

**PS****THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY**

TB 43-PS-676, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders.

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M109A6 Paladin Gun Weather Curtain

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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.

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By order of the Secretary of the Army:

**GEORGE W. CASEY, JR.**  
General, United States Army Chief of Staff

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0835302

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Redstone Arsenal, AL 35898-5000. Periodical postage is paid at the Huntsville, AL post office and at additional mailing offices.

Postmaster: Send address changes to PS, The Preventive Maintenance Monthly, USAMC LOGSA (AMXLS-AM), 5307 Sparkman Circle, Redstone Arsenal, AL 35898-5000.

Issue 676

**PS**

March  
2009

# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-676

Approved for  
Public Release;  
Distribution is  
Unlimited

IF I DON'T GET  
THIS VESSEL  
SHIP-SHAPE BY  
TOMORROW, I'M  
GOING TO **LOSE**  
*MY EAR!*

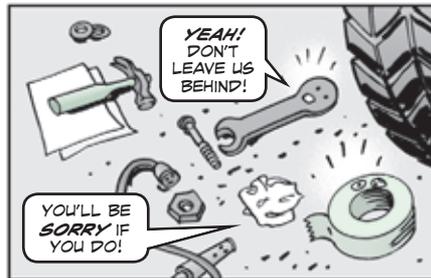
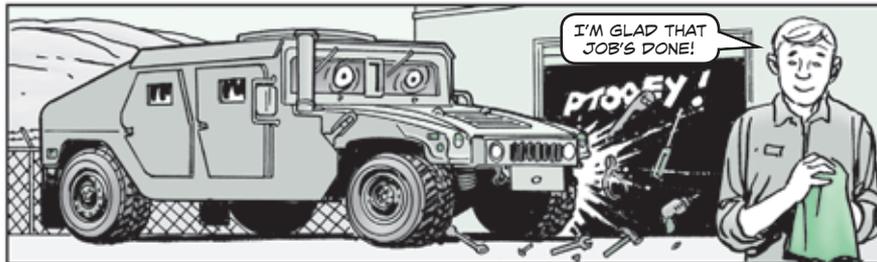
I'VE GOT  
WHAT YOU  
NEED, SIR—  
**PM!**

KLOE  
NIBBE

JENKIN'S  
EAR!  
SEE PG. 27



# It's the Little Things That Hurt the Most



Some soldiers end up putting a lot more into their work than necessary—like pens, loose hardware, tools, TMs, keys, and pocket change. They leave those items behind in the engine compartment after pulling maintenance. And they end up with all kinds of problems.

Electrical shorts, plugged drain holes, torn cables, and punctured fuel cells are just a few of the maintenance nightmares created by leaving little stuff behind.

So, before you start a maintenance task, empty your pockets of all the small items that can cause headaches later. Carefully note the tools you use and make sure you take every one with you.

Then, when maintenance is finished, do a thorough survey of the area. Did you leave anything behind? Look for the packaging material that the new parts came in. And make sure you take away all the old washers, screws and bolts that were replaced.



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# WHAT TO DO WITH THE

# LEFTOVERS



HEY, SOLDIER.



WHAT'CHA GOT THERE?



IT'S THE CARC DUST I GRIND OFF THAT TANK, I WANT TO BE SURE IT'S DISPOSED OF PROPERLY!

Dear Editor,

The water dispersible CARC story in PS 668 (Jul 08) had a lot of good information. But there are some additional cautions you might want to let readers know about.

Both CARC and WD CARC material that is removed by grinding, chipping or sanding are considered hazardous material. Both contain isocyanates that can cause irritation of the skin and mucous membranes, chest tightness and difficulty breathing. So I'd suggest using a positive-pressure, air-supplied respirator if a large area is being prepared for painting.

Then, all of the material removed by grinding, chipping or sanding, including the sandpaper used, needs to be placed in a sealed container and disposed of as hazardous waste.

SSG K.A.B.  
CSMS Shop  
New Castle, DE



I'VE GOT TO DO A LITTLE GRINDING BEFORE I CAN DO ANY SPOT PAINTING.

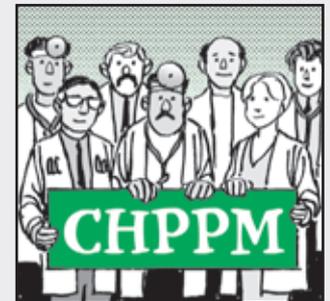
NOT WITHOUT PROTECTIVE EQUIPMENT, YOU WON'T!

**Editor's note:** Thanks for the info, Sergeant. We did some further checking with the experts at the US Army Center for Health Promotion and Preventive Medicine (CHPPM). They had a little more to add:

"If CARC or WD CARC is burned or heated, it can release isocyanate vapors and metals. That's why you should always remove CARC by sanding or grinding to bare metal 4 inches on either side of an area to be welded or torch cut, and from both the front and back sides of the metal.

"You never know what was applied below the top coat of paint so you can never be certain how hazardous a paint removal task will be. While we're not aware of any isocyanate hazard from handling CARC residue from sanding and grinding, there is a potential risk of heavy metals exposure. This is particularly important for National Guard units and other units that may have older vehicles and equipment. Those vehicles may have been originally coated with CARC that contains lead and hexavalent chromium.

"Even today's CARC coatings, which are fairly non-hazardous when dry, may have underlying primers and primer washes that contain hexavalent chromium that can be released by sanding and grinding. Sanding and grinding on CARC coatings can also remove cadmium from plated fasteners and fittings.



“For these reasons, we recommend half-face respirators with NIOSH P100, R100, or N100 particulate filters as the minimum respiratory equipment used for CARC sanding and grinding operations. You should also wear coveralls that can be washed or disposed of at work and wash carefully before eating, drinking, smoking, applying cosmetics or going home from work. Remember to use skin and eye protection when painting with or removing CARC.

