

Issue 623

**PS**

October  
2004

# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-623

Approved for  
Public Release;  
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Unlimited



**THAT  
TENT'S ON  
FIRE!!**

JOE  
UBER

**TAMING SPACE  
HEATERS --  
PAGE 27**

# What About the 'Little' Picture?



We spend a lot of time worried about the “big picture.” You know, it’s the catch-all phrase our superiors and bosses use to let us know we’ve not considered everything that needs to be considered in order to make important decisions.

And many times there’s some truth to the phrase. We’re not always in the best position to know what’s involved in the “big picture.” But what about the smaller “pictures” that we’re intimately involved with every day?

Worrying about—no, coming to grips with—the “little picture” will do a lot more for the health of your unit’s equipment and gear. It’s often the little things that keep a generator running, that make a tool last as long as it was designed to last, that keep a global positioning system device capable of telling you where you are (and where the enemy is, too).

It’s clear that worrying only about the “big picture” can leave you without equipment that works because you never did the little things called for in the PMCS or the operator’s manual.

Maybe your “big picture” should be the small stuff that can get you up to your neck in trouble if they’re ignored or considered not worth the effort.

Think about that the next time you think everything’s just right as it is. Odds are, you don’t have the **BIG** little picture.



THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY

TB 43-PS-623, 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.

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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:  
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# CTIS SETTINGS KEEP YOU MOVING



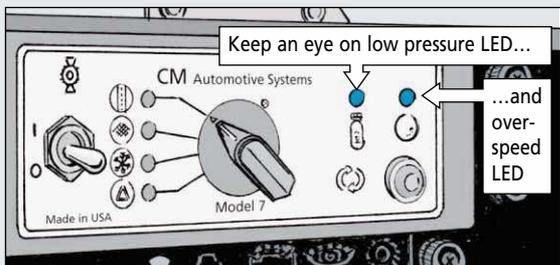
If you're confused by the symbols used on the CTIS selector panel, you'll have a hard time driving your Stryker on different road conditions.

That means you may not get the traction you need to carry out the mission.

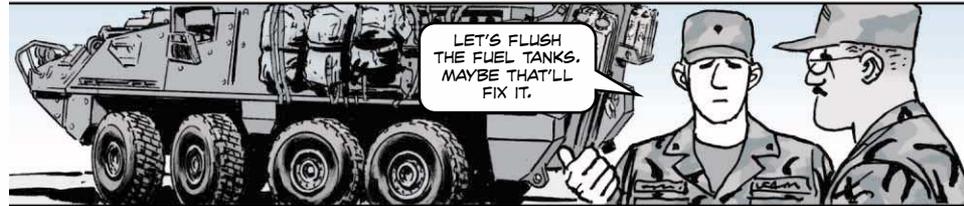
HERE'S A LITTLE HELP...

	<p><b>Setting 1:</b> This is the highway setting (81 psi). Use this for fixed roads and highways.</p>
	<p><b>Setting 2:</b> This is the cross country setting (47 psi) and should be used for off-road conditions.</p>
	<p><b>Setting 3:</b> This is the snow and mud setting (25 psi). Use it when driving through snow and mud to gain added traction.</p>
	<p><b>Setting 4:</b> The last is the emergency setting (18 psi), which should be used when your Stryker is stuck in deep mud, sand or snow.</p>

Regardless of which setting you use, keep an eye on the low pressure and overspeed LEDs. They'll let you know if the air pressure is too low or if you're traveling too fast for the terrain setting you've selected.



# Oil's Well That Ends Well



Dear Half-Mast,  
We've noticed a contamination problem with the fuel in our Stryker. It seems to burn OK, but it has an odd, dark brown color to it. We've tried flushing the fuel tanks, but the contamination comes right back. Any ideas where this could be coming from?  
**SGT G.W.B.**

Dear Sergeant G.W.B.,  
The coloring you're seeing really isn't contamination at all. It's oil from the on board oil exchanger (OBOE).  
The Stryker's engine burns about three drops of oil for every hour of operation. That oil comes from the OBOE. Any oil that's drawn from the OBOE and not burned goes directly into the fuel tanks causing the fuel coloring. That way it can be safely burned along with the fuel.

*Half-Mast*

# BRADLEY BITS & TIPS

DO YOUR BRADLEYS A FAVOR AND LISTEN TO WHAT THESE GUYS FROM FORT STEWART HAVE TO SAY.



Dear Editor,

While helping to keep the Bradleys running here, we've come up with a few tips that will help Bradley crews everywhere.

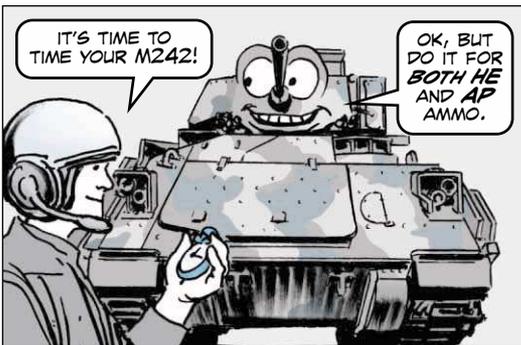
- **Verify the M242 gun's feeder timing for both HE and AP feed paths every time you install it, like it says in the Bradley -10 TMs.**

We run into crews who don't realize the importance of that. If the feeder's timing isn't verified for both feed paths, the gun may not fire and the feeder could jam.

- **Don't worry about the shorting plug on the new reduced white smoke Bradley engine.**

It's not needed. Some units are installing plugs from old engines on the new ones.

- **Jot down the NSN for the new engine compartment fire extinguisher: NSN 4210-01-388-7854.**



- **Remember voltage differences.**

The Operation Desert Storm (ODS) Bradley version requires 27-30 volts to recharge the batteries. But the old voltage gauge shows over 29 as overcharging. If your ODS Bradley gauge shows in the red, get your mechanic to make sure it's not charging more than 30 volts.

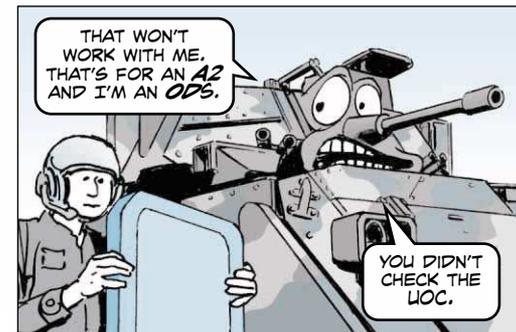
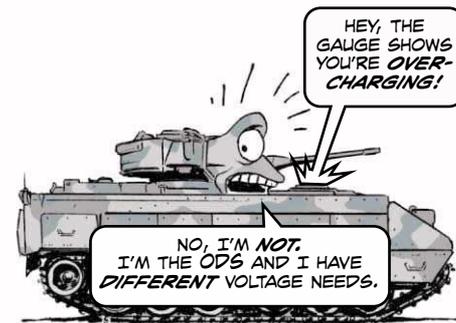
- **Repairmen, let the transmission warm up to 180-220°F before adjusting it.**

That will probably take 45 minutes if the Bradley has been sitting. If you try to adjust the transmission sooner, the transmission oil could be too thick, which would cause a bad adjustment. A bad adjustment could cause the Bradley to pull to one side or lunge forward or backward unexpectedly.

- **Keep in mind that TM 9-2350-284-24P-1 is for both the ODS and -A2 Bradley.**

So you need to pay attention to usable on codes (UOC) when you order parts or you could end up with something like a skirt that doesn't work on your Bradley version.

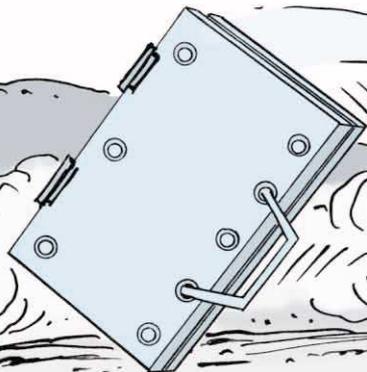
Dale Sherman  
David Fields  
Contractors  
Ft Stewart, GA



*(Editor's note: Wow, you guys know your stuff! Thanks for all the help you're giving Bradley crews.)*

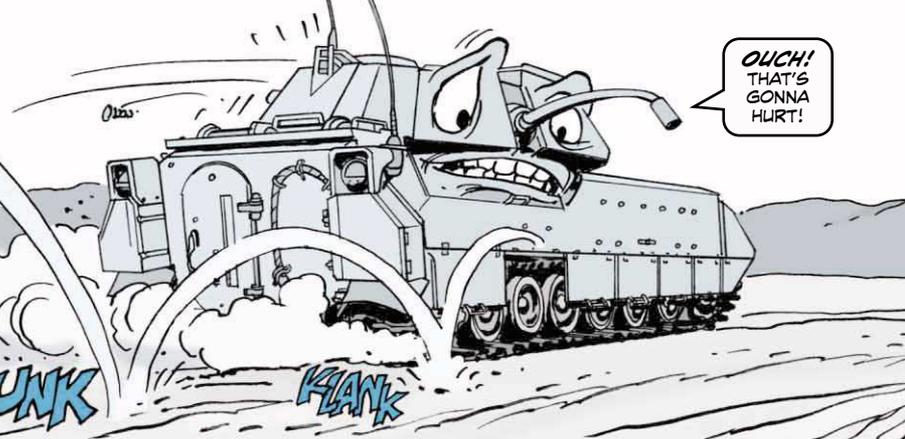
M2/M3-Series Bradleys...

# REMOVE BROKEN SKIRT BOLTS WITH EASE



**KLUNK**

**KRANK**



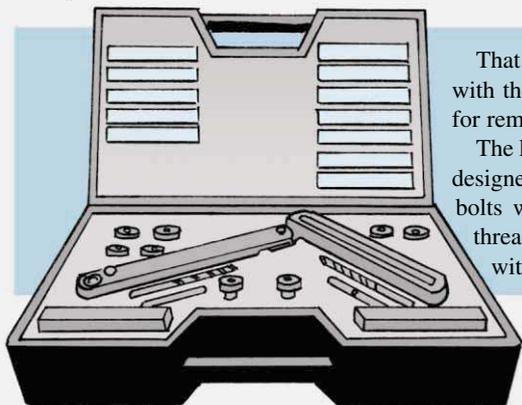
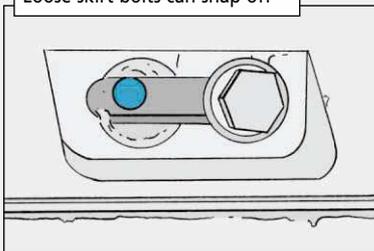
Crewmen, don't underestimate the importance of the skirt bracket bolts, NSN 5305-00-724-7222, on your Bradley.

Those skirts are **very** heavy. So if even one of the bolts vibrates loose, a lot of pressure is put on the remaining ones. They can snap and leave you with no bolts and a missing skirt.

Eyeball the skirt bracket bolts before and after every operation. If any are loose or missing, tell your mechanic. He'll replace and torque 'em to 151-166 lb-ft.

Mechanics, despite the crew's best efforts, sometimes those bolts are going to snap. That leaves you with the miserable job of drilling them out so they can be replaced.

Loose skirt bolts can snap off



That job just got a whole lot easier with the addition of a special tool kit for removing broken bolts.

The kit, NSN 5180-01-518-6883, is designed to remove 1/2- to 3/4-in bolts without damaging the existing threads. Detailed instructions come with the kit.

You can also get a smaller kit for 1/4- to 7/16-in bolts with NSN 5180-01-508-6036. That kit will remove 7mm to 10mm metric bolts as well.

For more information on the tool kits, including step-by-step bolt removal instructions, check out the manufacturer's web site at:

<http://www.brokenbolt.com/>

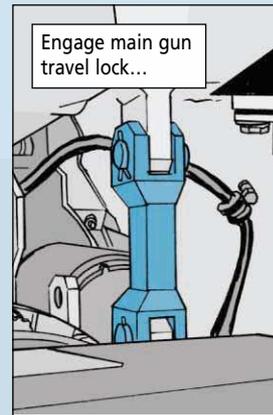
M1-Series Tanks...

## Move 'em Out... After Lockup

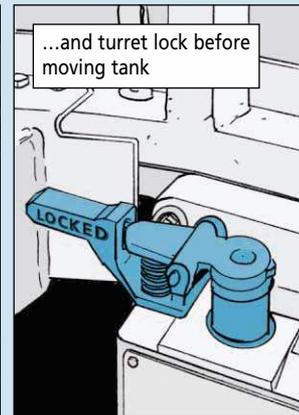
TANKERS, UNLESS YOU'RE ON A FIRE MISSION, **MAKE SURE YOU LOCK THE TURRET AND MAIN GUN FIRST BEFORE MOVING OUT.**



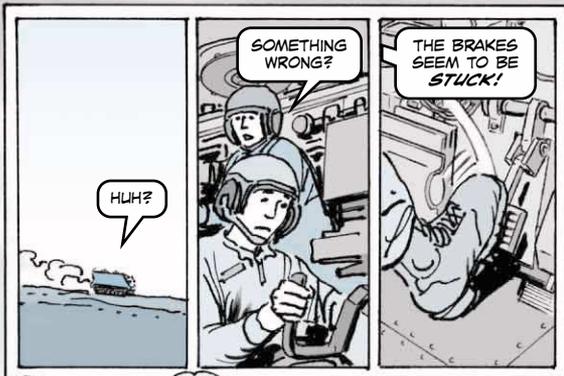
Engage main gun travel lock...



...and turret lock before moving tank

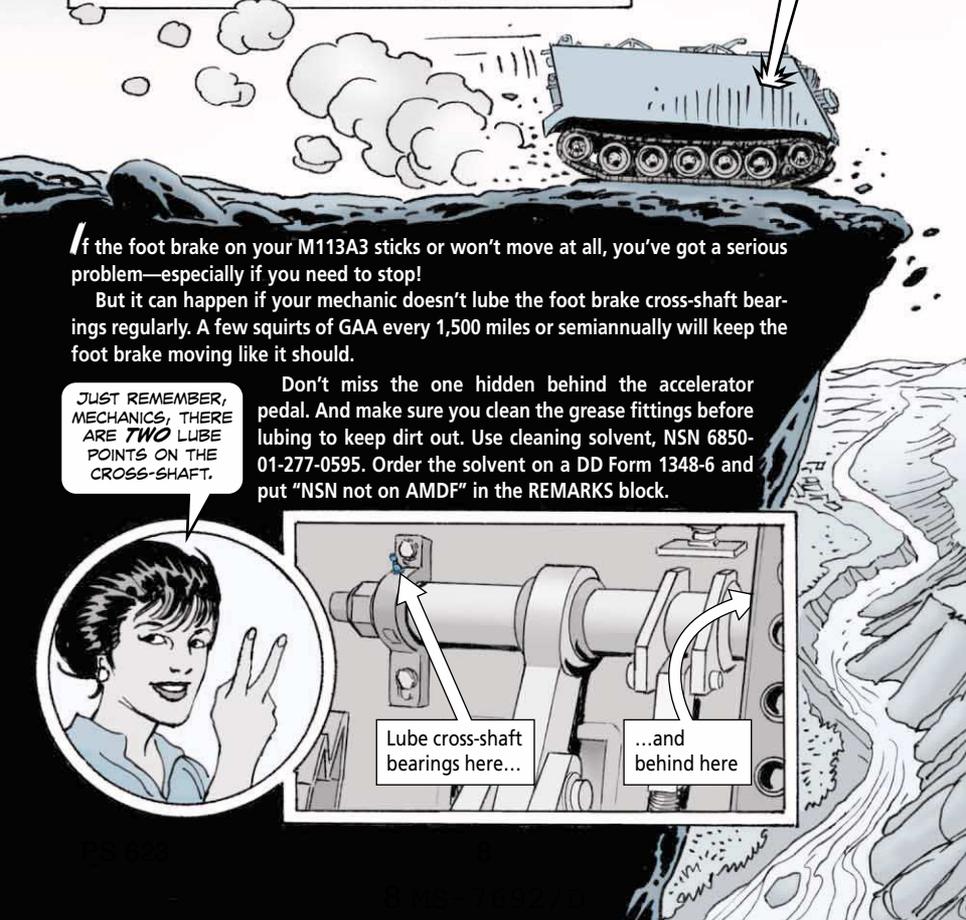


ALL THE BOUNCING AND VIBRATION CAN DAMAGE THE TRAVERSING MECHANISM AND THE ELEVATION MECHANISM IF THEY AREN'T LOCKED DOWN FOR TRAVEL. THAT'LL BE A REAL LOAD ON YOUR UNIT'S MAINTENANCE BUDGET.



