

**PS****THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY****ISSUE 737 APRIL 2014**

TB 43-PS-737, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all Soldiers assigned to combat and combat support units and all Soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders. The use of product or company names does not constitute endorsement of those products, services or companies by the U.S. Army. The use of non-DoD hyperlinks, along with their content, does not constitute endorsement by DoD or DA. Neither DoD nor DA exercises any editorial control over, and cannot vouch for, content on non-DoD websites.

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

Or email to:

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

Internet address:

**https://www.logsa.army.mil/psmag/pshome.cfm**

By order of the Secretary of the Army:

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

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Administrative Assistant to the Secretary of the Army

**1404202**

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PS

April  
2014

# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-737

Approved for  
Public Release;  
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WITH THE CREW OF THE  
STARSHIP NOSURPRISE  
DEFEATED,  
PM IS NO MORE...  
THE GALAXY IS OURS TO  
ASSIMILATE!

RESISTANCE  
IS FUTILE.

SEE  
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# FREE BUT PRICELESS



There's an old saying that some of the best things in life are free. There's also a counter-saying that warns us that we get what we pay for. So, when it comes to *PS Magazine*, which is it?

Neither, really. It's true *PS* is free for units (and the coolest technical bulletin out there), but that doesn't mean nobody's footing the printing bill. The Army picks up the tab because it has years of hard evidence that *PS* makes a difference. We help units save time, money and yes, even lives. Now you can't beat that, can you?

*PS* gets important info out in creative, memorable ways that pay off in the motor pool and on the battlefield. If replacing an M2 machine gun pin for a couple of bucks can save replacing a \$500 barrel extension, you can bet the bean-counters sit up and take notice.

*PS* keeps you in the know, so you know how to keep equipment rolling. We've been rolling for more than 62 years now, and we're sure glad you're along for the ride.

Visit *PS* online at: <https://www.logsa.army.mil/psmag/pshome.cfm>

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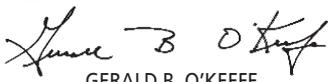
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MLRS Carrier...

READY FOR YOUR BATH?

KEEP THAT HIGH-PRESSURE WATER AWAY FROM ME!

D'YA WANNA RUIN MY ELECTRONICS?!

REMEMBER THESE GUIDELINES FROM TM 9-1055-647-13&P WHEN CLEANING YOUR MLRS...



# GO EASY WITH WATER WHEN CLEANING

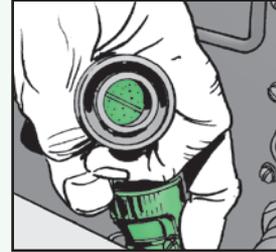
Crewmen, a good cleaning to get rid of all the dirt, grime and dust after a mission helps keep your MLRS ready for action.

But not following the proper cleaning procedures can damage expensive electronic line replaceable units (LRU) like the launcher interface unit (LIU).

If you aren't careful, water gets inside those components and ruins them. Repairing or replacing them is expensive.

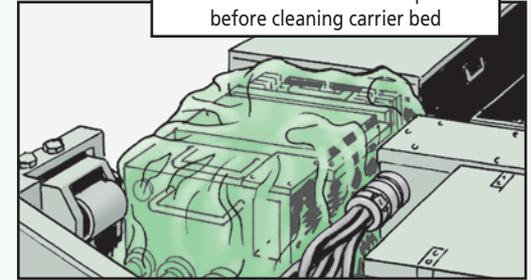


1. Tighten all electrical connections first to make sure water can't get inside.

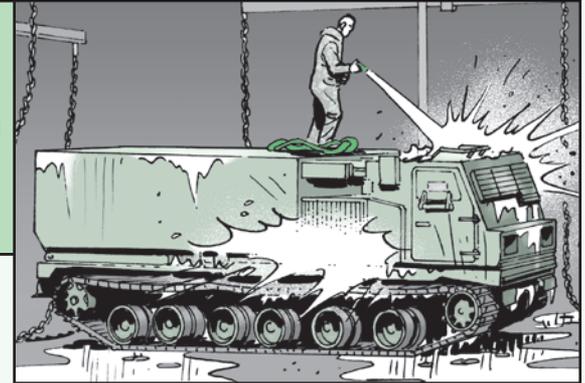


2. Always cover the LRUs. Then wipe them down with a damp cloth.

Cover sensitive electrical components before cleaning carrier bed



3. Never use high-pressure water when cleaning the interior and rear of the carrier vehicle bed. Do not flood the vehicle bed or cab. Use a light spray with normal tap pressure and rinse with clean water from a bucket.



4. Use soap and water to clean rubber and plastic material. Anything stronger may cause damage.

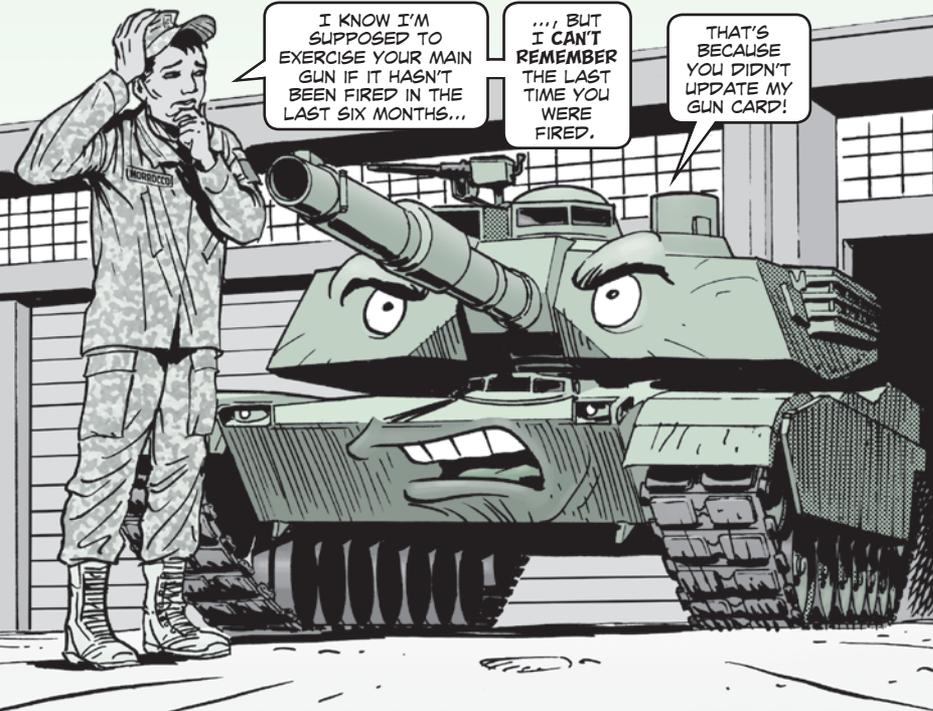
5. Remove carrier drain plugs and plates so water can drain out. And make sure that water is disposed of according to your unit's SOP.



6. Clean the gunner's display unit (GDU) with a soft, damp cloth and then wipe it dry.  
7. You might have to use a paint scraper and/or a wire brush to remove heavy deposits of rocket exhaust residue.



# KEEP GUN CARD UPDATED



I KNOW I'M SUPPOSED TO EXERCISE YOUR MAIN GUN IF IT HASN'T BEEN FIRED IN THE LAST SIX MONTHS...

..., BUT I CAN'T REMEMBER THE LAST TIME YOU WERE FIRED.

THAT'S BECAUSE YOU DIDN'T UPDATE MY GUN CARD!

Crewmen, you know you're supposed to update your DA Form 2408-4, *Weapon Record Data Card*, after you fire the main gun on your M1-series tank.

But did you know you're also supposed to update the card after you exercise the recoil or borescope? If you don't do that, your tank is now NMC!

You're required to exercise the recoil and borescope the main gun every six months if it hasn't been fired. But you won't know the last time this was done if the gun card isn't kept up-to-date.

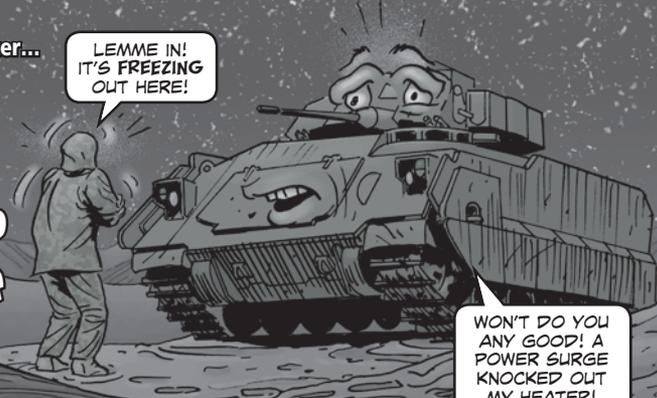
Whether you use the M3 oil pump, the gun mount exerciser or fire the main gun, be sure to update the gun card. The electronic version of the DA Form 2408-4 is on the TACOM Unique Logistics Support Applications (TULSA) website:

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

You'll find more info by checking out PMCS Item 13 in WP 0477-25 of TM 9-2350-264-23-2-3 (Jul 11, w/Ch 1, Jan 13) and PMCS Item 10 in WP 0258-24 of TM 9-2350-388-23-2-2 (Jan 09 w/Ch 1, Oct 11).

# HOT Tips to Keep Out the COLD

LEMMIE IN! IT'S FREEZING OUT HERE!



WON'T DO YOU ANY GOOD! A POWER SURGE KNOCKED OUT MY HEATER!

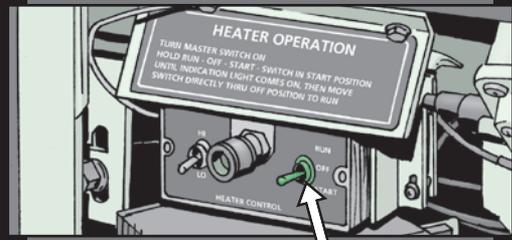
CREWMEN, IT MAY BE SPRING, BUT THE NIGHTS CAN STILL GET COLD. THAT'S WHERE YOUR A-20 PERSONNEL HEATER, NSN 2540-01-396-2826, COMES IN HANDY.

KEEP YOUR HEATER WORKING WITH THESE TWO TIPS...



## First

Before that cold night arrives, make sure to set the RUN-OFF-START switch on the vehicle control for the heater to OFF whenever it's slaved to another vehicle. If you don't, a power surge can damage the heater's electrical components. That'll put your heater out of action and you may not know it until you need it.

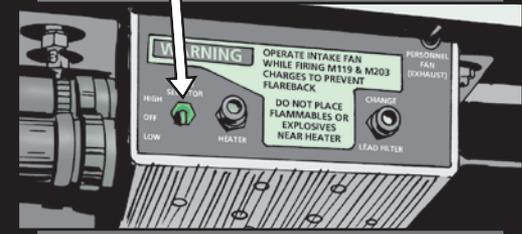


Flip selector switch to LOW when temps are above freezing

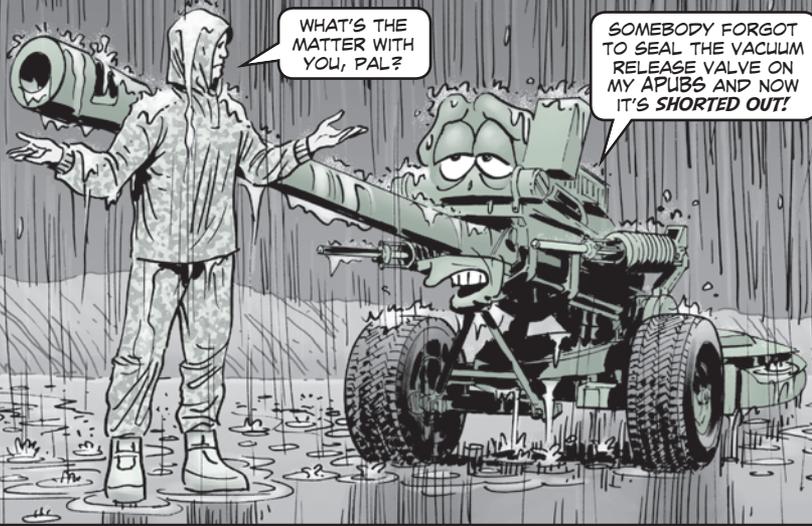
Turn heater switch OFF while slaving to avoid damaging heater

## Second

Don't set your heater on HIGH (60,000 BTUs) if the temperature is above freezing. Set your heater to LOW (30,000 BTUs). If you constantly run the heater on HIGH, the wick burns out and then your warm oasis will be a cold mirage.



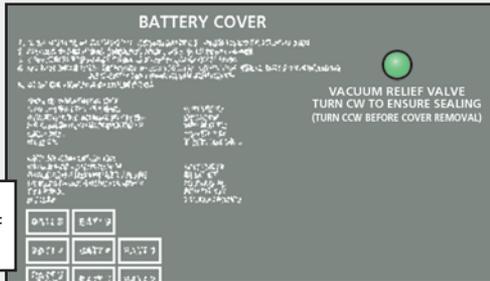
# SEAL IT TIGHT TO KEEP BATTERY RIGHT



Operators, be sure to keep the vacuum release valve on your M119A3 howitzer's artillery portable universal battery power supply (APUBS) sealed tight after the battery cover is installed.

Heavy rain can force water inside the APUBS through the vacuum relief valve and cause a short. That'll put your howitzer out of action quick.

Seal vacuum release valve tight to keep water out of battery compartment



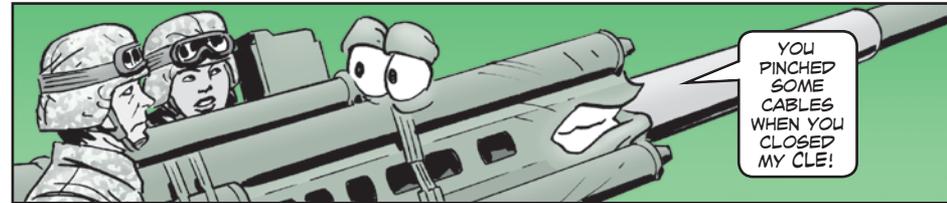
Keeping the seal tight and water out of the battery compartment is easy. Just follow the instructions for the valve that are written right next to it on the battery cover. Turn the valve clockwise to seal it and counterclockwise to open it.

If you have to open the battery cover for any reason, be careful that no water gets into the battery compartment.

Questions? Contact the TACOM Field Artillery and Support PSID Fire Control Team at DSN 786-9048, (586) 282-9048, or send an email to:

[usarmy.detroit.tacom.mbx.ilsc-fa-core-team@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-fa-core-team@mail.mil)

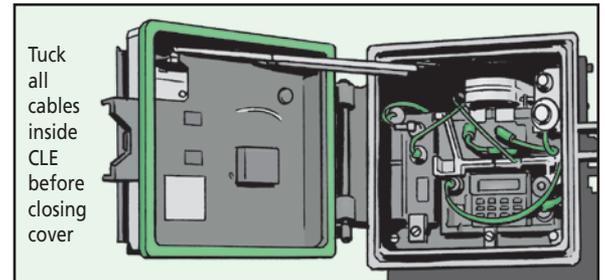
# Don't Put DFCS In a Pinch!



CREWMEN, IT'S EASY TO PINCH OR EVEN BREAK THE CABLES INSIDE YOUR M777A2'S COMMUNICATION LOCATION ENCLOSURE (CLE) WHEN YOU OPEN OR CLOSE IT.

DAMAGING THE CABLES WILL PUT YOUR DIGITAL FIRE CONTROL SYSTEM (DFCS) OUT OF ACTION IN A HURRY!

BEFORE CLOSING THE CLE COVER, MAKE SURE THAT ALL CABLES ARE COMPLETELY INSIDE THE ENCLOSURE AND CLEAR OF THE CLE COVER SEAL.



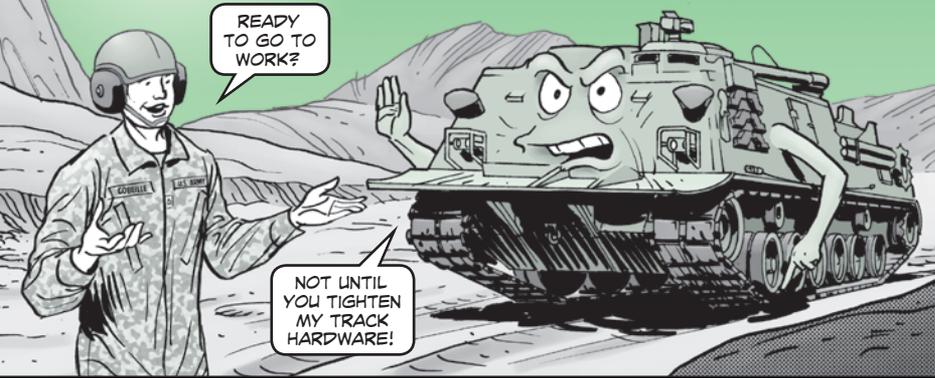
And when removing or installing CLE equipment, be careful not to bend or twist cables too much. Make sure all cables are routed correctly to avoid potential pinch points inside the CLE, like the radio locking bar, cover stay and cover seal.

If your howitzer has a DFCS issue, check out the PMCS and troubleshooting procedures in TM 9-1025-215-10 and TM 9-1025-215-24&P.

