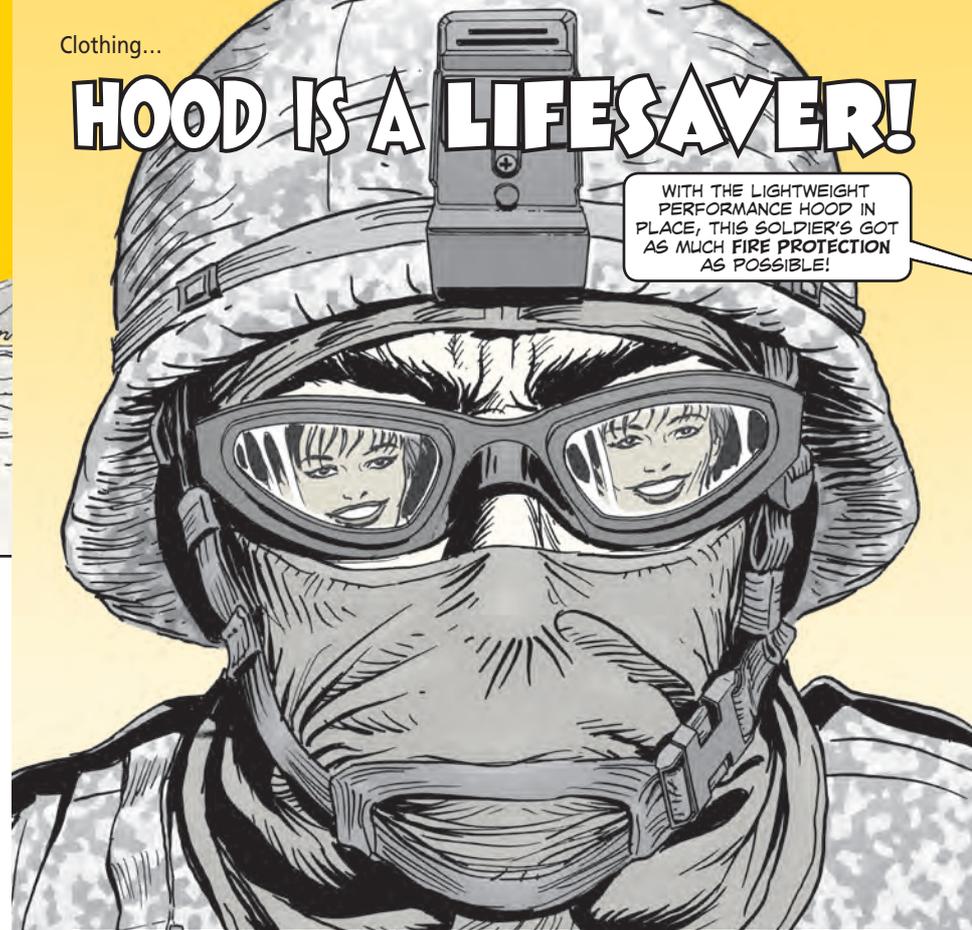
Clean the contacts with a No. 2 pencil eraser. **Never use any abrasive material like sandpaper on the contacts.** That will hurt their battery connection.

Wipe off the contacts with a clean, soft cloth. Then use canned air to blow out any debris in the battery compartment. NSN 7930-01-411-9794 brings six 8-oz cans.

**Never use any lubricant on the contacts.** That will kill the battery connection for sure.



# HOOD IS A LIFESAVER!



Burns are among the most terrible injuries a Soldier can suffer. Ask those who've been in burning vehicles. They know that burns can be disfiguring, even life-threatening. The face and neck are especially at risk.

So for safety's sake, wear your lightweight performance hood (LPH), NSN 8415-01-576-7524. It offers fire protection for the neck, cheeks, ears, nose and lips.

The hood won't melt or drip when exposed to flames. It wicks moisture away from the skin. It's made of breathable fabric and has a mesh dome that reduces heat stress in hot or dry climates. It comes in foliage green. One size fits all. Weighing in at 3 ounces, the LPH is small enough to fit easily into your ACU pocket or MOLLE grenade pouch.

**Wearing the LPH**  
 Here's the right way to wear the LPH: Pull up the lower part of the hood and adjust the upper part so that the fabric covers your whole face—except for the combat eyewear. Now your face and neck are protected against fire.

# NO OPEN DOOR POLICY

THE LAUNDRY  
ADVANCED SYSTEM  
(LADS) HAS THREE  
ENCLOSURES...

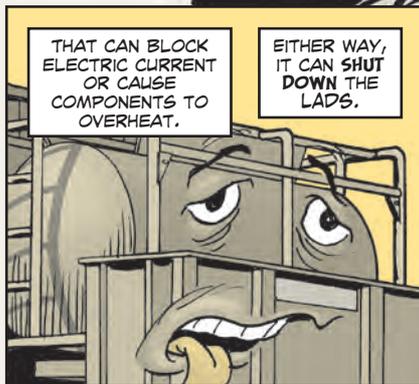
- MAIN CONTROL
- INVERTER
- HEATING SYSTEM

KEEP THE DOORS TO  
THESE ENCLOSURES SHUT  
TIGHT. HERE'S WHY...



AN OPEN  
DOOR IS AN  
INVITATION  
FOR FINE DIRT  
AND SAND TO  
SETTLE ON  
ELECTRICAL  
AND  
ELECTRONIC  
COMPONENTS  
AND  
CONTACTS.