# THEM'S THE BRAKES!

HOPE WE DON'T NEED TO STOP ANY-TIME SOON.

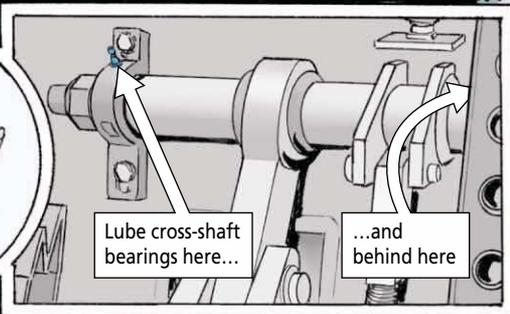


If the foot brake on your M113A3 sticks or won't move at all, you've got a serious problem—especially if you need to stop!

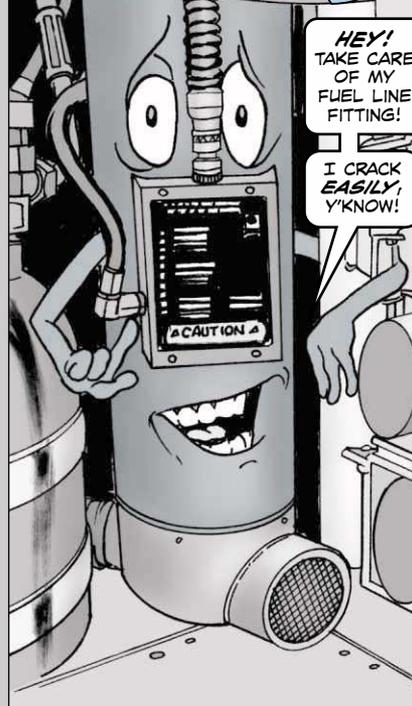
But it can happen if your mechanic doesn't lube the foot brake cross-shaft bearings regularly. A few squirts of GAA every 1,500 miles or semiannually will keep the foot brake moving like it should.

JUST REMEMBER, MECHANICS, THERE ARE **TWO** LUBE POINTS ON THE CROSS-SHAFT.

Don't miss the one hidden behind the accelerator pedal. And make sure you clean the grease fittings before lubing to keep dirt out. Use cleaning solvent, NSN 6850-01-277-0595. Order the solvent on a DD Form 1348-6 and put "NSN not on AMDF" in the REMARKS block.

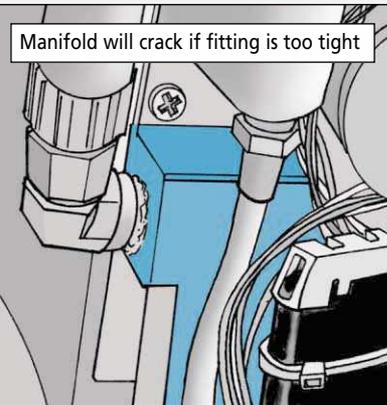


# Take It Easy on Fitting



Crewmen, a light touch is important when attaching the fuel line fitting to the A-20 personnel heater on your combat vehicle.

The fitting connects to the fuel manifold, which cracks easily if you're not careful. That means a fuel leak and a fire hazard.



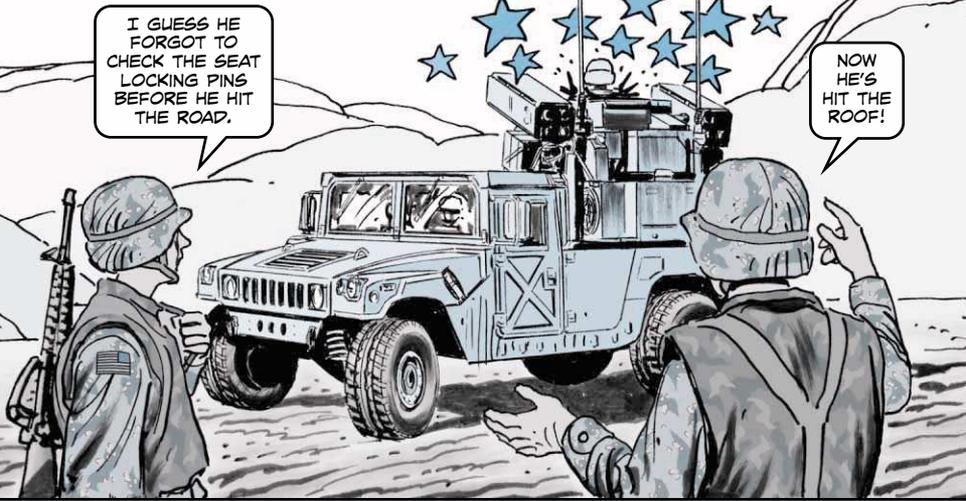
Operators aren't allowed to remove the cover, so you can't see the damage. The only way you'll know there's a problem is **after** the fuel starts leaking.

So go easy on the fuel line fitting. Sniff with your nose or check with your finger after connecting the fitting to make sure there's no leak.

## AZURE BLUE UPDATE

The Azure Blue cannon cleaning kit can be used to clean **only** artillery tubes. That includes the M198 and M119A1/A2 towed howitzers and M109-series SP howitzers. **Do not** use the kit to clean the crew compartment of M109-series SP howitzers. **Do not** use the kit for any type of cleaning on M1-series tanks or any mortar system.

# SEATS AND STUFF



I GUESS HE FORGOT TO CHECK THE SEAT LOCKING PINS BEFORE HE HIT THE ROAD.

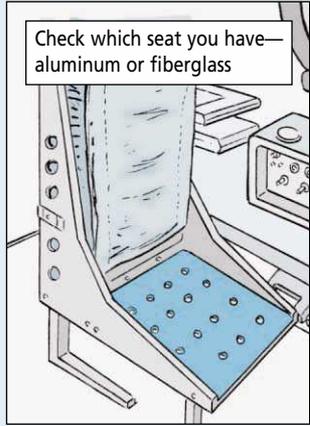
NOW HE'S HIT THE ROOF!



OPERATORS AND REPAIRMEN, HERE ARE A FEW WAYS TO KEEP YOUR SEAT AND STOP DAMAGE TO THE AVENGER.

## Seats

There are two different Avenger seats and you need to know which one you have in order to know where to put your foot when you climb in the turret. To find out, just raise the seat cushion and look.



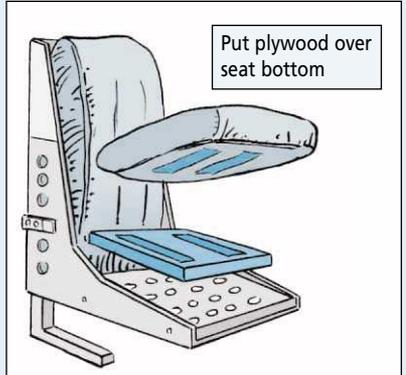
Check which seat you have—aluminum or fiberglass

IF THE SEAT IS ALUMINUM, STEP ON THE *SIDE* OF THE SEAT.

IF YOU STEP IN THE CENTER, THE SEAT CAN COLLAPSE AND YOU'LL NEED A NEW SEAT.



Many units have had success reinforcing aluminum seats with a 161/2 x 181/2-in piece of 1/4-in plywood. Glue strips of fastener tape, NSN 8315-00-001-3587, to the plywood so the seat cushion will have something to stick to. Put the plywood between the cushion and the seat. That cheap piece of plywood could save you the cost of an expensive seat.



Put plywood over seat bottom

If the seat is fiberglass, though, it can hold your weight. Put your foot directly in the center of the seat because that will help the seat cushion last longer. The cushion costs several hundred dollars so you want it to last.

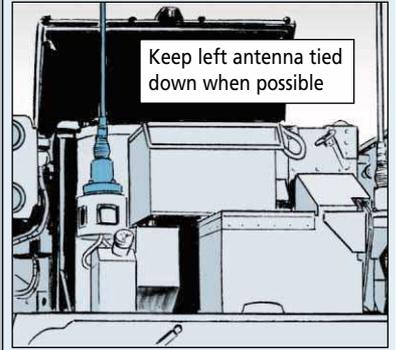
Before you head to the field, make sure the seat locking pins are in place and the seat belt is attached. Otherwise, you could have a very rough ride.



Make sure seat locking pins are in place

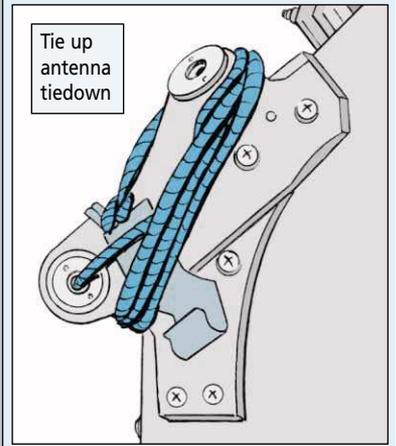
## Antenna

Keep the left antenna tied down as much as possible. If it's left whipping back and forth, the bolts for the antenna can work loose and the inserts for the antenna mount can be pulled out.



Keep left antenna tied down when possible

But when you do need to untie the antenna, be sure to tie up the antenna tiedown. If the tiedown is left swinging free, its metal hooks bang against the turret and gouge it. Just tie the tiedown around the projections the rope is connected to.

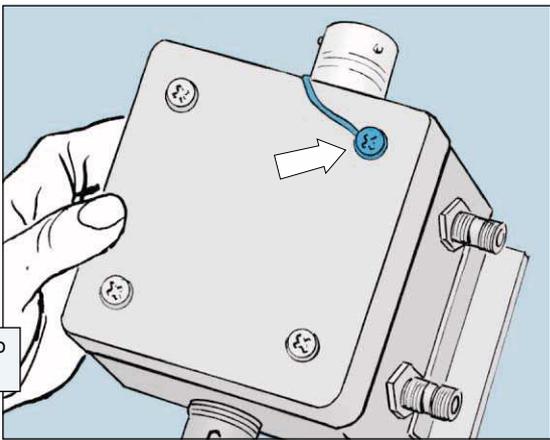


Tie up antenna tiedown

## IFF

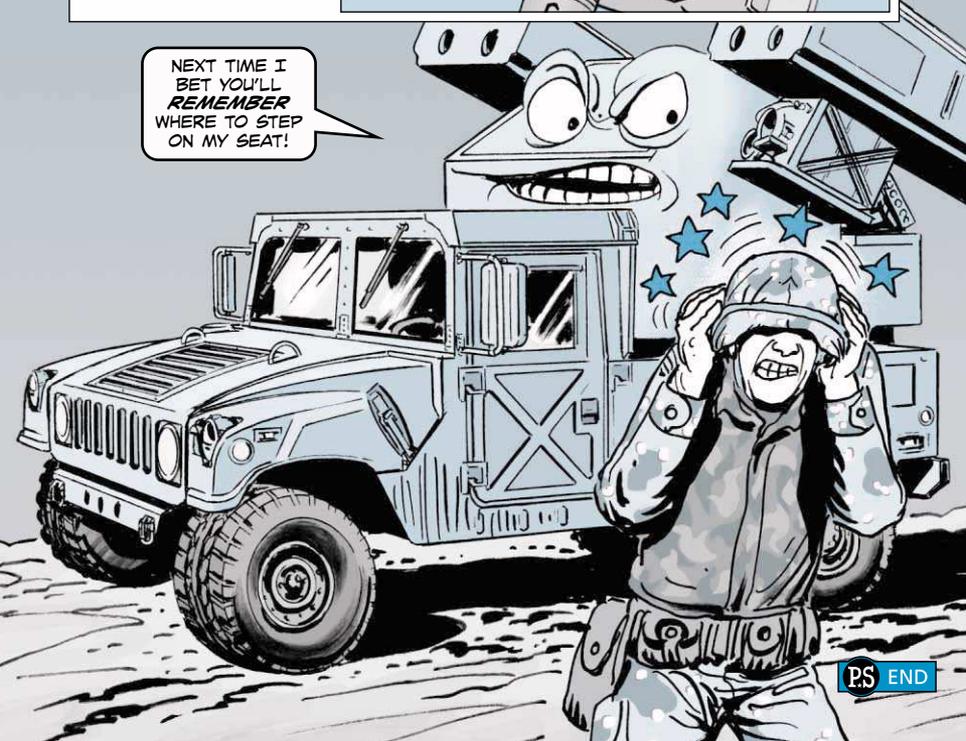
The nut for the J4 connector on the IFF interconnector box often works loose and comes off. Then the connector can actually be pushed inside the box when you plug in its cable. Sometimes the only way to fix it is to replace the whole box at a cost of more than \$1,000.

To keep the nut tight, you have two choices: tighten the nut every week during PMCS or lock-wire it tight to one of the screws on the front of the box. The nut has a slot to run the wire through and your armorer has lock-wire pliers.



Lock wire nut to screw on front

NEXT TIME I BET YOU'LL REMEMBER WHERE TO STEP ON MY SEAT!

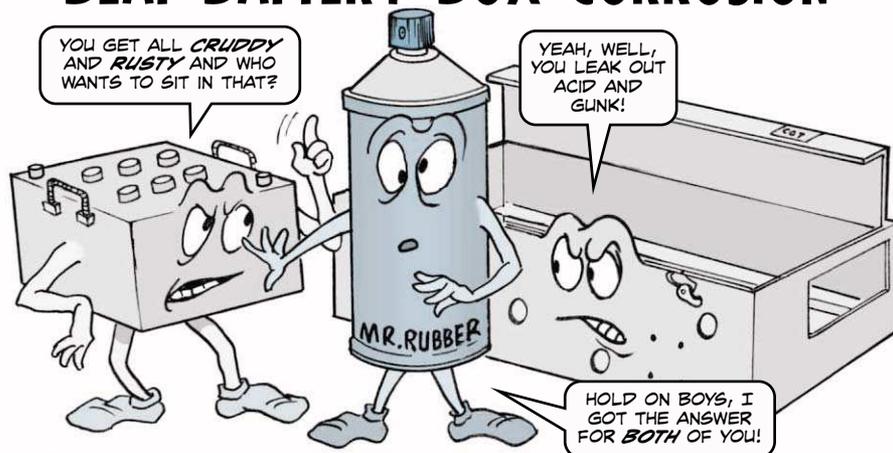


PS END

Avenger Missile System...

# BEAT BATTERY BOX CORROSION

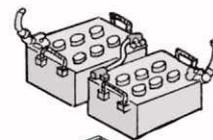
YOU GET ALL CRUDDY AND RUSTY AND WHO WANTS TO SIT IN THAT?



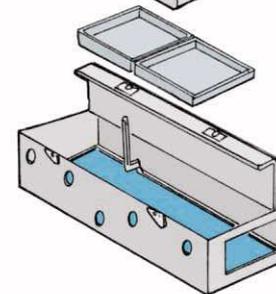
Dear Editor,

The battery box for the Avenger takes a beating from corrosion. Battery acid leaks onto the bottom of the box and starts industrial strength corrosion. Next thing you know, the box bottom has rusted out and you need a new box.