Questions? Contact TACOM's fire control team at:

[usarmy.detroit.tacom.mbx.ilsc-fa-core-team@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-fa-core-team@mail.mil)

# Keep Track On Track with Good PM



Crewmen, not much will bring your M88-series recovery vehicle to a stop faster than track trouble.

So be sure to check for missing or loose end connectors and center guides. If they're loose, tighten 'em up. Then inspect and torque 'em properly after the mission's done.

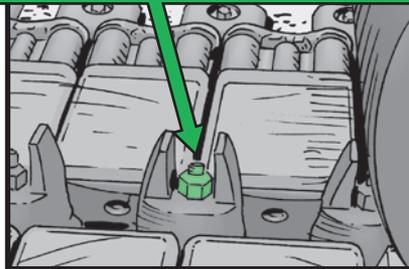
Also, after the center guide and end connector hardware have been torqued, remember to recheck the torque after 30 to 50 miles.

Mechanics, take note of these upcoming changes to the IETM:

- **Change the torque for the center guide's self-locking nuts from 300-320 lb-ft to 375 lb-ft.**

- When a track assembly is assembled from eight block sections, the center guide connection points require 375 lb-ft of torque. You're also required to torque the center guide on each side of the connection point to 375 lb-ft.
- After the center guide and end connector hardware have been tightened, recheck the torque after 30 to 50 miles of operation.

Follow the PMCS procedures in TM 9-2350-256-10 for the A1 and TM 9-2350-292-10 for the A2 and your vehicle's tracks should have plenty of trouble-free miles.



## WHERE TO GO FOR TRACK PAD INFO

Dear Half-Mast,

Is there a quick-reference chart that'll tell me what types of track pads go with what combat vehicle? I have supply guys working for me in the warehouse who have a real tough time trying to figure all this out. If there's something out there that'll make finding that info easier, I'd appreciate knowing where to find it.

SFC M.D.

Dear Sergeant M.D.,

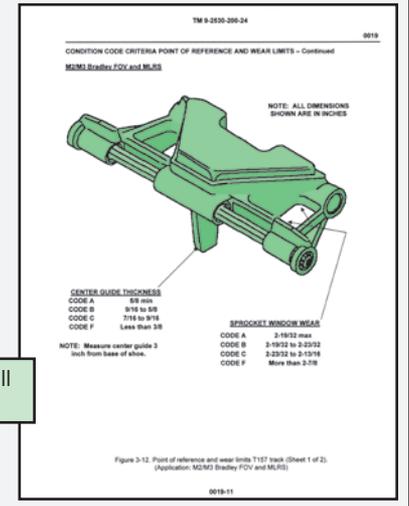
You'll find everything you're looking for in TM 9-2530-200-24, Standards for Inspection and Classification of Tracks, Track Components and Solid-Rubber Tires. It'll give you the scoop on the right kind of track pads for each vehicle.

You'll find it at the LOGSA ETM website:

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

TM provides info for all types of track pads

*Half-Mast*



# Need GRS Facts? We've Got Your Backs!

CONNIE, I KNOW PS HAS WRITTEN ABOUT GUNNER RESTRAINT SYSTEMS (GRS) BEFORE, BUT WE STILL HAVE SOME QUESTIONS ABOUT HOW TO USE THEM.



NO WORRIES! HERE'S WHAT YOU SHOULD KNOW...



## What's a GRS?

THE GRS IS PART OF AN OCCUPANT PROTECTION SYSTEM THAT INCLUDES A HARNESS, TAIL STRAP, A RIGIDLY MOUNTED RETRACTOR, AND POSSIBLY A TURRET SEAT ASSEMBLY.

IT'S A PERSONAL SAFETY RESTRAINT DEVICE, JUST LIKE SEAT BELTS, SEAT BELT RESTRAINT SYSTEMS, SAFETY STRAPS, AND OTHER SAFETY DEVICES USED TO SECURE OR PROVIDE A SAFETY MECHANISM FOR SOLDIERS OPERATING OR RIDING IN A VEHICLE.



## GRS Guidance



AS DIRECTED BY TACOM SOUM 10-022, YOU **MUST** VIEW THE GUNNER'S RESTRAINT SYSTEM VIDEO **BEFORE** OPERATING THE GRS.

THE VIDEO IS AVAILABLE ONLINE AT: <https://atn.army.mil>



JUST CLICK ON VIDEOS ON THE TOP MENU AND THEN GO TO TRAINING SKILLS VIDEOS TO RETRIEVE IT. YOU CAN WATCH IT IN LESS THAN 15 MINUTES.

ALSO, TACOM SOUM 09-013 PROVIDES **MORE** GRS GUIDANCE. YOU CAN EYEBALL IT AND TACOM SOUM 10-022 AT THESE LINKS...

[https://tulsa.tacom.army.mil/safety/soum/tacom\\_wn/soum09-013.html](https://tulsa.tacom.army.mil/safety/soum/tacom_wn/soum09-013.html)  
[https://tulsa.tacom.army.mil/safety/soum/tacom\\_wn/sou10-022.html](https://tulsa.tacom.army.mil/safety/soum/tacom_wn/sou10-022.html)

## GRS PMCS



OPERATORS, BE SURE YOU READ AND FOLLOW THE GRS OPERATION AND MAINTENANCE GUIDANCE FOUND IN THE LATEST TM OR TB.

HMMWV, FMTV AND MRAP USERS MUST PERFORM THE FOLLOWING GRS PMCS...

Check the harness, tail strap, sling seat, mount retractor, turret brackets, buckles and clasp ends for security, damage and proper operation. If the harness, tail strap, or sling seat assembly is missing, frayed, damaged, or doesn't fasten, adjust, retract or operate as designed, the vehicle is **NMC**.

Check the spring-loaded pin, D-ring, and quick-release for bends or cracks, too. If you find bends or cracks, your vehicle is **NMC**.

And finally, if you see that the spring-loaded pin doesn't fully seat into the female buckle, your vehicle is **NMC**.

Make sure you have and use a working GRS on your vehicle. Otherwise, you could be badly hurt or killed if there's a rollover accident.

## Which GRS is Best?

THE ONLY APPROVED GRS DEVICES ARE THOSE CERTIFIED BY TACOM. MAKE SURE YOU USE THE RIGHT GRS FOR YOUR VEHICLE MODEL.

THAT ALLOWS YOU TO USE THE CORRECT LOWER RETRACTOR AND MOUNTING BRACKETS FOR YOUR VEHICLE.

MIXING OR MODIFYING PERSONAL SAFETY RESTRAINT SYSTEM KITS OR COMPONENTS PUTS YOU AT SERIOUS RISK.

THE ONLY APPROVED GUNNER'S RESTRAINT HARNESSES ARE NSN 4240-01-542-8160, AND FOR MRAP, NSN 2540-01-593-9739.



### Kits that contain GRS harness, NSN 4240-01-542-8160, are:

- Basic HMMWV gunner restraint kit, NSN 2540-01-559-1734
- M1114 up-armored HMMWV kit, NSN 2540-01-542-7412
- M1151A1 up-armored HMMWV kit, NSN 2540-01-542-1130
- M1167 TOW up-armored HMMWV (no kit is available, so use gunner restraint harness, NSN 4240-01-542-8160, and the lower retractor, NSN 2540-01-573-9444)
- Cougar (all models) kit, NSN 2540-01-542-7412
- PLS (base) and HEMTT (base/A1/A2), NSN 2540-01-582-5139
- FMTV long-term armored strategy (LTAS) kit, NSN 2540-01-571-8576
- FMTV low signature armored cab (LSAC) kit, NSN 2540-01-569-6578
- FMTV RADIANT armored crew kit (RACK) kit, NSN 2540-01-569-8599 (unarmored trucks can also use the RACK design)

### Kits that contain GRS harness, NSN 2540-01-593-9739, are:

- MRAP and route clearance models: CAIMAN (all variants), JERRV, M-ATV, MaxxPro Ambulance, MaxxPro Cat I, MaxxPro Dash, MaxxPro MEAP, MaxxPro Plus, M1227 Panther, RG-31A0 (MKI, MKII, MKIII), RG-31A1 (MKV), RG-31A2 D04, RG31A2 (MKVE), RG31A2 RTR and RG33 (all models) kit, NSN 2540-01-597-6306.

AGAIN, **DO NOT** MIX OR MODIFY COMPONENTS OF GRS KITS. THAT'S **NOT** AUTHORIZED!

COMMERCIALY AVAILABLE GRS ARE **NOT** AUTHORIZED FOR USE IN ARMY VEHICLES, **EITHER**.

REPLACE ANY UNAUTHORIZED GRS WITH THE AUTHORIZED VERSION.



## Deadline Guidelines

THE OFFICIAL GUIDANCE ON DEADLINING IS THIS...

The absence of a TACOM-approved GRS in wheeled vehicles with turrets will subject that vehicle to an immediate administrative deadline. However, unit commanders can "circle X" the vehicle fault if the gunner's position is not manned during a mission. If the gunner's position is manned, commanders or their representatives can make the decision to authorize vehicle dispatch based on urgency of mission requirements.



## Reinforce Rollover Rehearsals

COMMANDERS, MAKE SURE YOUR SOLDIERS ARE TRAINED AND REHEARSED IN ROLLOVER AND EGRESS DRILLS.

THE GRS PROVIDES MAXIMUM PROTECTION WHEN SOLDIERS ARE TRAINED AND READY FOR A ROLLOVER.



**Editor's Note:** Remember, the GRS only prevents ejection. It won't pull the gunner back into the vehicle!

PS END

# FIND THE MISSING FILTER O-RINGS

PAYS YER MONEY AND TAKES YER CHANCE!

THERE'S GOT TO BE A BETTER WAY TO FIND THE O-RINGS WE NEED FOR THE HYDRAULIC FILTER!

5 DARTS FOR \$1.00

Dear Half-Mast,

We need your help with the hydraulic filter shown as Item 69 in Fig 384 of the HEMTT -A4 IETM, TM 9-2320-326-14&P (EM 0288). The figure breaks out the filter element, but doesn't show the O-rings that are required for service. How can we get them?

SFC D.B.

Dear Sergeant D.B.,

The O-rings you need come with NSNs 5331-01-618-2067 and 5331-00-172-7223. TACOM LCMC will include them in a future revision to the HEMTT -A4 IETM.

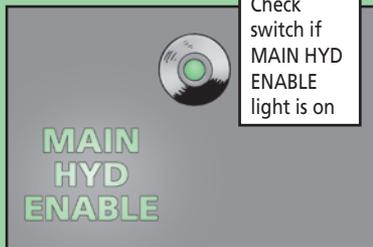
*Half-Mast*

# SWITCH OFF HYDRAULIC ENABLE SWITCH

Operators, make sure you turn off your vehicle's hydraulic enable switch and move the rotary selection switches to the OFF position after the day's run.

If you leave them on, the hydraulic manifold solenoids burn out. That means you'll lose auxiliary capabilities such as pumping, winching, crane operations, and tow cylinder functions.

So make sure you turn the switches off. By the way, you'll know the switches are still on if you see the MAIN HYD ENABLE light illuminated on the dash inside the cab.

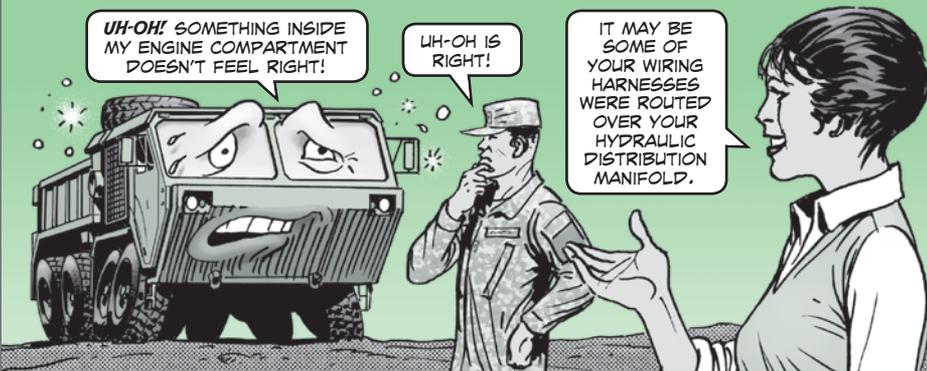


# MISROUTED WIRING WARRANTS WARRANTY

UH-OH! SOMETHING INSIDE MY ENGINE COMPARTMENT DOESN'T FEEL RIGHT!

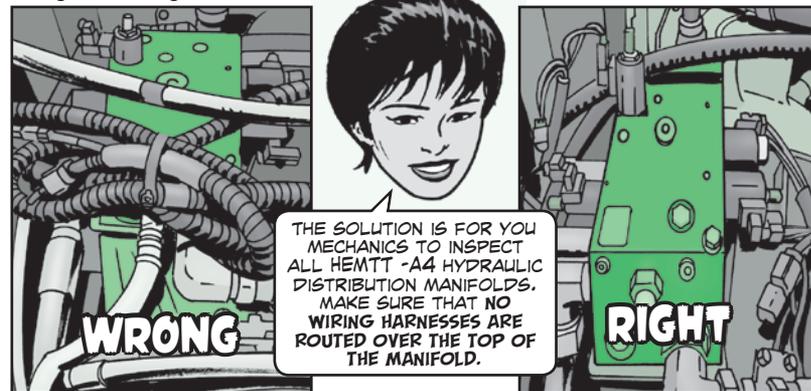
UH-OH IS RIGHT!

IT MAY BE SOME OF YOUR WIRING HARNESSES WERE ROUTED OVER YOUR HYDRAULIC DISTRIBUTION MANIFOLD.



**UH-OH!** That's what we sometimes hear when a mistake is made. But it's not until the mistake is found that we can focus on the solution.

A manufacturing error resulted in the wiring harnesses being routed directly across the top of the hydraulic distribution manifold in some HEMTT -A4 trucks. Routed this way, the wiring harness might start a fire.



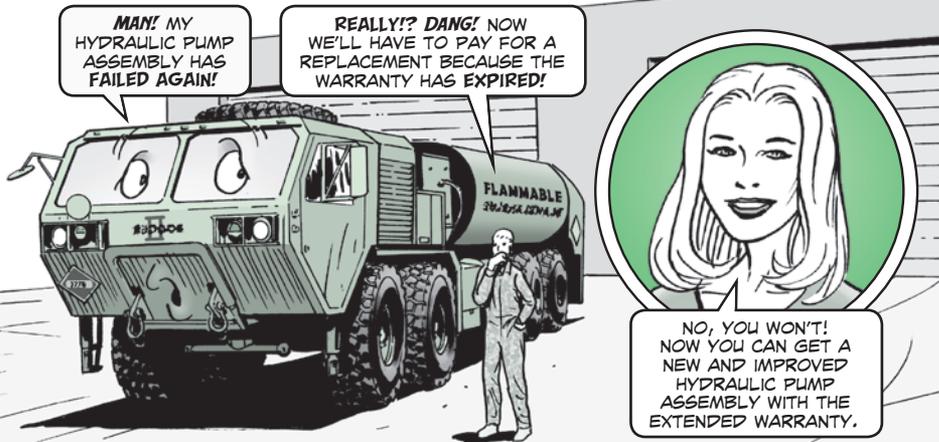
THE SOLUTION IS FOR YOU MECHANICS TO INSPECT ALL HEMTT -A4 HYDRAULIC DISTRIBUTION MANIFOLDS. MAKE SURE THAT NO WIRING HARNESSES ARE ROUTED OVER THE TOP OF THE MANIFOLD.

If you find any, contact Oshkosh Corporation to schedule the vehicle for repair. They're at: [WarrantyClaims@defense.oshkoshcorp.com](mailto:WarrantyClaims@defense.oshkoshcorp.com)

Oshkosh will provide the required parts and labor to fix the trucks at no cost to your unit. They'll repair the vehicles as part of a retrofit effort that includes rerouting the wiring harnesses.

Need more assistance? Contact your TACOM LCMC logistics assistance representative (LAR) or your state surface maintenance manager.

# FAILED HYDRAULIC PUMP ASSEMBLIES UNDER WARRANTY



**A** lot of hydraulic pump assemblies, NSN 4320-01-579-1044, on the M978A4 HEMTT have failed. That's not good news because the hydraulic pump assembly is a vital and expensive component of tanker fueling operations. If it fails, fueling operations come to a screeching halt!

But here's some good news. Units can get a new and improved hydraulic pump assembly, NSN 4320-01-618-6603, at no cost through the Oshkosh warranty claim process.

## Warranty Walk-thru

In a nutshell, your unit will notify Oshkosh of the failed part, then Oshkosh will confirm it. Units are responsible for installing the replacement hydraulic pump assembly they get from the manufacturer.

Make sure TM 9-2320-326-14&P in IETM EM 0288 (Oct 08) is used to verify your M978A4 HEMTT's hydraulic pump assembly has failed. Your unit can request the replacement pump by emailing a warranty claim form to Oshkosh Corporation at:

[warrantyclaims@defense.oshkoshcorp.com](mailto:warrantyclaims@defense.oshkoshcorp.com)

Download a copy of the claim form at:

<https://tulsa.tacom.army.mil/SAFETY/?t=soum&f=OshkoshWarrantyClaimFrm.xlsx>

For accountability and tracking purposes, you must also send the warranty claim to TACOM LCMC's HEMTT equipment specialist, Jaime Albers, at:

[jaime.t.albers.civ@mail.mil](mailto:jaime.t.albers.civ@mail.mil)

## Warranty Window

The improved hydraulic pump assembly has a 12-month warranty that starts the day the pump is shipped to the warranty location.

