

Issue 698

PS

January
2011

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-698

Approved for
Public Release;
Distribution is
Unlimited

I WILL DO MAINTENANCE
BETTER THIS YEAR.

I WILL USE
MY TECH
MANUALS.

I WILL READ
PS MAGAZINE
EVERY MONTH.

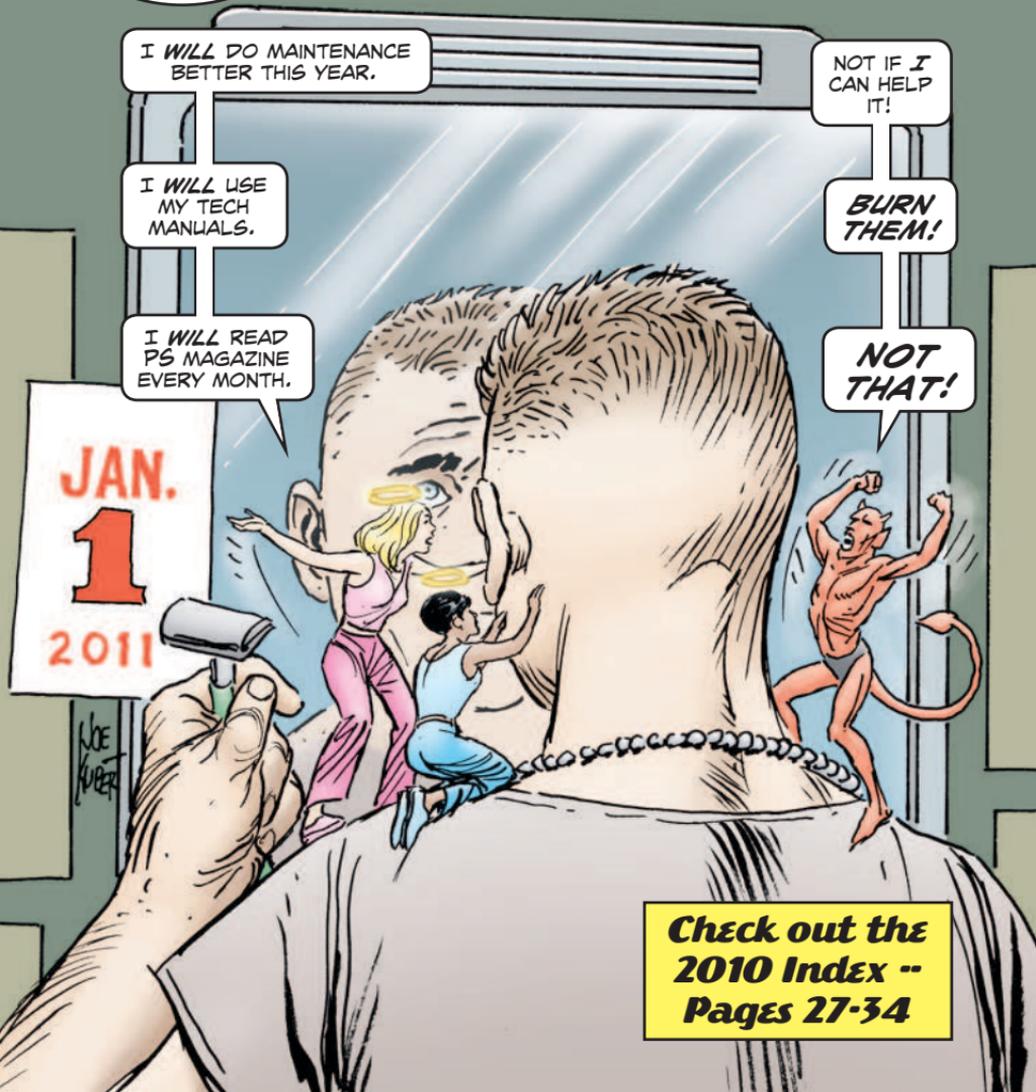
NOT IF I
CAN HELP
IT!

**BURN
THEM!**

**NOT
THAT!**

JAN.
1
2011

**Check out the
2010 Index --
Pages 27-34**



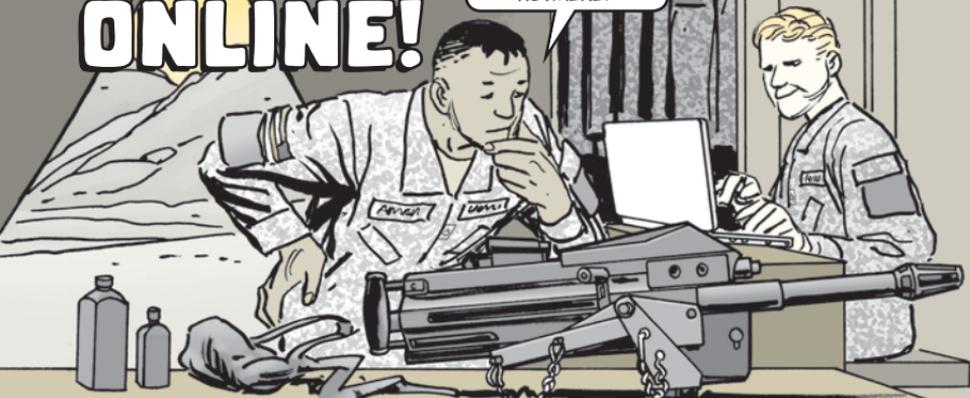
DON'T MISS OUT! READ PS ONLINE!

I KNOW PS HAD SOMETHING A COUPLE OF YEARS AGO ON CLEANING TIPS FOR THE MK 19.

I WISH THERE WAS SOME WAY TO GET THAT ISSUE WAY OUT HERE IN THE MIDDLE OF NOWHERE.

NO PROBLEM!

I CAN GET IT THROUGH THE PS WEBSITE!



Many—too many—Soldiers miss out on *PS Magazine*. Some Soldiers may not see *PS* because repeated deployments have messed up their unit's *PS* subscription. Other Soldiers are deployed to remote locations in war zones where mail service is haphazard. So all that good maintenance and supply information in *PS* does these Soldiers no good because they never see it.

The good news is that no one has to miss out on *PS* as long as they can connect to the Internet. *PS* has had its own website for several years:

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

At the *PS* website, you can read not only the current issue but all issues going back to 1999. Subject indexes give you access to articles going back to January, 1990.

The handiest feature of the website, though, may be the *PS* search engine. With it, you can instantly find all the *PS* articles for the last 10 years on subjects as broad as the M1 tank to something as specific as the M16 rifle bolt carrier key. The search engine can save you lots of time and frustration when you need information fast.

The site also has *PS* Hot Topics, which lists information that the Army wants to get to Soldiers ASAP.

If your unit isn't receiving *PS* every month, the site explains how your pubs clerk can set up a *PS* subscription.

If you have questions that *PS* can help with or you want back *PS* issues, you can email *PS* directly through the website. Be sure to include a valid postal mailing address for back issues.

So don't miss out on *PS*!

PS**THE
PREVENTIVE
MAINTENANCE
MONTHLY**

TB 43-PS-698, 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.

ISSUE 698 JANUARY 2011**COMBAT VEHICLES**

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M2/M3-Series Bradleys 1W11 Cable
M2/M3-Series Bradleys Fan Drive, Sensor Lenses
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You are invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems and questions or comments on material published in PS.

Just write to:

MSG Half-Mast
PS, the Preventive Maintenance Monthly
USAMC LOGSA (AMXLS-AM)
5307 Sparkman Circle
Redstone Arsenal, AL 35898

Or email to:

logsa.psmag@conus.army.mil or
half.mast@us.army.mil

Internet address:

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

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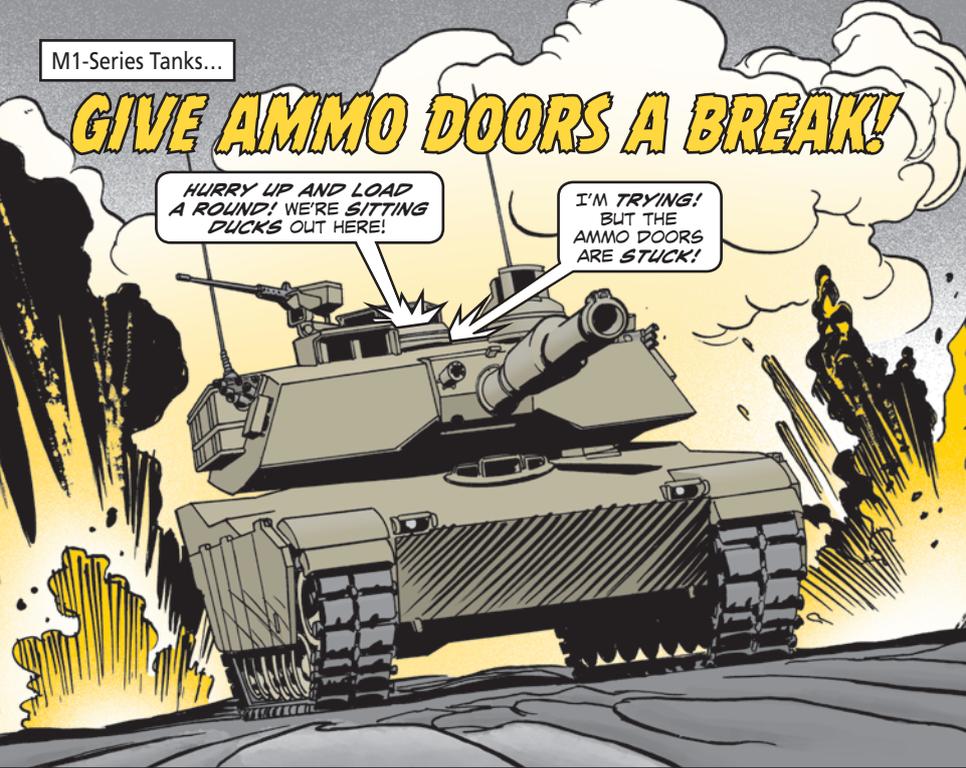
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GIVE AMMO DOORS A BREAK!

HURRY UP AND LOAD A ROUND! WE'RE SITTING DUCKS OUT HERE!

I'M TRYING! BUT THE AMMO DOORS ARE STUCK!



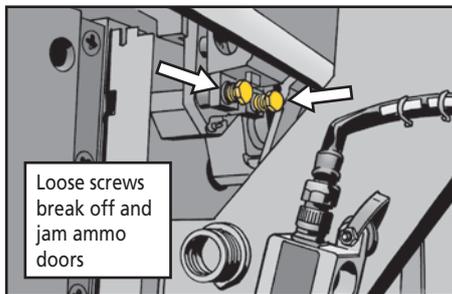
Tankers, a couple of loose screws can really ruin your day, especially when it comes to your tank's ammo door.

The hook latch and housing assembly mounts to the top left of the ammo door with two screws. Vibration loosens the screws and that's where the trouble starts.

If those screws break, you're stuck with an open door you can't close, or a closed door you can't open. Either way, you won't be doing any firing.

Make it a point to use a flashlight and eyeball those screw heads every time you check out the ammo doors and racks. If they've backed out or if they're loose enough to turn with your fingers, give your mechanic a heads up.

He'll add a dab of locking compound, NSN 8030-01-025-1692, to the screws before re-tightening them.

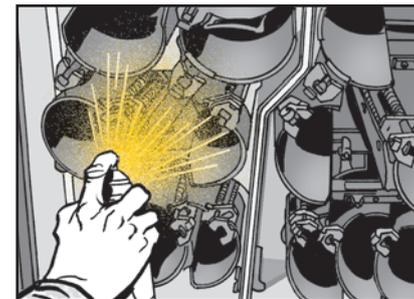


Lubrication

Proper lubrication of the ammo door is pretty important, too. A lack of lube will eventually result in a stuck door.

A semiannual coat of solid film lubricant (SFL), NSN 9150-01-260-2534, is the way to go. Wipe away any dirt or grease that'll keep the SFL from sticking. Then, give the following areas a good coating:

- **Ammunition doors.** Spray the door seals, sliding surfaces and rails.
- **Ready ammunition door.** Spray the four seal retainer cams and the two rail cams.
- **Stowage ammunition door.** Spray the two door cams.
- **Hook latch and housing assembly.** Spray all moving and touching parts.
- **Latches.** Spray the sliding surfaces of all latches.
- **Ammunition tubes.** Spray the inside surfaces and all rubber stops inside the ammunition tubes. That allows ammo to slide in and seat properly so that it doesn't hit the ammo doors as they open and close.



Rubber stops and interior of ammo tubes need lube, too

M2/M3-Series
Bradleys...

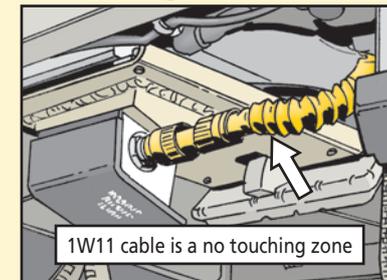
NO TOUCHING ALLOWED!

It's best to keep your hands to yourself when entering that Bradley's troop compartment.

The 1W11 cable that's attached to the sensor for the fire suppression system loops down from the top of the ramp opening. It looks like such a natural handle that most Soldiers just reach up and grab it as they duck through the opening.

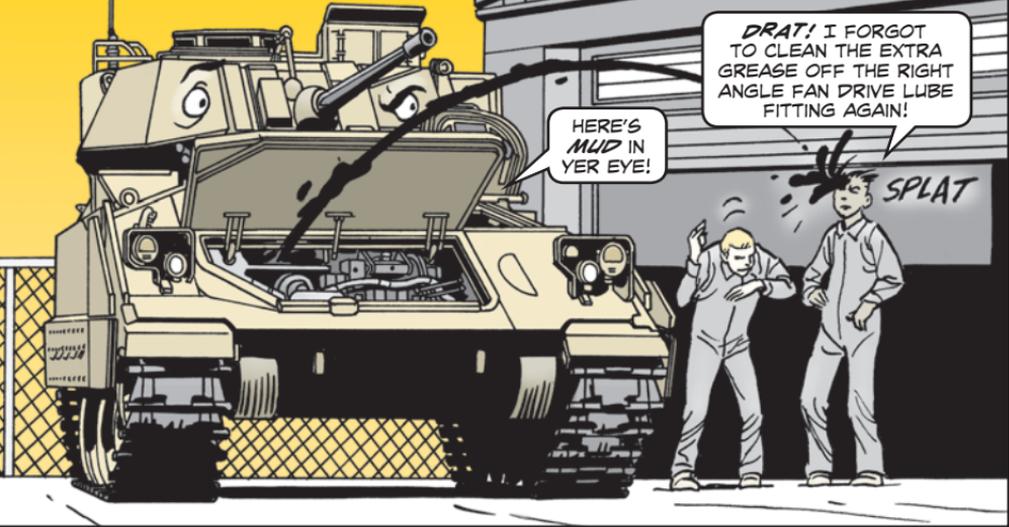
Trouble is, once the cable's been handled a few times, the internal wiring weakens and the connection is broken. When that happens, the fire sensor is disabled. Or even worse, the extinguishers could discharge!