We stopped the corrosion with spray-on rubber. Remove the batteries and clean off any corrosion or dirt. Then give the bottom of the box a coating of rubber. You can get the spray-on rubber in the hardware section of most discount stores. Wait till the rubber dries and look for uneven areas. Fill them in. You want the coating as even and flat as possible. After the coating completely dries for 24 hours, reinstall the batteries. The rubber will keep the battery acid from reaching the box's metal bottom.



Remove batteries...



...and give bottom of battery box a rubber coating

CW2 Mark Hoskins  
SGT Zachary Fleming  
B Btry, 1/3 ADA  
Ft Stewart, GA

*(Editor's note: Thanks for bouncing your rubber idea off us. It should save battery boxes.)*

M16-Series Rifle, M4/M4A1 Carbine,  
M203A2 Grenade Launcher...

**ARE  
ARSS  
MOUNTED  
RIGHT?**

THAT'S A  
CRITICAL  
QUESTION.

IF THE M4 ADAPTER RAIL  
SYSTEM (ARS) IS NOT  
INSTALLED CORRECTLY ON  
THE M4 CARBINE OR THE M5  
ARS IS NOT INSTALLED RIGHT  
ON THE M16A4 RIFLE, THE  
ARS *WON'T* BE SECURE.

THAT MEANS ANY SIGHT OR  
AIMING DEVICE WON'T BE  
ABLE TO HOLD ZERO, AND  
YOU WON'T BE ABLE TO  
SECURELY INSTALL THE  
M203A2 GRENADE LAUNCHER  
ON EITHER WEAPON.

INSPECT YOUR  
M4/M4A1S,  
M16A4S, AND  
M203A2S FOR  
THE FOLLOWING  
ARS POINTS...

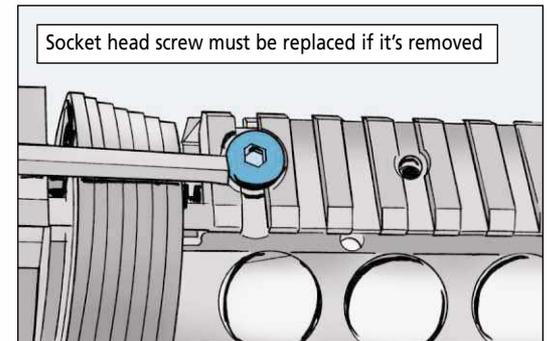
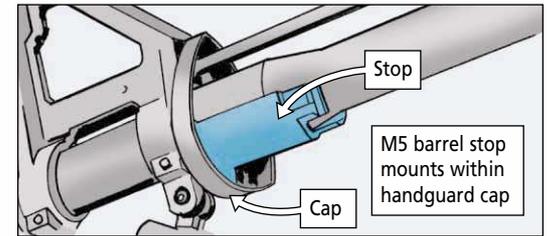
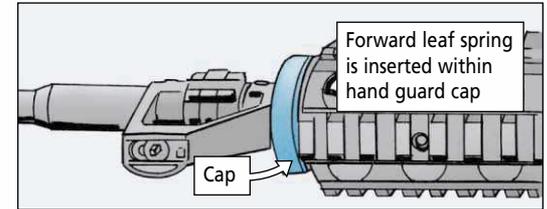
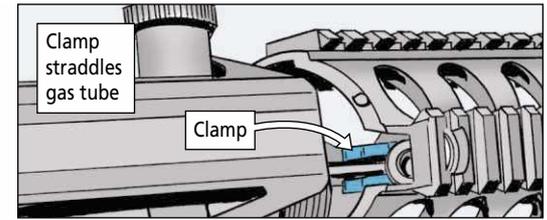


Both the M4 and M5 ARS use a rear clamp with a screw and a forward leaf spring to secure the upper rail to the M4/M4A1 or M16A4. The clamp must straddle the gas tube just forward of either weapon's receiver. The clamp should be secured within the barrel nut with the screw. The forward leaf spring must be inserted within the hand guard cap.

The M5 ARS also has a barrel stop assembly that mounts within the hand guard cap of the M16A4. Without the assembly, you can't mount the M203A2 on the M16A4. The M4 ARS doesn't need the barrel stop assembly.

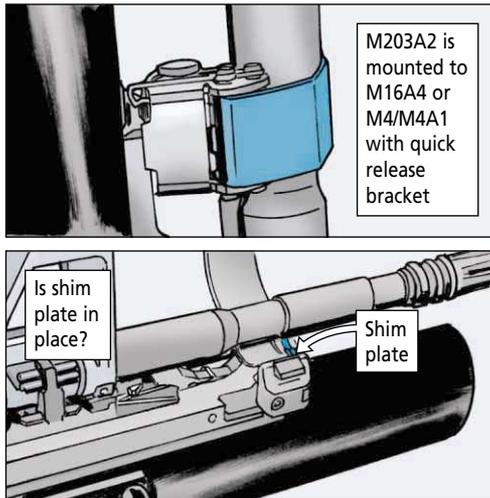
If the M4 or M5 is mounted correctly, the forward leaf spring is not visible outside the hand-guard cap and the rear clamp is secured within the barrel nut with the socket head cap screw. If the socket head cap self-locking screw is removed for any reason, it must be replaced with a new one.

On the M5, also make sure the barrel stop assembly is mounted within the hand-guard cap. The barrel stop must be installed in case the M203A2 must be transferred between M16A4s. Replacing a barrel stop also requires replacing the socket head cap screw.



## M203A2 Grenade Launcher

To mount the M203 or M203A1 with either the M4 or M5 ARS, the launcher must first be modified like it says in MWO 9-1010-221-30-4. The launcher is then mounted to the ARS with a quick release bracket. The bracket has an internal shim plate that matches up with either the cutout on the M4 carbine barrel or the barrel stop for the M5 ARS on the M16A4. If the shim plate is missing or the quick release bracket is not mounted correctly, the M203A2 is NMC.



M203A2 is mounted to M16A4 or M4/M4A1 with quick release bracket

Is shim plate in place?

Shim plate

## NSNs

HERE ARE SOME OF THE REPAIR PART NSNs FOR THE M4 OR M5 ARS...

- rear clamp, NSN 1005-01-453-4226
  - socket head cap screw, NSN 5305-01-453-2725
  - spring pin, NSN 5315-00-826-3251
  - barrel stop assembly, NSN 1005-01-453-4224
- These NSNs are found in Figs C-18, C-22 and C-17 in TM 9-1005-319-23&P.

- quick release bracket, NSN 1005-01-452-3528, which includes the following:
    - \* socket head cap screw (2), NSN 5305-01-452-9639
    - \* spring washer (2), NSN 5310-01-452-9635
    - \* shim plate, NSN 5365-01-453-9287
- See Fig C-2A in TM 9-1010-221-23&P.

TO MOUNT THE M203A2, YOU'LL NEED...

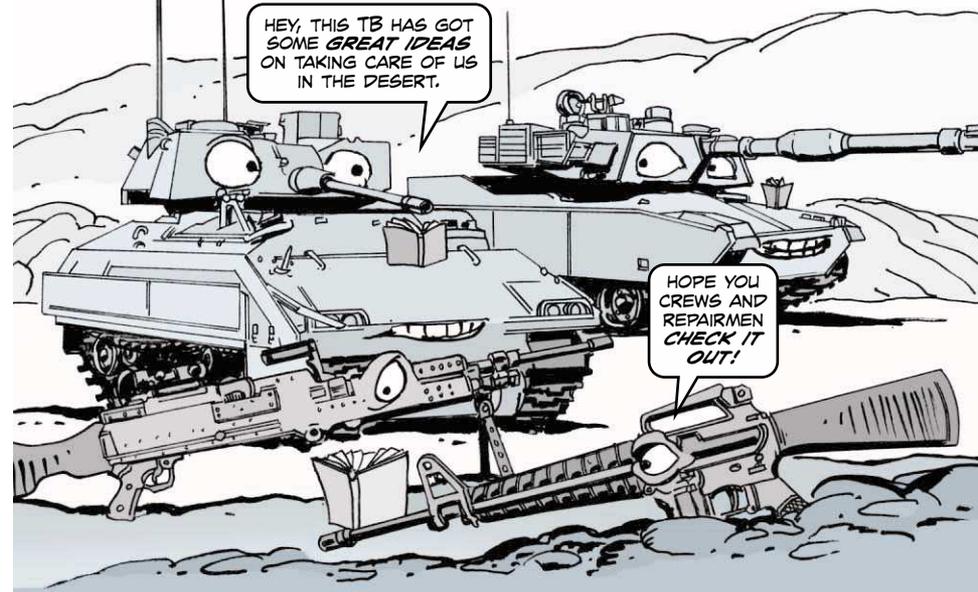
QUESTIONS? CONTACT YOUR LOCAL TACOM-ROCK ISLAND LOGISTICS ASSISTANCE REPRESENTATIVE.

IF THAT'S NOT POSSIBLE, CONTACT TACOM'S KEVIN MOORE AT D6N 793-2359/(309) 782-2359 OR EMAIL moorek@ria.army.mil



PS  
END

# Need Desert Help? See Desert TB



Dear Editor,

As one of the TACOM logistics assistance representatives in Kuwait, I assist units in preparing their equipment for desert operations.

I've found a valuable tool for fighting the desert PM battle is TB 9-1000-262-DT, *Operation Desert Thunder Material Readiness*. The TB covers desert PM for almost all weapons, combat vehicles, and ammunition. Every unit deploying to Iraq or any desert environment should get a copy of the TB and study it for ideas on how to get the most out of their equipment. It could mean the difference between success and failure.

The TB is on EM 0065, the small arms EM, which your pubs clerk can order for you. Or you can access EM 0065 at

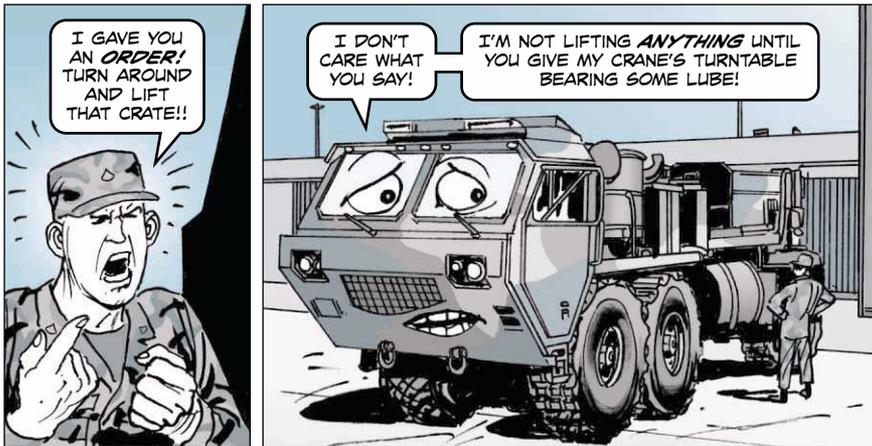
<https://www.logsa.army.mil/etms/online.htm>

Once you get to this ETM site, you'll need a password to read this TB.

Robert Foley  
Kuwait

*(Editor's note: Excellent tip, Mr. Foley. We weren't aware of the TB and I'm sure many soldiers aren't either. Thanks for clueing us in. Soldiers also might check out TB 43-0239, a collection of PS articles on operating in the desert. It's also on the EM site.)*

# TURN THE TABLES

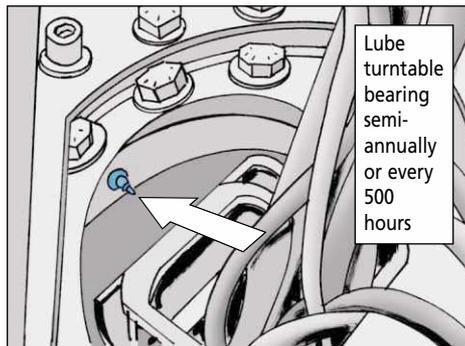


You need to turn the tables on corrosion for the HEMTT crane's turntable bearing drivers.

That bearing is often missed because you can't see the grease fitting unless the mast is raised. Without lube, the bearing goes dry and burns up. A new bearing will cost your unit between \$1,000 and \$2,100 depending on the vehicle.

So semiannually, or every 500 operating hours, raise the mast and lube the bearing with GAA. Here's how:

1. Find the grease fitting and pump in GAA until you see new grease coming out of the seal. Wipe off the excess.
2. Rotate the crane 90° and repeat step 1. Continue rotating and lubing until the turntable has been lubed at the 12, 3, 6 and 9 o'clock positions. Then completely rotate the turntable 360° to spread the lube.



## HEMTT Air Restriction Indicator

NSN 2940-01-203-2446 gets an air restriction indicator for the HEMTT. This NSN replaces the parts info shown as Item 5, Fig 32 of TM 9-2320-279-24P-1.

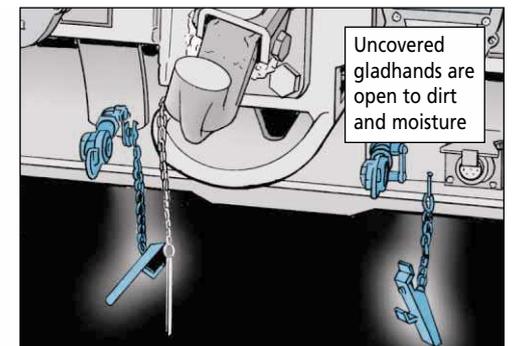
# KEEP GLADHANDS COVERED



Drivers, when you finish using the gladhands on your HEMTT, make sure you put the covers back in place. You'll be glad you did!

Leaving the covers off lets in dirt and moisture. The gunk that forms can jam open the check valves and let air escape. The vehicle's compressor tries to compensate for the lost air pressure, but eventually wears itself out.

So do yourself a favor. Keep those gladhands covers in place and keep your HEMTT feeling glad.



## M1000 HET Retaining Package

NSN 5330-01-371-7595 gets the retaining package for the platform steering on the heavy equipment transporter. This NSN replaces the parts info shown for Items 24 and 27, Fig 28 of TM 9-2330-381-24P.

## OLD DEUCE TRUCK TIRE

Use NSN 2610-00-262-8677 to get a replacement tire for your M44/A2-series 2 1/2-ton truck. The part number listed for Item 1 in Fig 112 of TM 9-2320-361-20P crosses to NSN 2610-00-262-8653. That gets the tire for the 5-ton truck.

## M116A3 Brake Cable NSN

NSN 2530-01-429-8346 gets the parking brake cable for the M116A3 1-ton trailer. The NSN shown as Item 1, Fig 6 of TM 9-2330-202-14&P gets a cable that's too short.

## M149A1 TRAILER ELBOW

Use NSN 4730-01-380-2931 to get a 90° elbow for the water trailer. The NSN shown as Item 16, Fig 28 of TM 9-2330-267-14&P gets the wrong elbow.

## M915A3 FUEL/WATER SEPARATOR

Use NSN 4330-01-481-9949 to get the fuel/water separator for the M915A3 tractor truck. This NSN replaces the parts info shown as Item 1, Fig 38 of TM 9-2320-302-24P.