“The dust residue from sanding and grinding on CARC coatings should be handled as if it were hazardous waste. Cleaning with a HEPA vacuum cleaner is the best method. However, you can use wet cleanup methods or sweeping compounds as an alternative. CARC residue should **never** be swept dry or dispersed with compressed air.

“Items that are used in sanding and grinding operations—including sandpaper and abrasive blasting grit—should also be considered hazardous waste and disposed of properly.

Applying CARC by spray requires the use of respiratory protection because the liquid coatings contain isocyanates and organic solvents. WD CARC has much lower levels of organic solvents but may actually contain increased amounts of prepolymer with hexamethylene diisocyanate, which is a type of isocyanate.

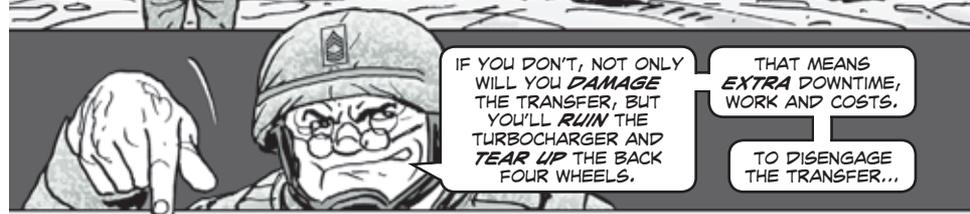
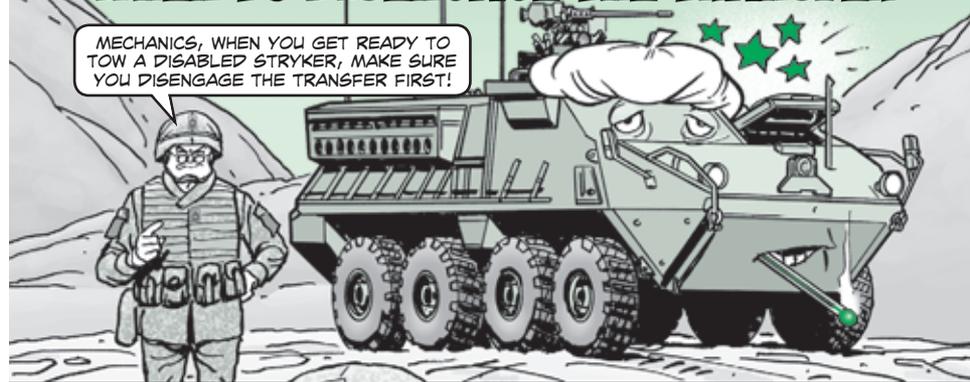
“Normally, airline respirators are used when painting materiel with CARC in spray booths. For smaller spot painting tasks, air purifying respirators with organic vapor cartridges and paint prefilters are adequate if okayed by an industrial hygienist. Some brush and roller spot painting tasks may not require the use of respiratory protection. Ask your industrial hygienist to evaluate the work you are doing.”



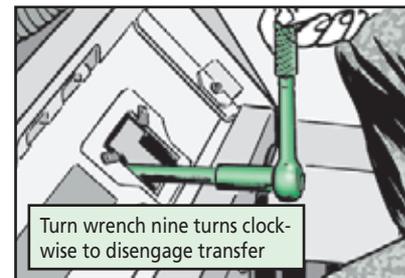
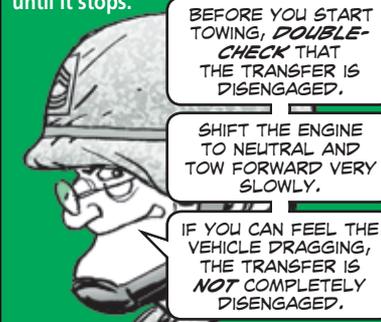
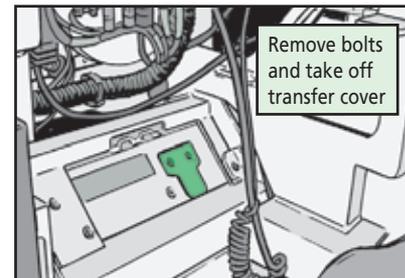
Stryker...

# WHEN TO DISENGAGE THE TRANSFER

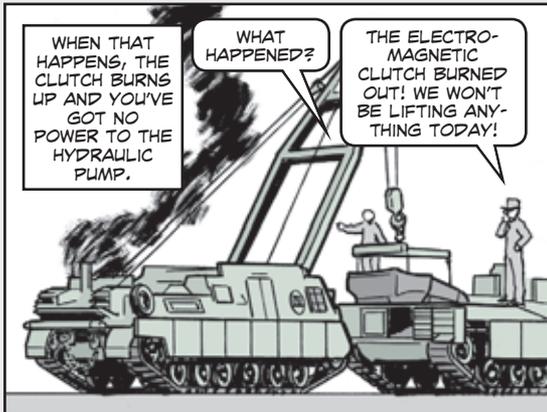
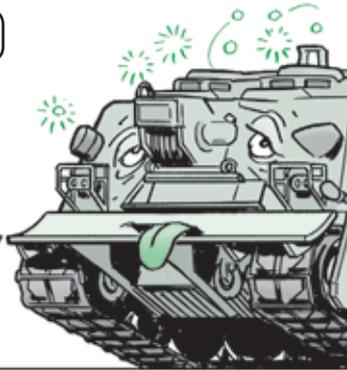
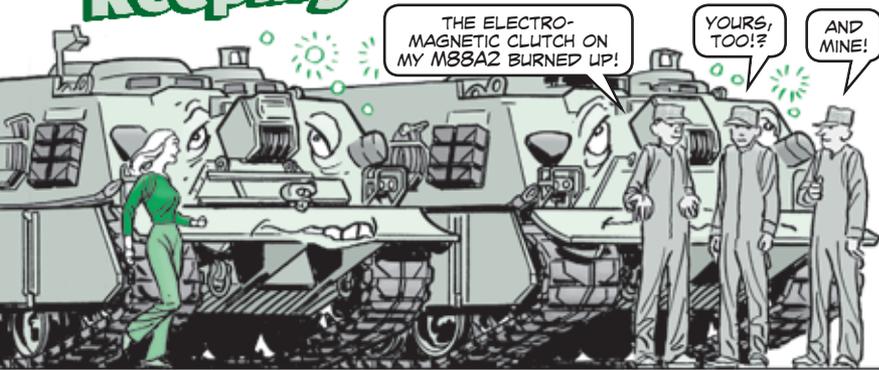
MECHANICS, WHEN YOU GET READY TO TOW A DISABLED STRYKER, MAKE SURE YOU DISENGAGE THE TRANSFER FIRST!