Why risk it? Keep your hands in your pockets, cross your arms, do whatever you have to. Just keep your hands off the 1W11 cable.



M2/M3-Series
Bradleys...

A LITTLE DAB'LL DO IT

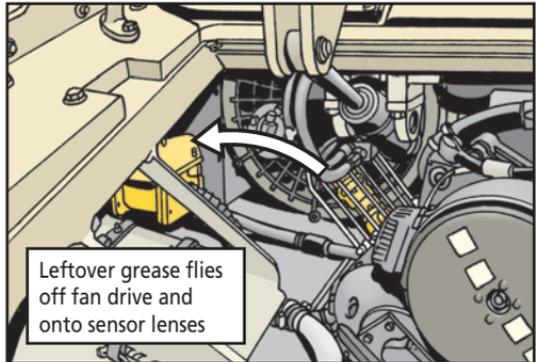


So you've just finished lubing the right angle fan drive on your Bradley. Job's done, right? Not if you didn't wipe off the excess grease.

Oh, c'mon, you're probably thinking. What's the big deal about a little dab of leftover grease?

Well, in this case, a little dab'll do it. When you start up your Bradley, the right angle fan drive starts spinning. That excess grease gets flung off the fan drive and—SPLAT!—right onto the lenses of the fire suppression system sensor, NSN 6350-01-430-7176.

With grease covering the lenses, you'll get a fault on the automatic fire extinguisher system (AFES) control panel. And unless you know what's happened, good luck solving that problem during troubleshooting! The sensor faces the right angle fan drive, so you can't see the lenses unless you use a mirror or crawl up on the engine.



So save yourself a bunch of trouble. Take an extra second or two and wipe the excess grease off the right angle fan drive's grease fitting.

Get Water Out the Right Way



Drivers, rain and fording can result in a hull full of water in your M113A3. So how do you drain it?

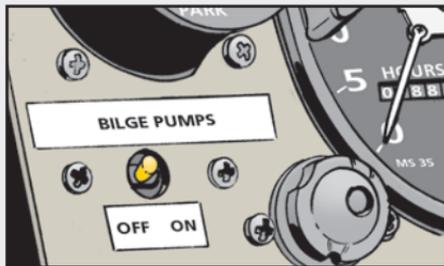
Some drivers take the easy way out and use the bilge pumps. Just flip the bilge pump switch, wait a few minutes and all that water is gone.

But, did you stop to think that there might be more than rainwater in the hull? Stuff like oil, fuel, grease and antifreeze mix with the water to create a nasty cocktail of hazardous material.

And as soon as you flip the bilge pump switch, all that gunk ends up on the ground. You just became very unpopular with the environmental folks!

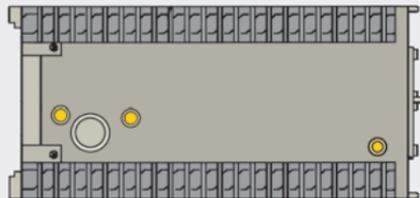
The proper way to get rid of that liquid is through the hull drain plugs. Just make sure you do it back at the motor pool by the oil/water separator at the wash rack. That will take care of the HAZMAT problem.

'Course, it's always a good idea to keep your vehicle tarped whenever possible. That'll keep a lot of the water out of the hull in the first place.

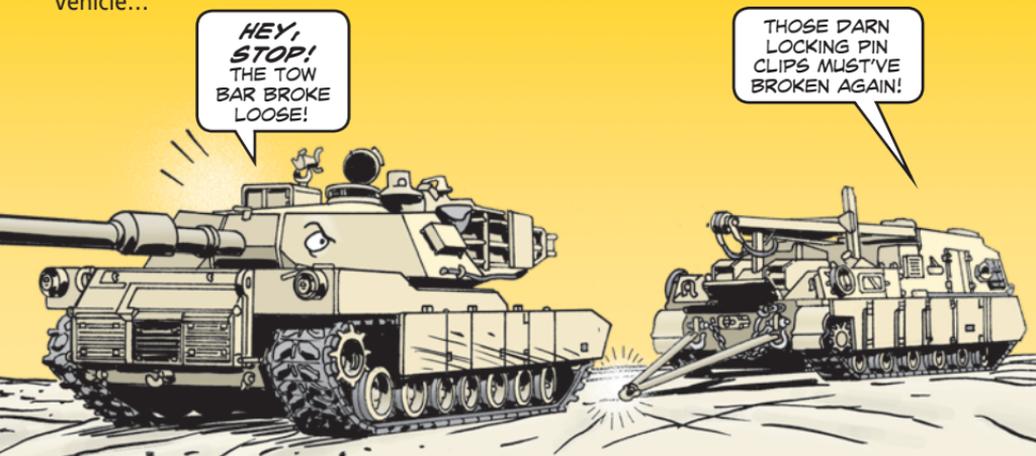


Flipping on bilge pumps clears out hull fast...

...but hull drain plugs are the **right** way to go



Check Clips for Cracks, Breaks



Mechanics, a manufacturing defect could lead to snapped locking pin clips on your M88A2's tow bar. That's not the best of situations if you're trying to tow a disabled vehicle.

The clips, NSNs 5315-01-439-4165 and 5315-01-436-9974, are used to secure the headless pins at the clevis and lunette ends of the tow bar. Bad clips will snap under stress at the circular portion of the clip's head.

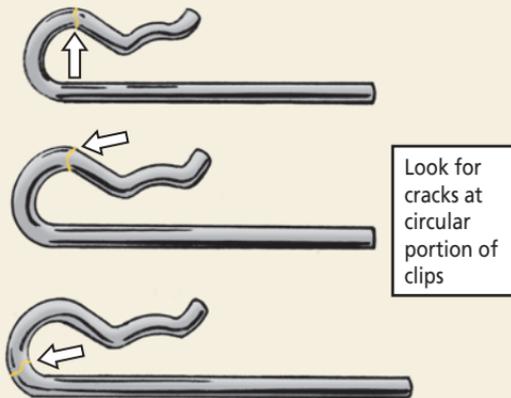
All bad clips have been purged from the Army supply system, but an unknown amount are still in use on fielded vehicles. So inspect the clips on your M88A2 like this:

1. Remove all locking pin clips from the tow bar pins and eyeball them for cracks or breaks. You can assume that any missing clips fell out because they were broken.
2. Reinsert any undamaged clips back into the tow bar pins.
3. Recheck each clip for cracks or breaks.

Undamaged clips are good-to-go. Replace any that are missing or cracked.

You'll find more on this issue in TACOM MA 10-065 at the AEPS website:

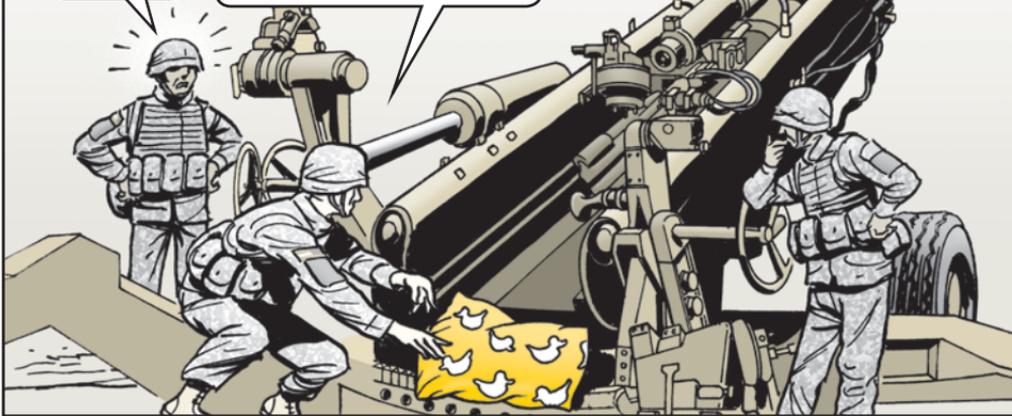
https://aeps2.ria.army.mil/commodity/mam/tacom_wn/ma10-065.html



STUCK ROUND NEEDS PADDING

HEY!
WHAT ARE
YOU DOING
WITH MY
PILLOW?!

SORRY, BUT WE'VE GOT A
STUCK ROUND AND WE HAD TO
FIND SOMETHING TO PAD THE
SADDLE AREA WITH BEFORE
THE EOD FOLKS GET HERE!

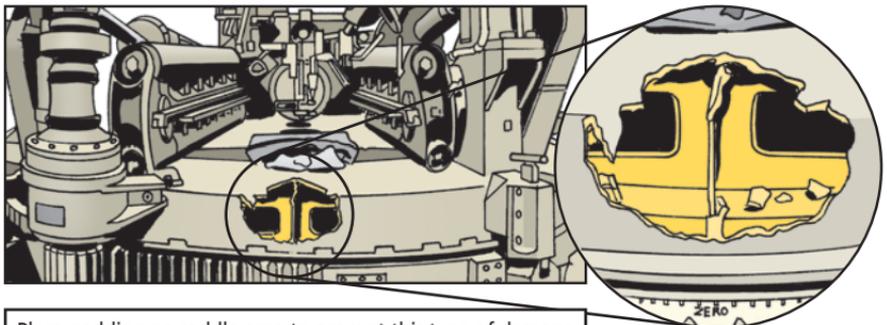


Got a round stuck in the chamber of your M777A2 howitzer, crewmen? If you can't remove it yourself, you need to call explosive ordnance disposal (EOD) to do the job.

But your responsibility doesn't end with that phone call. Because of the howitzer's design and EOD procedures, the ejected round can hit and cause major damage to the howitzer's saddle area.

So before EOD arrives, make sure the howitzer's prepared. Use sandbags or other dunnage to pad the saddle area behind and beneath the open breech. You'll find this reminder in the Caution at the bottom of Page 2-199 of TM 9-1025-215-10 (May 10). You'll find more information in TACOM ground precautionary action message 10-029:

https://aeps2.ria.army.mil/commodity/gpm/tacom_wn/gpa10-029.html



Place padding on saddle area to prevent this type of damage

Personnel Heaters...

HEATER WON'T HEAT?

MAN, IT'S COLD! THAT PERSONNEL HEATER WILL SURE FEEL GOOD!

ONLY IF YOU START IT RIGHT!

OTHERWISE, WE'RE BOTH IN FOR A LONG, COLD DAY!



Stewart-Warner and Hupp personnel heaters have been around so long that most combat vehicle crewmen have the start-up procedures memorized. And if you forget, most vehicles have a decal mounted right above the heater panel that tells you what to do.

The instructions say to hold the RUN-OFF-START switch down to the START position until the indicator light comes on. That can be as long as 2 minutes for the Stewart-Warner and as long as 4 minutes for the Hupp.

Easy, huh? But what happens if your old heater has been replaced with the A-20 heater, NSN 2540-01-396-2826?

IN MOST CASES, DRIVERS TRY TO START IT THE SAME WAY. AND THAT'S WHERE THE TROUBLE STARTS.



If you hold the A-20's switch down for just 10 seconds, the heater automatically goes into a 4-minute purge cycle to prevent flooding. The heater's fuel supply is cut off and all remaining fuel inside the heater is burned off.

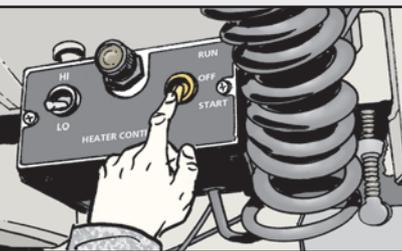
If you hold it down even longer, the igniter can be flooded and ruined.

To start the A-20 heater the right way, hold the RUN-OFF-START switch on START for 4 seconds, then flip it to RUN. The heater will go through a quick self-diagnosis and then start.

If it doesn't, check out the troubleshooting procedures in TM 9-2540-207-14&P. If your vehicle is an M1A2 SEP or M2/M3-series Bradley, refer to your TMs for vehicle-unique starting instructions.

So make sure you find out what heater your vehicle has **before** trying to start it. If it's the A-20, ignore the decal instructions. Better yet, scrape off the decal so you and others aren't fooled into trying to start the A-20 heater the wrong way.

For A-20, hold switch to START for 4 seconds, then flip to RUN



Don't follow decal instructions for A-20 start-up

HEATER OPERATION
TURN MASTER SWITCH ON
HOLD RUN - OFF - START - SWITCH IN START POSITION UNTIL INDICATOR LIGHT COMES ON, THEN MOVE SWITCH DIRECTLY THRU OFF POSITION TO RUN

Load Range D and E Tire Pressures

NOW THAT THESE NEW TIRES HAVE ARRIVED... I WONDER HOW MUCH PRESSURE THEY'LL NEED!

MASTER SERGEANT HALF-MAST, WHERE DO I FIND A TABLE THAT GIVES THE RIGHT TIRE PRESSURE FOR LOAD RANGE D AND LOAD RANGE E TIRES?

SERGEANT, WE CAN KEEP YOU ROLLING WITH THE FOLLOWING TABLES...

Load Range D Tire Pressure

HMMWV Model	Front standard psi	Rear standard psi
<i>Unloaded (driver plus one passenger):</i> M1113, M1114, M1151, M1151A1, M1151A1 w/B1, M1152, M1152A1, M1152A1 w/B2, and M1165		
M1165A1, M1165A1 w/B3, M1167	20	20
<i>At GVW:</i> M1113, M1114, M1151, M1151A1, M1151A1 w/B1, M1152, M1152A1, M1152A1 w/B2, and M1165		
M1165A1, M1165A1 w/B3, M1167	35	45
M1165A1, M1165A1 w/B3, M1167	30	40
M1165A1, M1165A1 w/B3, M1167	40	50
Mud, sand and snow (30 mph max. speed)	20	30

Load Range E Tire Pressure

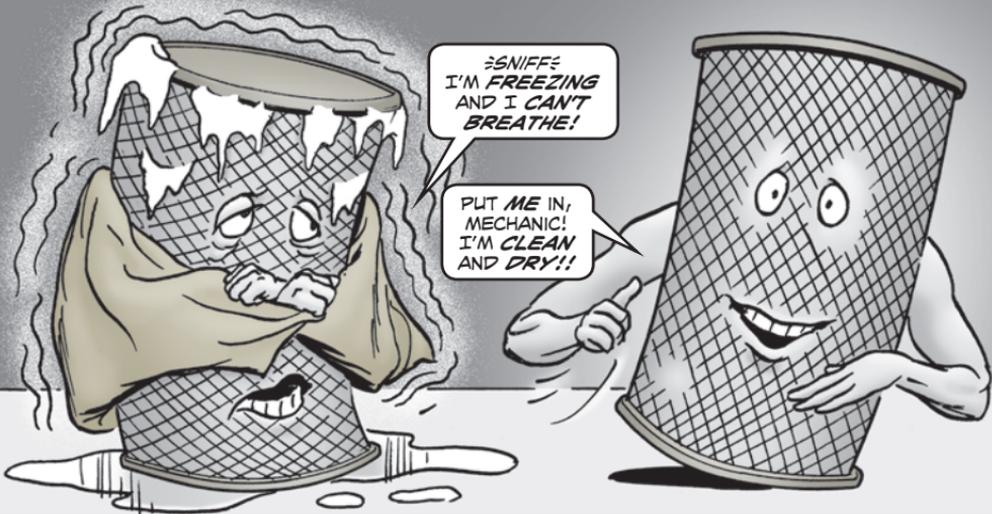
HMMWV Model	Front standard psi	Rear standard psi
<i>Unloaded (driver plus one passenger):</i> M1113, M1114, M1151, M1151A1, M1151A1 w/B1, M1152, M1152A1, M1152A1 w/B2, and M1165		
M1165A1, M1165A1 w/B3, M1167	18	25
<i>At GVW:</i> M1113, M1114, M1151, M1151A1, M1151A1 w/B1, M1152, M1152A1, M1152A1 w/B2, and M1165		
M1165A1, M1165A1 w/B3, M1167	35	45
M1165A1, M1165A1 w/B3, M1167	30	45
M1165A1, M1165A1 w/B3, M1167	40	50
Mud, sand and snow (30 mph max. speed)	20	30

THIS INFO IS ALSO FOUND IN CHANGE 6 OF TM 9-2320-387-10 ON PAGE 1-12.1.