And the old hydraulic pump assembly now has an extended warranty. The warranty for Active Duty units ends on 1 Sep 15. Because their fuel tankers aren't used as much, the warranty for National Guard and Reserve Components doesn't end until 1 Sep 17. Once the warranty expires, units will have to pick up the tab for replacements.

## Upcoming Update

The new and improved hydraulic pump assembly will be included in the next TM update.

Want more details about this issue? Eyeball TACOM Maintenance Information Message 14-004 online:

<https://tulsa.tacom.army.mil/SAFETY/message.cfm?id=MI14-004.html>

HMMWV...

# KEEPING WATER OUT OF TURRET



*Dear Mr. D.M.,*  
There is no tarp in the Army system made specifically for the M1151. However, NSN 2540-00-587-2532 brings a 12x7-ft tarp that can be strapped in place with some bungee cords. Or if your post has a canvas shop, get them to make you a cover.

*Half-Mast*

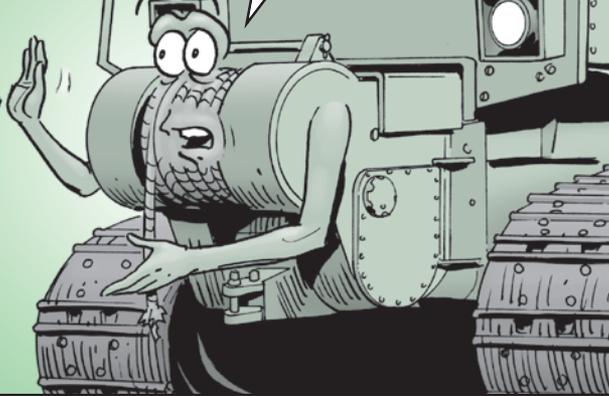


# FIXING REAR WINCH A CINCH

GREAT! YOUR WINCH CABLE IS BROKEN. THAT'S GONNA COST OUR UNIT A LOTTA DOUGH!

NOT SO FAST! YOU DON'T HAVE TO BUY A NEW CABLE ASSEMBLY.

FIXING IT IS A HECKUVA LOT CHEAPER!



A BROKEN OR DAMAGED REAR WINCH CABLE, NSN 4010-01-259-2713, IS A HEADACHE NOBODY NEEDS.

BUT IF THE DAMAGE IS NEAR THE END OF THE CABLE, YOU **MAY** BE ABLE TO FIX IT AND SAVE YOUR UNIT SOME **BIG BUCKS!**

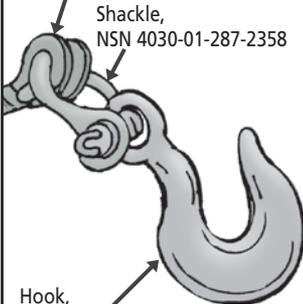
MAKE REPAIRS TO THE 200-FT LONG CABLE ASSEMBLY USING THESE PARTS...

Wire rope thimble, NSN 4030-00-266-0071

Shackle, NSN 4030-01-287-2358

Hook, NSN 4030-01-289-6202

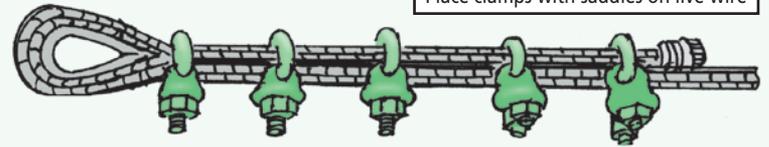
Wire rope clamp, NSN 4030-00-243-4438



Cut off the damaged end of the cable. Hold the cut end of the cable so the wires don't unravel. Wrap the end with a small piece of wire to keep it from unraveling.

Measure back six feet from the end of the cable. Bend the end back to that point and put a clamp around both lengths of cable. Make sure the clamp's saddle is on the live wire and tighten the clamp.

Place clamps with saddles on live wire



Continue adding clamps every six inches and tightening them. Be sure the saddles are on the live wire. And don't forget to put the thimble in place on the loop formed by bending back the cable.

When all the clamps are in place, go back and torque the nuts to 165 lb-ft.

Retorque the clamps after you've used the cable for the first time. Do it again before each use of the cable.

## Able Cable Roller

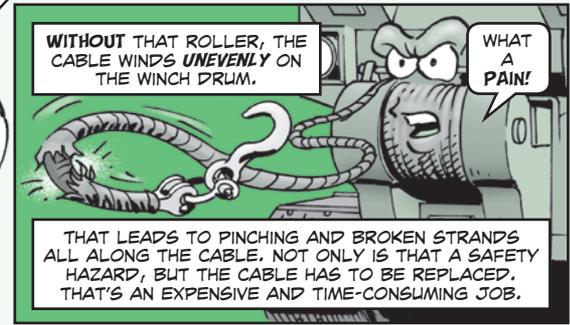
ANOTHER IMPORTANT WINCH CHECK IS TO MAKE SURE THE CABLE ROLLER IS IN PLACE AND WORKING.

WITHOUT THAT ROLLER, THE CABLE WINDS **UNEVENLY** ON THE WINCH DRUM.

WHAT A PAIN!

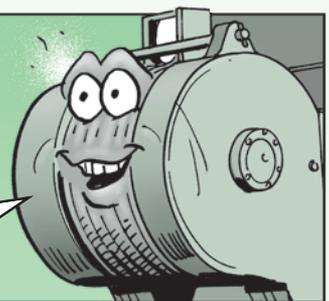
THAT LEADS TO PINCHING AND BROKEN STRANDS ALL ALONG THE CABLE. NOT ONLY IS THAT A SAFETY HAZARD, BUT THE CABLE HAS TO BE REPLACED. THAT'S AN EXPENSIVE AND TIME-CONSUMING JOB.

SO BEFORE EVERY MISSION, EYEBALL THE CABLE ROLLER. IF IT'S MISSING OR BENT OUT OF PLACE, REPORT IT TO YOUR MECHANIC.

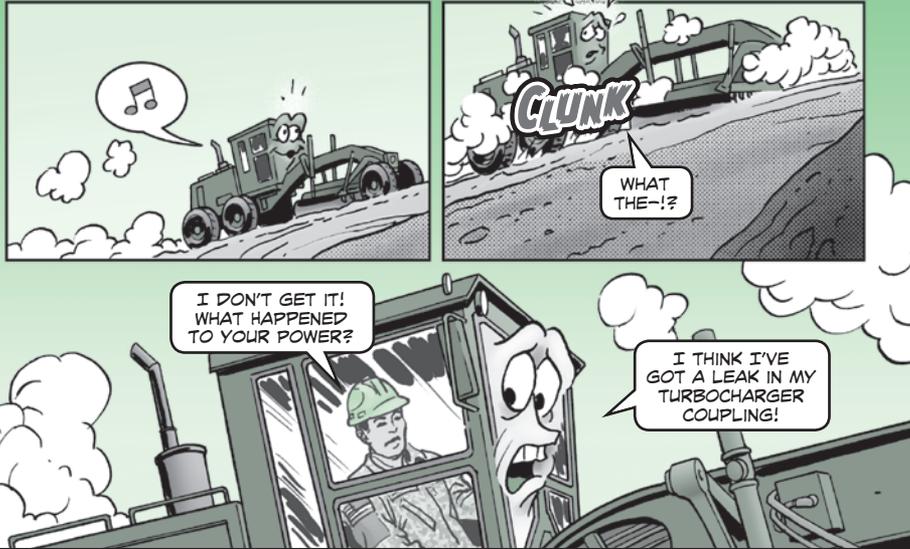


YOU WERE RIGHT. FIXING YOUR CABLE WAS REALLY EASY.

NOW THAT YOU'VE SAVED SOME MONEY, MAYBE YOU COULD GET SOME OIL TO CLEAN AND LUBE MY CABLE!



# FIX THAT SNEAKY COUPLING LEAK



**O**perators, loss of engine power will bring your road grader to a screeching halt. A lot of the time, the cause is a turbocharger coupling leak.

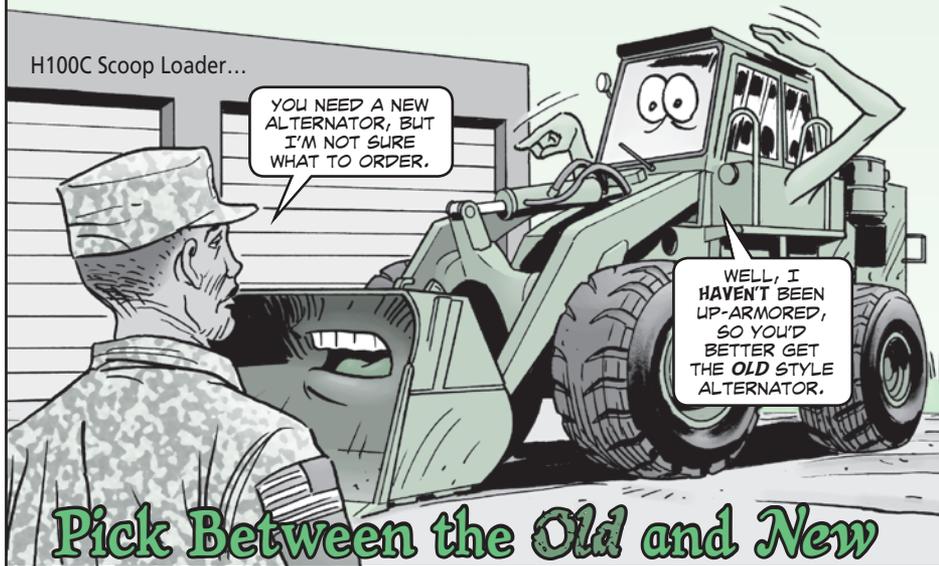
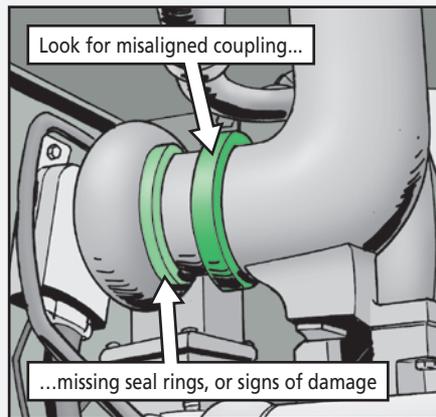
If the coupling is loose, misaligned, or its seal rings are missing or damaged, your grader will lose some turbo boost and may seem sluggish.

So eyeball the coupling for a bad connection to the muffler. Check for signs of leakage, such as carbon stains. Then look at the seal ring to see if it's missing, cracked, split or torn.

If you find any of these problems, tell your mechanic. He'll loosen the muffler-to-turbo connection and align the muffler with the coupling.

While he does that, he can check out the seal rings. If they're damaged, he'll replace them, including the packing and gaskets.

Once everything's OK, he'll tighten the connection and you're back in business.

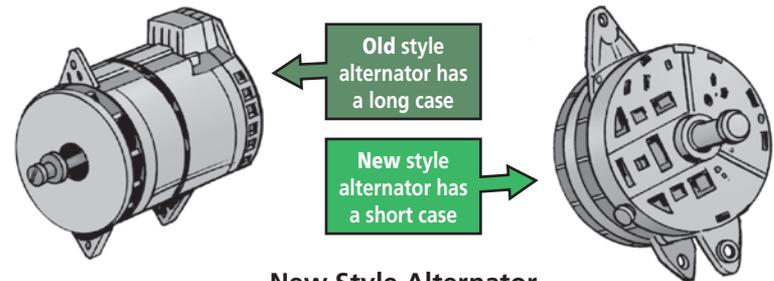


**T**he H100C 5-yd scoop loader has seen many years of Army service in locations all over the world. Since it was fielded in the 1970s, a lot of parts have been replaced—not always with the original components.

Alternators lead the list. Here are two of the most commonly used replacement alternators:

## Old Style Alternator

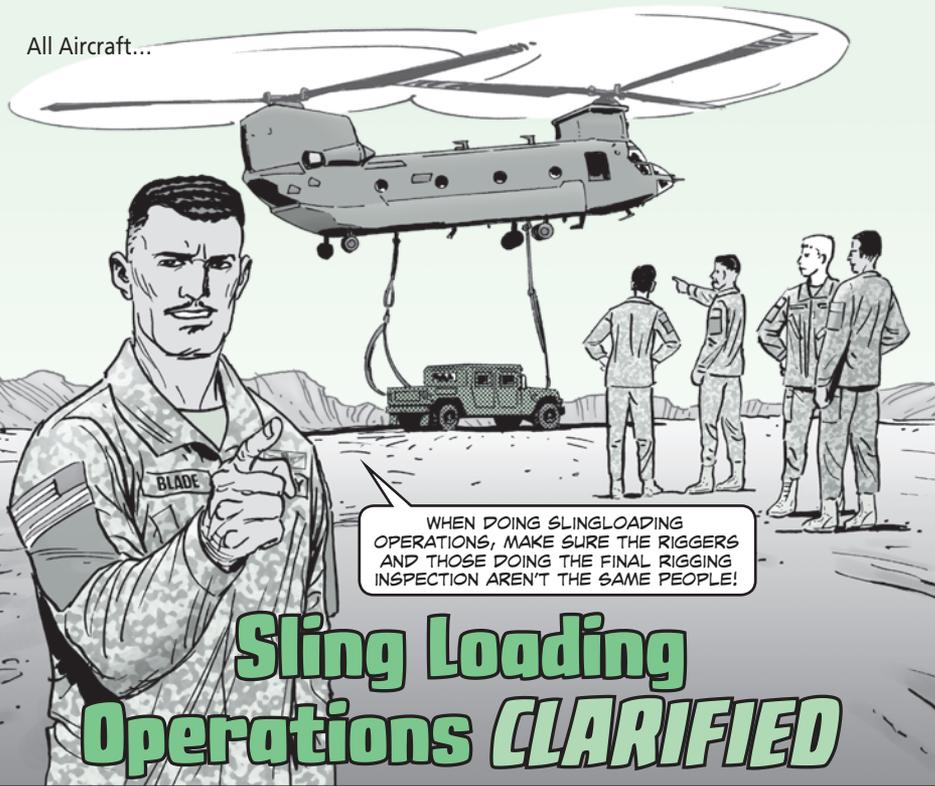
The "old-style" 50-amp alternator, NSN 2920-00-231-7270, is the typical one used for many years. It's the original alternator that came with the H100C and has a long case.



## New Style Alternator

The "new-style" 70-amp alternator, NSN 6115-01-440-7397, is the replacement used on many H100Cs the last few years. It's the one typically installed on loaders that have been up-armed for use in SWA and has a short case.

Before ordering a replacement alternator, check the defective alternator's data tag first. While the two alternators listed above are the most common, other models and styles may have been used as a result of field replacements. Those are also OK to use if you can find a replacement.



WHEN DOING SLINGLOADING OPERATIONS, MAKE SURE THE RIGGERS AND THOSE DOING THE FINAL RIGGING INSPECTION AREN'T THE SAME PEOPLE!

# Sling Loading Operations CLARIFIED

On Page 41 of PS 731 (Oct 13), we said that FM 4-20.198, *Multiservice Helicopter Sling Load: Single-Point Load Rigging Procedures* and FM 4-20.199, *Multiservice Helicopter Sling Load Dual-Point Load Rigging Procedures*, hadn't been converted to TMs. That's no longer true.