1. Remove the two bolts holding the transfer cover in place. Take off the cover.
2. Attach the socket wrench extension, NSN 5120-20-000-7448, from your Bil to a 1/2-in drive socket wrench.
3. Slip the extension into place in the transfer compartment.
4. Turn the wrench nine turns clockwise until it stops.



# Keeping Oil on the Level

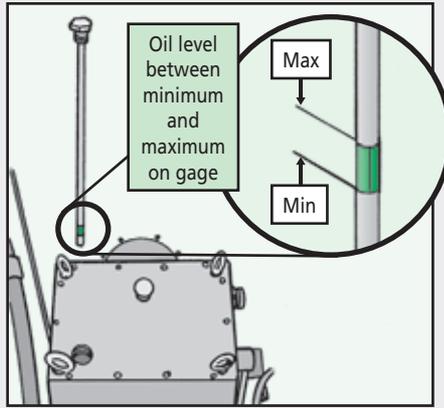


IT'S CRITICAL THAT THE CLUTCH'S OIL LEVEL BE CHECKED **EVERY DAY** AS PART OF AFTER-OPERATION PMCS.

YOU'LL FIND THE CHECK IN WP 0105 00-35 OF TM 9-2350-292-10 (NOV 05 W/CH 1, JUN 07) AND IN TABLE 6 OF THE LUBRICATION INSTRUCTIONS IN WP 0105 00-77.



1. Park the vehicle on a level surface.
2. Start the engine and operate the electromagnetic clutch for five minutes.
3. Shut off the engine.
4. Open the sub-floor access door and wipe clean the area around the bayonet gage to keep dirt out of the electromagnetic clutch.
5. Pull and wipe the bayonet gage.
6. Reinsert the gage, remove it again and make sure the oil level reaches the full mark (between MIN and MAX) on the gage.



If the level is low, add OE HDO-10 oil through the bayonet gage hole. Keep adding oil until the level reaches the full mark on the gage.

**PTO Drive Shaft**

The PTO drive shaft must be lubricated monthly following the instructions in WP 0187 00-81 of TM 9-2350-292-20-1 (EM 0266, Jun 07).

Lubricate the three or four grease fittings on the U-joints, slip joint and PTO driveshaft quick-disconnect (if your vehicle has one).

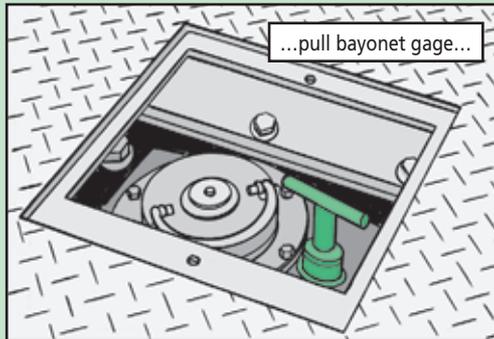
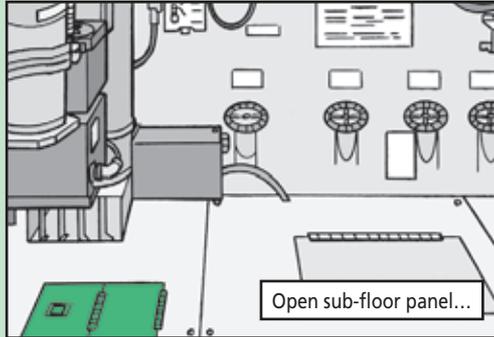
The TM does not state or show the driveshaft's U-joint located at the PTO's electromagnetic clutch side, so this is often missed. Lack of lubrication in any of these locations will lead to premature bearing failure and broken parts.



## Hydraulic Reservoir

The hydraulic reservoir oil level is also an after-operation check that's being neglected. You'll have a tough time raising and lowering the boom if the reservoir level gets too low.

So take a minute to open the sub-floor panel and check the reservoir's bayonet gage. The oil level should be above the DANGER mark. If it's not, you'll need to add FRH following the instructions starting on WP 0105 00-94.



...and make sure level is above DANGER



## Hoist Winch

The hoist winch is a before-operation check that's just not being done. If the oil level gets too low, the winch can burn out.

With the vehicle on level ground, make sure the oil level is between the middle and the top of the sight glass. If the oil level is below the middle of the sight glass, add gear oil to the vent/fill plug until the level is correct.

The gear oil you use is determined by temperature, so check out WP 0105 00-73 for the right one. And make sure you clean the vent/fill plug with dry cleaning solvent before reinstalling.

Remember, be smart and always be on the lookout for oil and hydraulic leaks. Then make sure you report or repair the problem according to the TM. Take care of those oil levels and your recovery vehicle will have the muscle to pull you out of problems.