HEMTT A4 MAC Update

Some outdated NSNs are listed in Table 2, Tools and Test Equipment, in the HEMTT A4's TM 9-2320-326-14&P (EM 0288) MAC. Update it with these newer NSNs: Item 25, arbor press (gauge), NSN 5120-00-613-3779, should be NSN 5120-00-613-6779; Item 106, gloves, chemical oil protection, NSN 8415-00-641-4601, should be NSN 8415-00-266-8675; and Item 187, reclaimer, refrigerant, NSN 4250-01-396-8928, should be NSN 4250-01-555-7587.

Make Sure Air Filters Can Breathe!

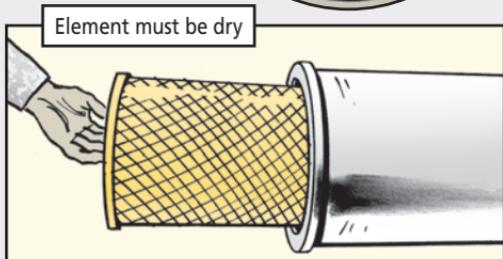
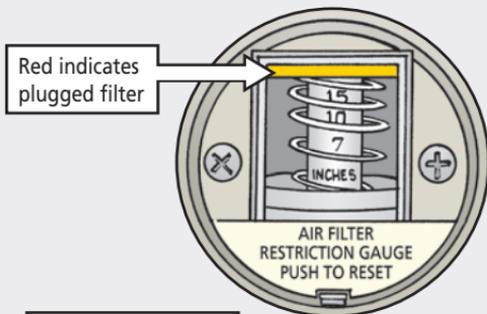


Anyone who's had trouble breathing can remember how limiting that is. Like people, your vehicle's air filter can't perform well if something blocks its breathing.

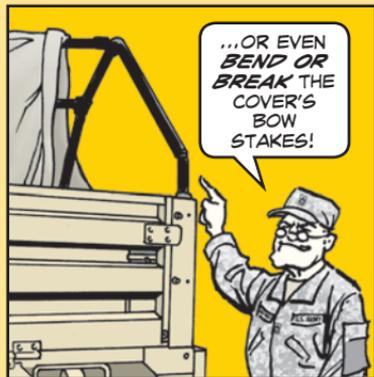
Moist air or snow sucked into the filter can freeze on the element. Once the element is coated with ice, air can't get through.

So in damp, cold weather, keep an eye on your vehicle's air restriction indicator. On some vehicles, once the indicator shows red, the filter is plugged. On others, once a pointer reaches the red level on the indicator, the filter is plugged. Either way, get the element cleaned and dried out. Or just install a new one.

Always keep snow cleared away from the air intake. In damp, cold weather, it's a good idea to have a clean, dry element on hand for a quick switch.



DON'T LET WATER SETTLE



A 2½-ton cargo trailer that sits for a long time is an open target for water. Rain and snow accumulate on the trailer's cover and eventually cause some serious damage!

Enough water or snow will stretch or tear the cover. Also, the weight of the water will eventually bend or wreck the cover's bow stakes.

It's plain and simple. If the trailer is going to sit idle, remove and store its cover. If the cover stays on, make sure that water, snow and ice don't. That way the trailer's cover and bow stakes will avoid being damaged by unnecessary weight.

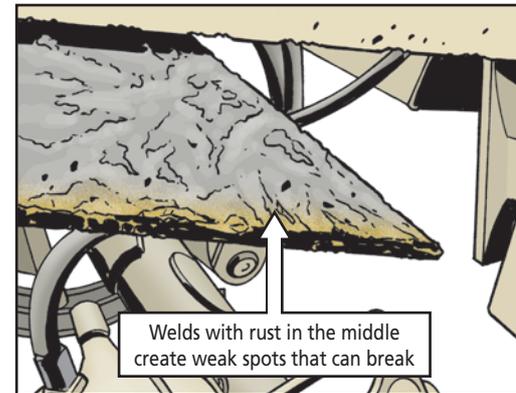
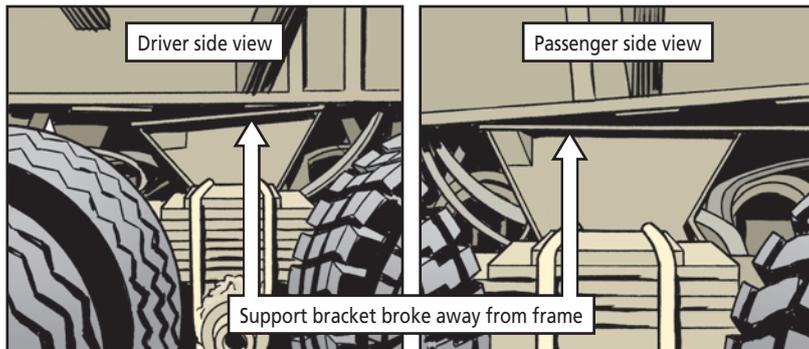


REAR SUSPENSION CRACKS SET YOU BACK!



Did you know the maximum cargo load for M871 and M871A1 semitrailers is 45,000 pounds? If you overload, poorly distribute loads, or abuse those semitrailers in any way, they could crack under the pressure. And cracks or separations in your semitrailer's rear suspension system make your semitrailer *NMC!*

TACOM SOUM 10-017 told commanders to have all M871 and M871A1 semitrailer trunnion mount brackets inspected at the frame weld area for cracks and/or separations using TB 9-2510-242-40 as a guide. That's because cracks have been found in the trunnion mount bracket assembly area that attaches the suspension and the axle to the frame. In fact, the welds on some semitrailers are *completely* cracked, separating the trunnion from the frame. This could lead to complete separation of the rear suspension and axle from the semitrailer!



By the way, a trunnion mount inspection is now part of the crew/operator's BEFORE PMCS. Pencil in this change to TM 9-2330-358-14&P.

Need more info? See TACOM SOUM 10-017 online:

https://aeps2.ria.army.mil/commodity/soum/tacom_wn/sou10-017.html

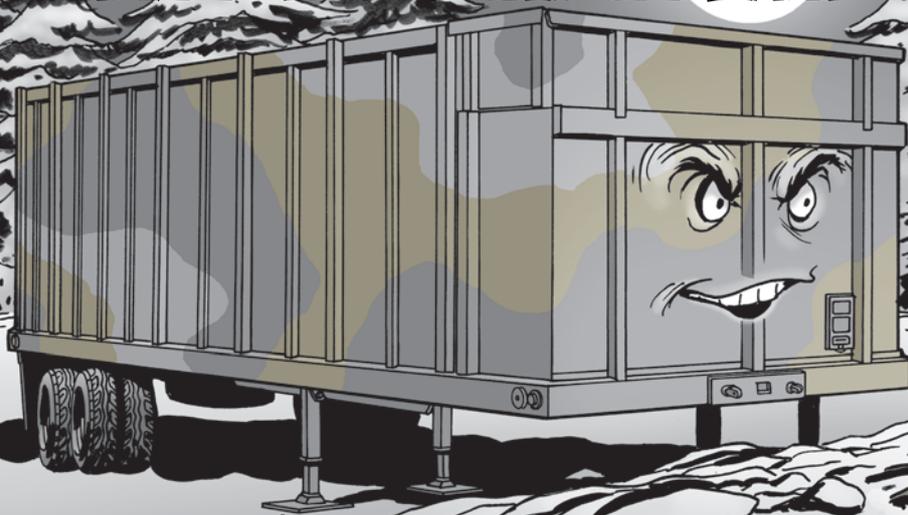
Don't repair cracks if you find them because the M871 & M871A1 semitrailers are on the automatic disposal list. Just turn your unserviceable semitrailers in to DLA Disposition Services (formerly called the Defense Reutilization and Marketing Office or DRMO). Then order a replacement, if authorized by your unit's TOE.

Don't Be in the Dark!



To get an LED spotlight for the armored security vehicle (ASV), use NSN 6220-01-581-0517. This new set up mounts onto the vehicle just like the original-style incandescent spotlight. But one thing is different—it puts out a heck of a lot more light!

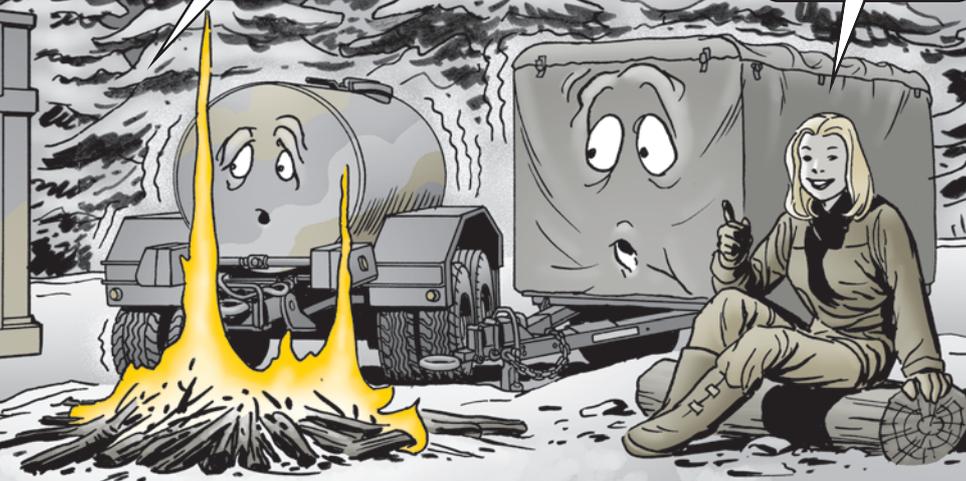
COLD WEATHER ADVICE



...AND THERE TOMMY THE TRAILER WAS, LEFT ALL ALONE IN THE BLIZZARD DUE TO POOR PM ON HIS TOWING LUNETTE.

A VICIOUS PACK OF WOLVES BEGAN TO CIRCLE HIM...

IF YOUR TRAILERS COULD TALK, IT MIGHT BE A LITTLE SCARY.



BUT THEY'D PROBABLY GIVE YOU GOOD ADVICE ON HOW TO CARE FOR THEM IN COLD WEATHER.

THAT'S WHEN SNOW AND ICE MAKE OPERATIONS *ROUGH*.

MAKE LIFE EASIER FOR YOU *AND* YOUR TRAILERS BY PAYING ATTENTION TO THE FOLLOWING *WINTER MAINTENANCE TIPS*.

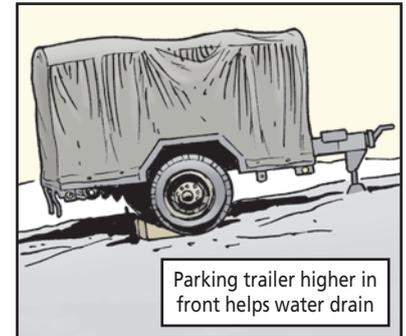
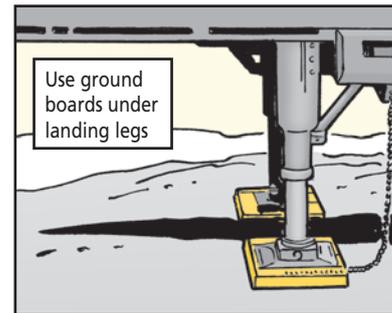
Maintenance

- Drain the air system to keep water from freezing in the air lines.
- When possible, flush out road chemicals from underneath the trailer and the axle ends to stop corrosion on frames, air chambers, brake systems, rails, fittings and lines. Use clean, low-pressure water.
- Use dielectric grease, NSN 6850-01-525-0776, on all electrical connectors.

Parking

- If your trailer's not parked on hardstand, put dunnage under the tires to keep them from sinking and freezing into the ground.
- Place ground boards, NSN 2510-00-741-7585, underneath the landing legs when you park. Use dunnage if you don't have ground boards.

- Park the trailer so the front end sits a little higher than the rear to help water drain.

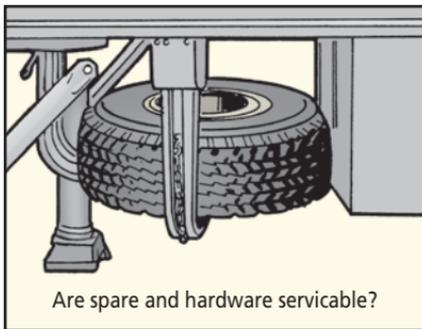


- Place a tarp over the side panels and storage areas of bulkheads. That'll stop ice from freezing stakes, panels and retaining hardware to the bulkhead.

Wheels

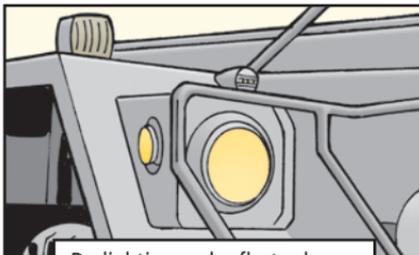
- Clean, prime, and paint all rusted areas, including wheels. Don't forget the spare tire.
- Check for serviceable spare tire carriers and retaining hardware.
- Maintain proper tire pressure on all of the tires using your trailer's TM for guidance.

Keep tires properly inflated



Additional Advice

- Make sure bolster plate holes and all drain holes are open and clear of grease and debris to allow water to drain. Keep storage box drain holes open, too.
- Keep lighting and reflector lenses clean so you're visible to others while operating.
- Ensure gladhands and seals are serviceable and protected when not in use by using dummy gladhands. For swing-away type gladhands, make sure there is a good seal against the protective cup. Keep swing-aways lubed so the arms move freely. Color-code or tag them properly.
- Protect the BII/AAL by properly storing and tagging it. Keep it in serviceable condition.
- Make sure oil can points are lubed, such as landing gear foot axles, deck tie-downs, BII box hinges, lift points, crank handles and the manifest box hinge.