THE DOOR'S OPEN!  
THEY MUST WANT US  
TO COME INSIDE!!



THAT CAN BLOCK  
ELECTRIC CURRENT  
OR CAUSE  
COMPONENTS TO  
OVERHEAT.

EITHER WAY,  
IT CAN SHUT  
DOWN THE  
LADS.



THE PROBLEM IS  
ESPECIALLY BAD  
IN SOUTHWEST  
ASIA, WHERE SAND  
IS LIKE TALCUM  
POWDER AND  
COLLECTS IN VERY  
TIGHT PLACES.

SO, KEEP THE  
DOORS CLOSED.  
AND IF YOU FIND  
SAND INSIDE, USE  
A VACUUM, BRUSH,  
CLOTH OR CAN OF  
COMPRESSED AIR  
TO GET RID OF IT.

# BEWARE OF CADMIUM!

DO NOT FEED  
THE CADMIUM  
BEAST!

APPROACH  
WITH CAUTION

CADMIUM  
CORROSION ON YOUR  
POWER DISTRIBUTION  
UNITS IS SERIOUS  
STUFF!

HERE'S  
HOW TO  
HANDLE  
IT SAFELY!



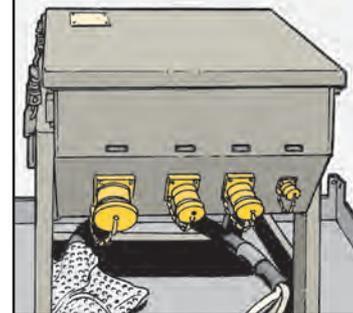
Cadmium plating is used on nuts, bolts, washers, hoist rings, tiedown bolts, flexible cable conduits, fasteners and connectors to prevent corrosion from ruining them.

Unfortunately, cadmium is a carcinogen, which means you need to be very careful handling and disposing of it. This is especially true when cadmium-plated parts start to corrode. Cadmium corrosion is usually a white, blue or reddish powder that forms on cadmium-plated parts.

The following power distribution illumination systems, electrical (PDISE) have cadmium-plated connectors and dust covers:

- M200 A/P, NSN 6150-01-308-5672
- M100 A/P, NSN 6150-01-308-5671
- M60 A/P, NSN 6150-01-307-9445
- M40 A/P, NSN 6150-01-307-9446

Cadmium corrosion forms on PDISE unit connectors and dust covers



ANYTIME YOU SPOT CADMIUM CORROSION ON THEIR CONNECTORS AND COVERS, YOU **MUST** FOLLOW THESE PRECAUTIONS...



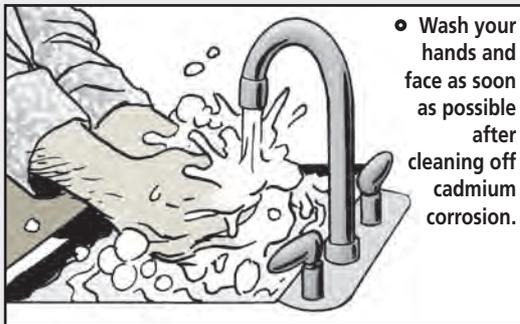
- Do any cleaning in a well-ventilated area—outdoors if possible. Use exhaust ventilation to capture cadmium dust at its source. Try to keep cadmium dust from becoming airborne.

- Avoid creating dust by not using abrasive material, like sandpaper, or compressed air on cadmium-contaminated surfaces.



- Do not smoke, eat, drink or chew tobacco while removing cadmium corrosion.

Avoid contact with your eyes, mouth and nose. If you do accidentally inhale or get cadmium on your skin, follow the emergency procedures in FM 4-25.11, *First Aid*.



- Wash your hands and face as soon as possible after cleaning off cadmium corrosion.

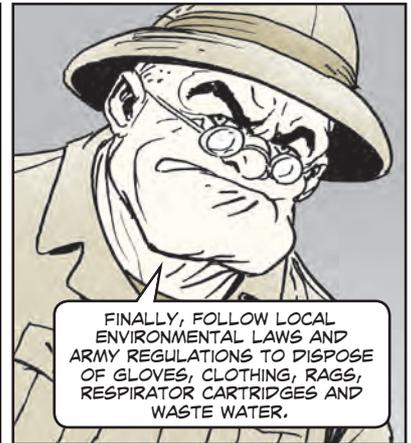
- Clean cadmium corrosion with a wet cloth. Make one wipe at a time and fold the cloth in half, using the clean side for wiping each time. When the cloth becomes too small, start again with a clean piece of cloth. Wipe larger surfaces top to bottom to avoid re-contaminating surfaces. Wipe in one direction, not back and forth. Clean from the windward side of the object and make sure no one is downwind.

When you're done, place all debris and cleaning cloths in a sealable container or plastic bag. If you use a bag, don't squeeze it. That could cause cadmium particles to puff into the air.