PS  
END

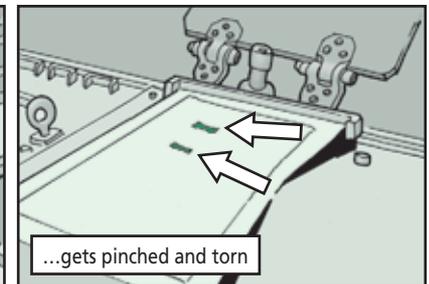
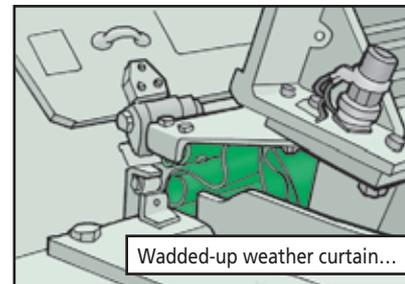
M109A6 Paladin...

# No PM Spells Curtains for Curtain



**P**utting a brand-new weather curtain, NSN 7230-01-376-0439, on the Paladin's gun is wasted effort unless you do it the right way, mechanics.

If you get it wrong, the curtain wads up and gets pinched and torn by the gun stop when the tube is elevated. The torn curtain has to be replaced again.



You'll find assembly instructions for the weather curtain starting on Page 4-84 of TM 9-2350-314-20-2-1 (Feb 99 w/Ch 5, Jul 08).

Dirt and rust that build up on the curtain's shaft can also spell curtains for the curtain. So wipe away any collected dirt and apply a few drops of OE/HDO-30 to the shaft's bushings. That'll keep the shaft from jamming and tearing the curtain.

# IS THERE A CRACK IN YOUR RACK?



TACOM GROUND PRECAUTIONARY ACTION (GPA) MESSAGE 08-018 TIPPED UNITS OFF TO A PROBLEM WITH CRACKING FMTV RADIAN ARMOR CAB KITS (RACK).

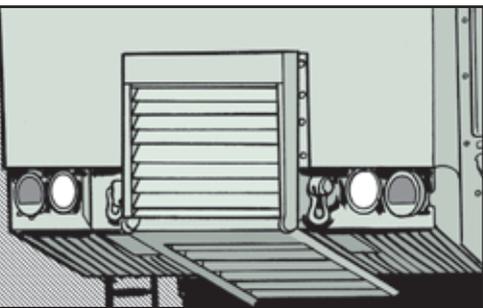
BY NOW, THEY SHOULD HAVE COMPLIED WITH THE INSTRUCTIONS IN THAT SAFETY MESSAGE.

BUT IF NOT, HERE'S THE 4-1-1 ON THE PROBLEM AND THE FIELD MAINTENANCE SOLUTION.



A GROWING NUMBER OF RACK-EQUIPPED FMTVS ARE SHOWING FATIGUE CRACKS IN THE CAB STRUCTURE.

EXTENDED USE OF THESE RACK CABS CAUSED THESE CRACKS, AND THEY **MUST** BE FIXED BEFORE THEY CRACK BEYOND REPAIR.

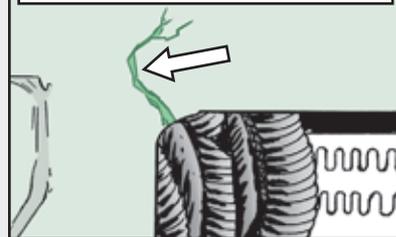


## Inspections Needed

Visually inspect all RACK-equipped FMTVs for cracks at the next operator's PMCS. Any cab found to be cracked will need a new RACK support repair kit installed as soon as tactical conditions permit. Qualified inspectors will evaluate the severity of all cracked cabs. Technical inspectors (TIs), TACOM logistics assistance representatives (LARs), and unit commanders will determine the serviceability of any cracked cabs.

Cabs that show no evidence of cracking will be retrofitted with RACK support repair kits during their normally scheduled rotation into the Theater Provided Equipment Refurbishment (TPER) program.

Front cab radiator area prone to cracking



## Cab Structure Inspection Guidance

Inspect your RACK-equipped FMTV truck's cab structure by lowering the front grill cover. Then visually inspect the cab skin and structures surrounding the radiator.

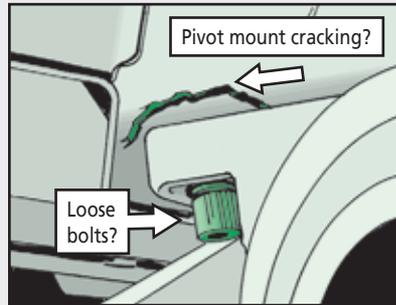
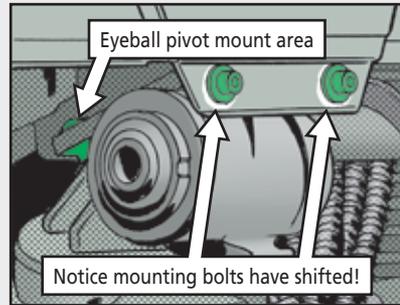
Single or multiple cracks in this area can't be longer than **three inches**. If they are, the cab needs **immediate** repair and installation of a new RACK support repair kit.

On the other hand, if cracks are **less than three inches long**, mark the end points of the crack or cracks. Then inspect these cracks during each operator-level PMCS to watch for increased cracking. Repairs should be made as your mission permits, but you have to fix these cracks **within 90 days**.

## Cab Pivot Block Area Inspection

Visually inspect both cab pivot block areas where they attach to the pivot block frame for cracks. If cab mount cracking exceeds  $\frac{3}{4}$  inch in the pivot block mount area, your FMTV truck needs **immediate** repair! So mechanics, eyeball this link to find out how to fix cab mount cracks:

[https://aeps2.ria.army.mil/commodity/gpm/Tacom\\_WN/08/RACK-Bracket.ppt](https://aeps2.ria.army.mil/commodity/gpm/Tacom_WN/08/RACK-Bracket.ppt)



If cracks are present along the pivot block area that are less than  $\frac{3}{4}$  inch, mark the ends of the crack for future reference. Operators should inspect the truck at each PMCS to make sure cracks don't go over the crack limits. You can operate the truck normally until the mission allows you to get the cab pivot mount repair bracket installed. But this repair needs to happen within 90 days after discovering the crack.