Do lighting and reflector lenses give good visibility?



FINALLY, USE **COMMON SENSE** WHEN VISUALLY INSPECTING THE TRAILER AND PROTECT OTHER AREAS THAT NEED IT. PERFORM SCHEDULED SERVICES AND PLAN AHEAD TO KEEP YOUR TRAILER MISSION READY.

PM Worth Saluting



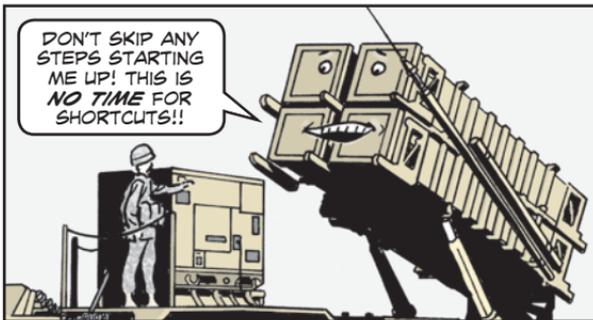
YOUR PATRIOT MISSILE SYSTEM WILL SALUTE YOU IF YOU REMEMBER THESE PM POINTERS...



Launcher

It's critical that you strictly follow the procedures for powering up and powering down the launcher. If you don't do the steps in the correct sequence, you risk damaging expensive power supplies and circuit cards.

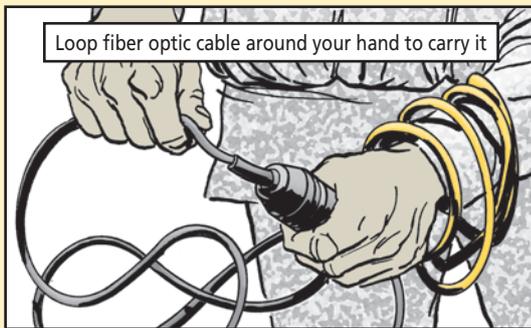
DON'T SKIP ANY STEPS STARTING ME UP! THIS IS NO TIME FOR SHORTCUTS!!



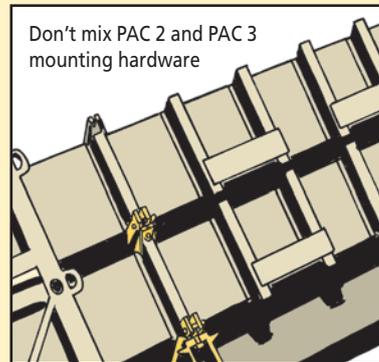
For the same reason, make sure you've completed all the steps to shutdown before turning off the generator. That's also a good reason to make sure the generator fuel tank is full before you power up the launcher. If the generator runs out of fuel, the sudden power loss damages the launcher.

PS MORE

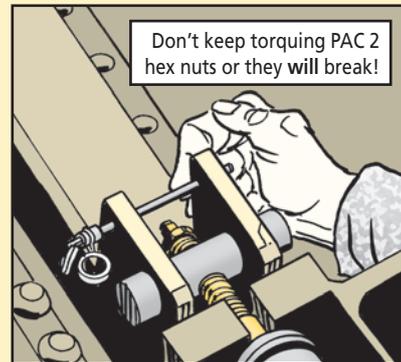
Be careful with the fiber optic cable that runs between the launcher and engagement control station (ECS). It's easy to bend the cable's pins if you force it on. If you drag the cable by its connector, you can pull the cable's wiring loose. Coil the cable around your hand to pull it.



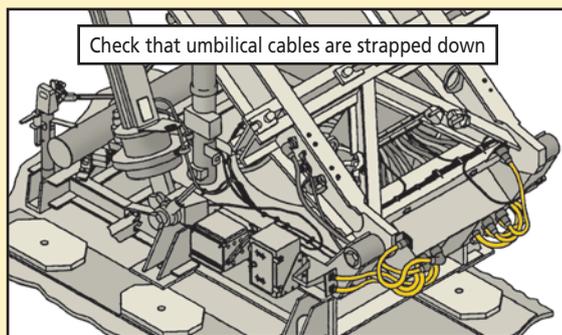
Do not mix PAC 2 and PAC 3 components on the missile tiedown hardware. The PAC 3 hardware doesn't have the PAC 2's breakable hex nuts, which means mixing the hardware can be unsafe.



Do not over-torque the hex nuts on the PAC 2 missile canisters. The hex nuts should be torqued to 60 lb-ft and that's it. Crews often torque the nuts again and again during crew drills. The nuts break and can't hold the missiles in place.



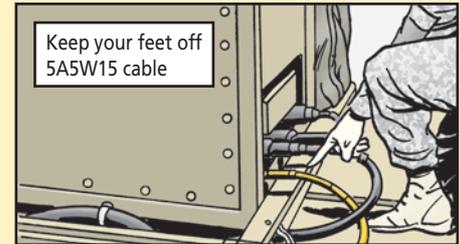
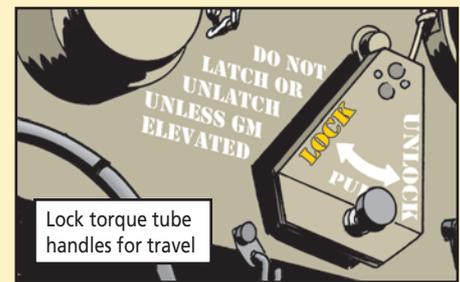
On the PAC 3 launcher, make sure all the umbilical cables for the launching station are strapped down tight during weekly PMCS. If the cables are left dangling, they can be ripped loose when the launcher rotates. That puts down the whole launcher.



When you're preparing to transport the PAC 2 launcher, make **very** sure the torque tube handles are locked before you hit the road. If they're not, the missiles can actually fall off the launcher during travel.

When you're climbing on any of the Patriot components, but particularly the launcher, don't use cables as handles. That ruins many cables. Use the handles on the outriggers for climbing instead. Also make sure you don't step on the 5A5W15 cable that goes to the launcher's electronic module below circuit breaker 1. It snaps off easily.

Never bypass the launcher limit switches. It may seem convenient to bypass the switches when they are bad or out of adjustment. But if you bypass them, you lose the protection the limit switches provide. If an outrigger limit switch is bypassed, for example, the outrigger could malfunction and cause the actuator drive motor to burn out. If a limit switch is bad or out of adjustment, report it.



AN/MPQ-53 Radar

Whether you're taking the radar's shroud off the radome to operate or putting the shroud back on at the end of operations, make sure all the shroud's straps are secured tight. If the shroud flips back down during operations, it could catch on fire from the trapped radar waves.

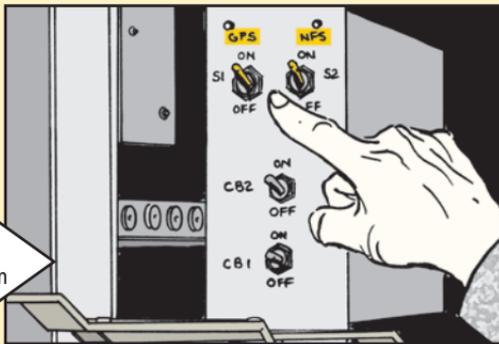
If you don't securely strap down the shroud at the end of operations, it can bunch up when you stow the antenna. That can engage the limit switch and cut off power to the antenna completely. The radar shelter itself can also be punctured, which lets in moisture.



If straps are missing, get them replaced.

If you remove the GPS or NFS, make sure to turn off its circuit breaker. If you forget, circuit cards may be fried next time you power up.

Remember to turn off GPS or NFS circuit breakers if you remove them



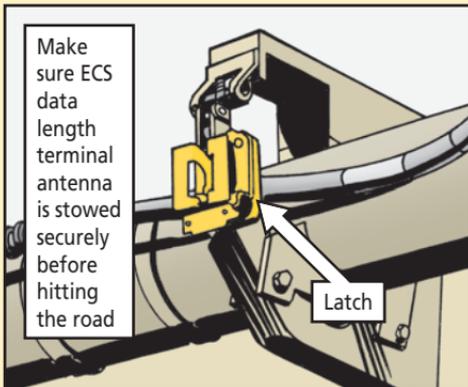
Antenna Mast Group

Some crews think hydraulic fluid is what you put in the antenna masts. That's wrong. Use 10W oil only.

Before travel, make sure the ECS data length terminal antenna is stowed securely. One unit forgot to stow the antenna, which caught power lines along the road and knocked out power to a large section of the base. Think they were popular? After you stow the antenna, make sure the latch for the antenna's swing arm is secure. If it's not, the swing arm won't hold the antenna and the antenna will bounce around during travel and be damaged.

ECS

Make sure ECS data length terminal antenna is stowed securely before hitting the road



Wash Rack

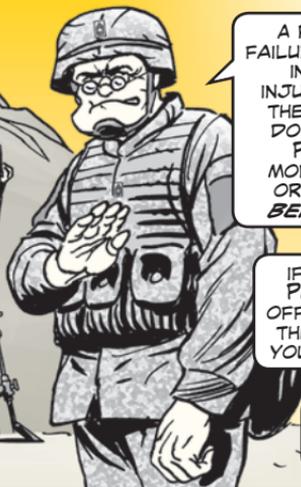
There's one simple rule for Patriots and wash racks: Keep them apart. If you take any of the Patriot components through a high-pressure wash rack, water gets inside expensive items like the data link terminal module (DLTM) processor and very expensive damage follows. Don't use high-pressure water on any Patriot trailer above the wheel wells. Use a bucket and mop to clean above the wheel wells. Your Patriot will appreciate it.

Going through the wash rack forces water in DLTM processor. Expensive damage follows!



Mortar, Artillery, Armor Cannons...

PMCS Critical to Cannon Safety



A RECENT CANNON FAILURE THAT RESULTED IN A DEATH AND INJURIES EMPHASIZES THE IMPORTANCE OF DOING A THOROUGH PMCS OF YOUR MORTAR, ARTILLERY OR ARMOR CANNON **BEFORE** YOU FIRE.

IF YOU BRUSH OFF PMCS, YOU BRUSH OFF THE SAFEGUARDS THE PMCS PROVIDES YOU AND YOUR CREW.

BESIDES, FIRING CHECKS ARE **MANDATORY**.

Use your system's -10 TM to do a step-by-step PMCS. Don't try to do PMCS by memory. You'll miss something, maybe even something critical.

Next, make sure you have a current, signed DA Form 2408-4, *Weapons Record Data Card*. If the card isn't kept up-to-date, the cannon could be fired past the point when its tube should have been replaced. That's dangerous. When you're through firing, update the card so it stays accurate.



If you need help with 2408-4, see PS 688:

<https://www.logsa.army.mil/psmag/archives/PS2010/688/688-02-05.pdf>

If the 2408-4 has been lost or if you suspect it's inaccurate, refer to TM 9-1000-202-14, *Cannon Tube Evaluation*, for instructions.

Armorers and crew members need to ensure their cannon tubes have been evaluated by support per TM 9-1000-202-14, *Cannon Tube Evaluation*, and that the information has been added to the cannon's DA Form 2408-4. Same goes for the required borescope/pullover gauging by support.

Commanders need to check that all the required PMCS and gauging of their units' mortars are being done and recorded since they are ultimately responsible for the accuracy of the 2408-4s and the safety of their Soldiers.

If you have any questions about mortars, contact TACOM's Joe Schmidt at DSN 786-8783, (586) 282-8783, or email:

joe.schmidt@us.army.mil

Questions about armor? Contact TACOM's Gordon Bieri at DSN 793-2189, (309) 782-2189, or email:

gordon.bieri@us.army.mil

Questions about M109-series artillery? Contact TACOM's Gary Rogers at DSN 793-0030, (309) 782-0030, or email:

gary.s.rogers@us.army.mil

Questions about 155mm-series artillery? Contact TACOM's Marty Nelson at DSN 793-7852, (309) 782-7852, or email:

marty.nelson@us.army.mil

Questions about 105mm-series artillery? Call TACOM's Mario Nieto at DSN 793-8512, (309) 782-8512, or email:

mario.nieto1@us.army.mil



M16-Series Rifle,
M4/M4A1 Carbine...

HOW DO I GET A PRACTICE BOLT?



YEAH, LET'S
ASK HALF-MAST.
A PRACTICE
BOLT *WOULD*
BE GOOD FOR
TRAINING.

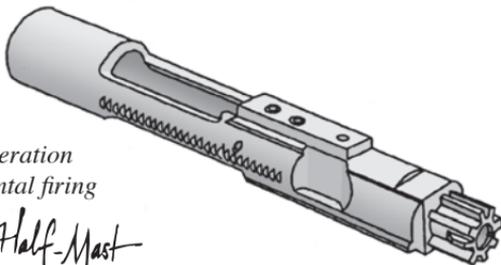
Dear Half-Mast,

How do I get a practice bolt for firing M862 plastic training rounds from an M16 or M4/M4A1?

R.M.

Dear R.M.,

You need the M2 practice bolt, which comes with NSN 1005-01-184-4041 and costs a little less than \$80. The M2 bolt converts the weapon from gas operation to blowback and prevents accidental firing of a real round.



Half-Mast

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M16-Series Rifle,
M4/M4A1 Carbine...

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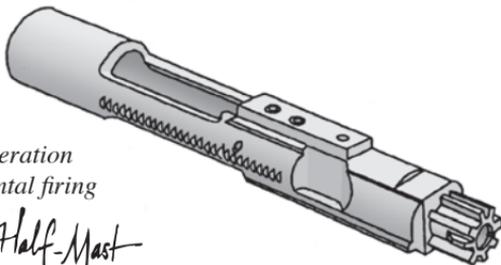
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Half-Mast

Small
Arms...

The BFA Difference

HEY, THAT'S
NOT *MY* BFA!
I'M STRICTLY A
RED KINDA GUY.

THAT'S FOR
MY LITTLE
BROTHER,
THE M4!



Some gunners think that because they're just firing blanks it doesn't make much difference which blank firing attachment (BFA) they use. But it **does** make a difference to your weapon.

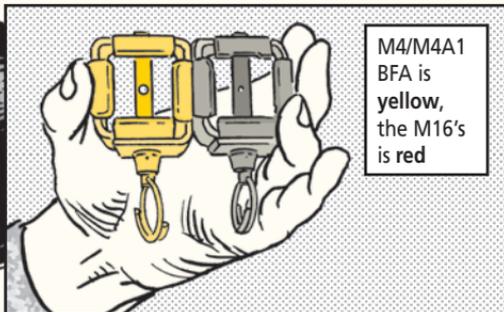
The M16 rifle BFA will fit on the M4 carbine and the M249 machine gun, but it will give them fits during firing. They're much more likely to malfunction with the wrong BFA.