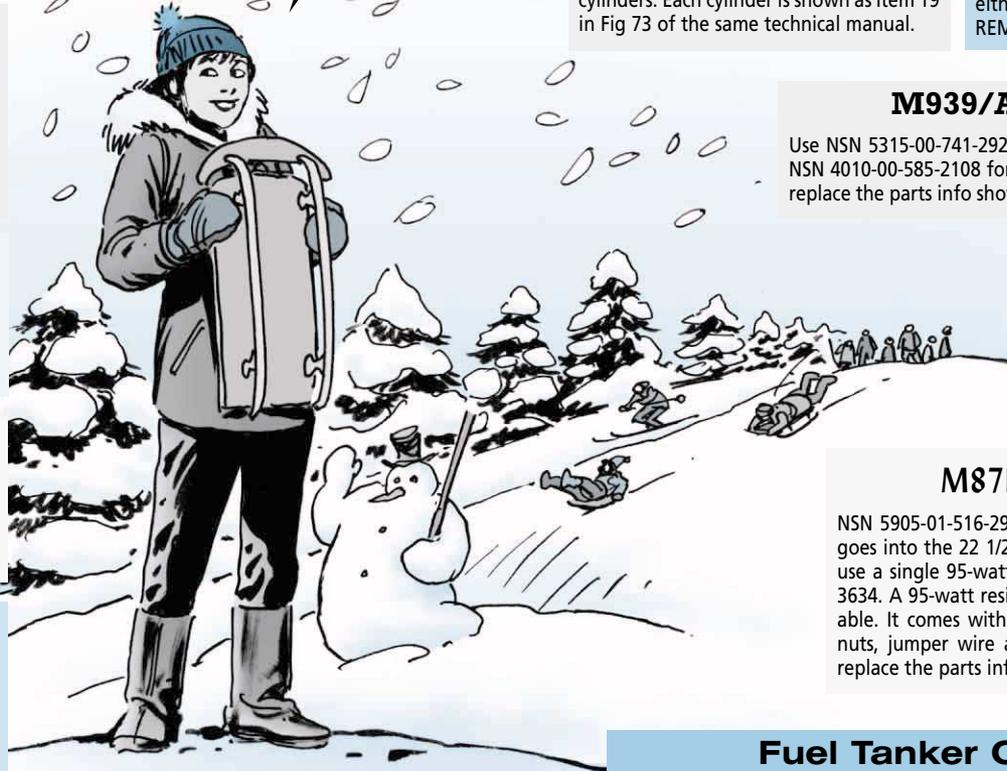
## M101A2/A3 Trailer U-bolt

NSN 5306-01-495-0788 gets the U-bolt for the new-style cargo box on M101A2- and -A3 3/4-ton trailers. This NSN replaces the parts info shown as Item 32, Fig 20 of TM 9-2330-202-14&P.

## M878/A1 Yard Tractor Tire

Use NSN 2610-00-294-9485 to get the tire for the M878 and M878A1 yard tractors. This tire replaces the one shown as Item 3 on Page 2-178 of TM 9-2320-277-14&P and Item 7, Fig 94 of TM 9-2320-285-24P.

DOING PREVENTIVE  
MAINTENANCE  
YESTERDAY MEANS  
YOU HAVE TIME TO  
ENJOY THE WINTER  
TODAY!



## LUBE AND SERVICE UNIT PARTS

Use NSN 2530-01-453-0494 to get the air brake booster for the lube and service unit (Model PM92-133). This NSN replaces the parts info shown as Item 1, Fig 71 of TM 5-4939-244-24P. NSN 2530-01-412-8166 and NSN 2530-01-412-8160 get the brake assembly's road- and curbside hydraulic cylinders. Each cylinder is shown as Item 19 in Fig 73 of the same technical manual.

## M916A1/A2 Winch Data Plates

Some of the data plates for the winch on the tractor truck do not have NSNs. Order the data plate shown as Item 1, Fig 319 of TM 902320-363-24P with CAGE 58864 and PN 12634 on a DD Form 1348-6. Order the plate shown as Item 3 with CAGE 58864 and PN 12611. When ordering either plate, write "NSN not Available" in the REMARKS block on the 1348-6.

## M939/A1/A2 Shackle Pin

Use NSN 5315-00-741-2924 to get the shackle pin and the chain with NSN 4010-00-585-2108 for the 5-ton truck's front bumper. These NSNs replace the parts info shown as Item 20, Fig 326 of TM 9-2320-272-24P.

## M35A2 REAR AXLE GASKET

NSN 5330-00-712-1244 gets a cork gasket for the rear axle on the 2 1/2-ton truck. This replaces the NSN listed for Item 3 of Fig 111 of TM 9-2320-361-20P.

## M871A2 Light Resistors

NSN 5905-01-516-2974 gets the right 55-watt light resistor that goes into the 22 1/2-ton semitrailer's noseplate box. Or you can use a single 95-watt resistor that comes with NSN 5905-01-507-3634. A 95-watt resistor kit, NSN 5905-01-396-7097, is also available. It comes with two resistors and spacers, screws, washers, nuts, jumper wire and installation instructions. These resistors replace the parts info shown in Fig. 7 of TM 9-2330-386-14&P.

## Fuel Tanker Glow Plug Kit

NSN 2920-00-919-8402 gets the glow plug kit for the engine on the M967/A1 and M969/A1/A2 5,000-gal fuel tanker. This NSN replaces the parts info shown as Item 26, Fig 70 of TM 9-2330-356-24P.

## M939A2 THERMOSTAT NSN

Use NSN 6685-01-425-7336 to get the cooling system's thermostat (used on the internal bypass system *only*) for the M939A2 5-ton series trucks. This NSN replaces the parts info shown as Item 12, Fig 115 of TM 9-2320-272-24P.

DEUCE...

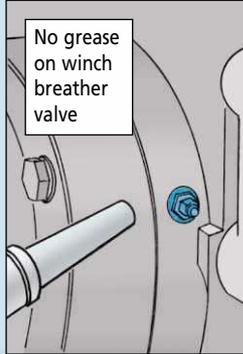
# Winch PM Again



**A** few mechanics are too clever by half. They think the breather valve on the winch's gearbox is a grease fitting. When they pump grease into the valve, guess what happens... NOTHING!

But here's the problem. A well-meaning mechanic replaces the valve with a new grease fitting. The end result is that grease gets pumped in the gearbox where it doesn't belong.

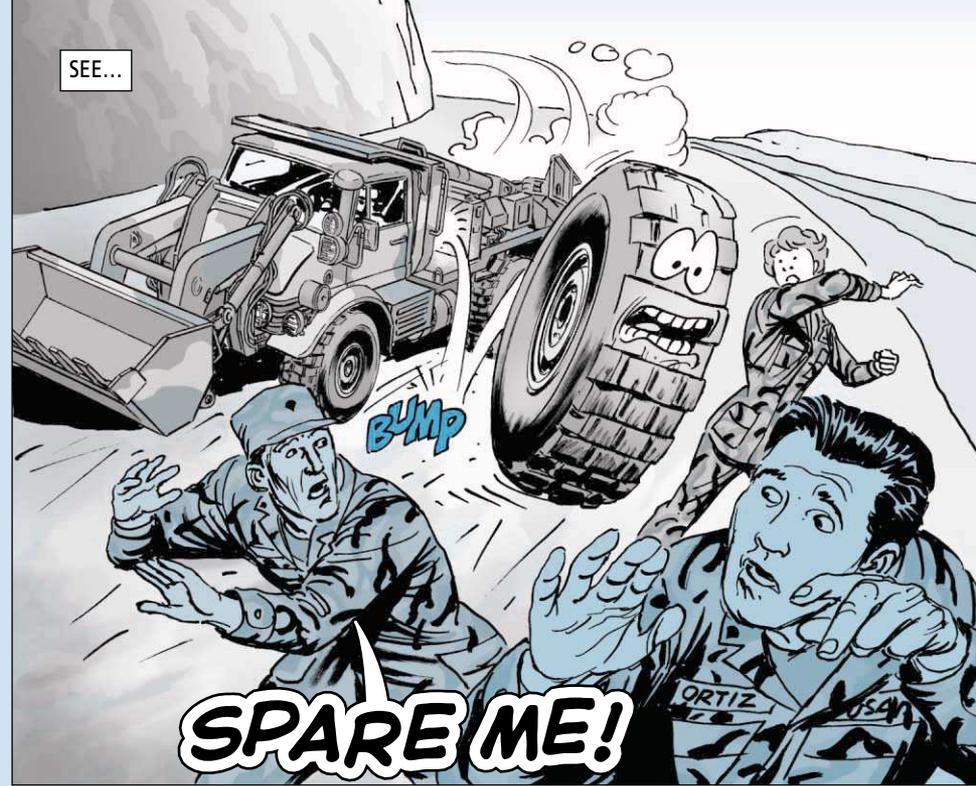
And there's another problem here—not using the LO! The breather valve is not called out as a lube point, so a mechanic shouldn't be looking for a grease fitting there anyway!



- If there's a grease fitting where it doesn't belong, remove it and replace it with the breather valve, NSN 3040-01-476-5018.
- You need to change the oil (if it's contaminated with grease) in the gearbox. So move the winch clutch lever (2) to DISCONNECT, and rotate the winch spool until the check/fill plug (1) is horizontal, at the 3 o'clock position.
- Remove the check/fill plug.

- Rotate the spool until the check/fill plug is facing down. Drain the oil into an approved hazardous waste container. Never dump it down a drain or on the ground.
- Rotate the spool so the check/fill plug is horizontal. Add oil until the level reaches the bottom of the check/fill hole. Use the correct oil shown on Page 103 of TM 5-2430-200-10, depending on the temperature.
- Reinstall the check/fill plug.

SEE...



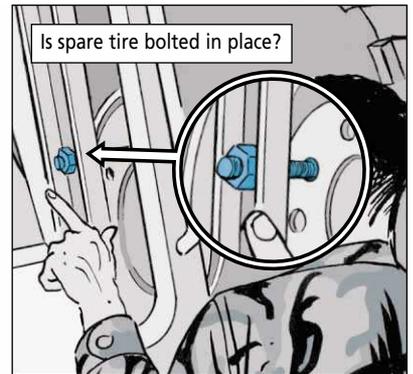
**B**efore you hop in the cab of your small emplacement excavator, take a look at the spare tire mount carrier. Make sure the tire (wheel assembly) is secured in place.

A loose tire will roll out of the carrier when the vehicle is moving and takes a turn.

Weighing in at 170 pounds, the tire could damage another vehicle, cause an accident, or worse yet . . . kill someone.

So before operations, make sure the vehicle's spare tire is held in place with the carrier mount's tire holder. You'll see the holder inside the spare tire's wheel assembly, right behind the driver's side of the cab.

Replace a missing holder with NSN 2590-01-242-6712. It's shown as Item 5 in Fig 186 of TM 5-2420-224-24P-1.



# Moldboard Clean-Up



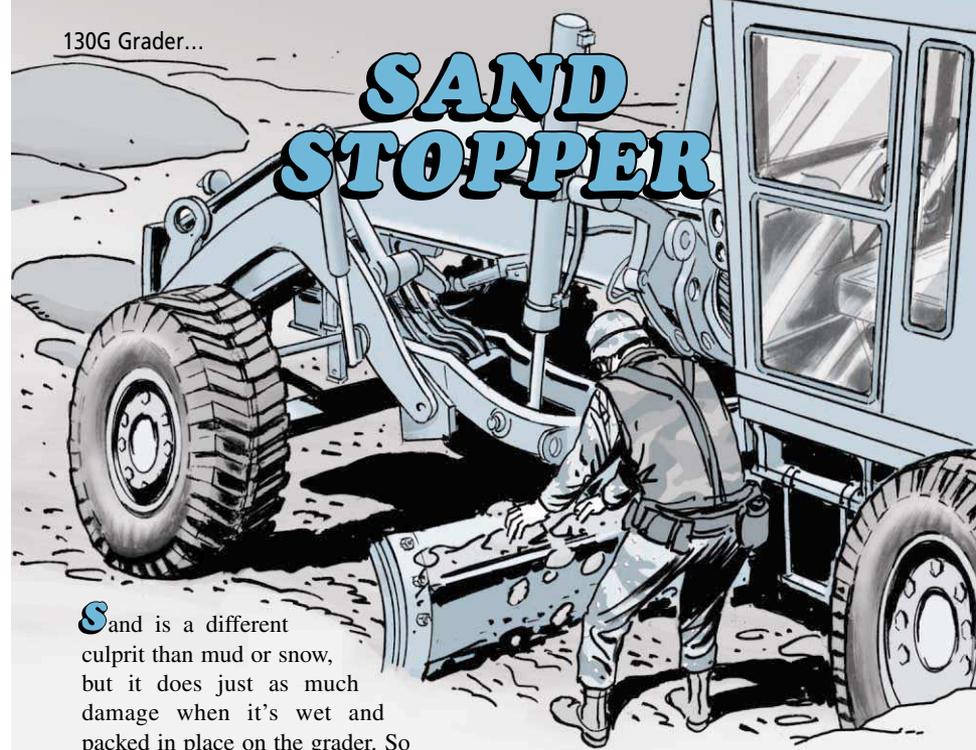
**O**perators, remove any rocks, mud and hard-packed dirt on top of the grader's moldboard. The same goes for ice and snow. Do this after the day's run.

Debris on the moldboard can damage or stop the moldboard's slide bushings from moving left or right along the guide rail during operations. Also, a "stuck" slide bushing puts lots of wear and tear on the vehicle's hydraulic system.

So, after you shut down the engine for the day and hop out of the cab, remember to do a little housekeeping before you leave the worksite or motorpool. That is, clean any debris off the grader's moldboard.



# SAND STOPPER



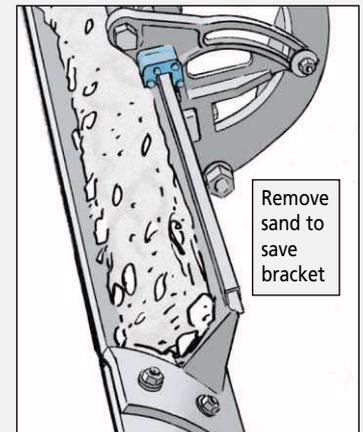
**S**and is a different culprit than mud or snow, but it does just as much damage when it's wet and packed in place on the grader. So keep these "sand stoppers" in mind when you park the vehicle after the day's run.

## Bracket Slide and Glide

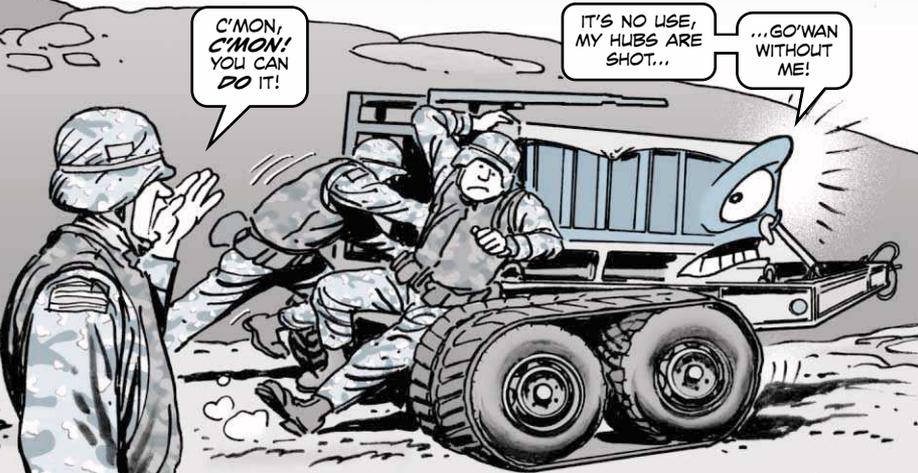
Sand can play havoc with the cylinder rod end brackets (top) on the blade's moldboard, especially when it's wet and hardens.

When packed sand accumulates on the moldboard, those end brackets get stuck in their tracks, causing damage to the vehicle's hydraulics and the moldboard's slide bushings and seals. That means your grading operations are put on hold!

To head off damage, eyeball the top area of the moldboard for hard-packed sand. Remove any debris with a shovel or entrenching tool before leaving the worksite. That way the blade can slide back and forth smoothly without damage to the hydraulics.