Go to the cab replacement maintenance procedures in chapter 15-2 of TM 9-2320-366-34-3 for all initial setup instructions. It takes about 3 to 4 hours to install the kit on your FMTV truck. And make sure you use a *drill press* when you drill the holes. Using hand drill motors destroys the drill bits.

### How to Get the Repair Kit

**CONTACT THESE POCs!**

IF YOU'RE IN SOUTHWEST ASIA, REQUEST THE FREE RACK SUPPORT KIT (P/N 12518254) BY CONTACTING  
 IN ARIFJAN, KUWAIT  
 @arifjan.arcant.army.mil  
 OR DSN 318-430-4637.

GET KITS IN CONUS THROUGH TACOM PM RACK/LSAC ARMOR LOGISTICS MANAGER  
 @us.army.mil  
 586-574-7756,  
 OR DSN 786-7756.

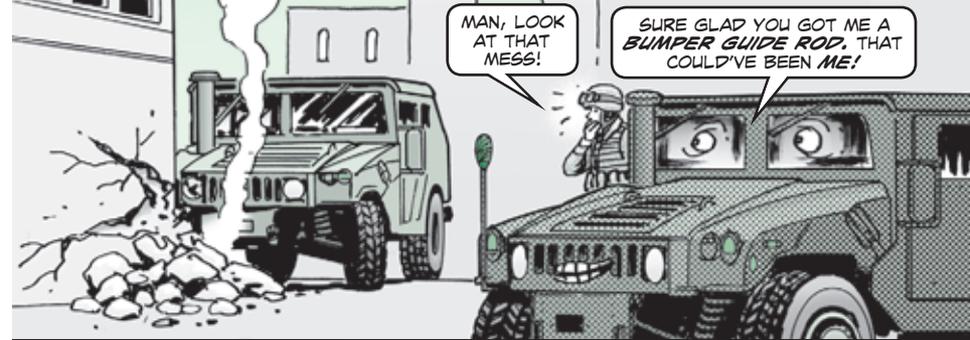
AND IF YOU HAVE PROBLEMS WITH KIT INSTALLATION, CAN LEND YOU A HAND  
 @us.army.mil  
 586-574-3905,  
 OR DSN 786-3905.

FOR MORE INFO, TAKE A LOOK AT TACOM GPA 08-018 ONLINE  
[https://aeps2.ria.army.mil/commodity/gpm/tacom\\_wn/08/gpm08-018.html](https://aeps2.ria.army.mil/commodity/gpm/tacom_wn/08/gpm08-018.html)

**PS  
END**

HMMWVs...

## BUMPER GUIDE HELPS OUT



Judging the right distance between the front bumper and an obstacle (like a curb, camel or another vehicle) when you can't see the bumper is an on-going problem with the HMMWV—especially when it has add-on-armor!

What you need is a bumper guide rod on the curb side of the vehicle. First, get your commander's OK, then have your mechanic make and install the guide rod like so:

- Get a 2-ft length of  $\frac{1}{8}$ -in welding rod. Bend it like so:
- Take the nuts off the inside of the right fender reflector. Put the small loops over the screws and replace the nuts.
- Top the rod with an antenna cap, NSN 5985-00-930-7223. Tape it in place with electrical tape, NSN 5970-00-816-6056.

The cap keeps anyone (or any camel) who might fall on the rod from getting speared.

# USE RIGHT TIRE AND RIGHT MIX

MY TIRES ARE BARE AND I SURE COULD USE SOME NEW ONES!

PICK US!

YEAH, YOU CAN USE US BOTH!

HEY, MECHANICS!

DO YOU KNOW WHICH TIRES YOU CAN USE ON YOUR M939-SERIES TRUCKS?

DO YOU KNOW THE RULES FOR MIXING DIFFERENT TIRE TREADS ON YOUR M939-SERIES TRUCKS?

IF NOT, NO WORRIES.

KEEP READING TO GET THE INFO.

## The Right Tire

M939 trucks can no longer use the bias tire, NSN 2610-00-262-8653. Use NSN 2610-01-473-3997 to get tires for basic M939 trucks. That's the Goodyear radial G177 tire. And never mix radial and bias tires on the same truck! That's unsafe.

Use NSN 2610-01-214-1344 to get the super single 14.00R20 tires for your M939A1 and M939A2 trucks. You'll see this NSN in a future M939 IETM.

## Mixing Allowed

You won't see anything in the future M939 IETM authorizing the mixing of super-single radial tires with different treads on M939s. You won't find an official message authorizing a mix either. But testing shows that **different tire treads can be safely operated on M939-A1 and -A2 models.**

## Super-Single Tires

M939A1 and M939A2 trucks with super-single tires have two approved sources of tire supply—Goodyear and Michelin. The Goodyear AT-2A and the Michelin XZL are currently used on these trucks.

These tires are non-directional. And you can mix the Goodyear AT-2A and Michelin XZL tires with no problems.

The Michelin XL tire is directional. You'll still see some around even though the Michelin XZL tire replaced it in 2005. It's best to avoid mixing non-directional and directional tires on your truck. Not mixing the two gives your truck its best handling and braking performance, which is what you want.

Bottom line is, you shouldn't have problems if the Goodyear AT-2A spare tire is used on an M939-series truck using Michelin XZL tires. But if the Michelin tires on the vehicle are the old XL directional design, you might want to use a Michelin XL spare.

Mount only directional or non-directional tires on truck. **No mixing!**



# Use Only Authorized FWTD!



**F**ifth wheel towing devices (FWTDs) attach to the fifth wheel to convert prime movers—your M915 FOV truck in this case—into tow trucks. But if your unit uses FWTDs, NSN 2510-01-032-7123 or NSN 2320-01-372-0413, or other unauthorized FWTDs, **stop!**

OPERATING A PRIME MOVER WITH THOSE FWTDs PUTS USERS AT GREATER RISK FOR AN ACCIDENT.