Here are the correct BFA NSNs to keep your weapon firing happily:

- M16-series rifle, NSN 1005-00-118-6192
- M4/M4A1 carbine, NSN 1005-01-361-8208 (The M16 and M4 BFAs look alike, except for one big difference—the M16 BFA is red and the M4's is yellow. And one small difference: the M4's has a slightly larger hole for bleeding gas.)
- M249 machine gun, NSN 1005-21-912-8997 (standard barrel)
NSN 1005-01-537-0491 (short barrel)
- M240B and M240L machine guns, NSN 1005-01-480-0289
- M2 machine gun, NSN 1005-01-091-7510

There is no BFA NSN for the M240 and M240C machine gun. Instead, you must order the BFA's parts: chamber and discriminator assembly, NSN 1005-01-142-2841; ordinance bag, NSN 8105-01-147-9841; and M1/M1A1 firing adapter, NSN 1005-01-218-0693.

ALAS,
THE MK 19
MACHINE
GUN HAS
NO BFA.



M4/M4A1
BFA is
yellow,
the M16's
is red

Small Arms...

GAGES NEED GAGING



Some field support shops are unsure if and when their gages need gaging.

The scoop on gages is in TB 43-180, *Calibration and Repair Requirements for the Maintenance of Army Materiel*. Unfortunately, the TB isn't available in printed form, but only on EM 0022, the CD which contains most of the TMDE regs. Your pubs clerk can order EM 0022 with PIN 074841-000 and IDN 344568. It's also on the LOGSA ETM site:

<https://www.logsa.army.mil/etms/welcom1.cfm>

Gage calibration history should be recorded on DA Form 3023, *Gage Record Card*. That will help you keep track of calibration.

Small arms gages can be calibrated only by one of the five Army TMDE labs. The TB lists their names and addresses. Small arms gages must be calibrated every 360 days, regardless of whether your unit is Active, Guard, or Reserves.

All Army units and activated Guard and Reserve units must have all their small arms gaged by direct support within one year of receiving them. After that, active units must have all small arms gaged yearly at a minimum, while Guard and Reserve units not on active duty must get their small arms gaged every two years at a minimum. That is the minimum required to assure safety, operation, and reliability of small arms. If you fire your weapons frequently, they should be gaged more frequently.

If you have questions about small arms gaging, contact TACOM's Tausha Knowlin, DSN 786-7364/(586) 282-7364, or email:

tausha.knowlin@us.army.mil,

or Kevin Acel, DSN 786-2485/(586)282-2485, or email:

kevin.p.ace@us.army.mil

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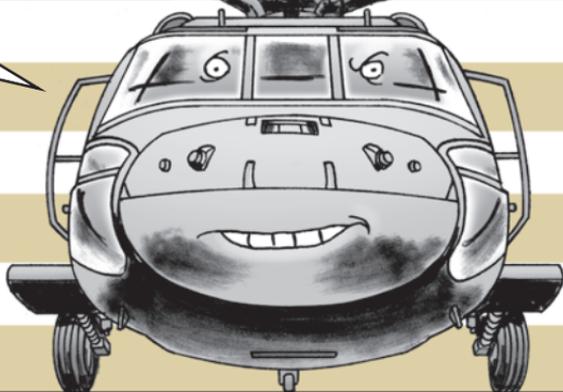
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A Replacement Stabilator Amplifier is Coming...

MY FELLOW
BLACK HAWKS, THE
TIME HAS COME...

YOUR DUAL
STABILATOR
AMPLIFIER
WILL SOON BE
REPLACED WITH
A **SINGLE BOX**
CONFIGURATION!



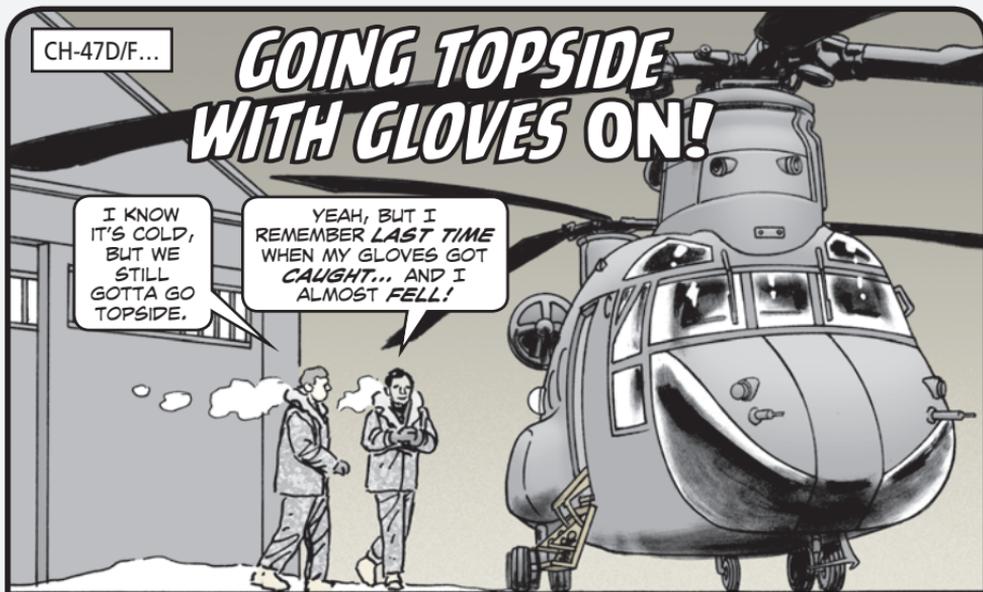
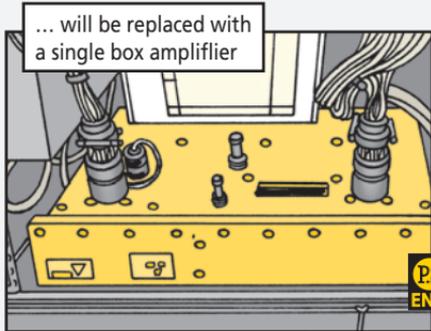
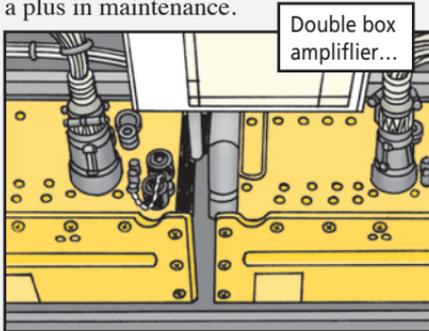
Pilots and mechanics, the current 25-year-old dual stabilator amplifiers have outlived their usefulness on the Black Hawk.

Because of serious high maintenance issues like frequent rate gyroscope and flex circuit replacement, a single-box configuration dual stabilator controller (DSC), NSN 5996-01-547-3452, will replace both legacy stabilator amplifiers, NSN 5895-01-316-2743, on each UH-60A/L.

The new equipment is said to be improved, more reliable and less expensive. The DSC comes with built-in-test (BIT) capability. It also eases the maintenance burden by eliminating the need for the complicated TS-3920 test set for stabilator system troubleshooting. In addition to identifying problems internal to the DSC, the BIT capability can identify problems with other LRUs that interfere with the stabilator system, such as the actuators, lateral accelerometer, and airspeed sensors.

The DSC also has a parameter display mode and enables stabilator rigging to be performed in a simplified fashion from the DSC controls. Furthermore, the DSC features modern electronics and solid state gyroscope which result in a replacement that is lighter, consumes less power, and will fail far less frequently than the legacy stabilator amplifiers.

The improved maintenance features and modern electronics will increase fleet readiness and improve mission performance. Reducing aircraft downtime is always a plus in maintenance.



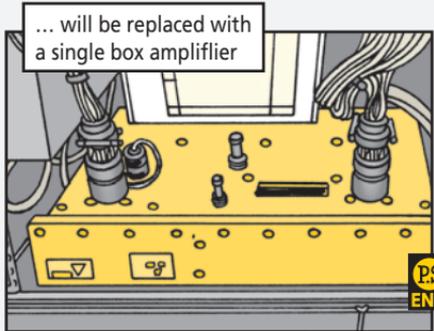
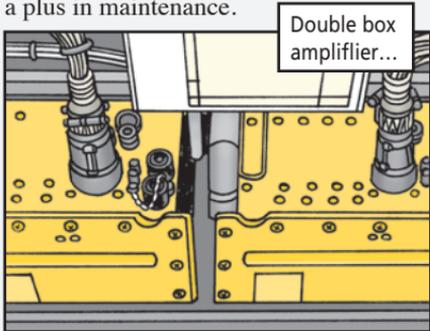
The Chinook airframe has recessed handholds and footholds to help you reach the top of the aircraft for necessary maintenance.

You must be cautious, especially in cold or hot weather, when you're climbing while wearing gloves.

Make sure your gloves don't snag or get caught when you insert your gloved hand into the recessed handhold. Make sure the glove comes out along with your hand as you reach for the next handhold.

A slip of the hand or losing your grip can cause you to fall. So take your time when heading topside.

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MUSIC ON THE FLY



Pilots and co-pilots, your aircrew integrated helmet system (AIHS) and your integrated helmet and display sight system (IHADSS) are designed to communicate with other aircraft and on-board crew.

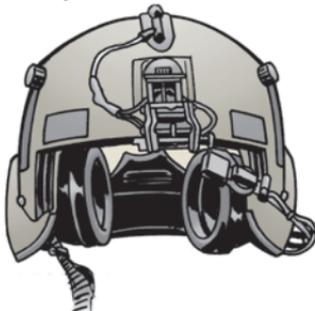
Some think it's OK to splice music devices like MP3 players into the helmet cords to listen to their favorite music. That thinking is wrong!

It may work great, but cutting and splicing electronic music devices into the helmet's ICS cord is unsafe and should never be done. It puts your aircraft's communications and avionics systems in harm's way.

Splicing electronic devices into helmet communication systems can interfere with aircraft radios and avionics, cause distractions in flight, compromise communications security and affect mission success.

This practice also creates serious problems for ALSE techs who'll have to tear down helmets and repair damaged wiring harnesses and ICS cords.

Don't rock to the music at the expense of your helmet and safety. It's better to be safe than sorry.

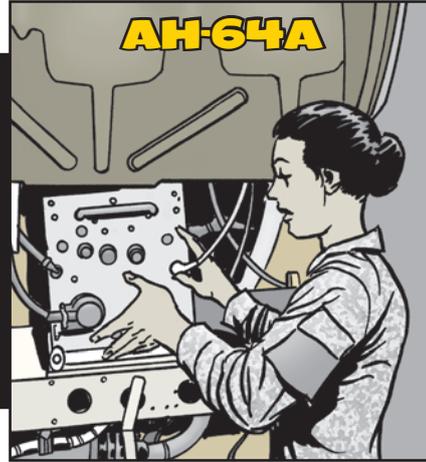


Your aircrew integrated helmet system (AIHS)...

... and integrated helmet and display sight system (IHADSS) are **not** for music



Get the Army Battery Instead



MECHANICS,
THERE'S
SOMETHING
YOU SHOULD
KNOW ABOUT
TRANSPONDER
BATTERIES.

IF YOUR
CHINOOK,
AH-64,
BLACK HAWK OR
KIOWA WARRIOR
HAVE MWOS
APPLIED FOR
THE AN/APX-
118 COMMON
TRANSPONDER,
YOU SHOULD
ORDER THE
RIGHT BATTERY
FOR IT.



Order the new Army battery assembly pack, NSN 6135-01-529-0122, instead of the Navy battery, NSN 1680-01-493-8794.

Check battery date before installing.
Can be up to 18 months old.

Navy battery can be used, but when time for replacement comes...

...use this new Army battery, NSN 6135-01-529-0122, in radar

If you already have valid requisitions for the Navy battery, cancel them. Then re-order the Army battery because it'll save you money.
The Army battery has a manufacturer date and an expiration date stamp. (Shelf life—two years; operation life—6-8 month estimate.) When the battery light is on, replace the battery.

Battery Safety

Here are some other safety tips you should know about this battery. You can be badly hurt by exposure to internal battery chemicals. Leaking batteries have a rotten egg smell when the seal is broken.

If you notice chemicals coming out of the battery, do not inhale, touch or ingest the chemicals. Contact with these chemicals causes skin, eye and nose irritation and lung damage.

Here are some more things to be aware of:

- Make sure you do not force the battery plug backwards
- Use two hands and do not pull the connector on the inside
- Do not pinch the wire leads
- Do not short the battery lead contacts. (The fuse in the battery will open and the battery will not work)

Treatment

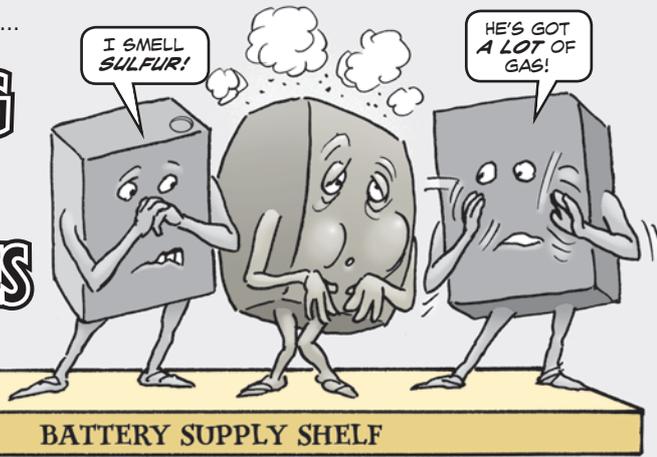
Flush irritated skin and eyes with cold water. Never rub your eyes or skin or use warm water to wash. If battery contamination occurs, seek immediate medical attention.

If someone accidentally ingests or inhales battery chemicals, never give mouth-to-mouth resuscitation. Help them get fresh air, drink plenty of water, and if breathing becomes difficult, administer oxygen, but do not induce vomiting.

Keep your eyes peeled for follow-on transponder modifications. In FY11, all AN/APX-118 transponders will be modified to the AH/APX-123 transponder radar. It will use the same battery, but have added maintenance actions, so stay tuned.

Make sure you check out the MSDS sheets when the batteries arrive and contact CECOM at DSN 992-2056, (732) 532-2056 for more safety information.

HANDLING LITHIUM BATTERIES



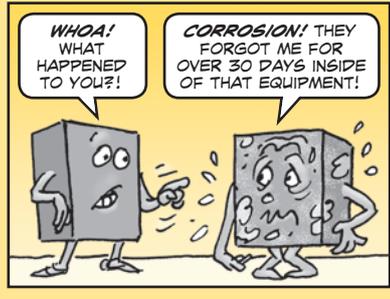
Once you get lithium sulfur dioxide nonrechargeable batteries on your shelf and in use, you need to handle them in a very specific way, because they contain pressurized, poisonous sulfur dioxide gas.