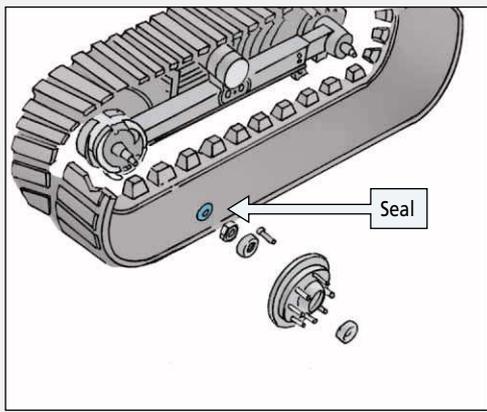


# Wheel Hub Seal NSN?



Dear Half-Mast,  
 We have trouble with the wheel hub seals on the MICLIC's trailer leaking. That lets water in the hubs and leads to corrosion and wheel problems. But we can't find an NSN for replacement seals. Please help.  
 SSG D.B.

Dear Sergeant D.B.,  
 The seal comes with NSN 5330-00-154-1226 and costs less than \$6. It's Item 4 on Page 9-1 in TM 9-2330-389-14&P, which is an advance copy dated Mar 93. If you're using the TM version on the ETM, it's item 4 in Fig 5-1.  
 Neither the ETM nor advance copy TM lists the correct quantity of use for the seal. You need eight seals to do all four wheels.  
*Half-Mast*



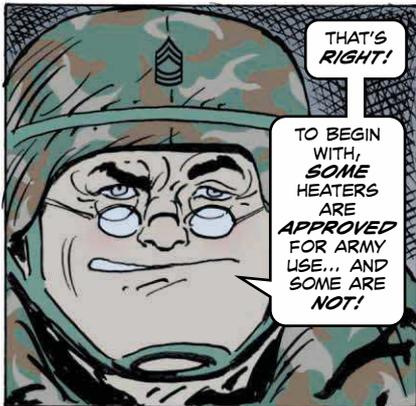
# STAY WARM AND ALIVE THIS WINTER





WHAT YOU FELLAS NEED IS A REFRESHER COURSE ON SPACE HEATER SAFETY.

SPACE HEATER SAFETY?



THAT'S RIGHT!

TO BEGIN WITH, *SOME* HEATERS ARE APPROVED FOR ARMY USE... AND SOME ARE *NOT!*

"COMMERCIAL NON-STANDARD HEATERS, INCLUDING UNVENTED KEROSENE OR PROPANE HEATERS, ARE **NOT APPROVED.**"



"THEY EMIT **CARBON MONOXIDE GAS** AND COULD MAKE YOU SICK... EVEN **KILL YOU.**"



SOME MODELS TEND TO LEAK FUEL AROUND THE VALVES... AND OTHERS ARE PRONE TO TIP OVER.

THEY DON'T MEET FIELD STANDARDS. THEY ARE **FIRE HAZARDS.**



"THE FAMILY OF SPACE HEATERS (FOSH) APPROVED FOR MILITARY USE IS **SAFE.** WHEN USED **CORRECTLY,** THEY'RE YOUR BEST CHOICE. THEY BURN APPROVED FUELS AND VENT EXHAUST GASES OUTSIDE."



HERE'S A BRIEF INTRODUCTION TO EACH MEMBER OF THE 'FAMILY'...

FOR MORE INFORMATION ABOUT THE FOSH, GO TO THE DEFENSE SUPPLY CENTER PHILADELPHIA WEB SITE AT <http://www.dscp.dla.mil/gi/general/fosh.htm>



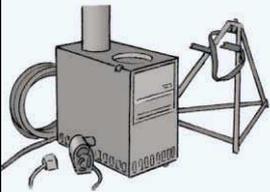
YOUR AUTHORITY FOR ORDERING THESE HEATERS IS CTA 50-909.

**H-45 Space Heater** NSN 4520-01-354-1191 (Type I, Solid Fuel)  
 NSN 4520-01-329-3451 (Type II, Liquid Fuel)  
 TM 9-4520-257-12&P



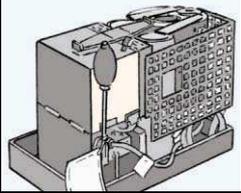
The H-45 replaces the old potbelly M-1941. Designed to heat the General Purpose and TEMPER tents, it burns liquid (JP-8 and diesel) and solid fuels.

**Arctic space heater** NSN 4520-01-444-2375  
 TM 10-4520-261-12&P



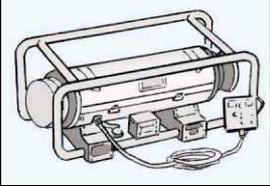
The arctic heater replaces the M-1950 Yukon heater. It's a light-weight, portable heater for 5-man and 10-man arctic tents. It burns liquid (JP-8 and diesel) and solid fuels.

**Small space heater** NSN 4520-01-478-9207  
 TM 10-4520-263-12&P



This heater is ideal for use in smaller tents like the 4-man soldier/crew tent. It burns liquid (JP-8 and diesel) fuel. Although it has a built-in fuel tank, the heater can also run off of an external fuel supply using a fuel can and stand.

**Convective space heater** NSN 4520-01-431-8927  
 TM 10-4520-262-12&P



This heater provides forced hot air for the modular command post shelter. It generates its own electrical power and it has built-in diagnostics. It burns liquid fuel (JP-8 and diesel).

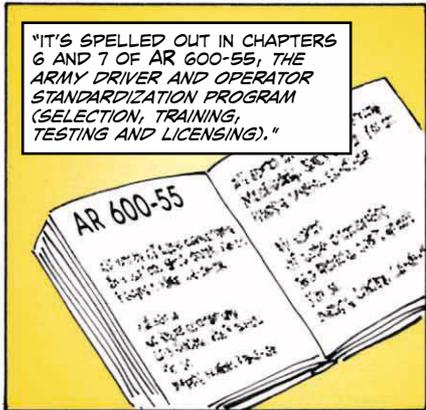
**Thermoelectric fan** NSN 4520-01-457-2790



This fan is a compact, self-powered unit that fits on top of the H-45 and arctic space heaters. The fan uses some of the heat to turn the fan blades, which circulate heated air, improve comfort and save fuel.



YOU **MUST** BE TRAINED AND LICENSED TO SET UP AND OPERATE HEATERS.



"IT'S SPELLED OUT IN CHAPTERS 6 AND 7 OF AR 600-55, THE ARMY DRIVER AND OPERATOR STANDARDIZATION PROGRAM (SELECTION, TRAINING, TESTING AND LICENSING)."



BE SAFE. LEARN ALL YOU CAN ABOUT YOUR HEATER **BEFORE** YOU FIRE IT UP.



"**READ** THE TMS."



"**STUDY** LOCAL SOP."



"**ATTEND CLASSES.** PAY ATTENTION TO TIPS..."



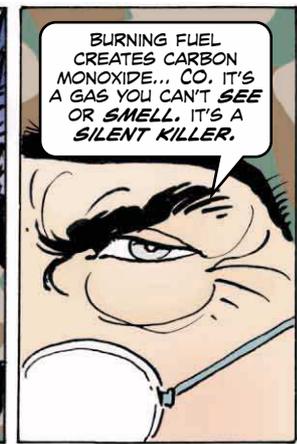
"...OFFERED BY YOUR SAFETY PERSONNEL."



THERE ARE **TWO** POSSIBLE HAZARDS WHEN USING SPACE HEATERS...



... **CARBON MONOXIDE** AND **FIRE**. ONE CAN POISON, THE OTHER BURNS. **BOTH CAN KILL.**



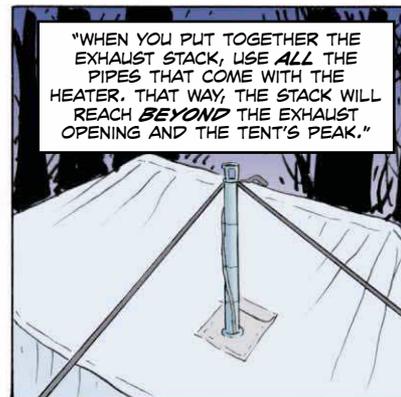
BURNING FUEL CREATES CARBON MONOXIDE... **CO**. IT'S A GAS YOU CAN'T **SEE** OR **SMELL**. IT'S A **SILENT KILLER.**



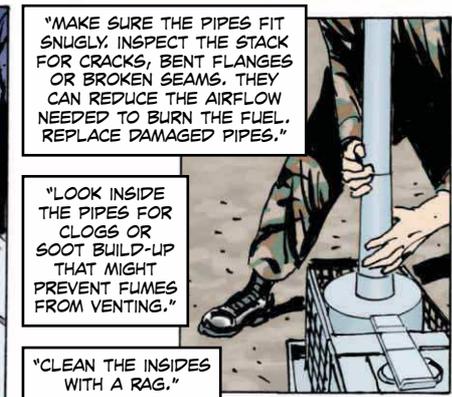
"BREATHING **CO** CAN CAUSE NAUSEA, DIZZINESS, HEADACHES OR FATIGUE. BREATHING A HEAVY DOSE OF **CO** CAN **KILL** YOU."



"MAKE SURE YOUR STACK VENTS **OUTSIDE** THE TENT."



"WHEN YOU PUT TOGETHER THE EXHAUST STACK, USE **ALL** THE PIPES THAT COME WITH THE HEATER. THAT WAY, THE STACK WILL REACH **BEYOND** THE EXHAUST OPENING AND THE TENT'S PEAK."



"MAKE SURE THE PIPES FIT **SNUGLY**. INSPECT THE STACK FOR CRACKS, BENT FLANGES OR BROKEN SEAMS. THEY CAN REPLACE THE AIRFLOW NEEDED TO BURN THE FUEL. REPLACE DAMAGED PIPES."

"LOOK INSIDE THE PIPES FOR **CLOGS** OR **SOOT** BUILD-UP THAT MIGHT PREVENT FUMES FROM VENTING."

"CLEAN THE INSIDES WITH A RAG."



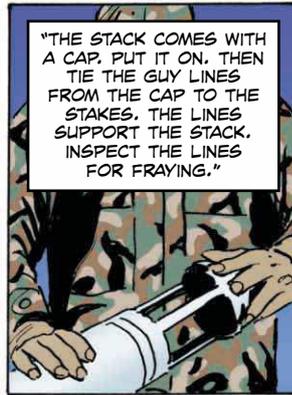
TAKE PRE-CAUTIONS TO CUT THE RISK OF FIRE...



"FIRST, MAKE SURE YOUR EXHAUST STACK PIPES FIT **TIGHT**."



A LOOSE FIT CAN CAUSE A HOT STACK TO FALL AND START A FIRE!



"THE STACK COMES WITH A CAP. PUT IT ON, THEN TIE THE GUY LINES FROM THE CAP TO THE STAKES. THE LINES SUPPORT THE STACK. INSPECT THE LINES FOR FRAYING."



"ROLL BACK AND TIE DOWN THE EXHAUST FLAP **AWAY** FROM THE STACK. ALSO, KEEP CAMO NETS CLEAR OF THE STACK."



"IF YOU BURN WOOD, CREOSOTE BUILDS UP INSIDE THE STACK."

CREOSOTE CATCHES FIRE EASILY, SO CLEAN THE STACK **DAILY**."



"ALLOW PROPER SPACE BETWEEN YOUR HEATER AND THE TENT WALL. THE STACK SHOULD BE STRAIGHT UP THROUGH THE EXHAUST OPENING. IN ANY CASE, SEE YOUR HEATER'S TM FOR GUIDELINES."



"IF THE TENT HAS A FABRIC FLOOR OR IS PITCHED ON SNOW, PUT THE HEATER IN A **SANDBOX** OR ON A BED OF **BRICKS**."



"KEEP FLAMMABLE MATERIAL AT LEAST TWO FEET AWAY FROM THE HEATER."



"IF THE HEATER'S FLAME GOES OUT, WAIT UNTIL THE HEATER COOLS BEFORE RE-LIGHTING. HOT FUEL VAPOR COULD EXPLODE."



"USE ONLY APPROVED FUELS. **UNAPPROVED** FUELS (GASOLINE OR JP 4) MAY CAUSE A FIRE OR AN EXPLOSION."



"SET UP THE EXTERNAL FUEL SUPPLY AWAY FROM SPARKS. PUT IT ON A CLEARED, LEVEL SITE ABOUT 7 OR 8 FEET AWAY FROM THE TENT."

"STORE SPARE FUEL TANKS OUTSIDE OF TENTS AND SHELTERS."

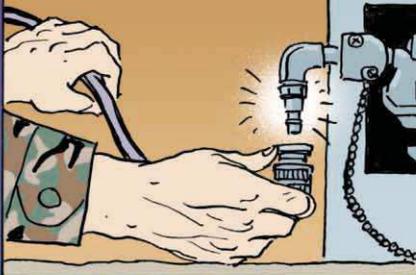


"DAMAGE TO THE **FUEL FLOW CONTROL VALVE** OR THE **VALVE BRACKET** CAN LET FUEL OVERFLOW INSIDE THE BURNER SHELL, RESULTING IN A FIRE OR EXPLOSION."



"RUN THE **FUEL OVERFLOW HOSE** OUTSIDE AWAY FROM THE TENT SLIGHTLY DOWNHILL. PUT THE **END** OF THE HOSE ON A **PETROLEUM ABSORBENT MAT**, NSN 7930-01-363-8631."

"INSPECT FUEL HOSES FOR CUTS, WEAR, PUNCTURES AND LEAKS. LOOK FOR LEAKS FROM THE FUEL CAN, THE GRAVITY FEED ADAPTER AND THE QUICK DISCONNECT FITTINGS. KEEP THE QUICK DISCONNECTS CLEAN."



"HEATERS MUST **ALWAYS** BE ATTENDED. KEEP A FIREGUARD ON DUTY IN SHIFTS. THE GUARD SHOULD BE TRAINED IN ALARM PROCEDURES, THE USE OF FIRE EXTINGUISHERS AND RECOGNIZING SIGNS OF CO POISONING."



FOR YOUR OWN HEALTH, ALWAYS DO THE BY-THE-BOOK PMCS **BEFORE** USING YOUR HEATER. FOLLOW THE SAFETY RULES. THEY'RE YOUR BEST DEFENSE AGAINST **FIRE** AND **CARBON MONOXIDE POISONING**.

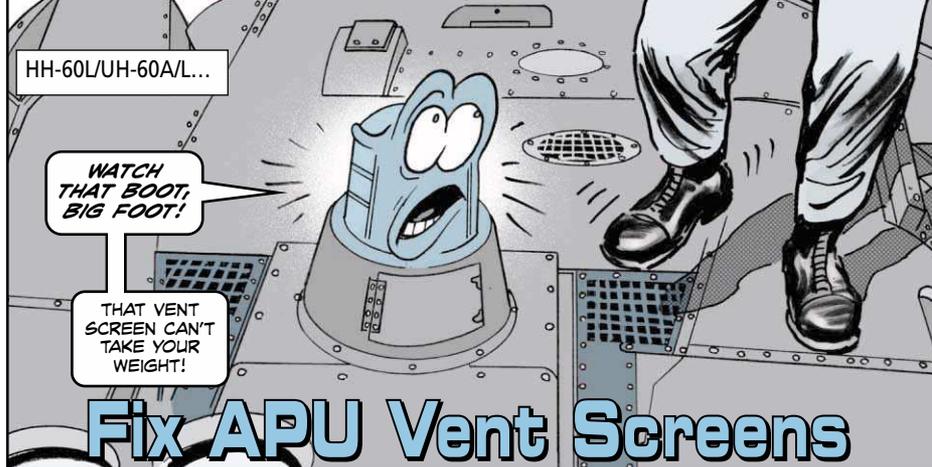
STAY WARM, FELLAS.



HH-60L/UH-60A/L...

WATCH THAT BOOT, BIG FOOT!

THAT VENT SCREEN CAN'T TAKE YOUR WEIGHT!