TESTING SHOWS THAT THOSE FWTDs MAY NOT PLACE ALL OF THE WEIGHT DOWN ON THE FIFTH WHEEL OF THE TOWING DEVICE.

THIS COULD CAUSE...

- bodily injury or death
- reduced load on the front axles of the towing vehicle, causing steering problems
- overloaded rear axles
- unsafe stress on the fifth wheel

So use **only** the Tru-Hitch 250M FWTD, NSN 2510-01-458-8253, serial numbers 250M499 through 250M999. This is the only Army-approved FWTD. Check the NSN and serial number on the data plate to ensure this is the FWTD your unit uses. The data plate is on the outside of the frame rail on the driver's side by the kingpin.



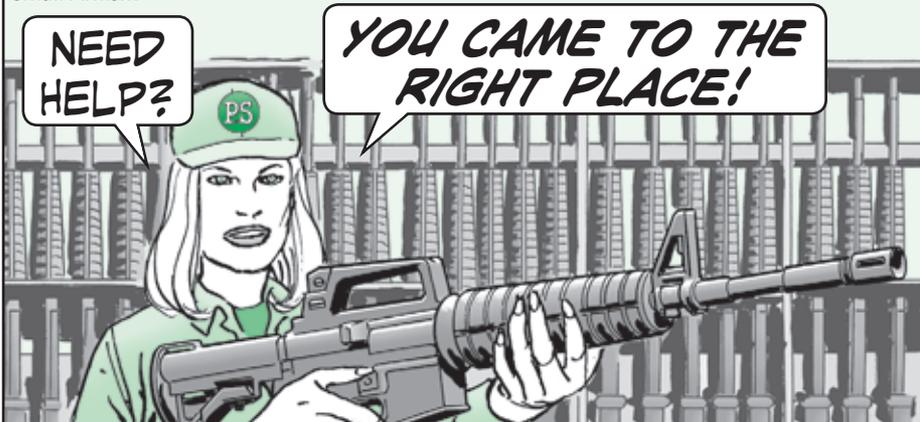
TACOM SOUM 08-024 says commanders should properly dispose of all unauthorized FWTDs. The Army is buying more Tru-Hitch 250M FWTDs to make sure you can get the right one. By the way, you can find TACOM SOUM 08-024 online using this link:

[https://aeeps2.ria.army.mil/commodity/soum/tacom\\_wn/08/soum08-024a.html](https://aeeps2.ria.army.mil/commodity/soum/tacom_wn/08/soum08-024a.html)

Units authorized FWTDs should submit requisitions through normal supply channels. Units in theater should submit their requisitions through the operational needs statement (ONS) process for priority fielding status.

EYEBALL TM 9-2510-247-13&P TO GET MORE INFO ON THE PROPER USE OF YOUR FWTD.

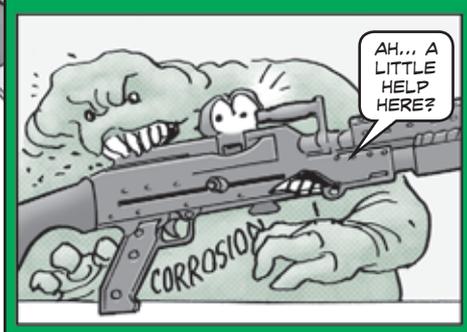
YOU CAN VIEW IT ONLINE: <https://www.logsa.army.mil/etmpdf/files/080000/081630.pdf>



**Are shiny spots on weapons something to worry about?**



If you don't treat the spots with solid film lubricant, NSN 9150-01-360-1908, the weapon will start to corrode. If more than a third of the finish is gone, the weapon probably needs to be overhauled. Check with field maintenance.



**Do I need to clean weapons 3 times before they're ready for storage?**

Absolutely not—and you'll hear just the opposite, guaranteed. The 3-time myth is one that won't go away. But the truth is that if you clean the weapon once like the -10 TM says then the weapon is ready for inspection and storage. It doesn't need to be cleaned or lubed again for 90 days—unless it leaves the arms room or shows signs of corrosion.

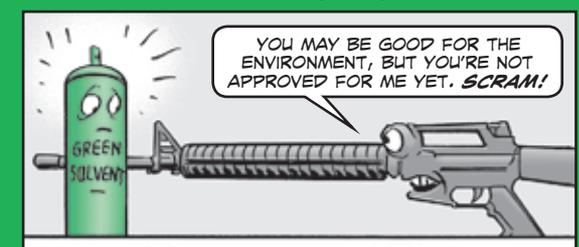
HEY, ENOUGH CLEANING ALREADY.

ONCE IS ENOUGH!

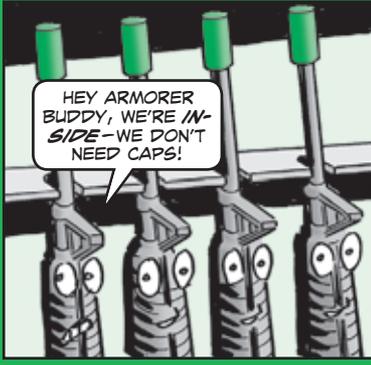
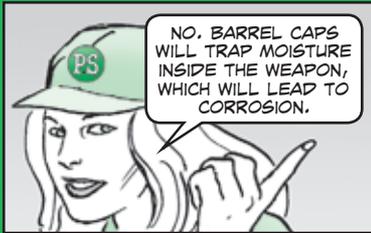


**Is it OK to use these new solvents on my weapons?**

Not yet. The Army has still not made a decision on whether these new solvents are OK for small arms. So in the meantime, keep using the solvent called out in the weapons' TMs. But remember when you finish cleaning with solvent to wipe the solvent completely off and lube the weapon. Solvent cleans off everything, including lube. If you store weapons without relubing them, corrosion is just around the corner.