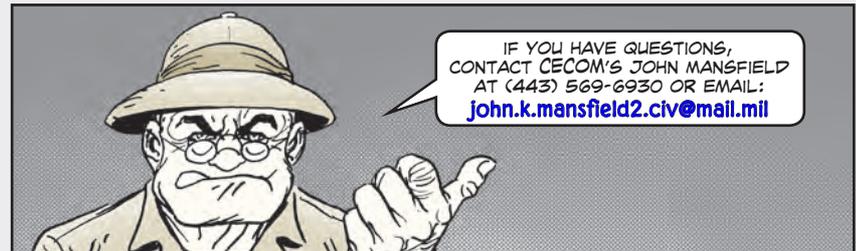
Carefully remove your gloves inside out and put them in the container or bag. Seal it.

Label the container or bag:

**DANGER**  
CONTAINS CADMIUM  
CANCER HAZARD  
AVOID CREATING DUST  
CAN CAUSE LUNG AND  
KIDNEY DISEASE



FINALLY, FOLLOW LOCAL ENVIRONMENTAL LAWS AND ARMY REGULATIONS TO DISPOSE OF GLOVES, CLOTHING, RAGS, RESPIRATOR CARTRIDGES AND WASTE WATER.



IF YOU HAVE QUESTIONS, CONTACT CECOM'S JOHN MANSFIELD AT (443) 569-6930 OR EMAIL: [john.k.mansfield2.civ@mail.mil](mailto:john.k.mansfield2.civ@mail.mil)

# ON SOLID GROUND

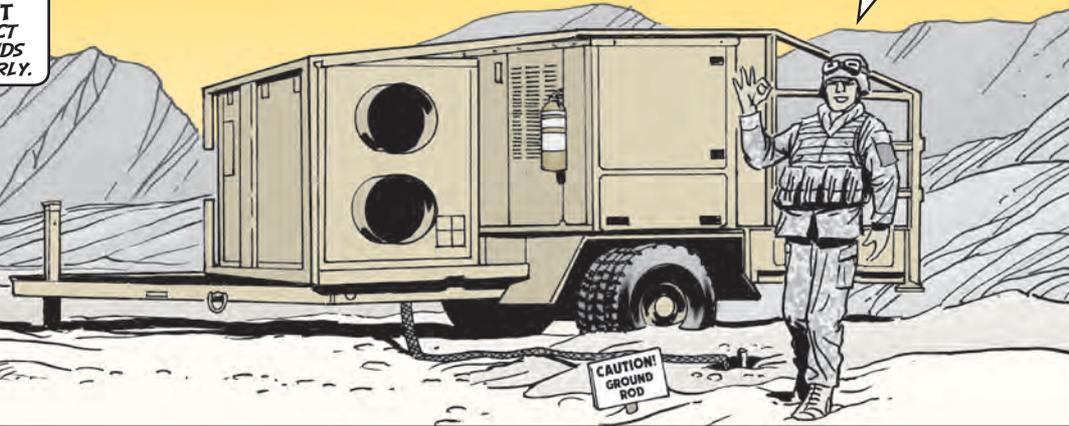
A POORLY GROUNDED GENERATOR CAN DELIVER AN ELECTRIC SHOCK STRONG ENOUGH TO KILL.

MAKE SURE YOU AND YOUR BUDDIES DON'T BECOME THE NEXT VICTIMS.



YOU MUST INSPECT GROUNDS REGULARLY.

THIS GENERATOR IS FULLY GROUNDED AND READY TO GO!



YOU SAY YOU'RE NOT A GENERATOR MAINTAINER? IT DOESN'T MATTER.

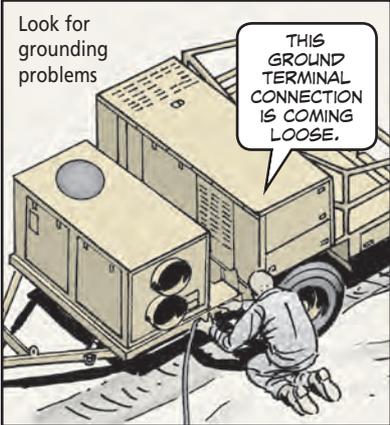
INSPECTION OF GROUNDS IS EVERY SOLDIER'S RESPONSIBILITY.

LOOK FOR TYPICAL GROUNDING PROBLEMS.



**Here are two common examples:**

- a ground strap loosely attached to a ground rod or to the ground terminal on a trailer or generator's frame
- a ground strap attached to a surface covered with paint, corrosion, grease or dirt instead of clean, bare metal



Look for grounding problems

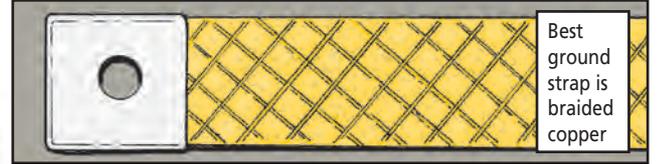
THIS GROUND TERMINAL CONNECTION IS COMING LOOSE.

HERE ARE THINGS TO LOOK FOR WHEN DETERMINING WHETHER A GROUND IS GOOD OR NOT...



## Start with the Strap

The ideal ground strap is flat, braided copper, 3/4 of an inch to an inch wide, of 6 AWG or better. It is coated and will have a nickel or tin coloring. NSN 6145-00-395-8799 brings this strap by the foot.



The distance the strap must cover from earth ground—a rod or other buried metal—to the generator should be short and straight: No more than 15 feet. Make sure there are no loops, kinks, knots or bends. Make sure the strap follows the path of least resistance: It should run around or under obstacles and not over them.