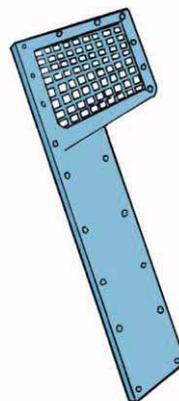
## Fix APU Vent Screens

When going topside on your Black Hawk to do rotor head maintenance, the APU vent screens take a beating from feet.

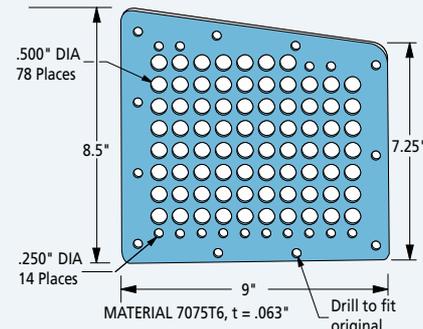
Some mechanics pay little attention to where they place their big feet. Then the vent screens suffer cracks, breaks, and bends from being stepped on with their full weight.

Sometimes it's hard not to step on vent screens and mangle them. So here's what to do to cut down on damage. Make some vent screen covers.

1. Remove one of the vent screens.



2. Trace its shape and each vent and screw hole on a sheet of .063-in aluminum alloy, NSN 9535-01-186-1347 for one screen. Then flip-flop and repeat it for the other screen.  
3. Get your sheet metal shop to cut out the covers and drill holes like so



Another solution is to stencil **NO STEP** on the screen as a reminder. Others suggest painting the screens but aircraft painting TM 55-1500-345-23 does not allow you to paint your bird's vent screens. So watch your step.



## An Open and Closed Latch

**M**echanics, bad habits are hard to break and can put your Black Hawk's APU and transmission oil cooler access door latches in harm's way.

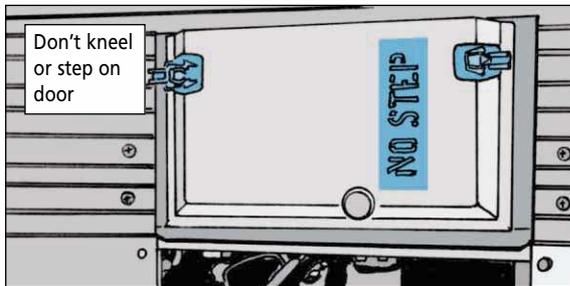
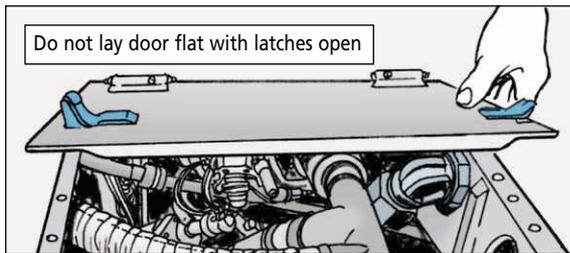
Here's a scenario that's bound to cause unnecessary repairs.

It's time to perform maintenance on the oil cooler. You pop open the latches on the access doors, swing 'em back and let 'em fall. Didn't you hear that big BAM?!

Just like a javelin, the open latches punch holes in the engine cowling. And once again, you're guilty of leaving the latches open when they should be closed. Even if you lay the doors back on the cowling gently, open latches can still cause damage. If you step or kneel on the door you'll hear a sickening "Crunch!" The door is a NO STEP area.

Every time you open the access doors, always make it a habit to lock the latches back in place. Open and close them several times to get in the habit of locking them. You'll be amazed how quickly your mind will make the two actions, opening and closing latches, one action.

The answer to unnecessary repairs is getting in the habit of doing things right the first time!



## SHIPPING HELICOPTERS

**P**reparing for a deployment? If you want information on how to lift and tie down UH-1, CH-47, OH-58, UH-60 and AH-64 helicopters for transport by ship, aircraft and semitrailer, a helicopter movement instruction CD is now available.

Get a free copy by filling out the Transportation Engineering Agency (TEA) website publications order form. You'll find it at:

[http://www.tea.army.mil/pubs/pubs\\_order.htm](http://www.tea.army.mil/pubs/pubs_order.htm)

You can order up to two copies. Your CDs should arrive within three weeks after the date of your request.

If you have a fast connection, you can download the files on the CD directly from <http://www.tea.army.mil/pubs/depoly.asp> and click on Field Guidance Pamphlets.

[See Page 61 for updated info](#)

# ARC-220 Radios

MY NEW ARC-220 RADIO WORKS PRETTY GOOD.



I CAN'T WAIT 'TIL I GET ONE!



PM-AME has completed installation of the ARC-220 HF radios in all the Chinooks and is near completion on the Black Hawks. AH-64A fielding has started and the AH-64D remanufacturing line fielding has also begun. The fielded Longbows (lots 1-6) will begin fielding the ARC-220 and the VRC-100 High Frequency radios by approximately Aug 2005. To head off problems, PM-AME has established an email help line at:

[arc220help@mail1.monmouth.army.mil](mailto:arc220help@mail1.monmouth.army.mil)

for questions regarding set-up, radio presets, operation, and AVUM and AVIM maintenance.

For the ARC-220 and VRC-100 new equipment training team, contact: Rock McLaughlin, DSN 992-0936 or 732-532-0936; Charlie Rinebold, DSN 992-3623, or 732-532-3623; Don Hill, DSN 992-0774 or 732-532-0774; or Steve Punter, DSN 992-0888 or 732-532-0888.

For the ARC-220 and VRC-100 Logistics, contact: James Mueller, DSN 992-2320 or 732-532-2320, or Herb Igo, DSN 746-3228 or 256-876-3228.

ELSE...

## CAN'T GET HELMET EARCLIP ASSEMBLY

I'M GLAD THIS NEW EARCLIP IS WORKING!

GOOD THING WE GOT THE MESSAGE BEFORE YOU ORDERED THE WRONG NSN IN THE TM...

...OR I'D STILL BE SITTING ON THE SHELF NMC!



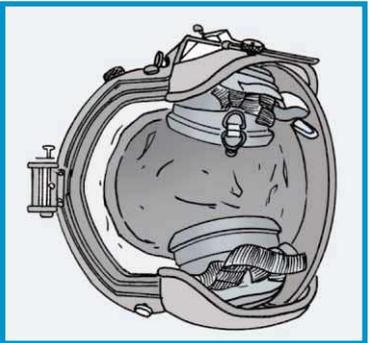
**ELSE** techs, are you having trouble getting the earcup assembly, NSN 8415-01-395-6841, for your HGU-56/P aircrew integrated helmet system (AIHS)?

The problem is an incorrect SMR code listed for Item 12 in Figure F-2 of TM 1-8415-216-12&P that told you to order the assembly.

HERE'S WHAT YOU NEED TO DO. **CANCEL YOUR REQUISITIONS AND ORDER THESE SEPARATE ITEMS...**



- Earcup assembly shell, NSN 5965-01-390-8873, Figure F-5, Item 1
- Ear cushion, NSN 5965-01-392-6179, Figure F-5, Item 2
- Receiver retainer, NSN 8415-01-330-6618, Figure F-5, Item 3
- Seal assembly, earpad, NSN 8415-01-074-1622, Figure F-5, Item 4



Make a note until the TM is updated and check for all aviation life support information on the PM Air Warrior web site at:

<https://airwarrior.redstone.army.mil>

You'll have to apply for a username and password for access.

ELSE...

# TRACK HELMET CHANGES



ELSE techs, the HGU-56/P aircrew integrated helmet system (AIHS) stays in shape only if you stay abreast of the constant changes to the helmet.



HERE ARE THE NSNs YOU NEED TO KEEP THOSE VISORS ON TRACK AND THE HELMETS MISSION READY.

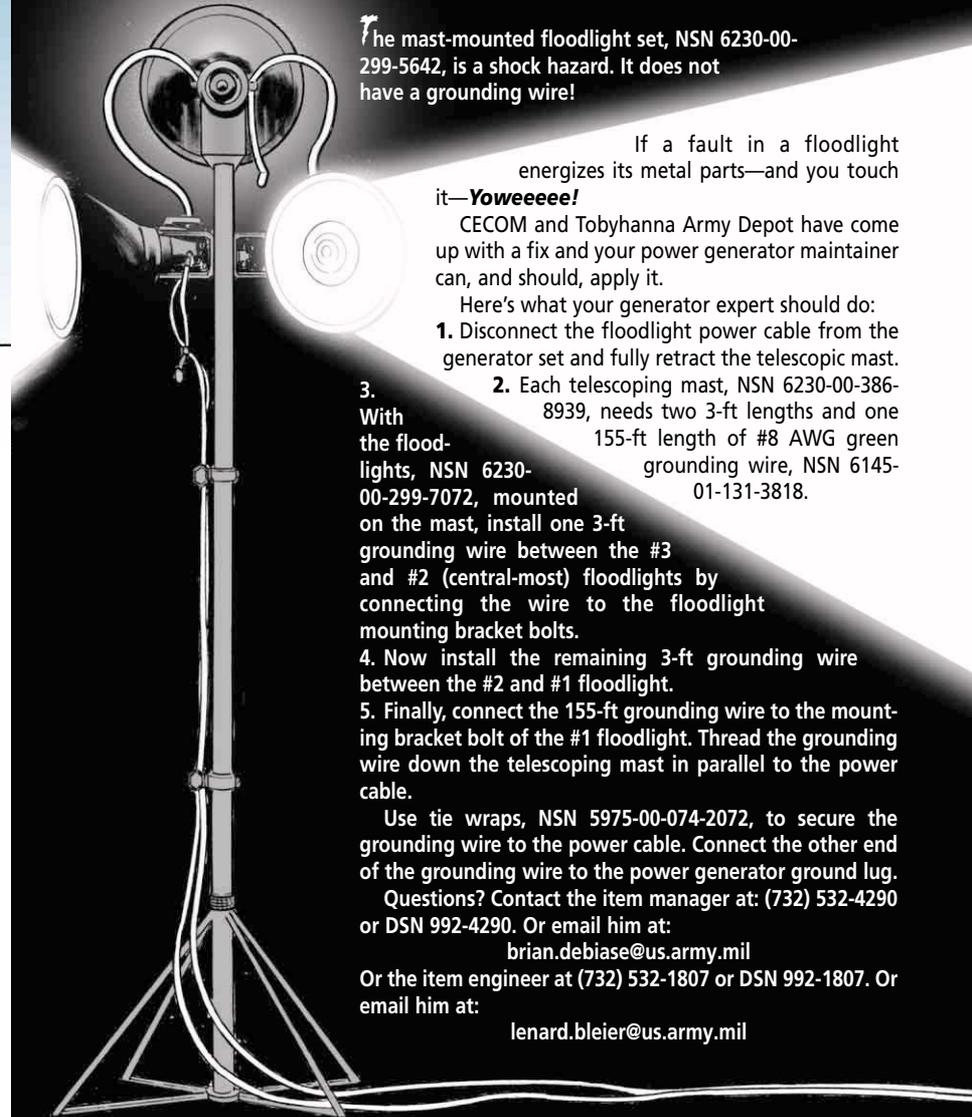
Item	NSN 8415-
Track, lower left	01-488-4864
Track, lower right	01-488-4867
Track, middle left	01-488-4868
Track, middle right	01-488-4930
Track, upper left assy	01-488-4935
Track, upper right assy	01-488-4932

As always, stay on top of your helmet PMCS with IETM, TM 1-1680-377-13&P, EM 0250.

Floodlight Set...

# A SHOCKING FIX

The mast-mounted floodlight set, NSN 6230-00-299-5642, is a shock hazard. It does not have a grounding wire!



If a fault in a floodlight energizes its metal parts—and you touch it—**Yoweeeee!**

CECOM and Tobyhanna Army Depot have come up with a fix and your power generator maintainer can, and should, apply it.

Here's what your generator expert should do:

1. Disconnect the floodlight power cable from the generator set and fully retract the telescopic mast.

3. Each telescoping mast, NSN 6230-00-299-7072, mounted on the mast, install one 3-ft grounding wire between the #3 and #2 (central-most) floodlights by connecting the wire to the floodlight mounting bracket bolts.

2. With the floodlights, NSN 6230-00-299-7072, mounted on the mast, install one 3-ft grounding wire between the #3 and #2 (central-most) floodlights by connecting the wire to the floodlight mounting bracket bolts.

4. Now install the remaining 3-ft grounding wire between the #2 and #1 floodlight.
5. Finally, connect the 155-ft grounding wire to the mounting bracket bolt of the #1 floodlight. Thread the grounding wire down the telescoping mast in parallel to the power cable.

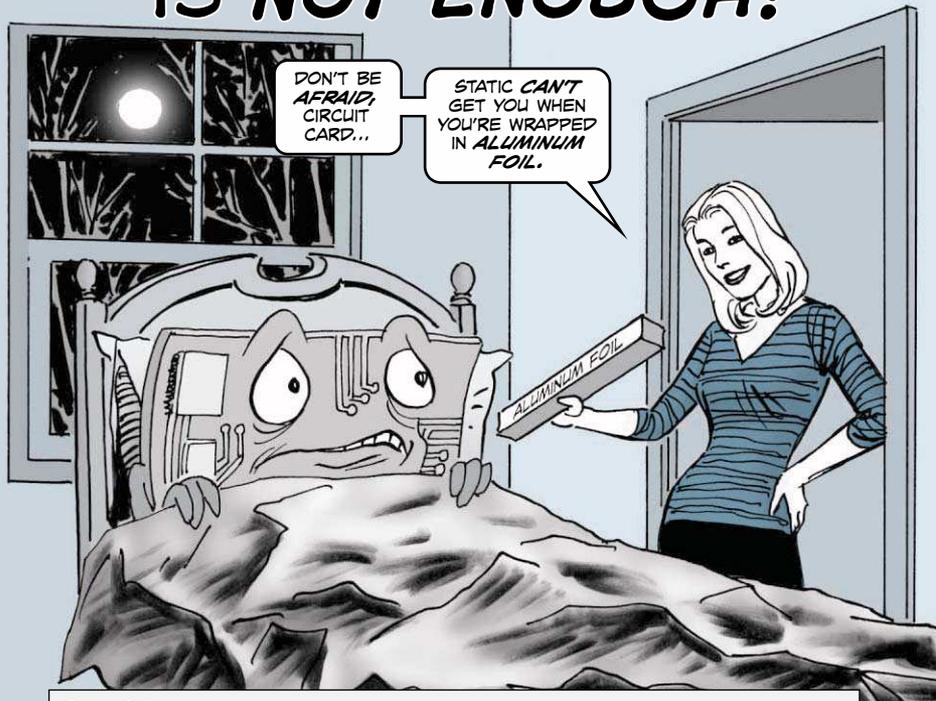
Use tie wraps, NSN 5975-00-074-2072, to secure the grounding wire to the power cable. Connect the other end of the grounding wire to the power generator ground lug.

Questions? Contact the item manager at: (732) 532-4290 or DSN 992-4290. Or email him at:

brian.debiase@us.army.mil  
Or the item engineer at (732) 532-1807 or DSN 992-1807. Or email him at:

lenard.bleier@us.army.mil

# WHEN 'IN THE BAG' IS NOT ENOUGH!



DON'T BE AFRAID, CIRCUIT CARD...

STATIC CAN'T GET YOU WHEN YOU'RE WRAPPED IN ALUMINUM FOIL.

Dear Editor,

When packaging a static sensitive component, many people make the mistake of thinking that using an anti-static bag will protect the component. This is not the case.

An antistatic bag will not generate static, but does not protect from static. It is easy to destroy the component while it is in a sealed antistatic bag. Just walk across a carpet on a dry day and touch the top of the bag while it is sitting on a metal work bench.