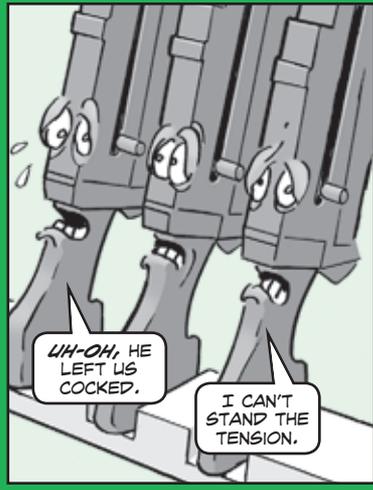


### Should I store weapons with the barrel caps?



### Should I store weapons cocked?

No. Store weapons with the bolts forward. If you store them cocked, the springs are left compressed and soon lose their spring. Then you get poor recoil and feeding.



### How can I get along better with my field maintenance?

By doing your job before you ask them to do theirs. Support complains that armorers bring weapons to them for gaging that haven't been cleaned. They can't gage dirty weapons and so must send them back to you. Support also gets weapons with problems that include some that should have been fixed by the armorer. Support won't do its repairs until you've done yours. They also won't accept weapons that don't have maintenance requests that are properly filled out and signed. It's no use hauling weapons over to support without the correct paperwork. You'll just have to cart them back unfixed. It's more work for you in the long run.



PS  
END

Small Arms...

# DON'T MODIFY YOUR WEAPON



Soldiers continue to try to improve their weapons by modifying them. They think they can come up with better ways to make their weapons work than can the Army's small arms experts.

That is a dangerous assumption. Putting an M4 buttstock on an M16 rifle, for example, can cause it to malfunction. You don't want that happening in the middle of a fire fight.

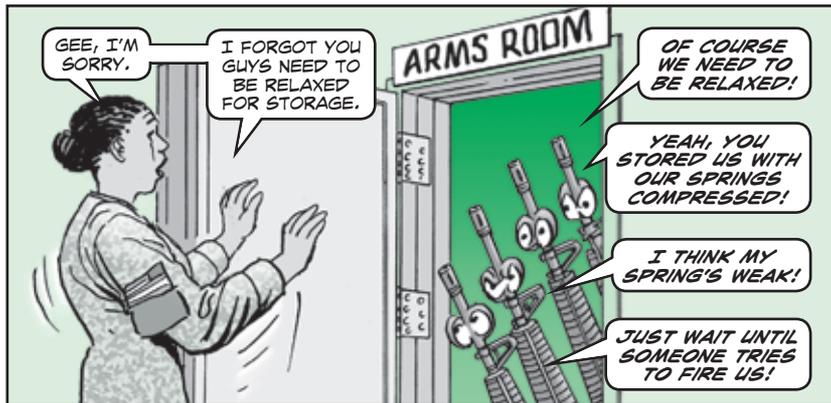
The **only** time a weapon can be modified is if the Army has approved a modification work order (MWO).

Para 3-1e in AR 750-10, *Army Modification Program*, makes this very clear: "Commanders will not allow their equipment to be modified unless there is an official MWO."

If you modify your weapon without authorization, you risk making it non-mission capable and you can be held responsible for any damage to it or your fellow soldiers.

If you want to help your weapon do its best, take care of it like its operator's TM tells you to. That's enough.

# STORE WEAPONS PROPERLY OR SUFFER CONSEQUENCES



Dear Editor,

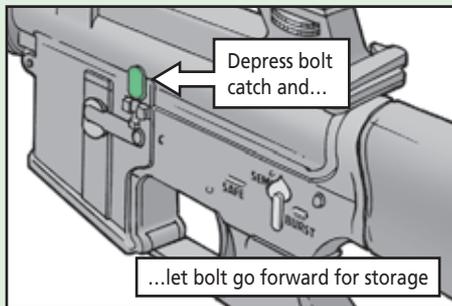
Could you remind your readers about the proper way to store rifles, machine guns and pistols? We repair many of the weapons here at Ft Sill and we're seeing too many weapons coming into the shop because they weren't stored with the hammer uncocked and the bolt forward.

If an M16, for example, is stored with the hammer cocked and the bolt locked to the rear, its hammer and trigger springs soon lose their strength and need replacing.

The rifle may also fail the trigger pull test, which means the hammer and trigger pins must be removed and then reinstalled. When the pins have to be removed too often, their holes enlarge and fail gaging and the lower receiver must be coded out.

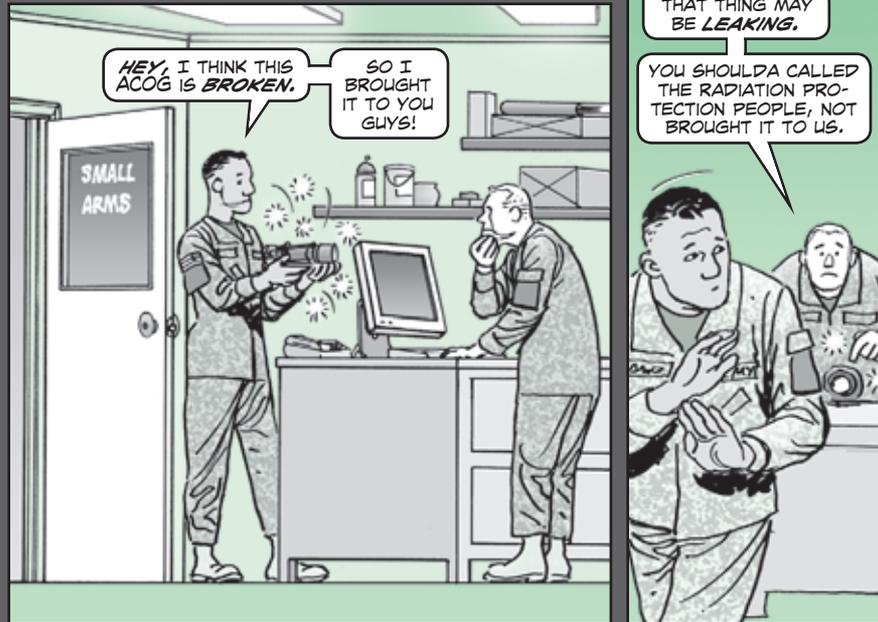
If the bolt's left locked back, the recoil spring will weaken and the rifle could jam in battle. *Not a good thing.*

Armorsers just need to remember to *always* leave the bolt or slide forward, the selector on SEMI and the hammer uncocked for storage. That leaves all the springs relaxed...and strong.