These batteries must not be abused in any way that would rupture them! Here's how to handle them properly:

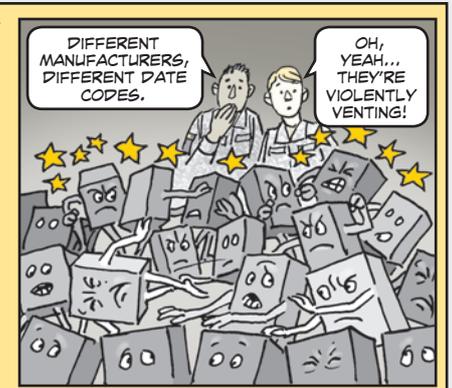
- Keep batteries in their original packaging until you're ready to use them.
- During operation, if the battery compartment is hot to the touch, hisses, makes a burping sound, or if you smell sulfur, turn off the equipment and let it cool for at least an hour. Keep everyone away from the area.
- Never short-circuit, crush, puncture or incinerate batteries.
- Never use batteries that are swollen, or that won't fit easily into the battery compartment.



- Never use batteries if there is liquid in the plastic storage wrap, or if they've bulged or burst.
- Never attempt to charge a primary battery.
- If you suspect bad batteries, try substituting good ones. If defective batteries are found, report these through normal channels.
- When you aren't planning to use your equipment for 30 days or longer, take out the batteries to prevent battery corrosion damage.



- If there is more than one prime power lithium battery in the equipment, and you find a bad one, replace all of them. It could be that the bad one has led to increased drain on the others or sped up the corrosion process. Use batteries from the same manufacturer and with the same date code, if possible. Mixing batteries can lead to violent venting.
- Never use a fire extinguisher on a lithium battery fire. In the event of a lithium fire, evacuate the area immediately and call for trained firefighters and the hazmat team.
- Never store batteries near heat, flame or other hazardous materials.
- Never smoke or use an open flame in a battery storage area.
- If the battery has a complete discharge device (CDD), have the person designated to discharge the battery before turn-in or disposal do his stuff.
- Have personal protection equipment on hand and use it when handling batteries that are leaking, bulging, swelling or deformed. Never handle hot batteries. NSN 4240-00-542-2048 will get you a face shield. Get a full body apron with NSN 8415-00-082-6108.



Discharging

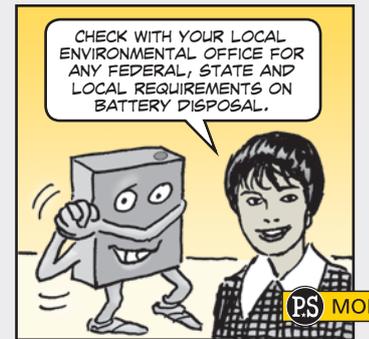
If you're the designated battery discharge person and it's your job to activate CDDs, here's what you need to do:

- Discharge the batteries in a secure, well-ventilated area, away from people and hazardous material.
- Set discharging batteries at least two inches apart on all sides.
- Let the batteries sit a minimum of seven days for complete discharge as per label on the battery.



Remember that discharging batteries may be hot. The heat could even deform the battery case. That's normal. But, if you hear a hissing sound or smell a strong, pungent odor, clear the area immediately until the odor has gone and the hissing has stopped. This is a battery venting and you must dispose of vented batteries as hazardous waste.

At the end of a normal, complete discharge cycle, the amount of lithium remaining in the battery will be small enough to let you dispose of the battery as non-hazardous waste. Even so, some places may require special procedures.



Pubs



MSDS

Finally, and most importantly, read the material safety data sheet (MSDS) on lithium batteries before you handle them.

Where do you get an MSDS? Glad you asked!

Log on to the Internet and go to:

<http://www.dlis.dla.mil/hmirs/>

Once at the web site, click on:

HMIRS Registration Forms

Download the registration form, fill it in and then send it in. You'll get an email back with a user ID. Once you have the ID, you can click on:

Connect to HMIRS

From there, you can search by stock number, part number, CAGE code or contract number for the MSDS you need.

If you have questions about a battery MSDS, email:

AMSEL-SF@mail1.monmouth.army.mil

If you have trouble accessing the web site, contact DLIS:

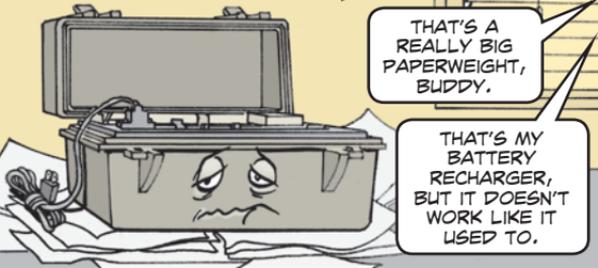
DLIS-Support@dlis.dla.mil

Or call them at DSN 661-7766 or (877) 352-2255.

Don't have access to the Internet and need an MSDS in a hurry? Call DSN 987-7445 or (732) 427-7445.



It's All About the Software, Man!



Ueed an anchor for your boat? How about a really large paper weight? It could be you already have one of those if you have a PP-8498/U Soldier portable charger (SPC) for rechargeable batteries, but haven't updated to the latest software.

Okay, it's not quite that bad, but the charger, NSN 6130-01-495-2839, is only as good as the software that tells it what to do and how to do it.

The latest and greatest software is Program H. It has all the enhancements of the previous programs, plus enhanced safety when charging old Li-Ion batteries. Also, the communications issues that existed when transferring software to the charger have been resolved by Program H.

To download the new software, you'll need USB-to-serial cable such as, NSN 6150-01-558-7214 or a serial cable, DB9 male to DB9 female with straight through connections—not a null cable. Then go to this website:

<https://www.monmouth.army.mil/cecom/lrc/lrchq/power/rechargebat.html>

Once at the website, go to the Charger Software upgrades page and follow the instructions. (If the last software you had was F and you're wondering about G, quit wondering. G was not for general distribution.)

It might serve you well to stop by the charger tutorial page and go through the training if it has been awhile since you took it. You'll also find a list of the batteries that can be recharged by this charger, and the adapters you'll need for each type of battery.

If you have any hardware or software questions about battery chargers or rechargeable batteries, the expert in the field is Don Brockel at DSN 992-4948 or (732) 532-4948. His email is: donald.brockel@us.army.mil

ONE FINAL WORD, IF YOU HAVEN'T SWITCHED TO RECHARGEABLE BATTERIES, YET. WHAT ARE YOU WAITING FOR—AN ENGRAVED INVITATION?

WELL, *THIS* IS YOUR INVITE! RECHARGEABLE BATTERIES ARE THE FUTURE. ARE YOU STILL STUCK IN THE PAST?



SIMULATOR GUN SHORTAGE

WHY AREN'T YOU FIRING BACK?



I HAVE A SIMULATOR GUN SHORTAGE!



Dear Editor,

The SM-756/APR-44(V) radar signal simulator, NSN 6940-01-058-1066, is in short supply. This simulator radar gun is used to test the APR-44(V) radar warning system and the AN/ALQ-162, automatic radar jammer.

There are two reasons this gun is in short supply: one reason can't be solved, but the other can.

The reason that can't be solved is the gun is no longer being made. Production stopped in the early 1990s and has not started again.

The reason that can be solved is the lack of turn-in of unserviceable and serviceable assets of this gun. It is vital that these assets be turned in for repair. This is the only avenue still open for supply and reissue of this piece of equipment.

So, check your shops and storage areas if your mission includes the use of this gun or if you believe your mission once did. If you find this gun, whether serviceable or unserviceable, turn it in to Tobyhanna Army Depot. Be sure to enter the Condition Code.

Here's where to send it:

Commander DDDTP
W25G1W
11 Hap Arnold Blvd
Building 2, Bay 1
Condition Code ____
Tobyhanna, PA 18466-5027

If Soldiers have questions about this issue, they can contact: DSN 848-2814 or (443) 861-2814. Or they can email:

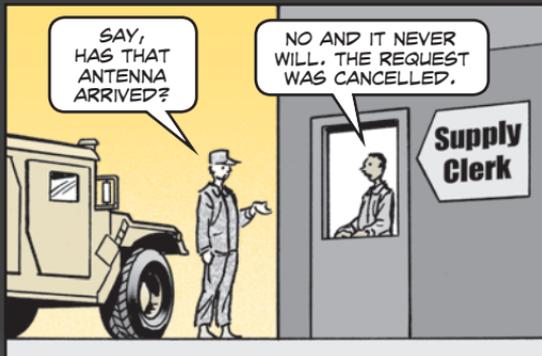
ira.cantu jr@us.army.mil

Ira Canty Jr.
ASE Manager,
IEW Sensors
APG, MD

Editor's note:

TM 11-6940-214-20P covers the parts for this simulator radar gun. Tobyhanna will take any parts you might have, too. Could be you have a loose part or two that you have wondered about since you came to the shop. They might go to this gun!

A Quick Notification



Dear Editor,

There's a great resource on the Internet for finding out if a B16 (CECOM LCMC) supply request has been cancelled.

The web page is called CA Notes, with CA standing for cancellation. You reach the website by going to:

<https://rc3.monmouth.army.mil/canotes/search.cfm>

Log in with your AKO login and password and you'll go straight to the CA Notes page. Once there, enter the document number, DODAAC and NSN.

Information on a request will show up on this website within 24 hours of receipt. If a request has been cancelled, you'll know it and you'll know why.

CA Notes
Input | Search | Logout

Once you're here, fill in the blanks!

Daily record count: 132

SEARCH FOR A RECORD

Doc No: DODAAC: NSN:

NIIN: From: To:

©2008 LRC Web Team - Security & Privacy Notice - Last Updated: August 6, 2010

The website can also help before you make a supply request. Enter the NSN of an item and you can see the material status telling you whether it's available or obsolete or if you need to order the next higher assembly.

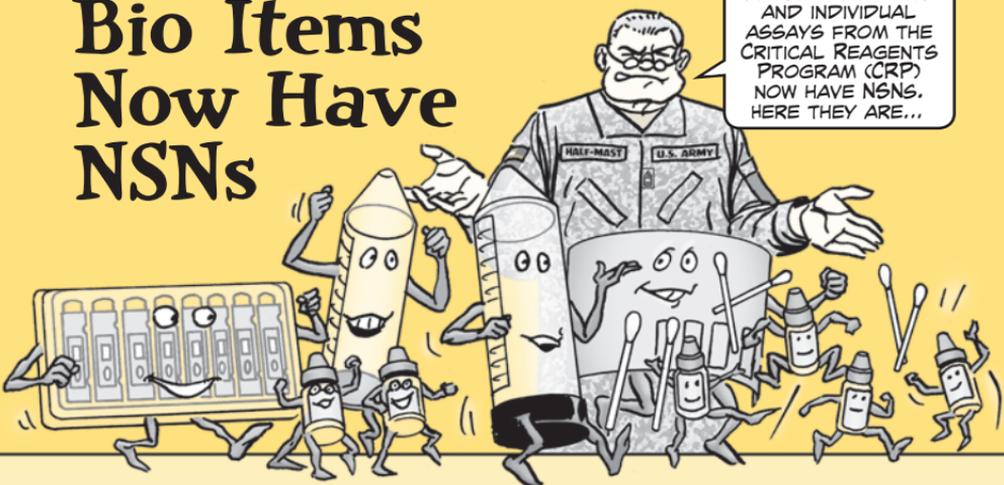
Cindy Rybka
PQDR Support Team
Ft Monmouth, NJ

Editor's note: Thanks, Cindy. Soldiers, if you need further info on this process, call Cindy at DSN 992-4893 or (732) 532-4839. Or you can email her:

cynthia.rybka@us.army.mil

Bio Items Now Have NSNs

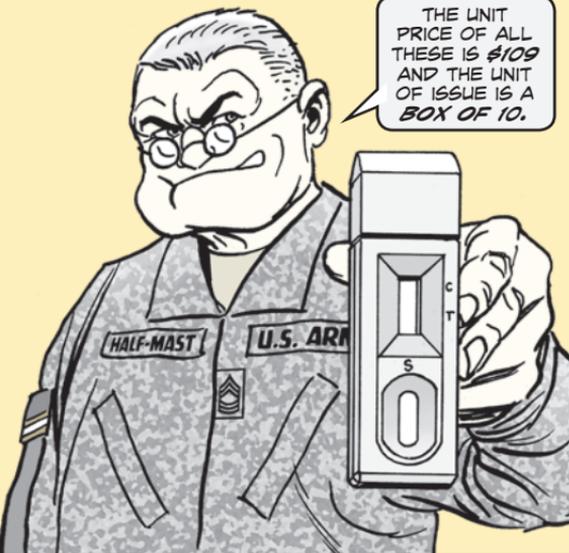
MANY OF THE BIO-SAMPLING KITS AND INDIVIDUAL ASSAYS FROM THE CRITICAL REAGENTS PROGRAM (CRP) NOW HAVE NSNs. HERE THEY ARE...



Item	NSN 6665-	Unit Price	Unit of Issue
Bio-sampling kit (uncoded/operational)	01-559-3857	\$103.00	Box of 10
Hand-held assay panels (uncoded/operational)	01-559-3850	\$575.00	Box of 10

Uncoded Hand-held Assays (Operational)

THE UNIT PRICE OF ALL THESE IS \$109 AND THE UNIT OF ISSUE IS A BOX OF 10.



NSN 6665-01-559-

1927 (brucella spp)
1928 (bacillus anthracis)
1931 (francisella tularemia)
1932 (ricin toxin)
1933 (botulinum toxin A/B/E)
1934 (coxiella burnetii)
1935 (staphylococcus enterotoxin B)
3843 (bacillus globigii)
3844 (erwinia herbicola)
3845 (Venezuelian equine encephalitis virus)
3846 (orthopox virus)
3847 (yersinia pestis)
3848 (ovalbumin)
3849 (MS2 virus)

EMPTY HYDRAULIC OVERFLOW CONTAINER

UH-OH! I THINK MY HYDRAULIC OVERFLOW CONTAINER JUST RUPTURED IN THIS FREEZING WEATHER!

I WISH SOMEONE HAD EMPTIED IT!

Dear Editor,

Here at the Ft Drum DOL, we have had three out of four of the installation's chemical biological protective shelters (CBPS) turned in because of damage to the hydraulic overflow container.

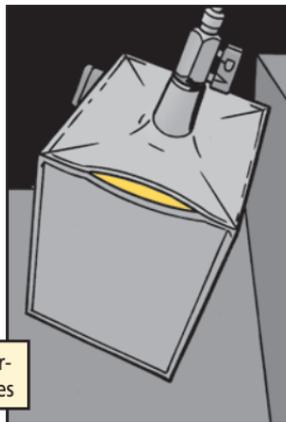
This damage could be avoided if operators regularly checked the overflow container, which is mounted behind the driver's seat under the shelter.

Operators need to check the container weekly for cracks and missing or damaged fasteners and empty it.

It is the failure to empty the container that is causing the damage. In Ft Drum's extreme cold, water is freezing in the container and rupturing it. The whole container has to be replaced. Plus, once the container starts leaking, fluids drip to the ground, causing an environmental concern.

Charles Petrus
DOL
Ft Drum, NY

Failure to empty hydraulic overflow container leads to ruptures



Editor's note: Excellent suggestion, Charles, especially for CBPS units where winters are harsh. Don't forget to check the hydraulic overflow container, operators, during your weekly PMCS.