Make sure the strap is securely connected both to the rod and the generator. It should not be wrapped around the rod as a means of connection. Wrapping the strap is just a temporary measure until you can clamp it to the rod. If the wrap looks as though it is intended to be permanent, report it or fix it.

Often a 6 AWG braided, untinned copper wire comes with a ground rod. This wire is fine to use for grounding.

Just make sure you **don't use an aluminum wire** for the ground wire. Aluminum quickly oxidizes, corrodes and increases resistance to current.

If you spot a problem and are not the person assigned to solve it, **report it**. Those with the know-how will make it right.

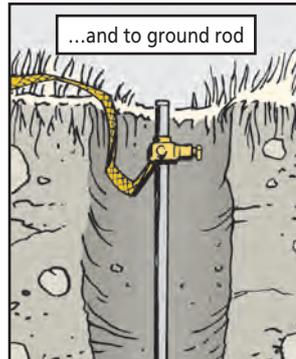
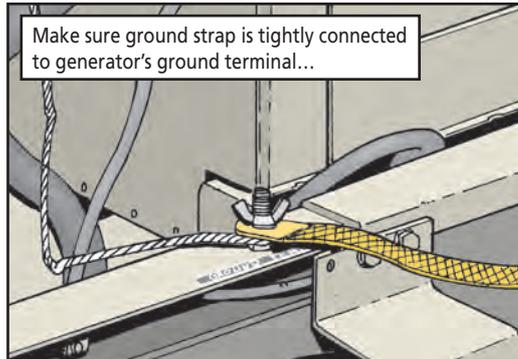
If it's your job to do the PM, be alert to changing conditions. Just because you set up a good ground yesterday doesn't mean it's still there today. Big feet might have disrupted a ground cable or rod. Weather conditions may have altered the situation. Cables, lugs and bolts loosen, move about and break, and a once-good ground might now be faulty.

### Play It Safe

Never set up, adjust or fix a ground when the generator is running. If you do, you risk getting shocked. So play it safe. Make sure the generator is shut down and all power is off before you touch ground straps, rods, terminals, clamps or lugs. Ideally, you should check grounds with other PMCS when the generator is off.

### Continue with the Connections

Your generator frame or the trailer it sits on has a built-in ground terminal. Make sure the threads on the terminal are clean down to bare metal. Test the terminal to see if it's tight. Also, make sure the wing nut is tight and the ground-wire lug is mated metal-to-metal with both the generator frame or trailer and any washers in use.



On the opposite end, the ground rod must have a clamp or a thumbscrew that connects the ground strap. If a clamp is used, make sure the area of the rod or underground pipe that the clamp is mated to is clean, bare metal. If the area has dirt, grease, paint or corrosion, scrape it clean.

Make sure the clamp is tight and that the strap is tight within the clamp. You might find a strap that is attached to the clamp with copper wire. That's another temporary measure. If it looks like it's intended to be permanent, report it or fix it.

### Finish Well

As you wrap up your inspection of the grounding site, make sure the top of the ground rod is below the earth's surface. A rod sticking up from the surface could trip someone. See if the soil around the ground rod has been treated with a mixture of salt and water. The mixture makes the soil more conductive. Make sure every generator has its own ground rod.

For more information, get CECOM Pamphlet TR 98-6, *Earth Grounding and Bonding*. Contact CECOM Directorate for Safety at DSN 648-3812, (443) 395-3812, fax (443) 395-3836 or email: [usarmy.APG.cecom.mbx.amsel-sf@mail.mil](mailto:usarmy.APG.cecom.mbx.amsel-sf@mail.mil)

You can also mail your request to:

CECOM Directorate for Safety  
ATTN: AMSEL-SF  
3200 Raritan Avenue  
Aberdeen Proving Ground, MD 21005-1850



DD Form 1348-6...

# DID SUPPLY FORM FOLLOW DINOSAURS?



Dear Half-Mast,  
Please help clear up some confusion in our shop. For years, we've been told to fill out a DD Form 1348-6 when ordering parts that don't have NSNs on the AMDF. We're told to write in the form's REMARKS field, "NSN not on AMDF."

Now we hear rumors that this process is changing. Is a paper DD Form 1348-6 still OK or has it gone online only? If it's an electronic form now, has the name and number changed? Please tell us how to handle non-NSN requests.

SGT D.A.