The FMs are now TM 4-48.10, *Multiservice Helicopter Sling Load: Single-Point Load Rigging Procedures*, and TM 4-48.11, *Multiservice Helicopter Sling Load Dual-Point Load Rigging Procedures*. You can find them on the APD website:

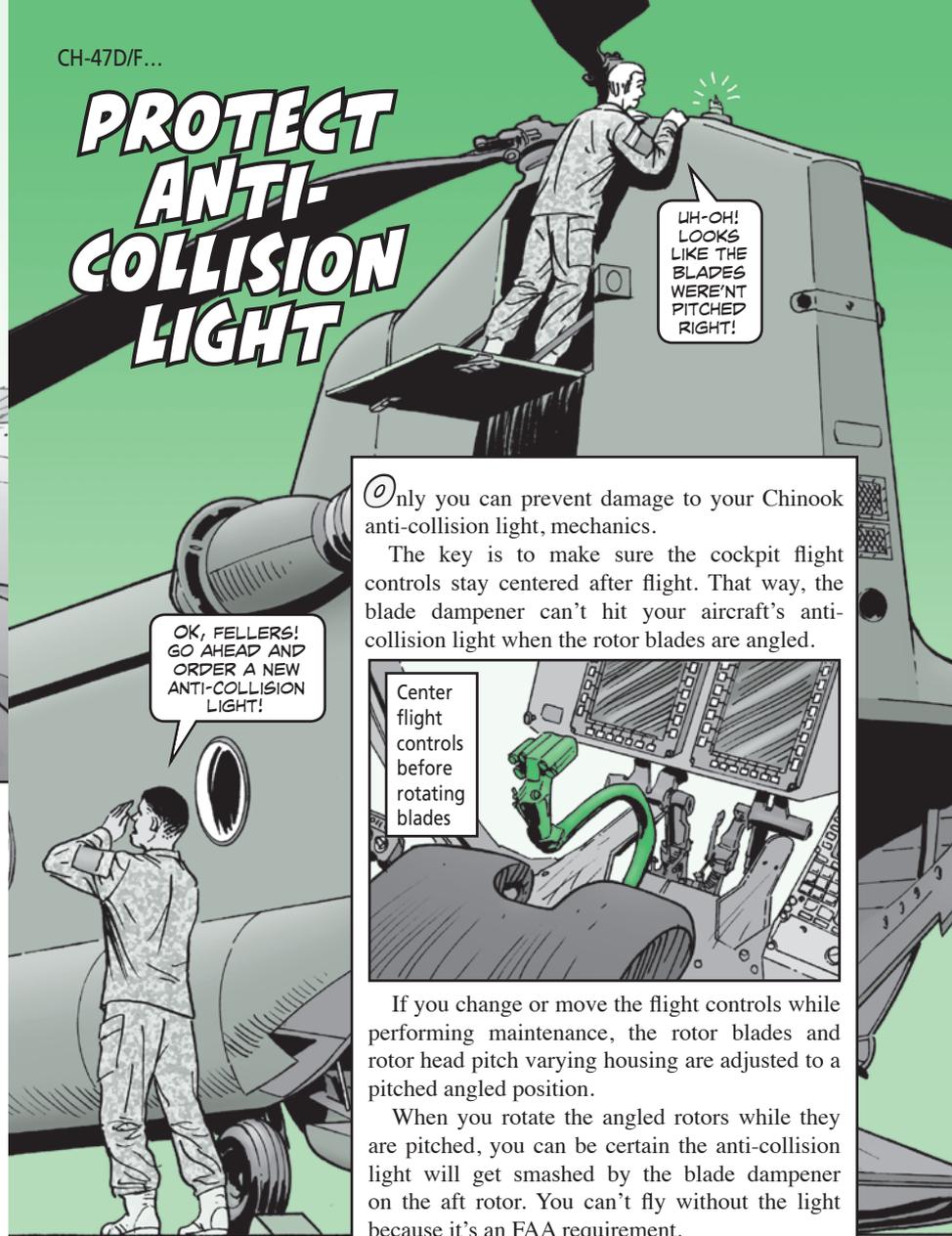
[http://armypubs.army.mil/doctrine/Active\\_TM.html](http://armypubs.army.mil/doctrine/Active_TM.html)

The article also stated that all loads must be rigged by an air assault-qualified person. That needs a little more clarification.

Rigging can be done by anyone the unit authorizes to rig the load. The final inspection must be done by someone who is air assault- or pathfinder-qualified or who is qualified through the sling load inspector certification course (SLICC). That person should **not** be involved in the original rigging.

Doing sling loading operations right means doing it by the book, not by the seat of your pants.

# PROTECT ANTI-COLLISION LIGHT

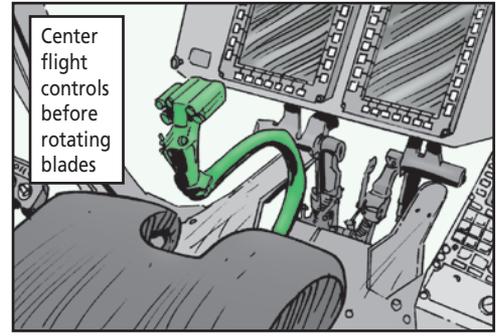


UH-OH! LOOKS LIKE THE BLADES WEREN'T PITCHED RIGHT!

OK, FELLERS! GO AHEAD AND ORDER A NEW ANTI-COLLISION LIGHT!

Only you can prevent damage to your Chinook anti-collision light, mechanics.

The key is to make sure the cockpit flight controls stay centered after flight. That way, the blade dampener can't hit your aircraft's anti-collision light when the rotor blades are angled.



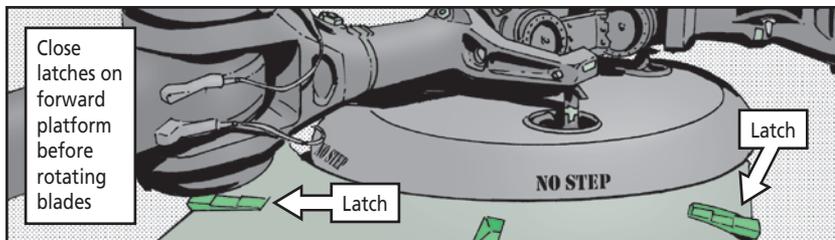
If you change or move the flight controls while performing maintenance, the rotor blades and rotor head pitch varying housing are adjusted to a pitched angled position.

When you rotate the angled rotors while they are pitched, you can be certain the anti-collision light will get smashed by the blade dampener on the aft rotor. You can't fly without the light because it's an FAA requirement.



The anti-collision light can be seen with night vision goggles (NVG) and can be switched between NVG-capable and normal operation. The normal mode is used around airfields without NVG operations and switches to NVG when the situation requires it. Replacing a broken light will take a \$3,000 bite out of your unit's pocket.

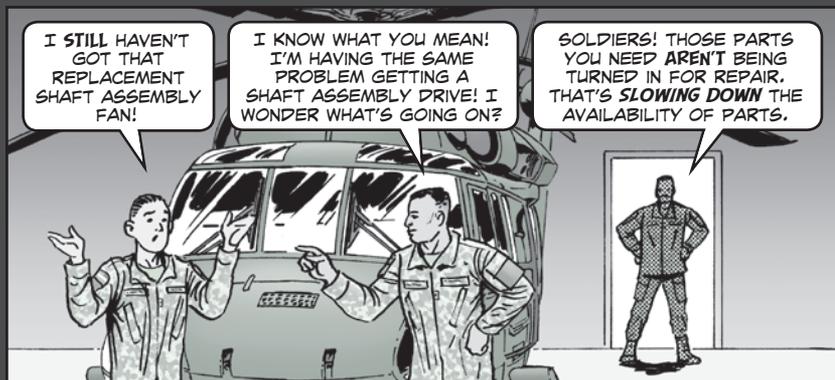
On the other end of the aircraft, the forward rotor's blade cuff can smash into the forward maintenance platform latches if they are left open.



Save yourself unnecessary maintenance repairs. Always check the clearance of the forward and aft rotors before the flight controls are moved from the centered position during maintenance. Never rotate the blades until the controls are centered.

PS END

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

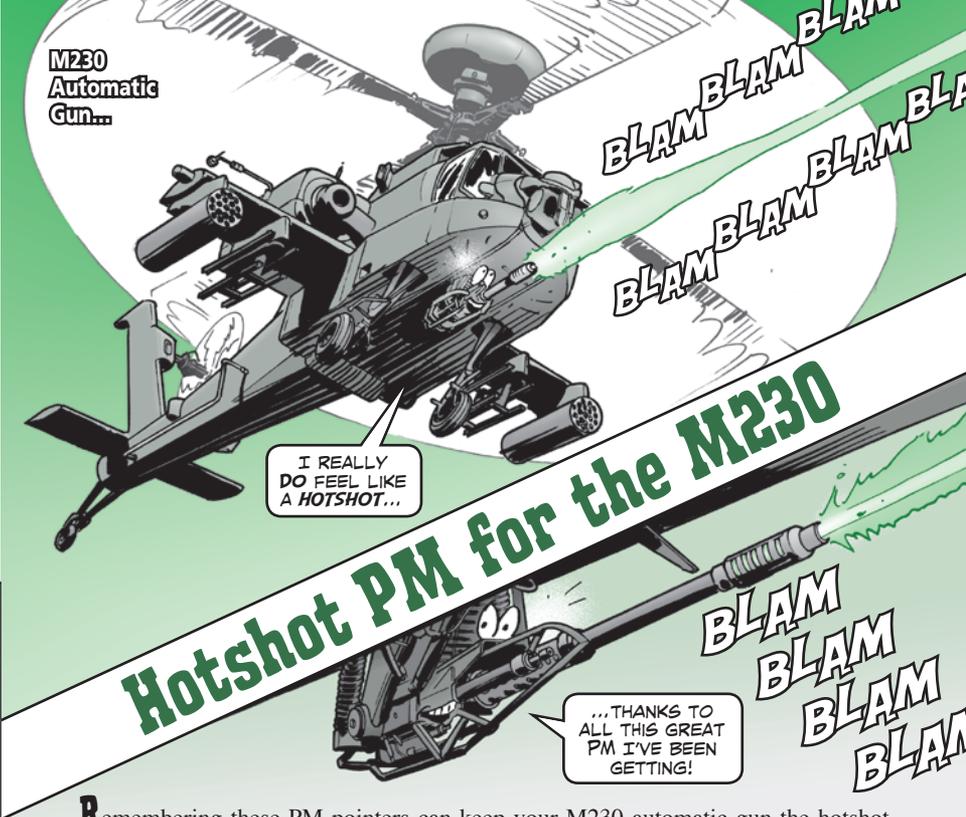


## RETURN CRITICAL ASSETS FOR REPAIR

Mechanics, maintenance and overhaul programs only work if you send in unserviceable parts for repair.

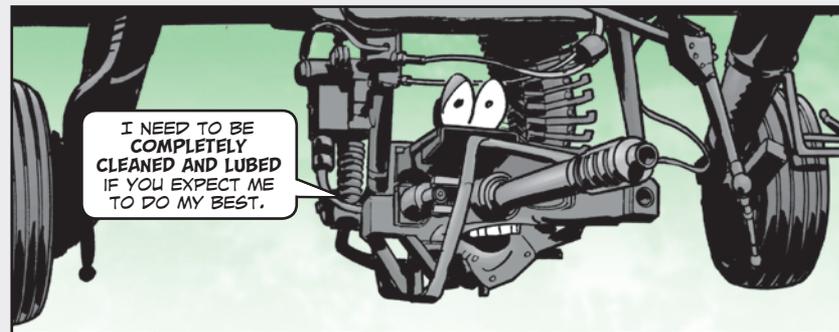
If you have an unserviceable shaft assembly fan, NSN 1615-01-158-9517, or a shaft assembly drive, NSN 1615-01-158-9522, turn it in ASAP. The need for these items is critical. If units don't turn them in, they won't be in the supply system when needed.

So turn in those unserviceable parts without delay. If you do your part, the supply system can, too.

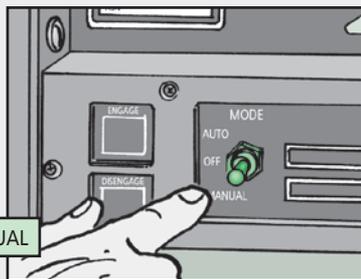


Remembering these PM pointers can keep your M230 automatic gun the hotshot weapon it deserves to be.

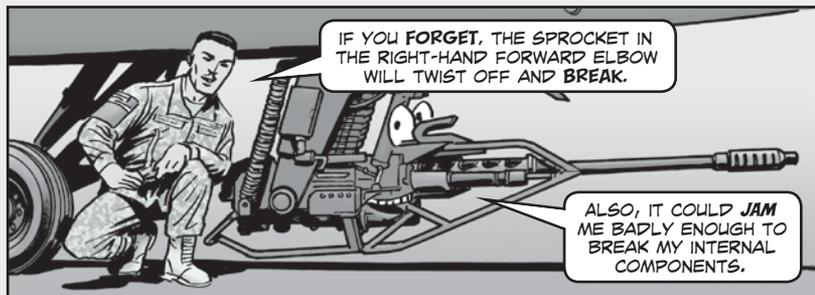
Most problems with the M230 can be completely eliminated if you clean and lube the weapon like it says in the round- and time-dependent checks listed in IETM 1-1520-LONGBOW/APACHE for the AH-64D and E.



When loading ammo using the sideloader, use AUTOMATIC mode. MANUAL should be used only if AUTOMATIC fails to work. If you do have to use MANUAL, make sure to turn off the sideloader/magazine controller (S/MC) when you're done. Otherwise, the ammo handling system could be damaged.



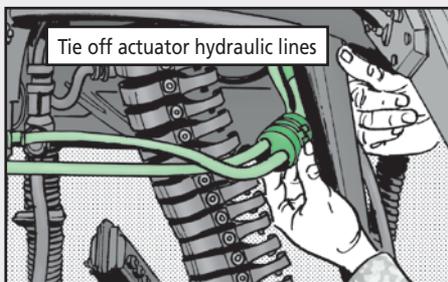
Turn SMC off when you're done side loading in MANUAL



IF YOU FORGET, THE SPROCKET IN THE RIGHT-HAND FORWARD ELBOW WILL TWIST OFF AND BREAK.

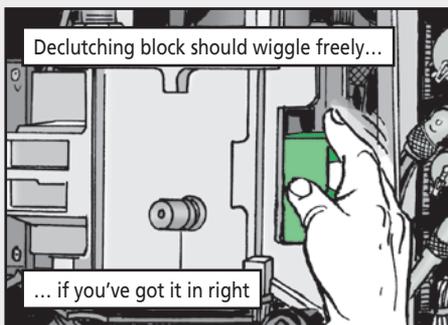
ALSO, IT COULD JAM ME BADLY ENOUGH TO BREAK MY INTERNAL COMPONENTS.

Before a mission, make sure the hydraulic lines for the turret actuator are properly positioned and secured. Improper positioning of the 45-degree angle fitting on the turret actuator or of the hose bumper can cause the hydraulic hoses to get tangled with the feed chutes. Follow the procedures in IETM 1-1520-LONGBOW.



Tie off actuator hydraulic lines

Be careful to put in the sideloader declutching block correctly. It's very easy to get it wrong and that bends the guide for the ammo trays. The guide should fit in the groove of the block and the block should be flush against the front plate. If the block can be wiggled freely, you've got it right. If the block won't move, you need to make sure the guide is positioned in the block groove.

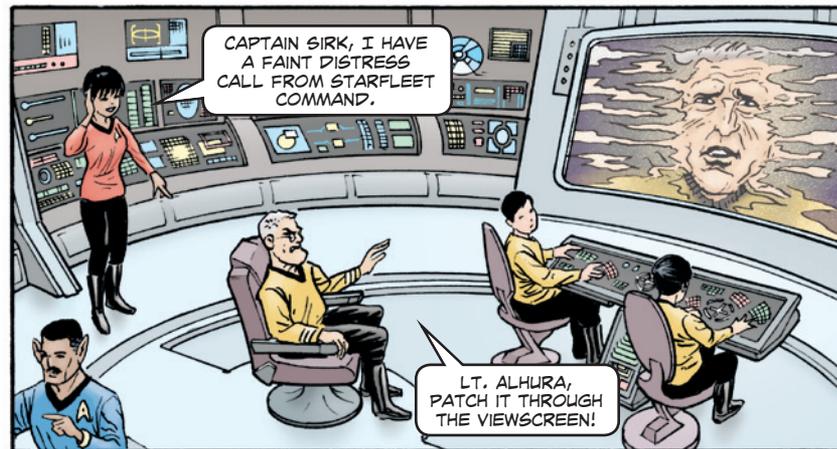
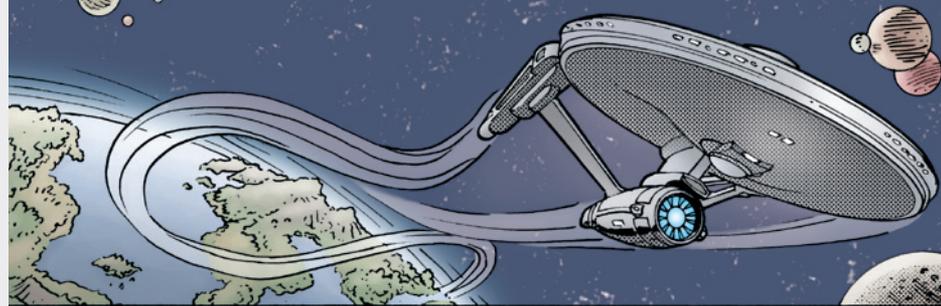


Declutching block should wiggle freely...

... if you've got it in right

# The Forgotten Mission of NoSurprise

STARDATE 24674.7... THE STARSHIP NOSURPRISE WARPS OUT OF PLANET ZELTAR'S ATMOSPHERE...



CAPTAIN SIRK, I HAVE A FAINT DISTRESS CALL FROM STARFLEET COMMAND.

LT. ALHURA, PATCH IT THROUGH THE VIEWSCREEN!