M12-Series Decon...

WHEN ARE THEY GOING TO GET ME A *DECENT* COVER?

GOOD NEWS! NOW YOU CAN GET *BOTH* PUMP AND HEATER COVERS!

IMPROVED COVERS NOW AVAILABLE

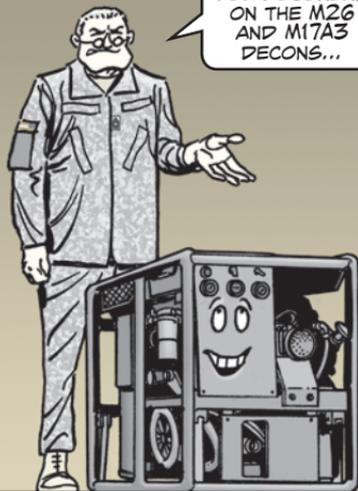
Decon units have had trouble for years protecting their M12 decons from the elements. The M12 pump's cover was made of canvas and tended to fall apart quickly. And the M2 heater had no cover.

That's no longer a problem. You can now order a durable vinyl pump cover with NSN 4230-00-943-5536. Make sure on the order form's Exception Data block to write "latest version" so you don't get the old canvas cover.

Order the M2 cover with NSN 5340-01-580-1423.

M26, M17 DECON NEWS

A BIT OF NEWS FOR YOU DECONERS ON THE M26 AND M17A3 DECONS...



M26

If you're using the new M26 decon, you can now get spare/repair parts and technical assistance through Pine Bluff Arsenal. Contact them at (800) 952-5897 or email:

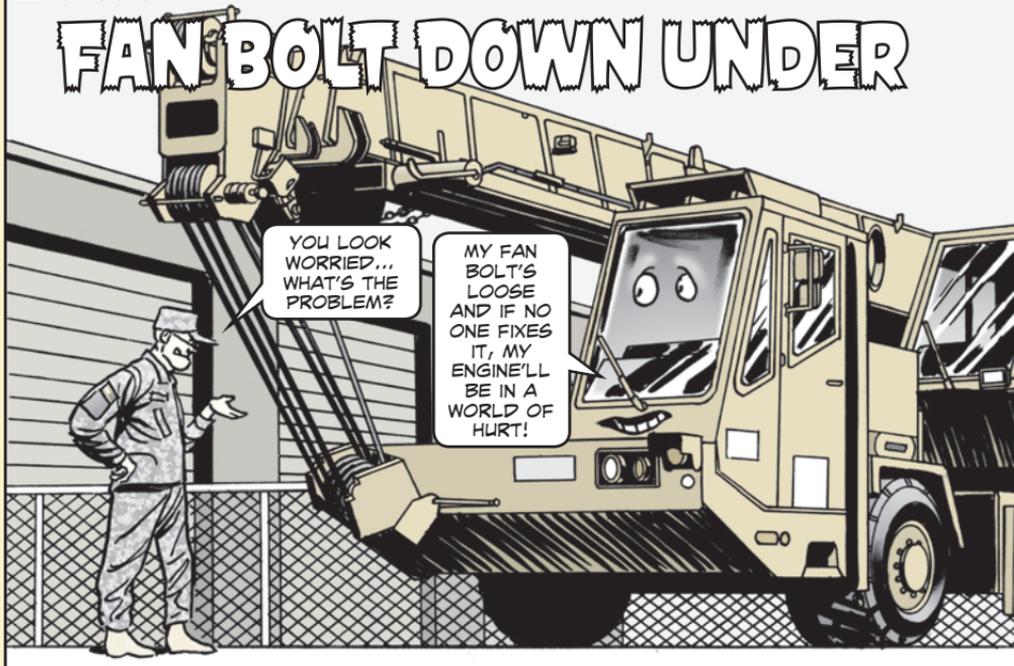
DL_M26support@conus.army.mil

The support will be available through October, 2011. After that, you can order repair parts through the supply system and do the repairs locally.

M17A3

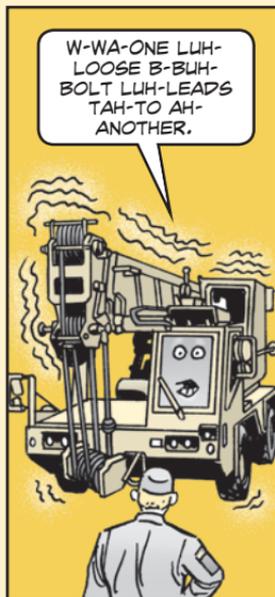
The inflatable collar for the 3,000-gal blivet has been modified with a hard foam collar that floats when the blivet is filled. As a result, the blivet's NSN has been changed to NSN 5430-01-543-0155. Do not order the old NSN, 5430-01-483-1065. All new M17s will include the new blivet. The new NSN will be included in the next change to TM 3-4230-228-10 and -23&P.

FAN BOLT DOWN UNDER

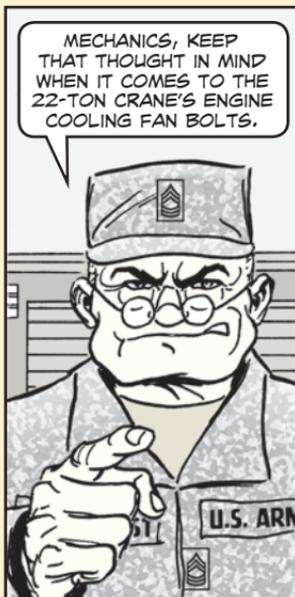


YOU LOOK WORRIED...
WHAT'S THE PROBLEM?

MY FAN BOLT'S LOOSE AND IF NO ONE FIXES IT, MY ENGINE'LL BE IN A WORLD OF HURT!



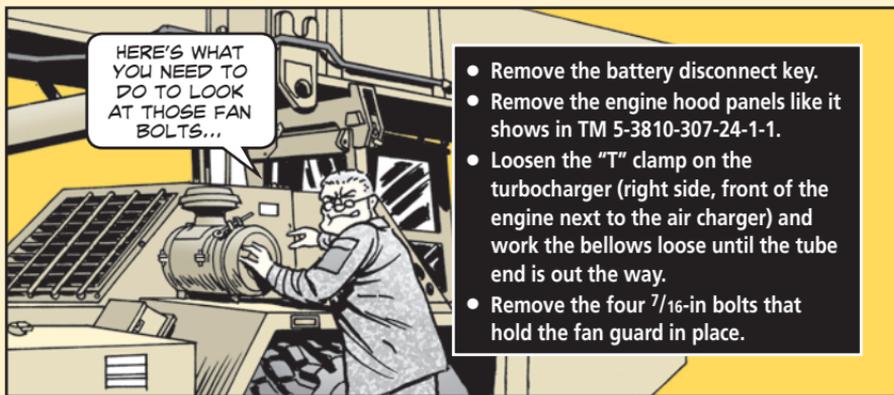
W-WA-ONE LUH-
LOOSE B-BUH-
BOLT LUH-LEADS
TAH-TO AH-
ANOTHER.



MECHANICS, KEEP THAT THOUGHT IN MIND WHEN IT COMES TO THE 22-TON CRANE'S ENGINE COOLING FAN BOLTS.

These bolts are known to come loose from vehicle vibration. One loose bolt causes the other fan bolts to come loose. Eventually, the bolts shear off and the fan is propelled into the radiator, fan shroud and coolant or hydraulic lines. A busted coolant or hydraulic line means a loss of fluid, causing extensive damage to the crane's engine.





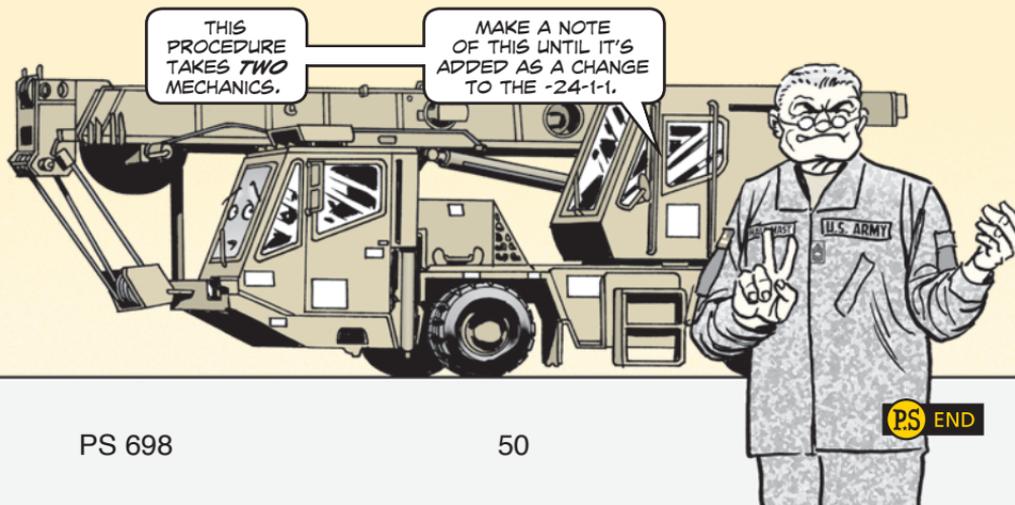
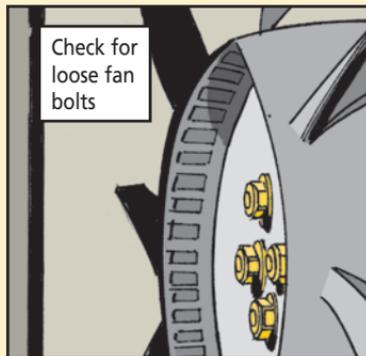
- Remove the battery disconnect key.
- Remove the engine hood panels like it shows in TM 5-3810-307-24-1-1.
- Loosen the "T" clamp on the turbocharger (right side, front of the engine next to the air charger) and work the bellows loose until the tube end is out the way.
- Remove the four $\frac{7}{16}$ -in bolts that hold the fan guard in place.

You have to place your hand and arm through the fan blades to get at the fan bolts. Use the mechanics mirror, NSN 5120-01-435-6719, from the general mechanic's tool kit (GMTK), to see the position of the fan bolt heads. The mirror will help you align the torque wrench with the head of each fan bolt.

Because of the tight space, use torque wrench, NSN 5120-01-355-1734, and a 16mm socket from the GMTK.

Check each bolt with the torque wrench to see if it's less than 32 lb-ft of torque. Less than 32 lb-ft means the bolt is loose.

If any bolt is loose, remove it with a wrench, but not a torque wrench. Clean the bolt's threads with a wire brush. Use sealing compound, NSN 8030-01-025-1692, on the bolt threads before you re-install the bolt. Then torque the bolt to 32 lb-ft.



Will Lamination Void a Permit?



Dear Half-Mast,

Can you tell me what reference states if Soldiers are authorized to laminate DA Form 5984-E, Operator's Permit Record?

Mr. R.S.

Dear Mr. R.S.,

Happy to clarify things. DA Form 5984-E is the ULLS-G version of OF 346, U.S. Government Motor Vehicle Operator's Identification Card.

You'll find specific guidance on the OF 346 in AR 600-55, the Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing (Jun 07). Chapter 6-6 covers the subject of strikeovers, erasures, and alterations.

According to AR 600-55, "Commanders may authorize lamination of the OF 346, but other alterations will void the permit."

Of course, lamination does help protect ordinary paper from wear and tear. Just be sure you get your commander's blessing first.

Half-Mast

OPERATOR'S PERMIT DA FORM 5984-E

U.S. ARMY MOTOR VEHICLE OPERATOR'S IDENTIFICATION CARD

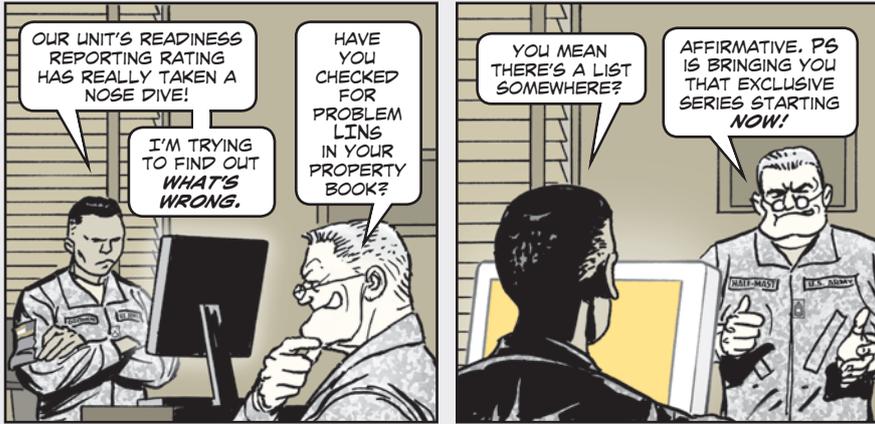
Name of Operator MI Soc Date Issued:
 RALSTON GARRETT MI 20030803 :
 Height Weight Date of Birth SSN Date Expired:
 5 9 179 19790420 54-39-8856 20040403 :
 Color of Hair Eyes
 BLK BRN
 Name/Iss Issue Unit
 HHC 3/7 IN
 09303 COMMANDER
 CPT. S. SZYMANSKI
 NOT TRANSFERABLE. CARD REQUIRED TO OPERATE GOVT VEH
 PRIVACY ACT OF 1974 APPLIES

QUALIFICATIONS/RESTRICTIONS

F/L RT 10000 LB & BELOW FORKLIFT ELECTRIC, ALL :
 TRLR PINTLE TOWED ACCIDENT AVOIDANCE CLASS :
 M998 TRK UTIL LMTV M1078 2 1/2 CARGO TK :
 M1114 2- 1/2 TON AND BELOW :
 5 TON AND BELOW AOAP QUALIFIED :
 PMCS QUALIFIED TNG/W PVST&D :
 INCIDENTAL LICENSE IRAQ :

DA Form 5984-E

PROPERTY BOOK POINTERS FOR IMPROVING UNIT EOH READINESS



Line item numbers (LINS) are needed for keeping tabs on equipment on a unit's property book. But with thousands of LINS, it's no wonder that certain ones seem to create problems for units across the Army. Some Z-LINS and non-standard LINS can also make it appear that a unit has shortages. Problem LINS can cause incorrect unit status reports, which in turn knock down a unit's equipment readiness reporting ratings.

So, what can a savvy property book officer (PBO) or supply sergeant do to tackle these trouble-making LINS? Follow our *PS* mini-series over the next five issues. We'll give you the HQDA G-8 straight scoop on how to fix certain LIN issues and help improve your unit's equipment readiness reporting ratings.

Below are some problem LINS and their nomenclatures.

Note: Most solutions apply to nearly all Army units authorized equipment.