Dear Sergeant D.A.,

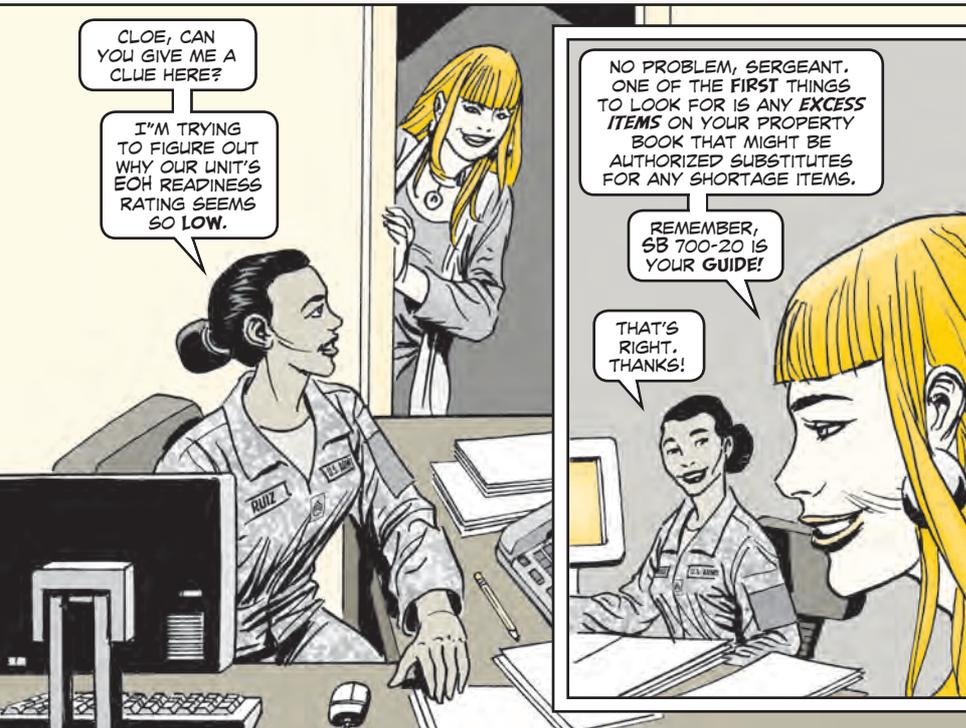
Units should continue to use local purchase procedures detailed in AR 710-2, Supply Policy Below the National Level, and DA Pam 710-2-1, Using Unit Supply System (Manual Procedures), unless otherwise instructed by their chain of command.

Although an electronic version of DD 1348-6 is available now, the DOD MILSTRIP administrator confirms the form number has not changed. You'll still need to give the completed form to your supply support activity accountable officer for processing.

Maybe the ever-evolving military supply system will someday offer a way to order parts using UPNs (universal part numbers) instead of NSNs. Stay tuned!

Half-Mast

# How to Improve EOH Readiness Ratings



One problem some units face is that their equipment-on-hand (EOH) readiness ratings are too low.

When a unit references line item numbers (LINs) on their modified table of organization and equipment (MTOE) without taking authorized substitutions into account, that can cause lower and inaccurate EOH readiness ratings.

Whenever possible, units should set up in-lieu-of relationships for EOH against MTOE shortages. Identify any excess items that can be used as authorized substitutes for shortage items. For example, the Hyex Excavator Type III (E27860) is an authorized substitute for the Hyex Excavator Type I (E27792).

The most accurate reference for authorized substitutions is Supply Bulletin 700-20, Appendix H. The complete list is found in the Logistics Information Warehouse (LIW). Go to:

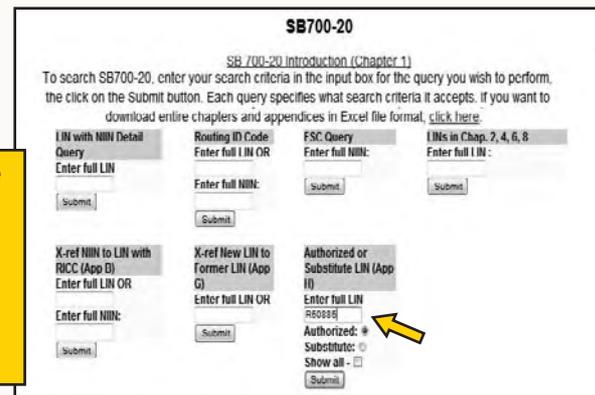
<https://liw.logsa.army.mil/>

If it's your first visit to LIW, you'll need to submit a system access request. Click on System Access Request at the top right of the page.

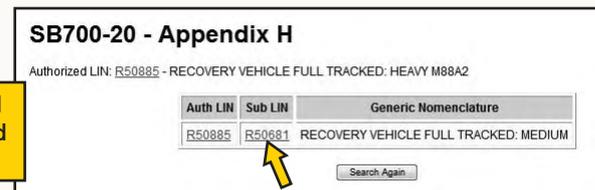
Once logged into LIW, add the "SB 700-20 Search" button to your portal from the App Warehouse at the bottom of the page.



Next, find substitute LINs in SB 700-20 by entering the primary LIN in the last box, select the "substitute" radio button, then press Submit.



The results page will show any authorized substitute LINs.



Also, any asset description (catalog) updates should be entered in the unit property book, along with any NSN-to-LIN relationships or LIN changes. For example, the AN/PRC-117F FA2008 is now LIN R87716.

Don't forget to check Z LINs (developmental) and non-standard LINs (NSLINs), too. Locally-generated NSLINs can make it mistakenly appear that a unit has shortages.

Finally, communication is key. Sometimes one unit has an excess of a certain item, while their sister unit has a shortage of the same item. Property book officers, supply sergeants and unit readiness officers should coordinate efforts when calculating EOH readiness ratings.

# EXITING THE METHODS OF PRESERVATION MAZE: METHOD 10

THIS IS THE SECOND ARTICLE IN A SERIES, WHICH BEGAN WITH "CLEARING THE METHODS OF PRESERVATION MAZE" ON PAGES 52-53 IN PS 722 (JAN 13).

LAST MONTH WE TOLD YOU ABOUT A MAZE OF SORTS—A MAZE OF CONFUSION CAUSED BY A GENERAL MISUNDERSTANDING OF MILITARY PACKAGING PRESERVATION OPTIONS.