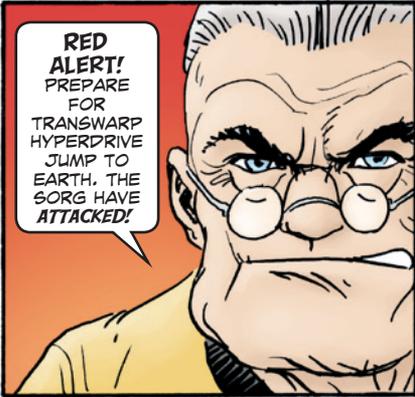


CAPTAIN SIRK, WE'VE BEEN ATTACKED BY THE SORG OMEGA ANTI-WEAPON! SYSTEMS ARE FAILING! YOU MUST RETURN TO EARTH TO STOP—

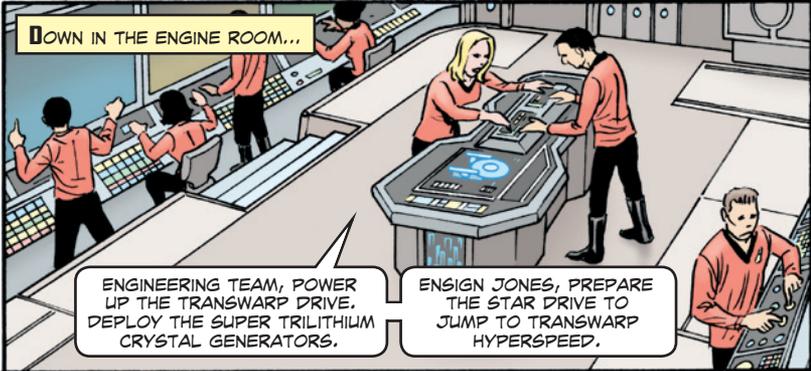


CAPTAIN!  
I LOST THE  
TRANSMISSION.

ALL FREQUENCIES IN  
THE GALAXY HAVE SUD-  
DENLY GONE SILENT.



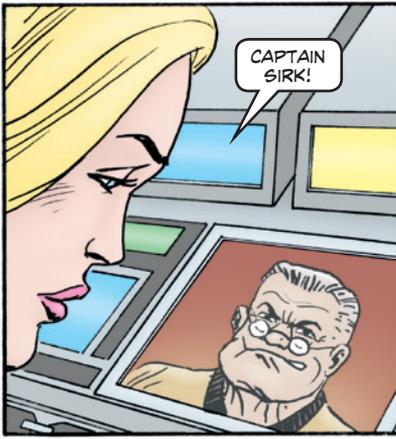
**RED  
ALERT!**  
PREPARE  
FOR  
TRANSWARP  
HYPERDRIVE  
JUMP TO  
EARTH. THE  
SORG HAVE  
ATTACKED!



DOWN IN THE ENGINE ROOM...

ENGINEERING TEAM, POWER  
UP THE TRANSWARP DRIVE.  
DEPLOY THE SUPER TRILITHIUM  
CRYSTAL GENERATORS.

ENSIGN JONES, PREPARE  
THE STAR DRIVE TO  
JUMP TO TRANSWARP  
HYPERSPEED.

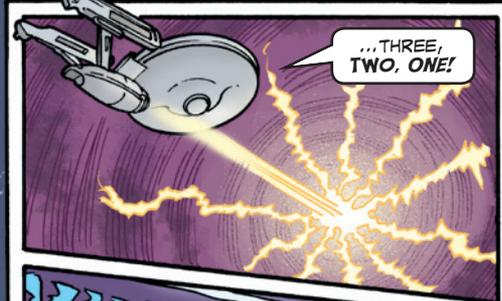
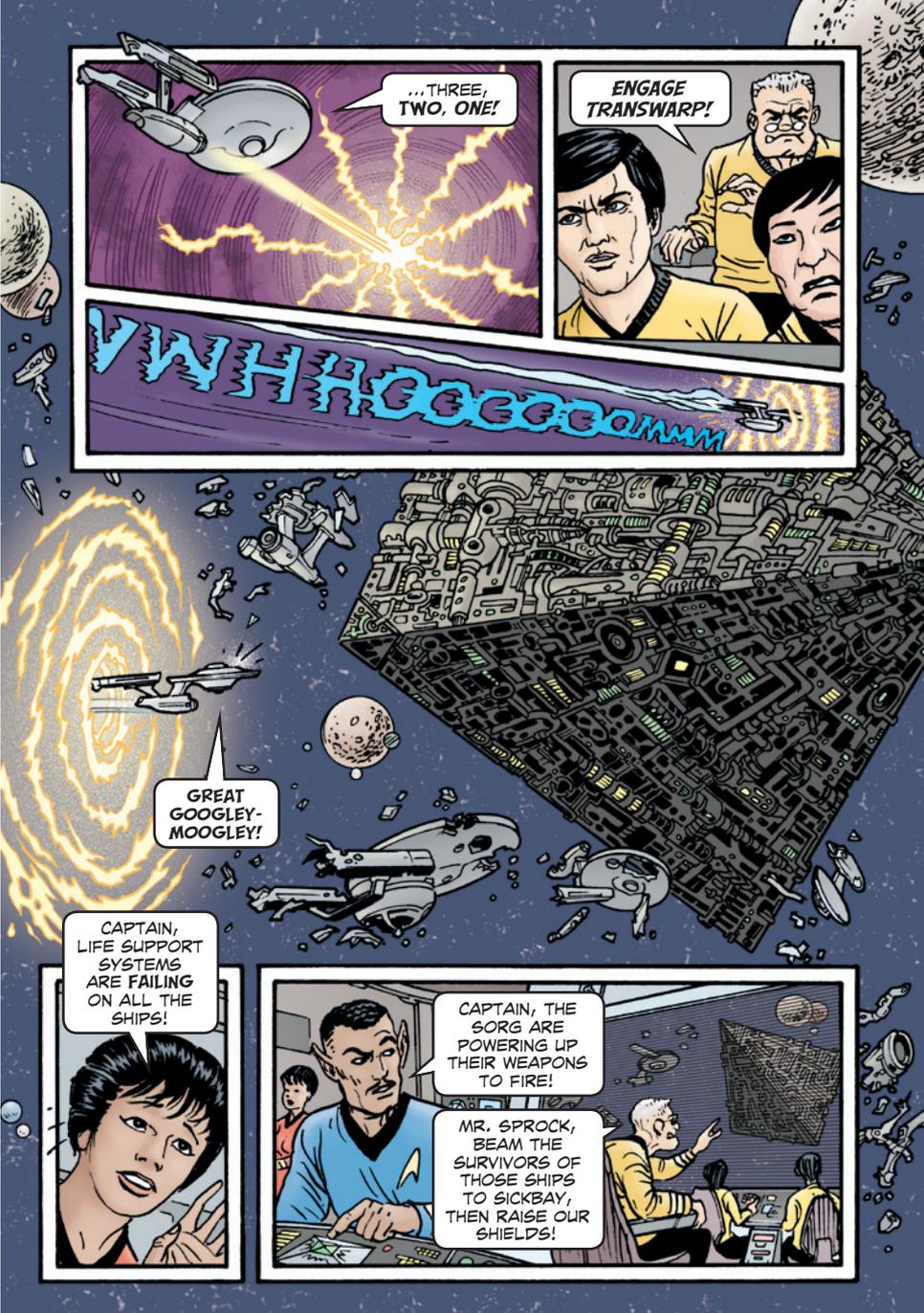


CAPTAIN  
SIRK!



WE'RE  
READY TO  
GIVE HER ALL  
SHE'S GOT!

CHECKOFF,  
TUSU, ON MY  
MARK...



...THREE,  
TWO, ONE!



**ENGAGE  
TRANSWARP!**



GREAT  
GOOGLEY-  
MOOGLEY!

CAPTAIN,  
LIFE SUPPORT  
SYSTEMS  
ARE FAILING  
ON ALL THE  
SHIPS!



CAPTAIN, THE  
SORG ARE  
POWERING UP  
THEIR WEAPONS  
TO FIRE!

MR. SPROCK,  
BEAM THE  
SURVIVORS OF  
THOSE SHIPS  
TO SICKBAY,  
THEN RAISE OUR  
SHIELDS!



TUSU! CHECKOFF! FIRE ALL LASERS AND PROTON TORPEDOES, NOW!



OUR WEAPONS ARE DOWN, SIR. WE'RE LOSING POWER!



SCANS SHOW WE'VE BEEN HIT BY THEIR OMEGA DEVICE. ALL PM SYSTEMS ARE IN SHUTDOWN MODE.



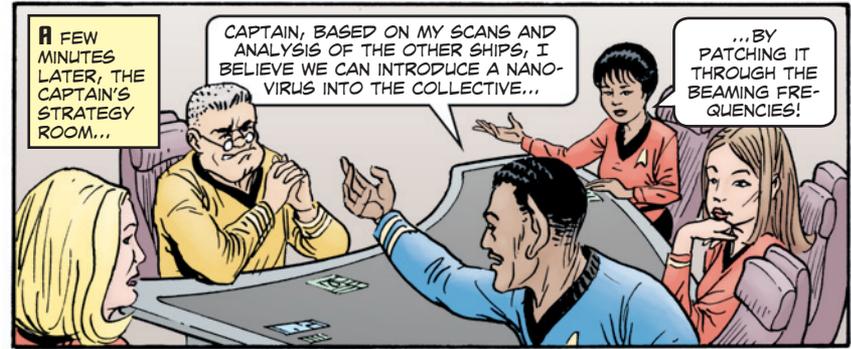
CAPTAIN, WE'RE BEING HAILED BY THE SORG SHIP.



ONSCREEN, ALHURA.

GAH!

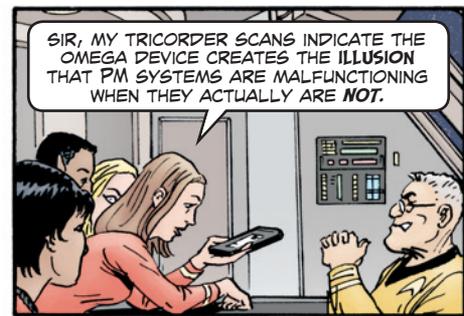
RESISTANCE IS FUTILE. YOUR SHIPS AND PM SYSTEMS ARE DESTROYED. WE WILL ASSIMILATE YOU INTO OUR COLLECTIVE. YOU HAVE ONE HOUR TO SURRENDER!



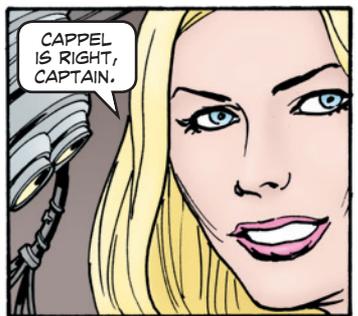
A FEW MINUTES LATER, THE CAPTAIN'S STRATEGY ROOM...

CAPTAIN, BASED ON MY SCANS AND ANALYSIS OF THE OTHER SHIPS, I BELIEVE WE CAN INTRODUCE A NANO-VIRUS INTO THE COLLECTIVE...

...BY PATCHING IT THROUGH THE BEAMING FREQUENCIES!



SIR, MY TRICORDER SCANS INDICATE THE OMEGA DEVICE CREATES THE ILLUSION THAT PM SYSTEMS ARE MALFUNCTIONING WHEN THEY ACTUALLY ARE NOT.



CAPPEL IS RIGHT, CAPTAIN.



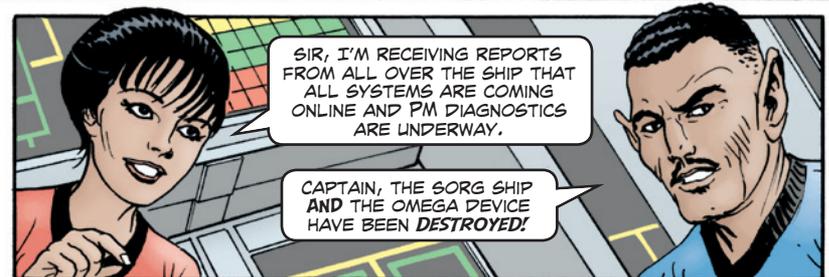
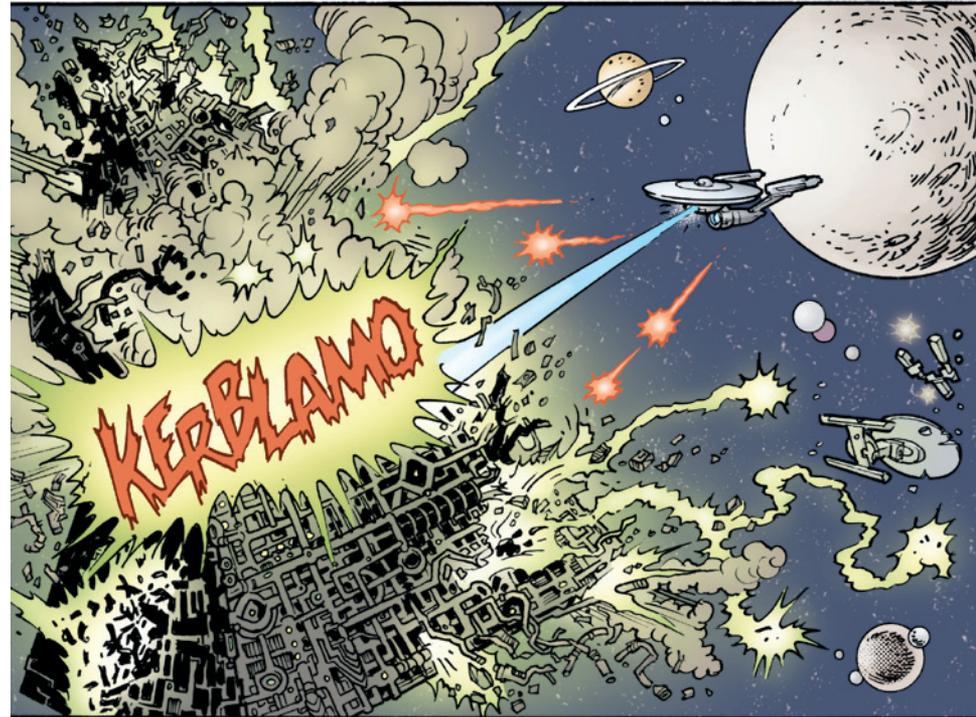
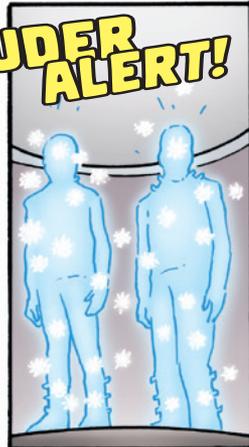
WHEN WE TRIED TO DEPLOY OUR WEAPONS, I GOT MESSAGES SAYING 'TRILITHIUM DEPLETED; ENGINE POWER AT 40 PERCENT.' ALL SHIP DIAGNOSTICS SHOWED WARNINGS OF NO PM.



OK! LOOKS LIKE WE'VE GOT A SOLUTION.



LET'S TAKE OUT THOSE SORG!





ALHURA,  
OPEN HAILING  
FREQUENCIES.

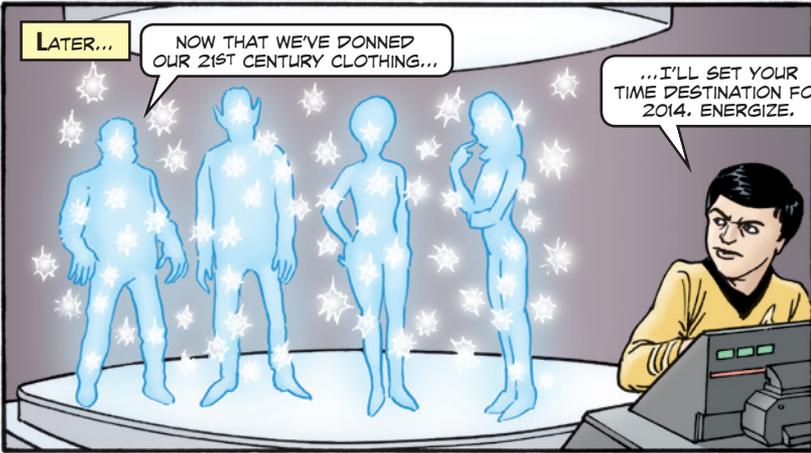
TELL HQ THE  
SORG HAVE BEEN  
DESTROYED.

AYE, AYE,  
CAPTAIN SIRK!

LATER...

NOW THAT WE'VE DONNED  
OUR 21ST CENTURY CLOTHING...

...I'LL SET YOUR  
TIME DESTINATION FOR  
2014. ENERGIZE.



THE SORG OMEGA  
DEVICE AND THE  
NOSURPRISE  
ARE FICTIONAL,  
BUT PREVENTIVE  
MAINTENANCE AND  
ITS RESULTS ARE  
**NEVER** FICTIONAL  
FOR EQUIPMENT.

FAILING TO DO PM  
IS LIKE INTRODUCING  
A **VIRUS** INTO YOUR  
EQUIPMENT. THINGS  
START FAILING FAST  
AND EQUIPMENT  
MALFUNCTIONS.

THE END  
COMES QUICKLY  
WHEN PM IS AN  
AFTERTHOUGHT.  
THAT'S **NO  
SURPRISE.**

IGNORING PM  
IS LIKE **KILLING**  
YOUR OWN  
EQUIPMENT.

**PROGRAM  
YOURSELF TO  
TAKE IT  
SERIOUSLY.**



Avenger Missile System...

# Pull Some Prime PPU PM



HERE ARE SOME  
PPU TIPS FROM FT  
BLISS THAT WILL  
HELP YOUR AVENGER!

Dear Editor,

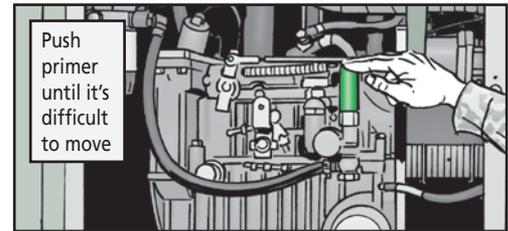
If you operate Avengers in cold weather, it can be difficult to fire up the primary power unit (PPU).