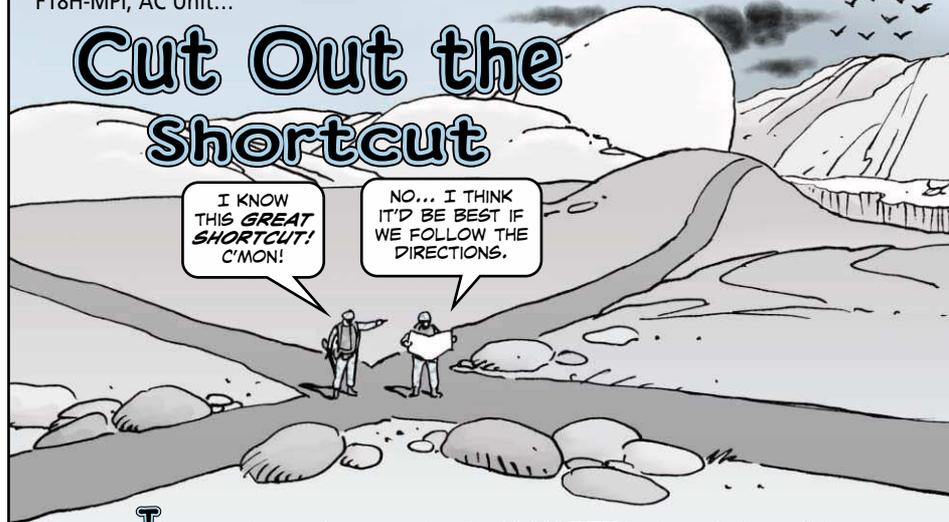
**Zap!**

The **right way** to protect a static sensitive component is to wrap it in aluminum foil before you put it in an antistatic bag.

Brooke Clarke  
San Diego, CA

*(Editor's note: When it comes to all things electrical, Mr. Clarke, knows his stuff. Thanks for the reminder about the bags, Brooke.)*

# Cut Out the Shortcut



I KNOW THIS GREAT SHORTCUT! C'MON!

NO... I THINK IT'D BE BEST IF WE FOLLOW THE DIRECTIONS.

There are times, when operating the 18,000 BTU horizontal air conditioner that sits on top of your commo shelter, that you need access to the circuit breaker or pressure switch.

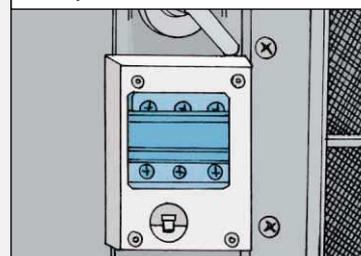
So you unscrew the four screws that hold the circuit breaker and pressure switch cover in place and remove the cover. You do what needs to be done and then you take a shortcut! You decide to leave the cover off. If the cover is off, you'll have easier access next time, you reason. Besides you think, the switches are protected by an internal plastic cover. There is no need for the outer cover at all, you guess. But guess again, 'cause this time you guessed wrong!

That outer cover is a vital seal that keeps moisture, dirt, sand and other blowing debris from inside your AC unit.

So don't take the shortcut! In the long run, it's a bad idea.

If your AC unit no longer has the cover, order a new one with NSN 5925-01-406-3458. Once you do, you'll find another reason to keep the old cover screwed down to your AC unit—a \$300 reason!

When you're done with the breaker...



...put cover back on!

# Electrocution Hazard: Overhead Power Lines



Every year soldiers die because of accidental contact with overhead power lines. Every year, some survive the jolt, but are seriously injured.

Most overhead power lines are not insulated. Activities conducted near overhead power lines such as: stringing communications wiring; erecting antenna masts; climbing in trees and onto buildings; and using portable metal ladders, present a real danger.



- **Survey**—Are there any power lines in the area you are working?
- **Recognize**—If there are power lines in the area, be aware of the hazards they might present.



- **Consider**—All power lines should be considered energized and dangerous until you find out differently.

- Never use metal ladders where they may contact overhead power lines. Use wood or fiberglass ladders instead.



- Never throw communications wire over or suspend it above overhead power lines.
- Do not erect antenna masts within twice the mast height of overhead power lines.

(TB 43-0129 has a lot of useful information in this area, and is available on-line at:

<http://www.monmouth.army.mil/cecom/safety/system/spub.htm>)

- Do not drive vehicles under overhead power lines when whip antennas are not tied down.
- Do not operate cranes or other lifting devices under overhead power lines.

Contact your local Safety Office for more info.

# INTERNET SITE FOR RADIATION SAFETY



Check out the DA Radiation Safety Officers Reference Guide website at: <https://www.monmouth.army.mil/rso/index.html>

- This site contains:
- Radiation safety training
  - Template SOPs
  - Army, NGB, and NRC regulations
  - Current NRC licenses governing radioactive commodities
  - Forms
  - Regulatory guides
  - TMs; TBs; TRs
  - Dosimetry customer handbook
  - Inspection checklists
  - Other information about radiation safety programs.

Also, if you have information to share with others, the site has a feedback email address.



Power Plants and Units...



## WHO'S GOT THE POWER?

Power plants (PP) have two generators.

Power units (PU) have one.

Item (Power plant)	Generators (2 each)	Trailer	NSN 6115-01-	LIN
AN/MJQ-35	5-kW, 60-Hz	M116A3	313-4216	P28083
AN/MJQ-35A	5-kW, 60-Hz	HMT	414-9697	P28083
AN/MJQ-36	5-kW, 60-Hz	M103A3/A4	313-4215	P28151
AN/MJQ-37	10-kW, 60-Hz	M103A3/A4	299-6035	P42262
AN/MJQ-38	10-kW, 400-Hz	M103A3/A4	313-4214	P42330
AN/MJQ-39	15-kW, 400-Hz	M200A1 (2 trailers)	299-6034	P42614
AN/MJQ-40	30-kW, 50/60-Hz	M200A1 (2 trailers)	299-6033	P42126
AN/MJQ-40B	30-kW, 50/60-Hz	M200A1 (2 trailers)	474-3783	P42126
AN/MJQ-41	60-kW, 50/60-Hz	M200A1 (2 trailers)	303-7896	P42194
AN/MJQ-41B	60-kW, 50/60-Hz	M200A1 (2 trailers)	474-3776	P42194
AN/MJQ-42	60-kW, 50/60-Hz	M116A3	322-8583	P42466
AN/MJQ-43	60-kW, 400-Hz	M116A3	322-8582	P42534

DESIGNATIONS AND TRAILERS ON POWER PLANTS AND POWER UNITS CAN BE CONFUSING. DON'T BE CONFUSED!

THESE TWO CHARTS SHOW THE CONFIGURATIONS FOR ALL THE POWER PLANTS AND POWER UNITS...

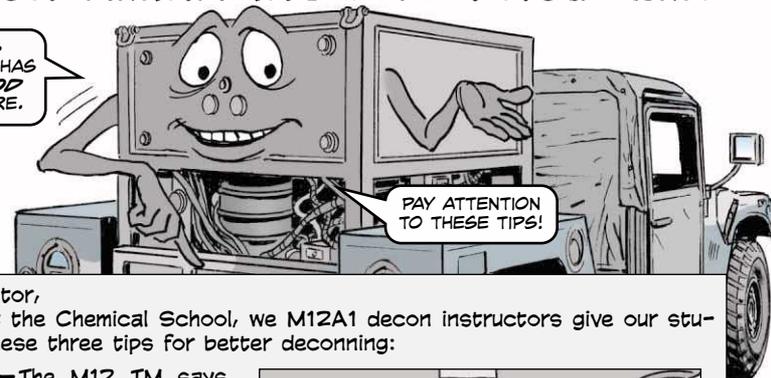


Item (Power unit)	Generator	Trailer	NSN 6115-01-	LIN
PU-797	5-kW, 60-Hz	M116A3	332-0741	G42238
PU-797A	5-kW, 60-Hz	HMT	413-3820	G42238
PU-798	10-kW, 60-Hz	M116A3	319-9032	G42170
PU-798A	10-kW, 60-Hz	HMT	413-3818	G42170
PU-799	10-kW, 400-Hz	M116A3	313-4283	G53403
PU-799A	10-kW, 400-Hz	HMT	413-3819	G53403
PU-800	15-kW, 400-Hz	M200A1	317-2137	G78203
PU-801	15-kW, 50/60-Hz	M116A3	319-9033	G78374
PU-801A	15-kW, 50/60-Hz	HMT	413-3821	G78374
PU-802	15-kW, 50/60-Hz	M200A1	317-2138	G53778
PU-803	30-kW, 50/60-Hz	M200A1	317-2136	G35851
PU-803B	30-kW, 50/60-Hz	M200A1	470-3673	G35851
PU-804	30-kW, 400Hz	M200A1	317-2135	G35919
PU-804B	30-kW, 400Hz	M200A1	471-1507	G35919
PU-805	60-kW, 50/60-Hz	M200A1	317-2134	G78306
PU-805B	60-kW, 50/60-Hz	M200A1	471-1508	G78306
PU-806	60-kW, 400-Hz	M200A1	317-2133	G17460
PU-806B	60-kW, 400-Hz	M200A1	471-1506	G17460
PU-807	100-kW, 50/60-Hz	M1061E1	417-7088	Z67207
PU-809	200-kW, 50/60-Hz	M1061E1	417-7085	Z15138

M12A1 Decon...

## DECONTAMINATING M12 PROBLEMS

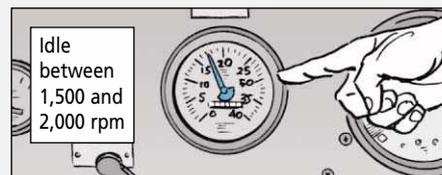
HEY, THIS SERGEANT HAS SOME GOOD STUFF HERE.



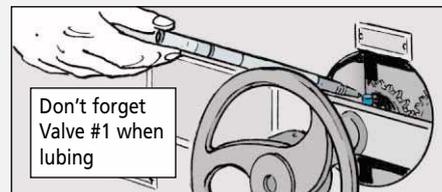
Dear Editor,

Here at the Chemical School, we M12A1 decon instructors give our students these three tips for better deconning:

**Idling**—The M12 TM says to idle down the decon for at least 15 minutes at shutdown so it can cool down. But it doesn't say at what rpm. We've found 1,500 to 2,000 rpm is the best idling range. If it's lower, the engine will stall.



**Lubing**—When you're doing your quarterly lubing according to LO 3-4230-209-10, make extra sure to hit Valve #1 with GAA. We've found the valve breaks if it doesn't get regular lubing. Anytime #1 turns hard, give it a shot of GAA. In fact, do that with any of the four valves.



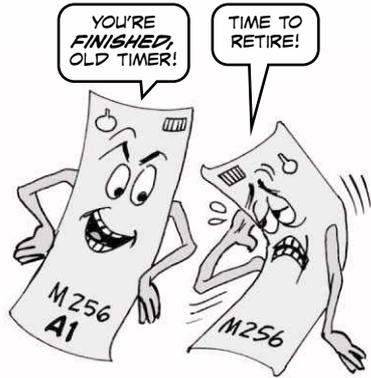
**Diesel**—If you have an M12 with the new diesel engine, remember it has different idling and operating rpm requirements than the gas engine. See TM 3-4230-237-10, the TM for the diesel M12, for details.



SSG Annie Reyes  
US Army Chemical School  
Ft Leonard Wood, MO

*(Editor's note: You're sure not conning us with those excellent decon suggestions, Sergeant. Thanks for sharing.)*

# What Happened to M256 Tickets?



Dear Half-Mast,  
We've been trying to order M256 simulator detector tickets, NSN 6665-01-112-1644, but the FED LOG says the NSN is no longer good. What gives?  
G.S.

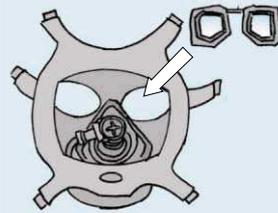
Dear Mr. G.S.,  
What gives is that the M256 has been replaced by the M256A1 simulator detector ticket, NSN 6665-01-293-2149. Order the M256A1 instead.  
Half-Mast

## M45 Masks...

# No Optical Insert Mount for M45?

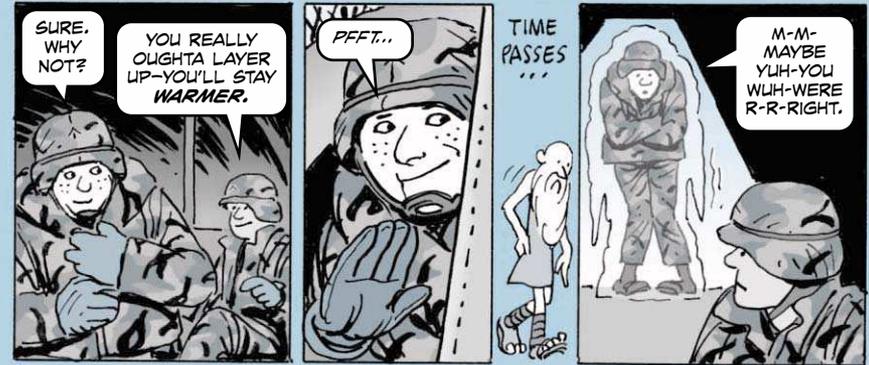
Dear Half-Mast,  
How do you get an optical insert mount for the M45 mask? I can't find any info on this.  
SP M.P.

Dear Specialist M.P.,  
You can't find any info on a optical insert mount for the M45 because there is no such mount. Unlike the inserts used with the M40 and M42 masks, the M45 optical insert and lenses is a one-piece system that fits in the mask. You should get the insert from the optical lab that provides the lenses for your unit's M40/M42 masks. If it breaks, get a replacement frame with NSN 6540-01-443-5489. For more information, contact the Defense Supply Center (S9M) at (800) 290-8201.



Half-Mast

# COLD FACTS ABOUT COLD WEATHER CLOTHING



What's your best protection against the cold? The answer is dry air. It's an excellent insulator. Cold weather clothing—like the extended cold-weather clothing system (ECWCS)—is designed to trap warm, dry air among its fibers and between its layers. All that trapped air insulates the body against heat loss and prevents cold injury.



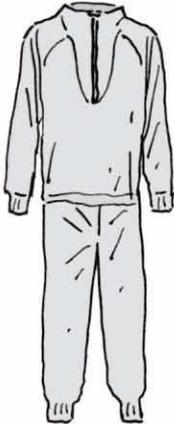
- Wear several layers of loose-fitting clothing. The extra layers of air will keep you warmer than if you wore one or two heavy garments.



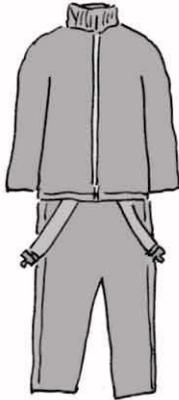
LAYER ECWCS IN THE FOLLOWING ORDER...



• lightweight polyester or polypropylene undershirt and long johns



• fiberpile or black fleece shirt and overalls



• polyester coat and trouser liners



• nylon and cotton field trousers or ECWCS trousers



• camouflage hooded parka



THE EXTRA LAYERS OF AIR KEEP YOU EXTRA WARM!



AND DON'T FORGET WINTER HEADGEAR, GLOVES AND FOOTWEAR.



• If you get too warm, remove a layer or open some of the clothing's fasteners to get ventilation. The clothing's made so you can leave some parts open—such as the collar and cuffs—to let in cool air.

You want to avoid overheating and sweating. Sweat makes clothing next to your skin wet, and wet clothing can't insulate well. What's more, as sweat evaporates, you'll chill in a hurry, especially in the wind.

• Although outer clothing is water-repellent, the surest way to stay dry is to shake or brush off any ice, snow or water drops. That's especially important before you enter a warm shelter. Another reason to brush off moisture is that it acts as a barrier that keeps your clothes from breathing.

• Keep clothing clean. Dirt and grease fill up air spaces and weaken insulation. Wash clothing when you can. Wash according to the clothing's laundry care labels and the formulas found in Appendix E of FM 42-414, *Tactics, Techniques and Procedures for Quartermaster Field Service Company Direct Support*. If washing's not possible, brush and air dry your clothes.