NOW WE'LL SHOW YOU FIVE POTENTIAL "EXITS" FROM THAT MAZE, STARTING WITH THE FIRST PRESERVATION OPTION. THIS IS METHOD 10, PHYSICAL PROTECTION.

I GOTTA GO TO THE BATHROOM!

DID YOU EVER HAVE THE FEELING OF DEJA VU?

OH GIVE ME A BREAK!

HELP!

THIS WAY

GET YOU FEEL STUPID

HOW DID WE GET IN?

HOW DO WE GET OUT?

THIS IS NOT A GOOD SIGN.

AWW, MA-AN!

AAAGH!

UHP!

WRONG TURN

ALMOST THERE

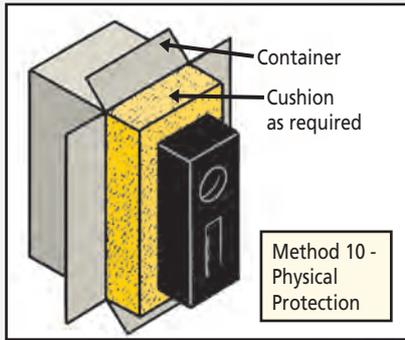
## Method 10

Method 10 gives physical and mechanical protection only. Use it for chemically noncritical items, like corrosion-resistant metals or inert nonmetals including crockery, ceramics or non-optical glass. Method 10 also works on items made deterioration-resistant by metal plating, paint, primer or plastic coatings or similar treatments/finishes.

Examples include motor vehicle bumpers and tires; tent poles, pegs and wire fencing; or other items designed for use in unprotected environments.

Remember, techniques used in Method 10 preservation will only protect items from physical and mechanical damage.

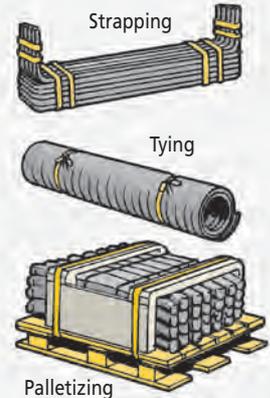
Use Method 10 along with your handy map: MIL-STD-2073-1, *Standard Practice for Military Packaging*.



HERE ARE THE TWO METHOD 10 PACKAGING OPTIONS...

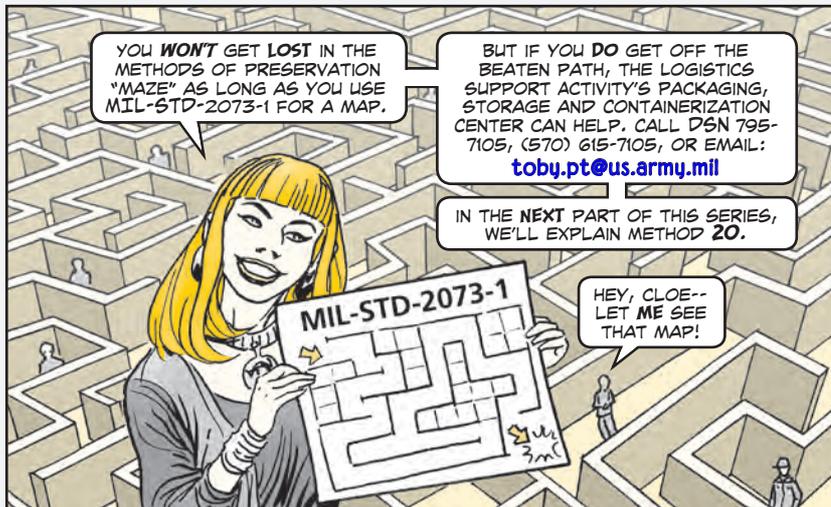
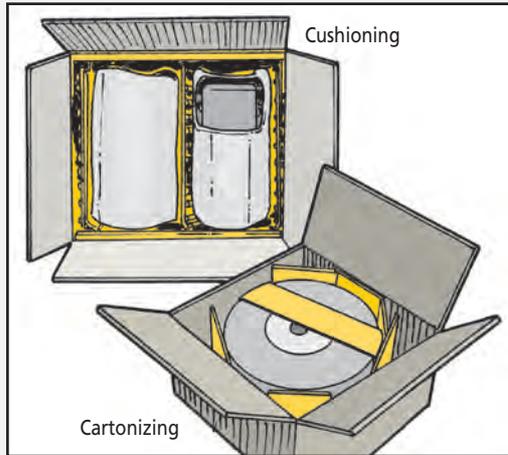
• **Bundling:** Use this packaging method for military supply items such as lumber, tent poles, stakes, rods, metal and non-metal pipes, etc. Follow these steps:

1. Clean and dry the item.
2. Apply cushioning, dunnage or blocking and bracing to any individual items that might be damaged. Use protective pads, like cushioning or fiberboard, between the item and the bundling material to keep the strapping, wire or twine from damaging the item.
3. Tie, strap or tape the item to form the unit pack.
4. Apply markings according to MIL-STD-129, *Military Marking for Shipment and Storage*.



• **Cartonization or Boxing:** This means enclosing items that are cleaned, dried, cushioned, and blocked and braced in a carton or box. Do not use contact preservatives or barriers that afford protection from the environment. Follow these steps:

1. Clean and dry the item.
2. Apply cushioning materials, dunnage, and blocking and bracing as needed to protect the item and the enclosing box or carton. That also keeps the item from moving inside the container.
3. Enclose the item in a carton or box selected from MIL-STD-2073-1, Appendix J, Table J-VII.
4. Apply markings according to MIL-STD-129.