Some Soldiers may not be aware that you can prime the PPU to make it easier to start. Just keep pushing 'down on the primer, which is inside the PPU, until it's hard to move. Then start the PPU. It should fire up right away.

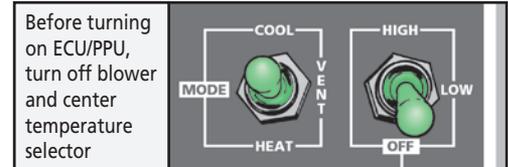
But before you turn on the environmental control unit (ECU)/PPU, make sure the blower is off and the temperature selector is centered between HEAT and COOL. Otherwise, the ECU/PPU won't start and you can mistakenly think you've got major problems.

One other ECU/PPU tip: Measure as you fill it with oil. It holds only 3½ quarts and it's easy to overfill. And that can lead to leaks. Pour in ½ quart and then measure. Keep doing that until oil reaches the FULL line.

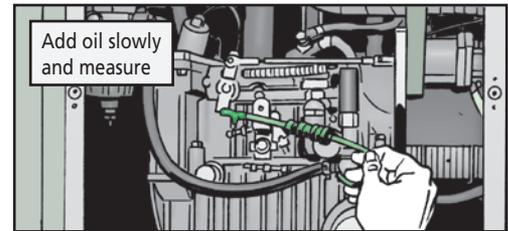
SPC William Rosson  
5/52 ADA  
Ft Bliss, TX



Push  
primer  
until it's  
difficult  
to move



Before turning  
on ECU/PPU,  
turn off blower  
and center  
temperature  
selector



Add oil slowly  
and measure

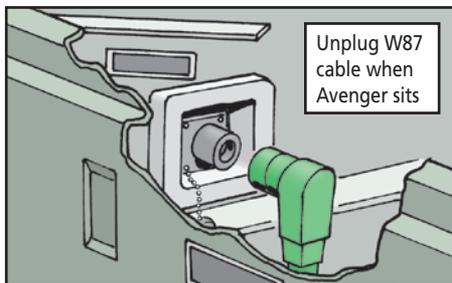
**Editor's note:** *Those are indeed prime PPU tips.*

# How YOU Can Help

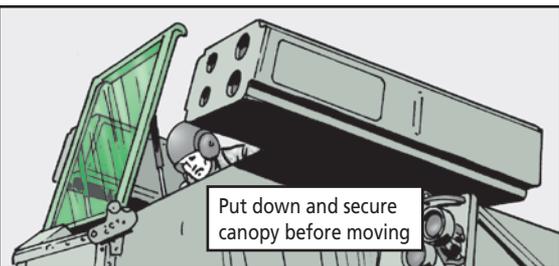


IF YOU EXPECT THE AVENGER TO HELP YOU FIGHT THE ENEMY, YOU NEED TO HELP IT BE IN THE BEST POSSIBLE SHAPE. HERE'S HOW YOU CAN HELP...

**Unplug the W87 cable when the Avenger is going to sit.** If the slave cable isn't unplugged while the Avenger sits for days, both the system and the truck batteries can drain. Next thing you know, you've got two sets of dead batteries. If you're not going to be operating for several days, pull the plug inside the vehicle. It takes only seconds.



Unplug W87 cable when Avenger sits



Put down and secure canopy before moving

**Before moving the turret or the Avenger, put down the canopy and secure it.** It takes so little force to break the canopy's hinges. Then your Avenger is NMC until your repairman replaces the hinges.

**Set azimuth brake for travel.** Otherwise, the turret will be spinning freely as you bounce down the road. Imagine how much damage that could cause!



HEY! YOU FORGOT TO SET MY AZIMUTH BRAKE. I'M OUTTA CONTROL HERE!

**Turn off the FLIR before you turn off system power.** If the FLIR is left on, the next time you start the Avenger a power surge could damage it. Sometimes the entire FLIR must be replaced. Double-check that the FLIR is off before starting the Avenger.

**Use the protective caps.** Too many units leave the FLIR and standard vehicle mounted launcher (SVML) wide open to rain and dirt. They can suffer thousands of dollars in damage that could be prevented with these inexpensive caps:

- FLIR protective cap, NSN 5855-01-441-3189. The cap for the new CMC FLIR is not available. Fashion a replacement out of styrofoam.
- Rear launcher caps, NSN 5340-00-855-7993
- Front launcher caps, NSN 5340-00-157-5624
- Caps for launcher pressure gauge holes, NSN 5340-01-348-6514
- Cryogenic port caps inside the SVLM, NSN 5340-01-466-1897

Caps for the launcher electrical ports no longer have an NSN, but you can order them on a DD Form 1348-6 using PN 495-500005 and CAGE 15090.

When your Avenger is going to sit in the motor pool, install the SVML caps from **inside** the launcher. That way they won't fall out and disappear. But in the field, install them from **outside** so they can blow off if you forget to remove them for firing.

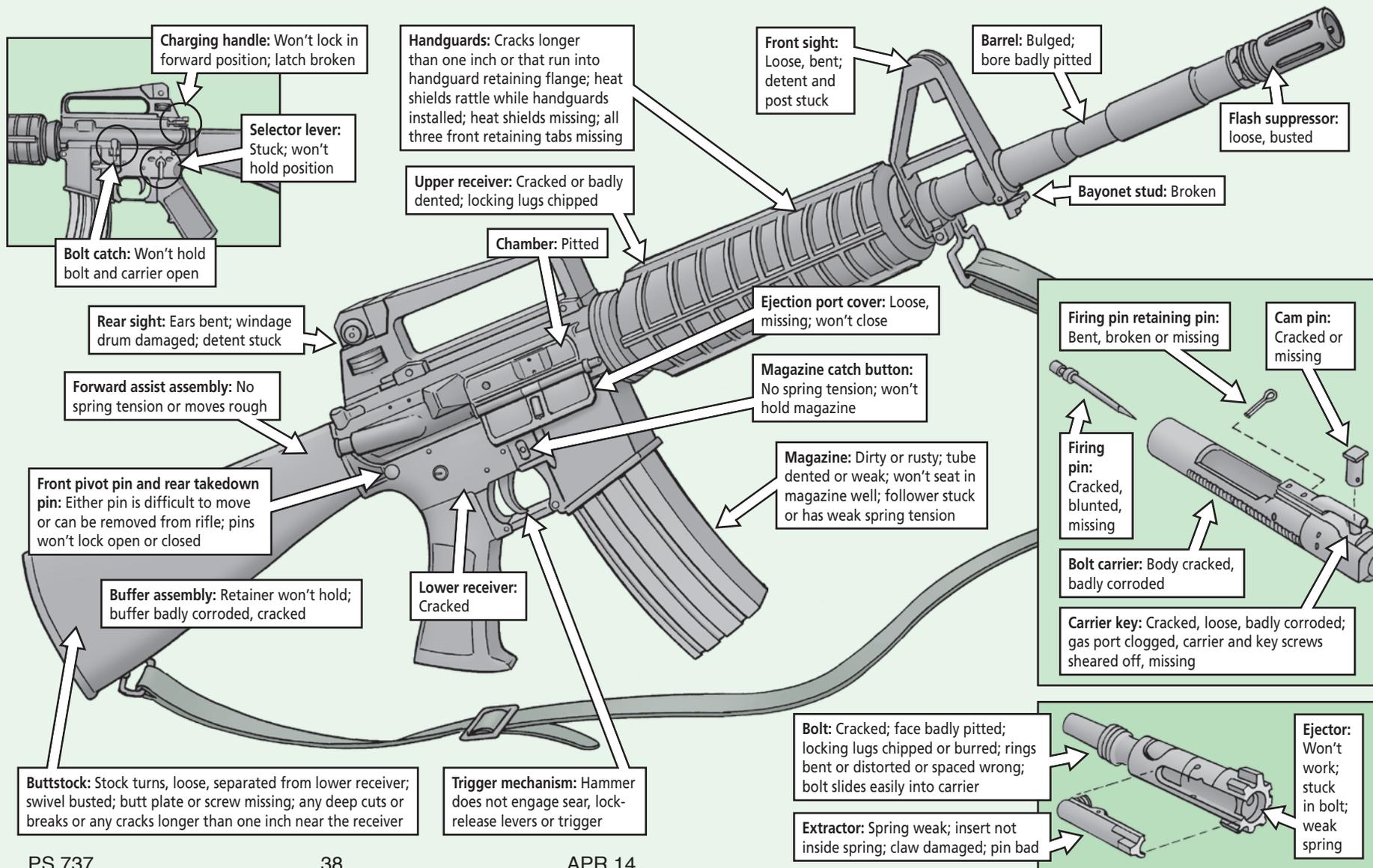
The bustle box is a good place to store the caps.



**Repairmen, remember to disconnect the W80 cable before removing the turret.** If you forget, get ready to explain to your CO why that expensive cable was ripped out.

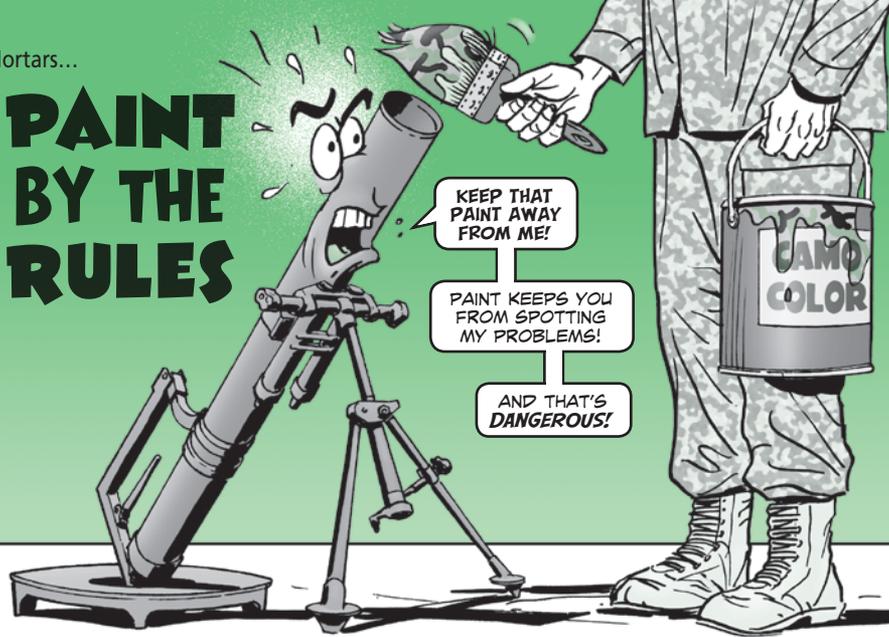
# BE YOUR OWN INSPECTOR

When you check out your M16 rifle or M4 carbine, look for these problems...



Mortars...

# PAINT BY THE RULES



KEEP THAT PAINT AWAY FROM ME!

PAINT KEEPS YOU FROM SPOTTING MY PROBLEMS!

AND THAT'S DANGEROUS!

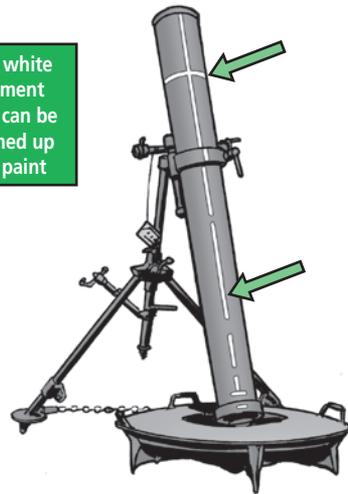
Some mortar units are painting their mortars, usually with camouflage colors. That's not a good idea.

Paint can make it hard to accurately inspect the mortar for problems. You could end up firing a mortar that's unsafe for firing.

The only painting allowed is what's specifically mentioned in the field maintenance sections of the mortars' TMs. For example, if the white lines used for alignment on the M120A1 mortar are chipped or faded, you can touch them up following the instructions in WP 0035-4 of TM 9-1015-256-13&P (Aug 12).

Otherwise, leave the paint brush at home.

Only white alignment lines can be touched up with paint



If you have any mortar questions, call DSN 786-1220, (586) 282-1220, or email: [usarmydetroit.tacom.mbx.ilsc-mortar-systems@mail.mil](mailto:usarmydetroit.tacom.mbx.ilsc-mortar-systems@mail.mil)

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MK 19 Machine Gun...

# COEI Items Missing from TM



WAIT A DARNED MINUTE! WHERE ARE MY SIGHT BRACKET AND FEED THROAT?!

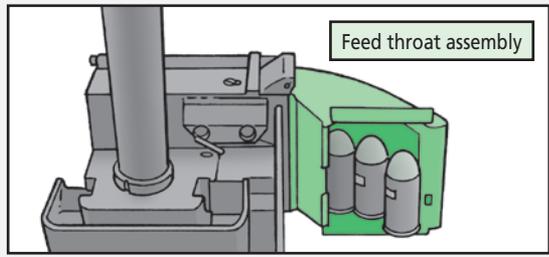
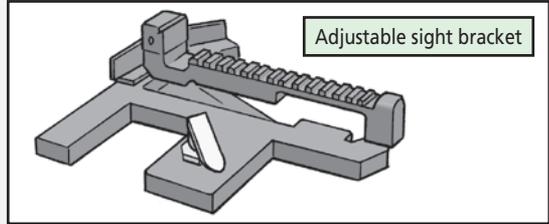
UH-OH. I HAVEN'T BEEN PAYING ATTENTION TO THEM!

Dear Editor,  
MWO 9-1010-230-50-1 added an adjustable sight bracket, NSN 1240-01-515-3767, to the MK 19 machine gun. But the bracket was never added to the components of end item (COEI) in TM 9-1010-230-10.

The feed throat assembly, NSN 1010-01-149-5468, is also not listed in the COEI.

Both these parts are required for the MK 19 to function, but because they're not listed as COEI, units aren't keeping track of them. They end up lost. The bracket costs \$652 to replace and the feed throat \$226.

I suggest that units treat the bracket and feed throat as COEI and start accounting for them. I've submitted a DA Form 2028 to have them officially added to the COEI.



**Editor's note:** It could be some time before the TM is revised, so units can save some money by writing in the items on WP 0040-2.

SSG Michael Blaz  
340th BSB  
CAARNG

[Click here for a copy of this article to save or email.](#)



I'M NOT GONNA STOP RUNNING UNTIL YOU AGREE TO DROP BOTH MY CHARGING HANDLES!

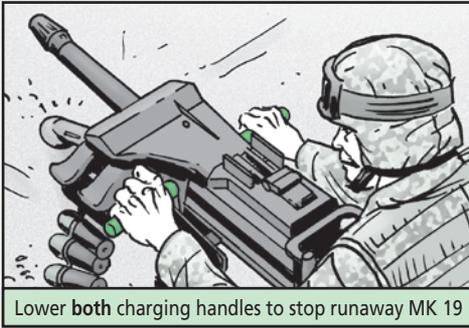
DROPPING JUST ONE HANDLE CAN DAMAGE ME!

## The Rundown on Stopping Runaways

Both the MK 19 machine gun's TM 9-1010-230-10 and -23&P say the way to stop a runaway MK 19 is to lower one of the charging handles.

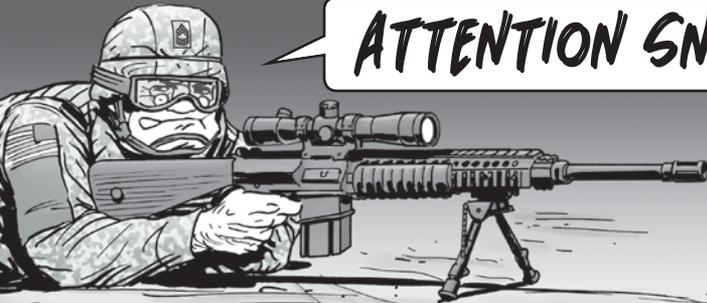
Unfortunately, that method can damage the bolt, charger housing or charger assembly. So the most effective and safest way to stop a runaway is to lower **both** charging handles. Also lower both charging handles while doing the function test during PMCS.

One way to definitely not stop a runaway MK 19 is trying to break the ammo belt. That can seriously injure your hands.



Lower **both** charging handles to stop runaway MK 19

## ATTENTION SNIPERS!



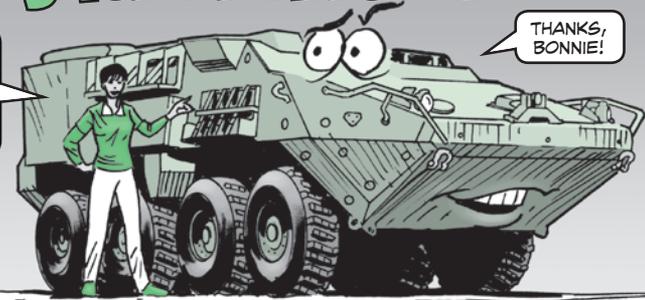
IF YOU USE THE XM107 LONG RANGE SNIPER RIFLE OR THE M110 SEMIAUTOMATIC SNIPER SYSTEM, LISTEN UP!

All XM107s should have been converted to the M107 by now. If you still have an XM107, turn it in ASAP. An XM107 is stamped XM107. If it has been upgraded, the X will be lined out.