• Learn more about winter clothing by reading Section II, Chapter 2 of FM 31-70, *Basic Cold Weather Manual*. You'll find care and repair instructions for the extreme cold weather hood and parka, the cold weather coat and the ECWCS in TM 10-8400-201-23, *General Repair Procedures for Clothing*.



# A SERIOUS HEAD COLD



ALL THE "BOYS IN THE HOOD" KNOW THE IMPORTANCE OF PM FOR THE EXTREME COLD-WEATHER HOOD.

Outside in cold weather, your body loses most of its heat through your head. The extreme cold-weather hood can cut down the loss of body heat, but only if it's in good shape.

Keep your head—and your whole body—warm with these preventive maintenance tips...



- If the synthetic fur ruff gets wet and matted, it can't keep frigid winter wind away from your face. So, brush or shake frost and snow off the fur ruff often.



- Oil, grease and dirt on the fur ruff can irritate your skin. They also mat the fur and keep it from protecting you. Clean the fur by brushing off dirt and mud with a damp or dry cloth. Clean the cloth portion of the hood the same way.
- For more stubborn soil, you'll need to wash the hood and ruff. You can machine launder or hand-wash them.



- Machine launder the hood according to the wool method found in Formula II of Appendix E of FM 42-414, *Tactics, Techniques and Procedures for Quartermaster Field Service Company Direct Support*.

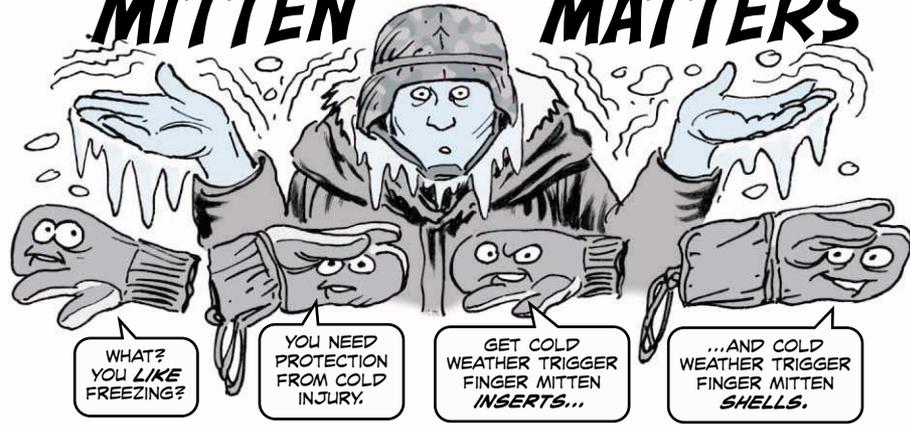
- If you choose to hand-wash the hood, use lukewarm water and a mild laundry detergent, NSN 7930-01-312-6389.

- After machine laundering or hand washing, rinse the hood in clean water. Shake out excess water and hang it up to air dry.



- Never machine-dry the hood, and never dry it near a hot stove or heater. That's too much heat and it'll damage the hood and ruff.

# MITTEN MATTERS



WHAT? YOU LIKE FREEZING?

YOU NEED PROTECTION FROM COLD INJURY.

GET COLD WEATHER TRIGGER FINGER MITTEN INSERTS...

...AND COLD WEATHER TRIGGER FINGER MITTEN SHELLS.

**H**ands take a beating in winter. Wind, snow, ice and freezing temperatures are just plain uncomfortable. What's worse, they can cause serious cold injury.

Protect your hands with cold weather trigger finger mitten shells and cold weather trigger finger mitten inserts.

Like all cold weather clothing, the mitten shells and knitted inserts trap warm, dry air among their fibers and between layers. The trapped air insulates your hands against heat loss and prevents cold injury.

Here's what's available:  
Mitten Shells

NSN	Size
8415-00-926-1526	medium
8415-00-926-1527	large

Mitten Inserts

NSN	Size
8415-00-160-0769	medium
8415-00-160-1376	large

## A Fistful of Ideas

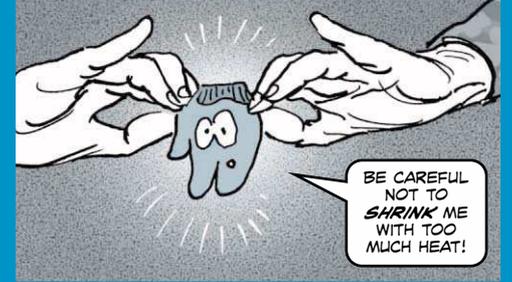


TO KEEP YOUR HANDS WARM THIS WINTER, HERE'S A FISTFUL OF IDEAS ABOUT THE USE AND CARE OF MITTEN INSERTS...

- Wear inserts and shells together to get the most warmth. Never wear inserts alone. They'll wear out quickly. They can also get wet if worn alone, and wet inserts can't insulate well.



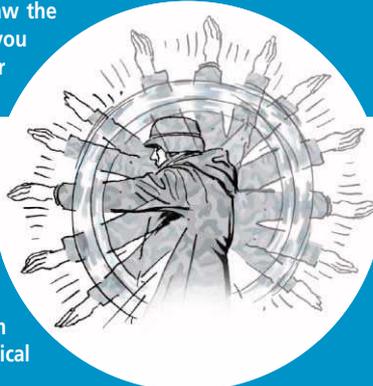
- Remove them if your hands start to sweat. Here again, if the inserts are wet, they can't keep you warm.
- Carry two pairs in case one becomes wet.
- They can be worn on either hand. Change them to opposite hands each day so the fabric will last longer.
- Keep inserts clean. Dirt and grease fill up their air spaces and weaken insulation. You can dry clean, machine wash or hand wash them.
- Machine wash in cold or lukewarm water with mild laundry detergent. Never use hot water. It'll shrink them. The same methods apply to hand washing. After washing, rinse them in clean water.
- Tumble dry on permanent press. If you prefer to drip dry, wring out all the water first. Then hang them up. A line inside your tent might be a good place. Never dry them near a hot stove or heater. They're made of 70% wool and too much heat will shrink them.



## Some Final Words

Some final words on keeping your hands warm:

- Avoid tight-fitting sleeves. And don't draw the mitten shell's strap too tight. That way you won't cut off blood circulation and make your hands cold.



- Get blood flowing to your hands by swinging your arms in a circle.

- Curl your fingers inside the mittens against the palm of your hand, thumb underneath the fingers. That helps to increase circulation.

- To treat frostbitten hands, warm them next to the skin under the armpits. Seek medical attention right away.



## Insulated Food Containers

Still using the Army's old-style aluminum insulated food container? No doubt it's pretty beat up by now. But you can replace it with one of the Army's newer insulated plastic containers.

Size in Inches	Color	NSN 7360-01
25 1/8 x 12 x 17 1/8	Olive drab	408-4911
25 1/8 x 12 x 17 1/8	Sand	452-0686
25 1/8 x 10 1/4 x 17 1/8	Olive drab	419-8500
25 1/8 x 10 1/4 x 17 1/8	Sand	419-6261



Are you overwhelmed by the AMDF acronyms found on the Army Interactive FED LOG screens? Don't be dazed! Use FED LOG's outstanding help tools.

The icon line has a yellow question mark and a blue question mark with an arrow. The **yellow question mark** provides general info about the screen you're on.

The **blue question mark** is the context help icon. You click on the context help icon to get a question mark icon as your cursor. Point its arrow at the element on the screen you want more info on, click, and you get specific info.

FED LOG - Interactive

File Edit Service Dataviews View Help Related Web Links

Army Master Data File Response for NSN 6530-00-000-0070 FOUO

Today's Date: 29 Mar 04 Effective Date: 1 Apr 2004  
 Item Name: CUP.MEDICINE Army  
 Nomenclature: CUP.MEDICINE.PLAS5000

ACT	ADDL	SOS	AAC	PS	UNIT	PRICE	UI	FC	UM	MEAS-QTY	EIC	EC
		S9M		E		25.25	PG		EA	5000		N
SCMC	AEC	MATCH		LIN	LCC	RICC	ARC	SRC	SCIC	CIIC	ICC	SLC
					R	0	X	A	0	U	4	0

Point the context arrow at a code or data, click on the item,...

...and it will display the defining info.

RIC	AC	
CODE	SERVICE/AGENCY & LOCATION	
	CODE	
S9M	Defense Supply Center Philadelphia Director of Medical Materiel Philadelphia, PA 19145	PK

OF PHRS F 6530-00-226-3641

FOR example, the AMDF displays NSN 6530-00-000-0070, cup, medicine. The first field with information is SOS. 'What's SOS?' you wonder. Using the context help icon, click on SOS and you'll find it's the source of supply code. The SOS code is "S9M." Using the context help icon you find that S9M is the Defense Supply Center Philadelphia.

NEXT MONTH, WE'LL DISCUSS THE FLIS AND ARMY DATA VIEW ICONS.

# SAMS Manuals are Online



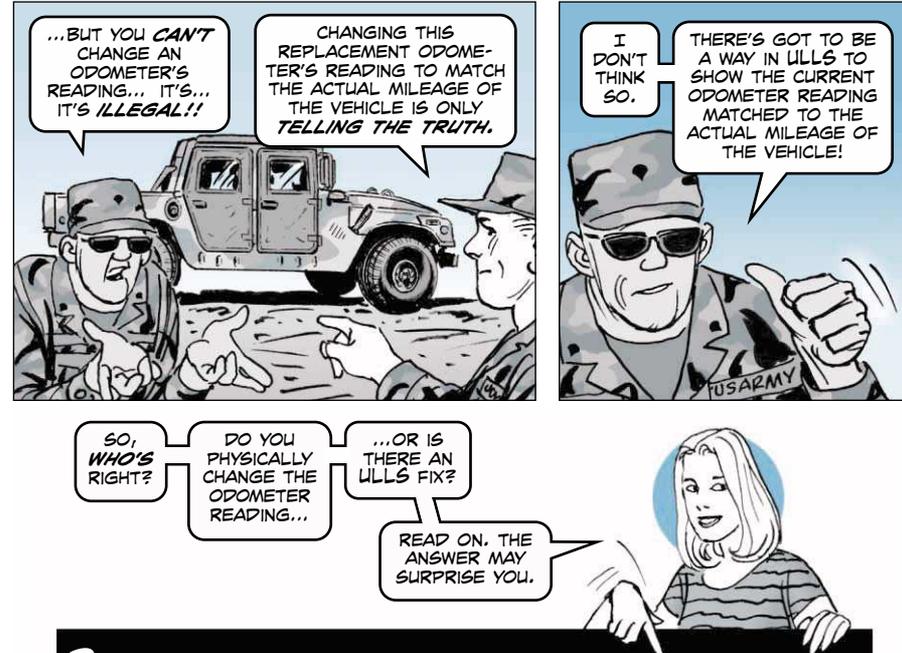
The Standard Army Maintenance System (SAMS)-series end user manuals are now available online in accessible PDF files. The PDF files can be opened online or saved to your computer hard drive for ready reference.

The SAMS-series manuals haven't been in print for several years. Older computer versions could not pass the firewall restrictions of some local area networks.

The SAMS-1, SAMS-2, and SAMS-I/TDA manuals are available online at:  
<http://www.sdcl.army.mil>

Click on [Products](#) at the bottom left side. Then click on [GCSS-Army](#) at the lower right-hand corner. At the next page, click on the SAMS brown button at the bottom of the screen. This will get you to the SAMS page. The link for the manuals is about halfway down. Click on the manual you want and save it or read it online.

# RESET REPLACEMENT ODOMETERS



Replacing an odometer is no big deal you think. Well, it's a big deal if the replacement odometer reading is greater than the actual current usage of the vehicle.

When the replacement odometer reading is entered in the ULLS computer, the system rejects it because the current meter reading cannot be greater than the cumulative reading.

So what's the solution? Have DS maintenance reset the odometer to any value equal to or less than the equipment current usage. Resetting to 0 is a universally safe setting. Then use the ULLS Update Admin Number Data option to adjust the current usage.

Changes to the odometer reading will require an adjustment to scheduled and special services records. When the odometer and current usage are changed, determine the difference between the beginning current usage and the updated current usage to make the adjustment.

# AKO MAIL AVAILABLE THREE WAYS



Deployed soldiers know how long it can take to load AKO and then its email package. Of course, AKO mail can be forwarded to other .mil addresses. But for deployed soldiers that may not be a good option.

You can cut down as much as 30 percent of the AKO load time if you use AKO Lite. Lite doesn't use all the graphics and frames of its full version.

However, for deployed soldiers, for whom every moment is valuable, there is a yet quicker way to get AKO email.

AKO email is available through a direct URL listing:

<https://webmail.us.army.mil>

Finally, there is an option that allows you to configure AKO email to send to an email client such as Outlook or Outlook Express. This configuration allows you to download your emails to your PC so you can read them offline. To set this up, go to the above URL, select the Configuration Information link, and follow the instructions for configuring your AKO account to an email client.

We hope this helps some of you deployed soldiers get better access to your emails from home.

## Connie's POST SCRIPTS

### GARDSERTS Caution

Before you repair any stripped threads with the GARDSERTS thread repair kit we covered on Page 55 in PS 620 (Jul 04), check out the -24&P for the equipment item. Some stripped threads are considered non-repairable. There are no stripped threads on the M1 tank, for example, that can be fixed. The part must be replaced if the threads are stripped. The same would be true of many parts on aircraft and missile equipment. If the -24&P doesn't tell you whether it's OK to fix an item with the thread repair kit, have your logistics assistance representative check with the equipment specialist for the item.

### CHEMICAL EQUIPMENT HOTLINE CHANGES

The Chemical Equipment Hotline is moving from Aberdeen Proving Ground, MD, to Rock Island, IL. That means hotline telephone numbers and emails are changing. These are the new ones:

Toll free: (800) 831-4408

DSN/commercial: 793-7349/(309) 782-7349

Fax: DSN 793-1919/(309) 782-1919

Email: [CEH@ria.army.mil](mailto:CEH@ria.army.mil)

The hotline will help with questions about any chemical equipment (masks, decon, detectors, alarms, and smoke generators). Calls received during non-business hours are recorded and answered the next day.

### M1A1 AIM Tank RTNB

Need to turn in a redesigned turret networks box (RTNB) for your M1A1 AIM (Abrams Integrated Maintenance) tank? You can't without a shipping container. The RTNB alone has no NSN, so it can't be turned in without a container. Get a container only with NSN 8145-01-505-9156. The RTNB with the container is NSN 5975-01-514-7808.

### DON'T SHIP HELICOPTERS ON TOP DECKS

Department of the Army policy message 02116282, Jun 04, changed shipping instructions for Black Hawks, Kiowa Warriors, Chinooks, Apaches and Hueys on ocean/sea-going vessels.

No helicopter is allowed on the top deck of vessels because top deck shipment exposes helicopters to extreme environmental elements that can cause corrosion and airframe structural damage.

All aircraft must be properly preserved, shrink wrapped and stored on lower decks to protect against harsh elements.

Make a note until all technical manuals are updated.

### GPS PLGR Parts Bonanza Changes!

Page 40 of PS 620 gave the wrong NSN for the PLGR lithium main power battery. The NSN for an 8-pack of BA-5800 batteries is NSN 6135-01-440-7774. Page 42 said to toss out your old PLGR Soldiers Guide, TB-11-5825-291-10- 2. We meant to tell you to get the updated edition dated August 2003.

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?

**HEY,  
YOU!**

WHO,  
ME?

**YEAH,  
YOU!**

**DON'T FRY THE  
TURBOCHARGER!  
RUN YOUR STRYKER AT  
LOW IDLE FOR 3 MINUTES  
BEFORE SHUTDOWN!**