You can find the publications referenced in this series at:

<http://quicksearch.dla.mil/>

The quickest way to find a pub is to enter the number from its title (for example, MIL-STD-129 would be '129') into the Document Number search box and then press the Submit button.

Supply Management...

# Knowledge Center Key to PA-CSDP

THE ARMY IS FOCUSING ON HOW UNITS CAN GET A BETTER HANDLE ON PROPERTY ACCOUNTABILITY (PA) AND UPHOLD THE COMMAND SUPPLY DISCIPLINE PROGRAM (CSDP).



COMMAND SUPPLY DISCIPLINE PROGRAM & PROPERTY ACCOUNTABILITY	
page	Sustainment Force Structure Book 2012, Version #11 Army CareerTr
<b>CSDP &amp; PA Operations</b>	<b>Purpose</b> This Knowledge Center is a virtual, online environment to provide training vehicles and tools to invigorate a culture of stewardship throughout our formations. It provides the means for synchronous and asynchronous knowledge sharing, collaboration and interaction as it relates to property accountability and command supply discipline.
	<b>Immediate Response</b> If you have an issue or question that requires an immediate response, click here. <a href="#">ASK NOW</a>
<b>CSDP &amp; PA Components</b>	<b>Hot Topics</b> • PBUSE AIT HHT's - CK61 Video • PBUSE AIT HHT's - PM4i Video
<b>CSDP</b>	<b>TO AID IN THIS GOAL, THE QUARTERMASTER SCHOOL AT FT LEE, VA, RECENTLY OPENED THE PROPERTY ACCOUNTABILITY AND COMMAND SUPPLY DISCIPLINE PROGRAM KNOWLEDGE CENTER ON AKO.</b>
<b>PROPERTY ACCOUNTABILITY</b>	
<b>REGULATIONS/PUBLICATIONS</b>	
<b>CSDP &amp; PA Training</b>	

IT'S A ONE-STOP SHOP THAT OFFERS...

- property accountability/supply training
- current regulations and publications
- briefings, SOPs and other resources
- links to other logistics info sources (LOGSA/LIW, FED LOG, etc.)

THE CENTER IS ALSO PART OF THE SUSTAINMENT KNOWLEDGE NETWORK (SKN) AND SKN FORUMS, SO ONLINE COLLABORATION IS A SNAP.

SPECIAL FEATURES INCLUDE "ASK NOW," WHERE VISITORS CAN SUBMIT QUESTIONS TO SUBJECT MATTER EXPERTS (SMES) AT THE QUARTERMASTER SCHOOL...

... PLUS A VIRTUAL LIBRARY WHERE THESE SMES AND OTHERS CAN SHARE BEST PRACTICES AND LESSONS LEARNED. FUTURE ADDITIONS INCLUDE A PA TRAINING CALENDAR AND THE ABILITY TO LOGIN TO LIVE CLASSES VIA DEFENSE CONNECT ONLINE.

ANYONE WITH A CAC CAN ACCESS THE CENTER. VISIT: <https://ako.us.army.mil/suite/page/670916> FOR MORE INFORMATION ABOUT THE CENTER, CONTACT CW4 PEDRO MERCADO AT DSN 687-7670, (804) 765-7670, OR EMAIL: [pedro.c.mercado.mil@mail.mil](mailto:pedro.c.mercado.mil@mail.mil)

# Why Is PS Info Optional?



Dear Half-Mast,

In the fine print at the top of *PS Magazine's* table of contents, there is a sentence that says "Application of the information is optional with the user." What does that mean? It takes the wind out of the sails of standards when senior NCOs tell commanders that Army standards and published guidance are optional. I'm trying to get our unit in line with the information in *PS*, because I know it's the right course of action. Can you help?

SFC M.C.

Dear SFC M.C.,

You bet. I'll do my best to clear things up.

The reason for the optional statement is because we know commanders must work within limited maintenance budgets. And sometimes we offer instructions for making tools or suggest equipment improvements that are great ideas, but expensive to do.

Because we can't tell commanders how to spend their maintenance dollars, they must decide whether or not to implement the info in *PS*. But they're wise to do what we suggest, since we have the most up-to-date info. That's because we're able to get the word out much faster than most TMs can be updated and published.

The information in *PS* is official because every article is reviewed and approved by the command overseeing that procedure or piece of equipment. So what you read in *PS* is what HQDA G4, AMC, the life cycle management commands, and other authorities want operators, mechanics and supply personnel to know and do in relation to their equipment or tasks.

Sure, there are skeptics who doubt our validity, usually because of our comic-style art. In that case, you may want to hand 'em a copy of AR 700-138, Army Logistics Readiness and Sustainability (Feb 04). Highlight Section 5-13 on Page 69. It says that *PS* is an official technical bulletin and reading it should be a regular part of maintaining unit readiness.

AMC Regulation 750-21, Maintenance of Supplies and Equipment: *PS*, The Preventive Maintenance Monthly (TB 43-*PS*-Series) also explains our mission.

Thanks for your efforts to uphold the Army's highest safety and equipment condition standards. Hooah!