All M110s with serial numbers below 1000 should have had their trigger assemblies replaced. If yours hasn't, turn it in. If you're not sure if the trigger has been replaced, contact TACOM's David Tipp at DSN 786-1256, (586) 282-1256, or email: [david.i.tipp2.civ@mail.mil](mailto:david.i.tipp2.civ@mail.mil) You can also get turn-in instructions for both systems by contacting Mr. Tipp.

## PM Strikes Down Stryker Problems

LITTLE PROBLEMS WON'T BECOME BIG PROBLEMS IF YOU REMEMBER A BIT OF PM ON YOUR M1135 NBCRV STRYKER.



THANKS, BONNIE!

**Fight moisture.** If you leave your Stryker shut up for weeks in high humidity areas, you'll find a nasty situation when you open it back up. Mildew can quickly take over and create your worst cleaning nightmare. And corrosion gets a chance to do major damage, too.

The best way to fight moisture is to open up your NBCRV Stryker at least weekly and run the air conditioning. That will dry out most moisture.

Some units take the extra precaution of leaving a container of dessicant out of the way inside the Stryker. Dessicant costs just a few dollars, but can save you lots of work and repair. Remember dessicant needs to be changed monthly to do its job.

See Pages 58-59 of PS 675 (Feb 09) for a complete list of desiccant NSNs:

<https://www.logsa.army.mil/psmag/archives/PS2009/675/675-58-59.pdf>



PHEW! WHAT IS THAT SMELL?!

WHADAYA EXPECT AFTER LEAVING ME SHUT UP FOR THREE WEEKS?

NOW I'VE GOT MAJOR MILDEW PROBLEMS!

**Use the TM's PMCS checklist when checking fluids.** There are seven different fluid checks and it's easy to miss one unless you have the checklist in hand. The transfer case is missed often.

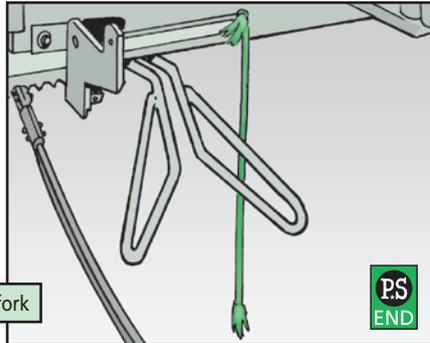
I KNOW YOUR FLUID CHECKS LIKE THE BACK OF MY HAND!



THEN WHY DID YOU MISS MY TRANSFER CASE LAST TIME? USE THE TM!



**Extend reach for sampling system.** Reaching the guide fork for the double wheel sampling system can be difficult even for average-sized Soldiers. For a shorter Soldier, it can be practically impossible. Make the job easier by tying a piece of 550 cord, NSN 4020-00-014-6699, to the release pin of the guide forks.



Tie cord to release pin to help with guide fork

PS  
END

## Got CBRN Questions? CBRN-IRC Has Answers

HELLO, CBRN-IRC? I'VE GOT A FILTER PROBLEM...

...AND I HEARD YOU'RE GOT THE GUYS TO GO TO.



If you have questions about any CBRN item or program, you need to get acquainted with the CBRN-Information Resource Center (IRC).

CBRN-IRC is the single point of entry for all CBRN questions for the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD). Its staff is ready to answer your questions 24/7.

To contact CBRN-IRC, email: [cbrn.irc@us.army.mil](mailto:cbrn.irc@us.army.mil)

You can also call (309) 782-7349, DSN 793-7349, or toll-free (800) 831-4408. In Germany, call 0130810280 and in South Korea, call 0078-14-800-0335.

## 60K-BTU IECU... COVER KEEPS IT CLEAN



Help your 60,000-BTU improved environmental control unit (IECU), NSN 4120-01-543-0741, withstand the elements. Order the new protective vinyl cover, NSN 4130-01-618-4810, and captured storage bag, NSN 8105-01-618-9916.

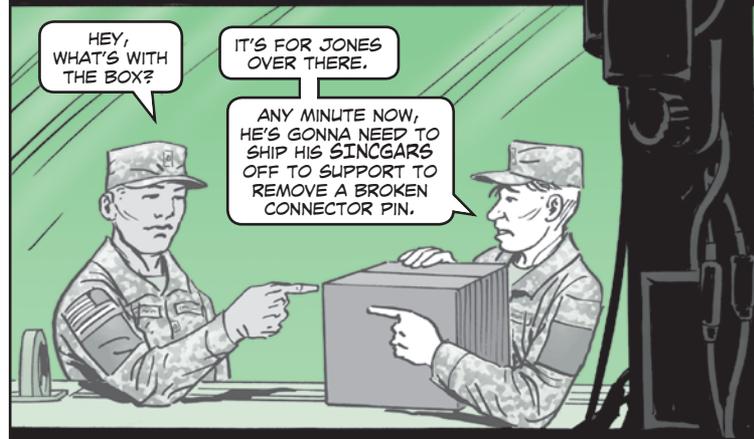
When the IECU's not in use, put the vinyl cover over the condenser fan to keep debris from collecting in the condenser (top) section. An IECU free of debris is less likely to get damaged or perform poorly. The cover also blocks rain or snow from soaking or icing components stored in the condenser section.



Before you run the IECU, fold the vinyl cover and stow it in the storage bag. The bag is attached (captured) to the side of the IECU. When you're finished running the IECU, put the cover back on.

# CONNECTORS NEED A GENTLE TOUCH

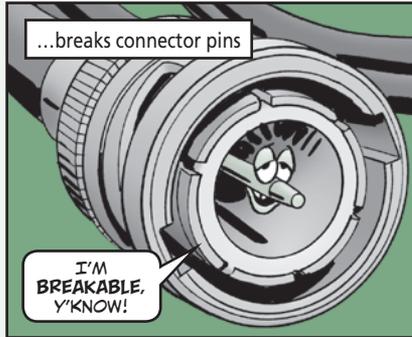
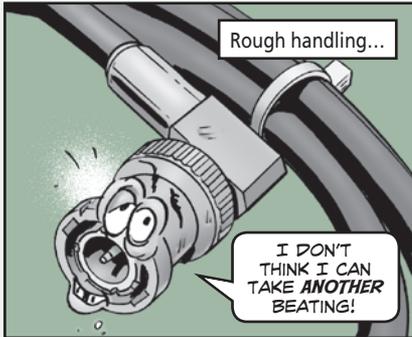
DARN THIS  
&\*##% CABLE!  
WHY WON'T IT  
GO IN!?



Easy does it when you connect and disconnect the radio frequency cable, NSN 5995-01-304-2026, on your SINGGARS vehicular radio. Rough handling can break off the cable's connector pins.

If a pin gets stuck and breaks off inside the RT's antenna connector or the power amplifier's J2 connector, you'll have to take your SINGGARS to higher level maintenance to extract the pin.

The same caution applies to the CG-3855/VRC radio frequency cable, which connects the power amplifier to the vehicular antenna. If you're rough, the connector pin could break off and get stuck inside the power amplifier's J1 connector.



1. Line up the keyhole on the cable connector with the key on the RT's antenna connector or the power amplifier's J1 or J2 connector.

Line up keyhole with key

2. Push the cable connector straight in.

3. Turn the cable connector clockwise until it doesn't move any farther.

1. Turn the cable connector counter-clockwise until the keyhole on the cable connector lines up with the key.

2. Pull the cable connector straight out and off.



# TO SLEEP, PERCHANCE TO DREAM



YOU JUST CAN'T GET A GOOD NIGHT'S SLEEP WHEN YOU'RE NOT COMFORTABLE.



THAT'S WHY YOU SHOULD ORDER THE MODULAR SLEEPING BAG SYSTEM (MSBS).



GET THE REGULAR-SIZED MSBS WITH NSN 8465-01-547-2757. IT INCLUDES...

- the regular-sized patrol sleeping bag, intermediate cold weather sleeping bag and bivy cover
- both the large and small stuff sacks

GET THE X-LONG MSBS WITH NSN 8465-01-551-9876. IT INCLUDES...



- the X-long patrol sleeping bag, intermediate cold weather sleeping bag and bivy cover
- both the large and small stuff sacks

YOU CAN ALSO ORDER THE MSBS COMPONENTS INDIVIDUALLY...



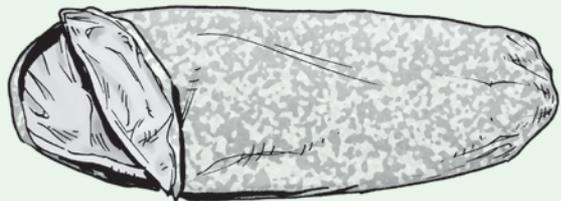
Item	Length/Size	Color	NSN 8465-
Patrol sleeping bag	Regular	Foliage green	01-547-2706
Patrol sleeping bag	X-long	Foliage green	01-547-2712
Intermediate cold weather sleeping bag	Regular	Urban gray	01-547-2694
Intermediate cold weather sleeping bag	X-long	Urban gray	01-547-2697
Bivy cover	Regular	Universal camouflage pattern (top)/ foliage green (bottom ground sheet)	01-547-2644
Bivy cover	X-long	Universal camouflage pattern (top)/ foliage green (bottom ground sheet)	01-547-2651
Stuff sack	Large	Foliage green	01-547-2670
Stuff sack	Small	Foliage green	01-547-2656

YOU CAN USE THE COMPONENTS SEPARATELY OR TOGETHER.

THEIR COLORS MATCH WELL WITH THE UNIVERSAL CAMOUFLAGE PATTERN.



- The bivy cover is waterproof, breathable and wind-resistant. Its seams are heat sealed.

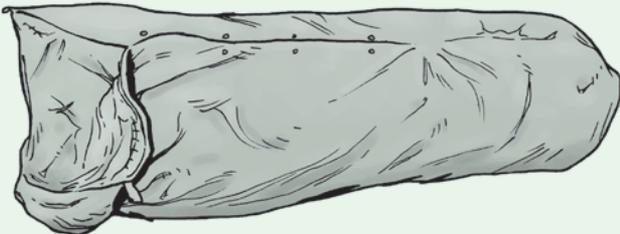


- The large stuff sack is made of water-repellent nylon. It can hold both the patrol sleeping bag and the intermediate cold weather sleeping bag as well as the bivy cover.



- The small stuff sack is also made of water-repellent nylon. It can hold any two of the three MSBS components.

- The lightweight patrol sleeping bag provides cold weather protection from 30-50°F.



- The intermediate cold weather sleeping bag provides cold weather protection from 10-30°F.



TOGETHER, THE PATROL SLEEPING BAG, THE INTERMEDIATE COLD WEATHER SLEEPING BAG AND THE BIVY COVER PROVIDE **EXTREME COLD WEATHER PROTECTION** IN TEMPERATURES AS LOW AS -20°F.



Laundry Advanced Systems...

# No Open Door Policy



The laundry advanced system (LADS) has three enclosures:

- main control
- inverter
- heating system



Keep the doors to these enclosures shut **tight**. Here's why:

An open door is an invitation for fine dirt and sand to settle on electrical and electronic components and contacts. That can block electric current or cause components to overheat. Either way, it can shut down the LADS. The problem is especially bad in areas with lots of fine dust and sand. They can collect in very tight places.

So, keep the main control and heating system doors closed.

## Inverter Enclosure

During operation, do this to the inverter enclosure:

- Make sure the main door is closed.
- Open the air inlet door and air outlet door. Keep these doors open to get rid of heat. If you close them during operation, heat can shut down the inverters.

And if you find sand inside any of the enclosures, use a vacuum, brush, cloth or can of compressed air to get rid of it.

[Click here for a copy of this article to save or email.](#)

# Stick With Official Army TMs



The Logistics Support Activity (LOGSA) is the official designated repository for Army equipment technical manuals (TMs), including electronic and interactive technical manuals (ETMs/IETMs). LOGSA is the go-to place when you need TMs for most kinds of equipment you read about in *PS*.

In fact, there are only a few official Army publication websites. We stress this fact because too many people are still getting pubs from unauthorized sources, like unofficial forums or commercial websites.

### Why It Matters

Publications from unofficial websites might be draft versions, outdated or missing critical info. Unofficial TMs may have errors that might result in an accident or injury. Visiting unapproved websites can even put computers at risk.

But most important of all, official Army pubs are DA-authenticated. That means the Army stands behind their contents. That's important, especially when it comes to safety. Stick to the safe roads when it comes to pubs—don't wander into unapproved lanes.



We know it's frustrating when you're looking for a TM, only to find out it's been rescinded. That's when it's tempting to use search engines to find an old version.

But if a TM was rescinded without a replacement, there's a reason. One reason may be that the equipment is obsolete. We know some units have older equipment they need to keep running. If that's the case, contact the LCMC overseeing that specific equipment for current PMCS guidance instead of using obsolete or rescinded TMs.

Here's another suggestion: Try hitting up your region's TACOM logistics assistance representative (LAR) for guidance. Check out our TACOM LAR helpline article on Pages 48-49 in *PS* 734 (Jan 14):

<https://www.logsa.army.mil/psmag/archives/PS2014/734/734-48-49.pdf>

To find active, official TMs for most of the equipment you read about in *PS*, visit LOGSA's ETM website: <https://www.logsa.army.mil/etms/>

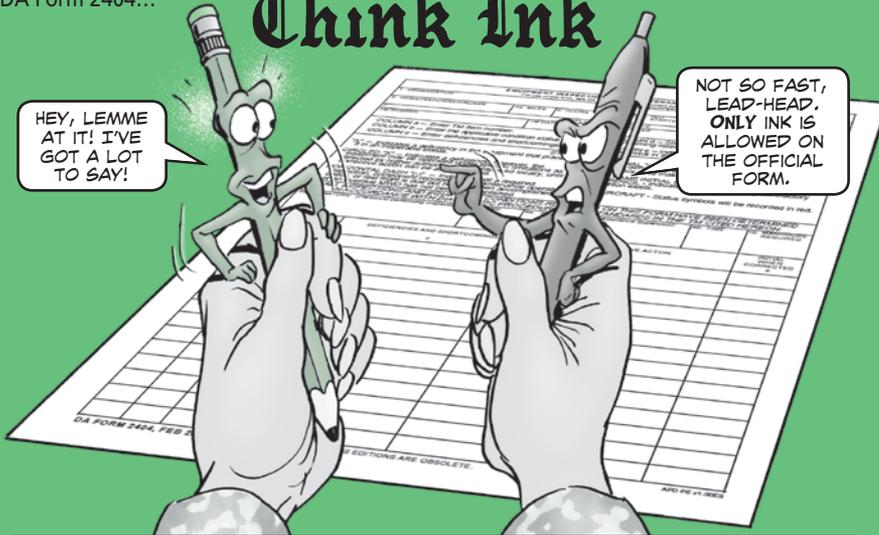
Questions or need help finding a TM? Contact LOGSA's tech pubs ETM Customer Service toll-free at (800) 270-1409, or email:

[usarmy.redstone.logsa.mbx.logetm@mail.mil](mailto:usarmy.redstone.logsa.mbx.logetm@mail.mil)

### Official Sources for Army Publications

Agency	For	Where
Army Publishing Directorate	Administrative departmental pubs and forms	<a href="http://www.apd.army.mil/">http://www.apd.army.mil/</a>
Training and Doctrine Command	Training and doctrine pubs (except engineering & medical)	<a href="http://www.tradoc.army.mil/tpubs/index.htm">http://www.tradoc.army.mil/tpubs/index.htm</a>
Logistics Support Activity	Technical and equipment pubs (except engineering & medical)	<a href="https://www.logsa.army.mil/etms/">https://www.logsa.army.mil/etms/</a> Email: <a href="mailto:usarmy.redstone.logsa.mbx.logetm@mail.mil">usarmy.redstone.logsa.mbx.logetm@mail.mil</a>
Corps of Engineers	Engineering pubs (except administrative)	<a href="http://armypubs.army.mil/eng/index.html">http://armypubs.army.mil/eng/index.html</a> <a href="http://www.publications.usace.army.mil/">http://www.publications.usace.army.mil/</a> Email: <a href="mailto:hqpublications@usace.army.mil">hqpublications@usace.army.mil</a>
Medical Command	Medical pubs (except administrative)	<a href="http://armypubs.army.mil/med/">http://armypubs.army.mil/med/</a>

# Think Ink



Dear Half-Mast,

Some motor pool mechanics, inspectors and QA folks say it's OK to use a pencil to fill out DA Form 2404, *Equipment Inspection and Maintenance Worksheet*. But DA Pam 750-8, *The Army Maintenance Management System (TAMMS) Users Manual*, says a pencil can only be used when special instructions allow. Is it OK to fill out 2404s with a pencil?

Mr. S.P.