LIN	Nomenclature	Issue	Solution
M12418	M40 Field Protective Mask	Many units document some or all M40 masks under joint mask LIN Z00036. This results in reported shortages. Z00036 has been replaced by M12986. No substitute relationship currently exists in SB 700-20, Appendix H. Life cycle management commands or supply support operations should input request in SLAMIS to create a substitution relationship.	Commander directs PBO to generate a lateral transfer (DA Form 3161) in PBUSE, to sub-LIN Z00036 under LIN M12418.

LIN	Nomenclature	Issue	Solution
T14017	Tactical water purification system (TWPS)	Many units were fielded TWPS under Z97761 instead of the standard LIN T14017. These units will show shortages under T14017. Z97761 was replaced by T14017. Unit PBOs should have received notification to correctly account for this equipment under the correct LIN.	Commander directs PBO to generate a lateral transfer (DA Form 3161) in PBUSE, to sub-LIN Z97761 under LIN T14017.
W32593	Shop equipment automotive maintenance and repair: OM Common No. 1 less power	The Common No. 1 has been replaced in units with the SATS S25885. Units commonly carry the SATS as excess instead of in-lieu-of the Common No. 1. SATS also replaces four other MTOE LINS: W32730 Shop equipment automotive maintenance and repair: OM Common No. 2. Authorized substitute is S25885. W32867 Shop equipment automotive maintenance and repair: org supply No. 1 less power. Authorized substitute is F64544. T24660 Shop equipment automotive maintenance and repair: FM basic W65747 Tool set vehicle full tracked: org maintenance supply No. 2 less power.	Commander directs PBO to generate a lateral transfer (DA Form 3161) in PBUSE, to sub-LIN W32593, W32730, W32867, T24660 and W65747 under LIN S25885.

IF YOU HAVE QUESTIONS, CONTACT: MARK MOORE, DSN 225-4513, (703) 695-4513, OR EMAIL: mark.moore@us.army.mil



Getting Cozy with CAISI



Dear Half-Mast,
 What can you tell me about a Combat Service Support Automated Information Systems Interface (CAISI), NSN 5820-01-564-4845? We have one in our unit, but nobody knows how to use it. I can't find any references. How do we get trained on this piece of equipment?

SSG P.S.



Dear Sergeant P.S.,

First off, I just gotta say, those are some great initials! Now, to answer your questions.

CAISI is a secure, wireless local area network (LAN) for the Logistics Information System, formerly called STAMIS. It supports logistics in highly mobile operational environments. This old-timer's actually been around in one version or another since the days of Desert Storm.

The current version, CAISI 2.0, contains two dual-band radios (a 5.8 Ghz and a 2.4 Ghz) in each module and an 8-port 10/100 Ethernet switch. One radio functions as a wireless bridge and the other's a wireless access point.

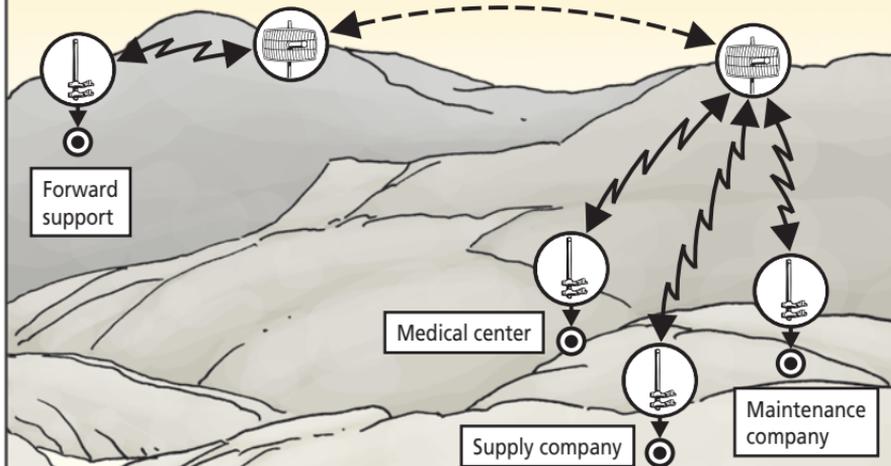
So, how can your unit use CAISI? Here are just a few things it can do:

- Wirelessly transmit requisitions, reducing or eliminating the need for risky convoy travel to place requisitions in person
- Act as an access point (connecting local mobile clients by radio)
- Speed transfer of real-time information securely
- Provide a built-in digital subscriber line, so when and where other radios don't work, you've still got connectivity.

THE NEWEST CAISI HAS INCREASED ITS RANGE FROM 2-4 MILES UP TO 32 MILES AND BUMPED DATA TRANSFER FROM 1-2 MBPS TO 15 MBPS. IT'S ALSO A LOT EASIER TO SET UP IN THE FIELD, OFFERING BETTER SECURITY AND 14 AVAILABLE PORTS.



CAISI Architecture



Legend

-  Omnidirectional antenna
-  Directional antenna
-  Range up to 7 mile
-  Range up to 32 miles

But, to set CAISI up right, you definitely need training. With your CAC or AKO credentials in hand, you can eyeball all the details here:

<https://www.caisi.army.mil/>

For customer support, call DSN 687-1051, (804) 734-1051, or email:

lee.secl.cao@lee.army.mil

Half-Mast



CHANGES HAVE BEEN MADE TO MAINTENANCE TERMS. FIND OUT WHAT THEY ARE ON THE NEXT FEW PAGES!

BUZZWORD BONANZA!

Army Adds, Deletes and Updates Maintenance Terms

In the latest version of AR 750-1, *Army Materiel Maintenance Policy*, some maintenance terms have been revised, a few have been added and a couple have even been deleted.

These changes by HQDA G-4 Maintenance are a move towards standardizing terminology, so that all maintainers, military and contractors alike, can start "speaking the same language."

Here are some of the changes you'll find in the 2011 edition of AR 750-1:

Maintenance Terms Updated in AR 750-1

Term	Old Meaning	New Meaning
Field Maintenance Activity	An Army National Guard (ARNG) activity that provides field maintenance for federal surface equipment issued to supported units.	An United States Army Reserve (USAR) or ARNG activity that provides field maintenance for federal surface equipment issued to supported units.
Field Maintenance Sub Activity	An ARNG field-level maintenance sub facility established to supplement limited available workspace authorized a parent FMS or geographic separation of supported units.	An USAR or ARNG field-level maintenance sub facility established to supplement limited available workspace authorized a parent FMS or geographic separation of supported units.
Preventive Maintenance Checks and Services (PMCS)	PMCS is the care, servicing, inspection, detection, and correction of minor faults before these faults cause serious damage, failure, or injury. The procedures and the category of maintenance to perform PMCS are found in the TM, LO, and ETM XX-10 and XX-20 series.	PMCS is the care, servicing, inspection, detection, and correction of minor faults before these faults cause serious damage, failure, or injury. The procedures and the category of maintenance to perform PMCS are found in the applicable TM.

PS MORE

Maintenance Terms Updated in AR 750-1 continued

Term	Old Meaning	New Meaning
Rebuild	Rebuild is maintenance that restores the system to a like-new (near zero time/zero mile) condition in appearance, performance, and life expectancy. It inserts new technology where practical to improve reliability and maintainability. The result of a recapitalization rebuild is a system with the same model and a new life.	Rebuild is more than overhaul in that it restores the system to a like-new (near zero time/zero miles) condition in appearance, performance, and life expectancy. It inserts new technology where practical to improve reliability and maintainability. The result of a rebuild is a system with the same model, performance characteristics, and a new life.
Recapitalization	Recapitalization is the rebuild and selected upgrade of currently fielded systems to ensure operational readiness and a near zero time/zero mile system.	Recapitalization is the process to rebuild and modernize selected equipment to a near zero time/zero miles standard that includes technology insertion and results in a new model-new life.
Repair	Restoration or replacement of parts and/or units to maintain efficient operating conditions.	The application of maintenance services, including fault location/troubleshooting, removal/installation, disassembly/assembly procedures, and maintenance actions to identify deficiencies and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item or system.
Test, Measurement, and Diagnostic Equipment (TMDE)	Any system or device used to evaluate the operational condition of an end item or subsystem thereof to identify and/or isolate any actual or potential malfunction. This TMDE includes diagnostic and prognostic equipment; semiautomatic and automatic test equipment, to include TPSs (with issued software); and calibration test or measurement equipment. Note: When the term TMDE is used, it refers to both TMDE-general purpose and TMDE-special purpose.	Any system or device used to evaluate the operational condition of an end item or subsystem thereof to identify and/or isolate any actual or potential malfunction. This TMDE includes diagnostic and prognostic equipment; semiautomatic and automatic test equipment, to include TPSs (with issued software); and calibration test or measurement equipment. Note: When the term TMDE is used it refers to TMDE-general purpose, TMDE-special purpose, and system peculiar TMDE.

Maintenance Terms Added in AR 750-1

Added Term	Meaning
Adjust/Align	To maintain or regulate an item, within prescribed limits, by bringing it into proper position or by setting the operating characteristics to specified parameters.
Logistics Information System (LIS)	Automated systems used to communicate with other units on vertical and horizontal flow of logistics and maintenance information and status (replaces term STAMIS).
Inspection	To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.
Partially Mission Capable	Material condition of an aircraft or training device indicating that it can perform at least one but not all of its missions because of maintenance requirements existing on the inoperable subsystem(s).
Replace	Replace is defined as removal of a consumable and/or repairable unserviceable item/component, and installation of a serviceable item/component in its place. "Replace" is authorized by the Maintenance Allocation Chart (MAC) and assigned a maintenance level which is shown as the third position of the Source, Maintenance, and Recoverability (SMR) code.
Test	To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis such as load testing of lifting devices and hydrostatic testing of pressure hoses.

Maintenance Terms Deleted from AR 750-1

Deleted Term	Meaning
Black Box	The term is synonymous with line replaceable unit (LRU), which is more commonly used in field- and sustainment-level maintenance.
Remanufacture	To refurbish a used product by renovating and reassembling its components.
Standard Army Management Information System (STAMIS)	Automated systems used to communicate with other units on vertical and horizontal flow of logistic and maintenance information and status (replaced by new term, LIS).
System Peculiar TMDE	TMDE dedicated to peculiar test and repair of a single materiel system or item of equipment (no longer used as a standalone term, but is now part of the TMDE definition).

For questions on the AR 750-1 policy update, contact Nelson Williams at DSN 224-0753, (703) 614-0753, or email:

nelson.williams1@us.army.mil



M872A4 Semitrailer Landing Leg NSN

If you order the M872A4 landing leg supports, NSN 2590-01-522-6745 and NSN 2590-01-522-6749, shown as Item 1 in Fig 27 of TM 9-2330-331-14&P (Dec 05), you'll get the wrong parts. Get the correct landing legs with NSN 2590-01-176-4787. That assembly brings both legs.

WINTER READING

If you're heading to mountains or snow-fields this winter, take along these field manuals:

- FM 3-97.6, *Mountain Operations*
- FM 3-97.61, *Military Mountaineering*
- FM 31-70, *Basic Cold Weather Manual*
- FM 31-71, *Northern Operations*

They're essential reading for Soldiers deployed in high country or in freezing climates. The FMs cover tactics, operations, survival skills, clothing, shelter, personal gear, sleds, first aid and much more. You'll find the FMs at the Army Publishing Directorate website:

<http://www.apd.army.mil>

780T Paving Machine Parts

Repair parts for paving machines are getting hard to find. Without NSNs, these parts aren't always available by the CAGE and PN called out in TM 5-3895-373-24P, either. For help finding parts, contact TACOM's paving machine team at DSN 273-3114/3115/3116, Comm (586) 239-3114/3115/3116, or email:

DAMI_rollers@conus.army.mil

M1070 HET CONVERSION KIT

Use conversion kit, NSN 2815-01-456-1281, to upgrade the M1070 HET tractor's DDEC II engine to the DDEC III/IV. You'll find the installation instructions on Pages 18-3 and -4 of TM 9-2320-360-34-1. Also, you need to install cab conversion kit, NSN 2510-01-456-2278, when you upgrade to the DDEC III/IV engine.

MW24C Defogger Fan

Use NSN 4140-01-267-1844 to get the scoop loader's defogger fan. This NSN replaces the parts info shown as Item 15 in Fig 119 of TM 5-3805-262-24P.

M1117 ASV Fuel Transmitters

Get the fuel transmitter (commander's side) for the armored security vehicle using NSN 6680-01-554-1196. Use NSN 6680-01-554-1208 to get the transmitter that's on the driver's side. Make a note until these NSNs show up for Items 1 and 2 in Fig 29 of TM 9-2320-307-24P.

M113A2 FOV Fuel Cap

Get a new fuel cap for your M113A2 FOV using NSN 5342-01-467-5645. Both NSN 5340-01-083-5674 and NSN 5342-01-387-4007, which are shown as Item 9 in Fig 23 of TM 9-2350-261-24P (Aug 05), are terminal items.

M1009 CUCV BRAKE PADS

To get the front brake pads for the M1009 CUCV truck, use NSN 2530-01-158-1458, PN 12321426. This NSN replaces the parts info shown for Item 13 in Fig 88 of TM 9-2320-289-20P.

Up-armored HMMWV Filter

To get an air dryer filter for the air conditioning system on up-armored HMMWVs, use NSN 4130-01-548-1188. This NSN replaces the parts info shown as Item 5 in Fig 274A of TM 9-2320-387-24P w/CH 2.

HEMTT A4 Wrecker BII Crowbar Update

The HEMTT A4's IETM, TM 9-2320-326-14&P, EM 0288, has an error in the BII for the A4 Wrecker. The crowbar, NSN 5120-00-224-1390, shown as Item 29, doesn't belong on the front passenger side fender. It goes under the cargo body, above the fuel tank. Make a note until the IETM is updated so you can store it in the right place.

LED Flashlight

Need a flashlight to light up those dark areas when pulling vehicle maintenance? Try using a 4-LED flashlight, NSN 6230-01-522-2506. The LEDs will last 10,000 hours or more. The flashlight takes 2 AA batteries and comes with a bungee-style wrist lanyard.

Bradley Fuel Cap NSN

To order a new fuel cap for your Bradley, use NSN 2590-01-482-1662. It replaces NSN 5342-01-418-8526, which is shown as Item 85 in Fig 154 of TM 9-2350-252-24P-1 (Mar 97 w/Ch 1, Feb 98) and Item 67 in Fig 135 of TM 9-2350-284-24P-1 (Aug 07). The old NSN is a terminal item.

MBU Tool Kit

The new MBU tool kit, NSN 5180-01-565-2047, has all the tools you need to repair and maintain your modern burner unit-V3 (MBU-V3). Each tool is industrial quality and comes with a warranty. There is one of each tool in the kit.

M997/A1 HMMWV A/C Compressor Belt

If MWO 9-2320-280-35-5 has been applied to your M997 or M997A1 HMMWV, you need a longer V-belt on your air conditioner compressor. The MWO tells you to use V-belt, NSN 3030-01-504-6408, but that's wrong. Make a note to use NSN 3030-01-084-4564 instead.

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

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

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SQUAWK

NOW, I LAY ME DOWN TO SLEEP...