Half-Mast



### NEED A COMPASS?

Make a note, aviators, that the only authorized lensatic compass to be in the air warrior primary survival gear carrier (PSGC) is NSN 6605-01-196-6971.

### LIW Portal FAQs

The Logistics Support Activity (LOGSA) has posted frequently asked questions (FAQs) about finding info in the redesigned Logistics Information Warehouse (LIW) at:

[https://liw.logsa.army.mil/resources/documents/liw\\_portal\\_help\\_faq.pdf](https://liw.logsa.army.mil/resources/documents/liw_portal_help_faq.pdf)

If you need LIW assistance, contact LOGSA's help desk Toll Free at 1-866-211-3367, CONUS DSN 645-7716, OCONUS DSN 312-645-7716, commercial 256-955-7716 or email:

[usarmy.redstone.logsa.mbx.help-desk@mail.mil](mailto:usarmy.redstone.logsa.mbx.help-desk@mail.mil)

### HYEX Track Assembly NSN

Get a new 51-link track roller assembly for your hydraulic excavator, Type 1, with NSN 2540-01-583-9967. It fits HYEX models 230LCR, 230LCD, 240DLC and 250GLC. The new assembly replaces NSNs 2530-01-476-0523 and 2530-01-476-0518, which are shown as Item 1 in Fig 8 of TM 5-3805-280-23P-1 (Jul 11).

### Comics Worth Keeping

Are you a fan of comics, especially PS? Check out Virginia Commonwealth University's archived collection of early copies of *PS Magazine*. The digital collection features the art of famous comic book artist Will Eisner, and covers the *PS* publication years from 1951-1971 (issues #1-229). It's free to browse:

<http://go.vcu.edu/psmagazine/>

### FRS Outrigger Pad

Get a new outrigger pad for the crane assembly on your forward repair system (FRS) with NSN 4940-01-533-1621. It replaces NSN 2590-01-461-1648, which is shown as Item 1 in Fig 222 of TM 9-4940-568-24P (Jan 08, w/Ch 1, Jul 11). A missing outrigger pad makes the crane assembly NMC.

### HEMTT A4 REAR HUB AND DRUM ASSEMBLY BOLT

The part number for the right-hand bolt on your HEMTT A4's rear hub and drum assembly isn't listed correctly in the IETM. So Item 3 of Fig 199 in TM 9-2320-326-14&P (EM 0288, Oct 08) will be updated to include part number W1133-R and NSN 5307-01-212-4401. The left-hand bolt, part number W1133-L and NSN 5307-01-212-4400, is already correct.

### APPROVED COMPASS FOR PSGC

When dealing with what goes into the air warrior ensemble, not just any compass will do for the primary survival gear carrier (PSGC). The lensatic compass, NSN 6605-01-196-6971, is what ALSE techs are authorized to place in their gear. Table 1 in IETM, EM 0250, TM 1-1680-377-13&P, WP 0100 00 tells you where the compass goes and that it's mandatory, not optional.

### Updated Email Address for PBUSE Help

Due to the Enterprise email migration, the PBUSE help desk has a new email address for customer support. Email them at: [usarmy.lee.sec.mbx.leeec-seclee-cso@mail.mil](mailto:usarmy.lee.sec.mbx.leeec-seclee-cso@mail.mil)  
The PBUSE help desk phone numbers have not changed. Call 1-(866)-547-1349, DSN 687-1051, OCONUS (312) 687-1051 or submit a help desk request to: <https://s4if.lee.army.mil>

### HEMTT A4 POWER TRANSFORMER NSN CHANGES

The power transformer for your HEMTT A4, shown as Item 2 in Fig 126 in TM 9-2320-326-14&P, has been changed from NSN 5950-00-015-9520 to NSN 6130-01-558-4871. Note this change until the TM is updated.

### M1117 ASV ALTERNATOR BELT

Get the alternator belt for your M1117 armored security vehicle (ASV) with NSN 3030-01-364-3395. NSN 3030-01-563-8929, which is shown as Item 51 in Fig 47 of TM 9-2320-307-24P (Sep 10), is too short.

### M149A2 WATER TRAILER FAUCET

Get the single faucet for your M149A2 400-gal water trailer with NSN 4510-01-433-0396. That replaces NSN 4510-00-595-1785, which is shown as Item 1 in Fig 28 of TM 9-2330-267-14&P (Jul 91).

### HMEE-1 Training Material

Operator training material for the High Mobility Engineer Excavator is now available in the Library of TACOM Training Information Site (LOTTIS):

<https://customerreports.tacom.army.mil/pls/htmldb/f?p=150>

If you cannot find the training material you need, write to:

[dami\\_utap@conus.army.mil](mailto:dami_utap@conus.army.mil)

### RTCH O-RING KIT NSN

NSN 5330-01-529-0690 gets a new O-ring kit for the hydraulic fittings on the rough terrain container handler (RTCH). Make a note of this NSN until it's added to TM 10-3930-675-24P.

### DO YOU NEED BANDAGES?

Aircraft kits and vests always need bandages. You can order a box of 300 with NSN 6510-00-913-7909. Make a note that FED LOG shows a shelf life code of 7. That means the bandages expire after 36 months.

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

Would You Stake Your Life <sup>right now</sup> on the Condition of Your Equipment?

# FOD SAFETY

I CAN!

YOU CAN!

WE CAN!

FOD CAN!



# CAN FOD!