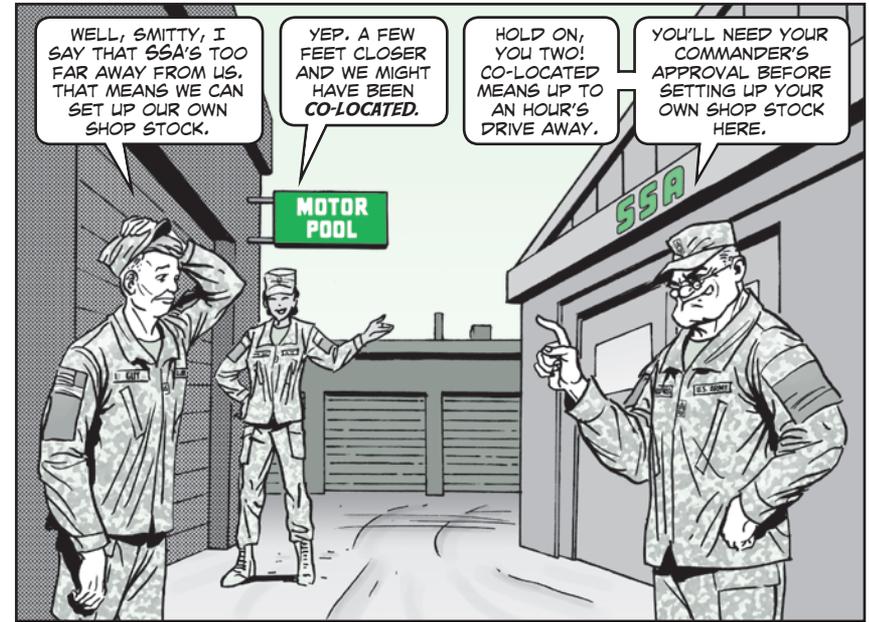
Dear Mr. S.P.,

A working draft of DA Form 2404 may be filled out with a pencil or your writing instrument of choice. But only blue or black ink, handwritten or typed, should be used for the official form of record.

Watch for the updated version of DA Pam 750-8, *The Army Maintenance Management System (TAMMS) Users Manual*, coming in 2014. You'll find additional procedures and forms guidance in that publication.

*Half-Mast*

# THE LOWDOWN ON SHOP STOCK



The September 2013 revision of AR 750-1, *Army Materiel Maintenance Policy (Maintenance of Supplies and Equipment)*, states in Paragraph 3-6 (2)(a) that: "Shop stocks will be maintained when a maintenance provider organization is not co-located with a supply support activity (SSA). Separate shop stocks are not authorized for maintenance provider organizations and elements when maintenance personnel have prompt, secure, 'walkup' access to SSA stocks."

The term co-located has caused some confusion in the field. Units assume that it means they must be located adjacent to or in close proximity to an SSA to get shop stocks there.

As long as a unit is in the same location (at the installation or forward operating base) or within a reasonable driving distance from an SSA if located off-base (generally a 60-minute drive), then they are considered co-located.

Units that still believe they need separate shop stock must get their commander's approval first. Normally, separate shop stock is only authorized for units that are deploying, deployed or have long separations from SSA support, such as TDA or National Guard/Reserve units that are not in the same vicinity as an SSA.

HQDA's planned July 2014 rapid action review of AR 750-1 will include an update that better explains shop stock guidance. To review the current pub, visit:

[http://www.apd.army.mil/pdf/files/r750\\_1.pdf](http://www.apd.army.mil/pdf/files/r750_1.pdf)

# FIGHT FIRE WITH COMMON SENSE FIRST



FIRES CAN BE DEVASTATING. PROPERTY AND PERSONNEL LOSSES HURT.



BUT IN TOO MANY CASES, THE FIRE WAS PREVENTABLE.

SOLDIERS, IT'S PART OF YOUR MISSION TO LOOK FOR FIRE HAZARDS AROUND YOUR WORK ENVIRONMENT.

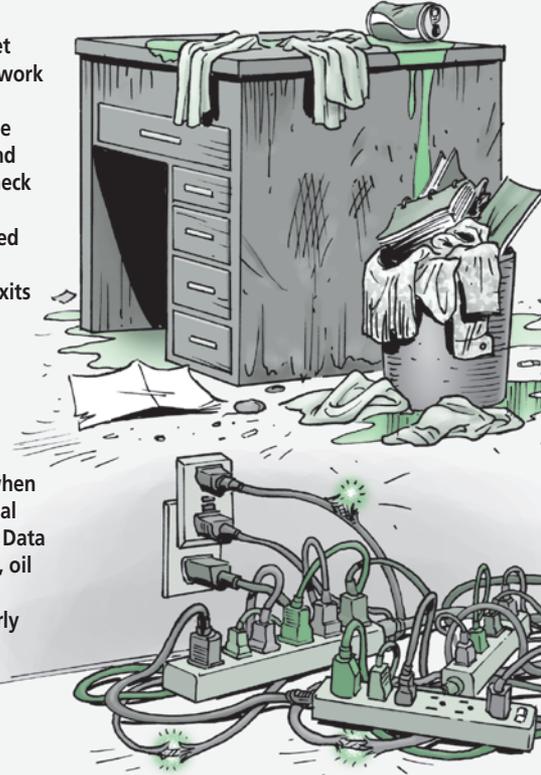
LEADERS, FOLLOW THE RISK MANAGEMENT PROCESS OUTLINED IN FM 5-19, COMPOSITE RISK MANAGEMENT (AUG 2006), TO FIND AND ELIMINATE PROBLEMS BEFORE DISASTER HITS.



HERE ARE SOME KEYS TO PREVENTING FIRES...



- Practice good housekeeping. Don't let trash and waste materials pile up in work areas. Empty trash bins regularly.
- Keep shop areas tidy. Oil and gasoline dripping from vehicles may collect and ignite under certain conditions, so check floors and spot-clean often.
- Store or dispose of oily rags in covered metal containers.
- Don't allow clutter to build around exits and stairways.
- Keep fire doors closed as directed. Make sure exits are clearly marked and accessible.
- Follow TMs and SOPs to prevent equipment overload.
- Follow manufacturer's instructions when maintaining equipment. Read Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS) before using petroleum, oil or lubricant (POL) products.
- Examine electrical equipment regularly for problems like damaged cords or worn insulation.
- Don't overload outlets. Never force circuit breakers to stay in the ON position. Everyone should watch for signs of electrical malfunctions, but only qualified, authorized personnel should do electrical repairs.
- Hazardous liquids like gasoline, oil and paint are commonly found in or near motor pools and must be stored properly. Other flammables include brake fluid, varnish, paint thinner and lighter fluid. Understand the risks of any materials you handle. They may be combustible, flammable, explosive and/or reactive. Read labels and the MSDS/SDS for more information.
- Smoke only in designated outdoor areas. Smoking in unauthorized areas like storage rooms has caused serious fires. Do not empty ashtrays in trash bins until smoking materials are cold.



MAKE SURE ALL PERSONNEL ARE FAMILIAR WITH THE FIRE PREVENTION SOP AND THAT IT ADDRESSES THE FOLLOWING AT A MINIMUM...



- Personnel actions and individual tasks in the event of a fire, including who is responsible for shutting down equipment or operations before departing the area.
- Where the fire alarm is located and how to activate it.

**Different types of fires and the correct extinguishers to use on each kind.**



ORDINARY  
**A**  
COMBUSTIBLES

Class A Fire: Wood, paper, textiles, and other ordinary combustibles

**Use Class A or ABC extinguisher**  
Uses water, water-based chemical, foam, or multi-purpose dry chemical. A strictly Class A extinguisher contains only water.



FLAMMABLE  
**B**  
LIQUIDS

Class B Fire: Flammable liquids, oils, solvents, paint, grease, etc.

**Use Class ABC or BC extinguisher**  
Uses foam, dry chemical, or carbon dioxide, to put out the fire by smothering it or cutting off the oxygen.



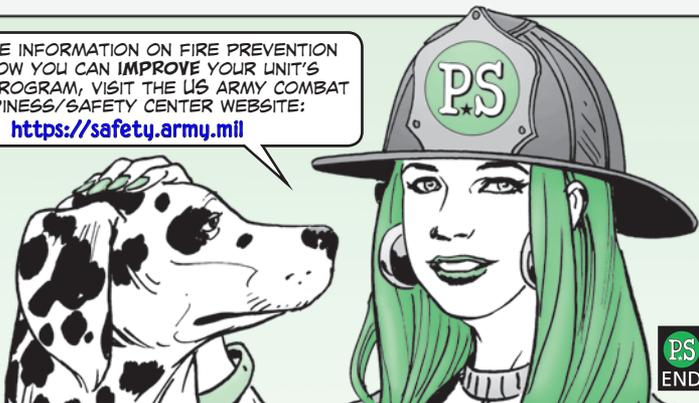
ELECTRICAL  
**C**  
EQUIPMENT

Class C Fire: Electrical: Live or energized electric wires or equipment.

**Use Class ABC or BC extinguisher**  
Uses foam, dry chemical, or carbon dioxide, to put out the fire by smothering it or cutting off the oxygen.

- Where fire extinguishers are located and how to use them.
- How to use fire emergency equipment such as fire blankets, hoses or sprinklers.
- Where personnel should meet up for a head count after leaving the work area during an emergency.

FOR MORE INFORMATION ON FIRE PREVENTION AND HOW YOU CAN IMPROVE YOUR UNIT'S SAFETY PROGRAM, VISIT THE US ARMY COMBAT READINESS/SAFETY CENTER WEBSITE:  
<https://safety.army.mil>



PS  
END

# MAKE PS YOUR BATTLE BUDDY



ARE WE THERE YET?  
ARE WE THERE YET?



NOT YET, LITTLE BUDDY. BUT DON'T WORRY, YOU'LL KNOW WHEN WE ARRIVE, 'CAUSE I'LL NEED YOU FIRST THING.

The Army is constantly changing and so is every Soldier's role. Field maintenance is transferring back to units. Most units will soon repair their own maintenance significant items (MSIs).

MSIs include end items, assemblies, components and any other system that needs maintenance. Units used to transfer these items from their property book to AMC when they deployed. It was called left-behind equipment.

Now it's known as unit-maintained equipment (UME). The name says it all! Bottom line is UME puts Soldiers back in the motor pools. And that's why it's more important than ever to keep or get PS back in your hands.

PS is your battle buddy on many fronts. We give the latest word on vital maintenance and supply information. Keeping PS at your fingertips and following our guidance keeps your UME ready to go at a moment's notice.

BESIDES READING THE PRINT MAGAZINE, BE SURE TO CHECK OUT OUR ONLINE OFFERINGS, LIKE HOT TOPICS, BLOG AND FACEBOOK PAGES. TO STAY UP-TO-DATE ON MAINTENANCE AND SUPPLY TOPICS.



PS Magazine Hot Topics  
<https://www.logsa.army.mil/psmag/topics.cfm>  
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# Connie's PS POST SCRIPTS

## M1083A1P2 FMTV Door Window

Get a new passenger-side door window for your M1083A1P2 FMTV with NSN 2510-01-569-4229. Make a note until this NSN appears as Item 12 in Figs 41 and 1041 of TM 9-2320-333-14&P (EM 0294).

## XCK2000/E1 Trailer Crank Handle

Get a crank handle for your XCK2000/E1 7 1/2-ton containerized kitchen trailer with NSN 5340-01-623-7876. Add this NSN to the parts info for Item 3 in Fig 18A of TM 9-2330-328-14&P (Dec 01, w/Ch 1, Feb 06).

## FMTV Interconnecting Box NSN Change

The interconnecting box, NSN 5895-01-528-1514, listed in the FMTV IETMs contains software that works *only* with MRAP vehicles. To get the interconnecting box with the right software for your FMTV, order NSN 5895-01-591-7887. The interconnecting box is listed as Item 95 in Figs 49, 1049, 2049 and Item 94 in Fig 3049 of TM 9-2320-391-14&P (IETM EM 0195, Mar 09). It's also listed as Item 56 in Figs 14 and 1014 of TM 9-2320-333-14&P (IETM EM 0294, Jun 12). Make a note until those IETMs are updated.

## KIOWA WARRIOR GROUND WHEEL TIRES

Need a replacement tire for one of your Kiowa Warrior aircraft's ground wheels? NSN 2620-00-277-5398 brings a tire that's strong enough to support your aircraft.

## SASMO DCO Training

All Army Sustainment Automation Support Management Offices (SASMOs) are invited to attend a remote training session via Defense Connect Online (DCO) on 24 April 14, from 0800 to 1200 EST. The training is co-hosted by HQDA G-46, CASCOM, SEC Lee and PM GCSS-Army. The goal is to provide SASMOs with the required networking, software, and hardware support skills they can use to help units meet their operational requirements. This training session includes current Sustainment Information Systems (SIS) and Global Combat Support System-Army (GCSS-Army). For more info, see the HQDA G-4 website at:

<http://www.army.mil/info/organization/unitsandcommands/dcs/g-4/>

## GCSS-Army Reminder

Remember to check the GCSS-Army website for alerts, updated fielding and training schedules and other important info. Visit:

<https://gcss.army.mil/>

Or sign up to get automatic notifications at:

<https://gcss.army.mil/Support/register.aspx>

## Join GCSS-Army Worldwide

The next HQDA G-4 GCSS-Army Worldwide Program Update is slated for 30 April 14. Check the GCSS-Army website for the specific time and details on how to join the discussion on SKN Live:

<http://gcss.army.mil>

## FMs Change to TMs

If you've been looking for FM 4-20.198, *Multiservice Helicopter sling Load: Single-Point Load Rigging Procedures*, and FM 4-20.199, *Multiservice Helicopter Sling Load: Dual-Point Load Rigging Procedures*, you won't find them. Those FMs have changed to TM 4-48.10 and TM 4-48.11 respectively. You can find them on the APD website:

[http://armypubs.army.mil/doctrine/Active\\_TM.html](http://armypubs.army.mil/doctrine/Active_TM.html)

## PLS Mud Flap Hanger Kit

Get a mud flap hanger kit for your M1074A1 and M1075A1 palletized loading system (PLS) with NSN 5340-01-615-0030. It has just been added as Item 6 in Fig 615 of TM 9-2320-319-13&P in IETM EM 0298 (Mar 10). The kit contains two mud flaps, brackets and clips to attach the mud flaps to both the left and right side of your truck. Also, the right-hand mud flap bracket, NSN 5340-01-570-2929, shown as Item 17, has been replaced with NSN 2590-01-614-9767.

## HMMWV LED Headlight Headache Is Handled

Mechanics, has your unit ordered a HMMWV LED headlight, NSN 6220-10-586-4949, only to have it rejected by the supply system? TACOM LCMC says the NSN was mistakenly cancelled without replacement when it was combined with another headlight NSN. You can avoid those cancellations by ordering the LED headlight with NSN 6220-01-616-1079.

## FRS Tier III Engine Coolant Sensor

Get a new low coolant sensor and harness for your M7 forward repair system's Tier III engine with NSN 5930-01-620-1123. NSN 2910-01-514-0233, which is shown as Item 1 in Fig 59 of TM 9-4940-568-24P, is the sensor and harness for the Tier II engine.

## Where to Find MSDS

Need the material safety data sheet (MSDS) for a product or item you're using or shipping? The Defense Logistic Agency's (DLA) Hazardous Materials Information Resource System keeps all of DOD's MSDS on file. You'll also find transportation, logistics, disposal and safety and health data. Check it out:

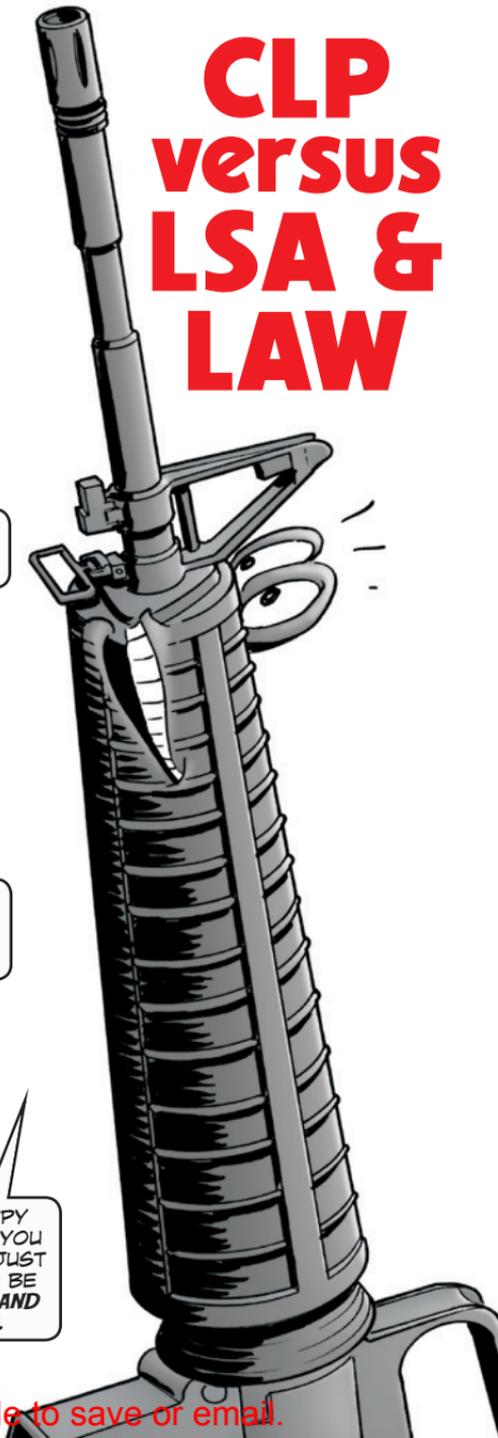
<https://www.logisticsinformationservice.dla.mil/hmirs/default.asp>

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?

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# CLP versus LSA & LAW



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