SFC G.F. MATES  
Ft Sill, OK

*Editor's note: Excellent advice. Just think relaxed, armorsers, when it comes to storing your weapons.*



# SIGHTS BROKEN? DON'T TAKE TO SUPPORT

Dear Editor,

Please emphasize to armorsers that if they have damaged sights that use tritium, they should *not* bring them to field maintenance. I'm talking about sights like the ACOG (advanced combat optical gunsight) or the TA-31 rifle scope.

If these sights are damaged, the tritium could be leaking. If they bring a leaking sight to support, then we have to notify our radiation protection officer and possibly have our small arms shop wipe tested. That is a hassle we don't need.

What armorsers should do is double bag the damaged sight in ziplock bags and notify the radiation protection officer. Do this anytime a sight is damaged, cloudy, or doesn't illuminate.

CW3 J.M.  
296th BSB  
Ft Lewis, WA

*Editor's note: Your suggestion will save everyone a whole sight of trouble. Thanks.*

Small Arms...

# WHERE DO YOU GET RETICLES?

HEY, *GOOD NEWS*. YOU'VE ALL GOT RETICLES FOR YOUR NIGHT SIGHTS NOW!

*EXCELLENT!* WE'RE ALREADY SEEING BETTER!

Dear Half-Mast,  
Are there reticles yet for the MK 19 and M249 machine guns for the AN/PVS-4 and AN/TVS-5 night sights?

SPC J.H.

Dear Specialist J.H.,

Yes there are. The reticle for the M249 comes with NSN 5855-01-039-2853, but it can be used only with the AN/PVS-4 night sight, which also requires a mounting bracket, NSN 3040-01-233-0352, for the M249.

The NSN for the MK 19 and M2 reticle is NSN 5855-01-192-9075 and it's used with the AN/TVS-5 night sight.

These are the reticles available for other weapons: The AN/PVS-4 reticle for the M16 rifle comes with NSN 6650-01-039-2854. The AN/PVS-4 reticle for the M240B machine gun can be ordered with NSN 6650-01-039-2853.

And the AN/TVS-5 reticle for the M2 machine gun comes with NSN 6650-01-043-8431.

*Half-Mast*

MK 19  
Machine  
Gun...

*GOOD NEWS!* NOW THERE'S A BRACKET THAT LETS US MOUNT TWO SIGHTS ON YOU.

*GREAT!* I'LL BE TWICE AS EFFECTIVE!

## Three Sight Brackets Available

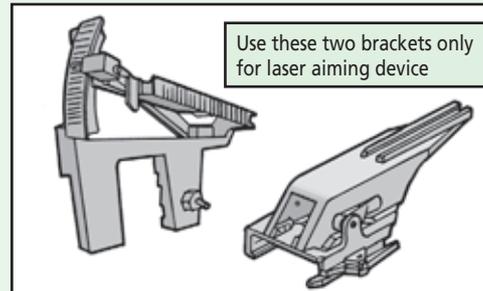
Dear Editor,

In PS 669 (Aug 08), you gave NSN 1240-01-515-3767 for ordering the sight bracket for the MK 19 machine gun.

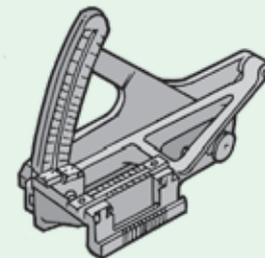
Actually, there are three brackets that can be used with the MK 19. The bracket that comes with NSN 1240-01-515-3767 should be used only for lightweight items, such as laser aiming devices like the AN/PEQ-2A, AN/PEQ-15, and AN/PEQ-15A. Another bracket, NSN 5855-01-045-5482, should be used only with the AN/PEQ-2A.

For heavier devices like the heavy weapon thermal sight (HWTS), you should use the bracket that comes with NSN 5340-01-434-2231. This bracket has two rails that allow you to mount both the HWTS for target detection and recognition and a laser aiming device for accuracy.

M.G.  
PM Sensors and Lasers  
Ft Belvoir, VA



Use these two brackets only for laser aiming device



This bracket can be used both with laser aiming devices and HWTS

**Editor's note:** Thanks for updating us on sight brackets, Sir. Make a note of these bracket NSNs, armorers. They're not listed in the MK 19 TMs. The Small Arms Integration Book has the most information on what sights can be used with what weapons. You can see it online at <https://www.us.army.mil/suite/portal/index.jsp> Type "SAIB" in the search block and click on **SEARCH**.

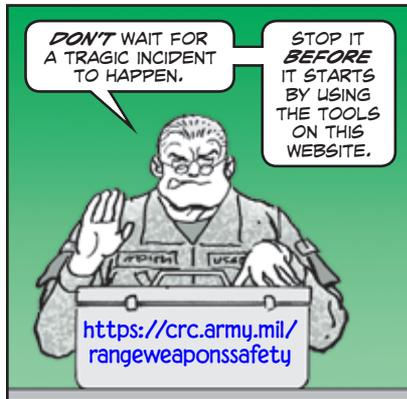
Safety... **Combat/Safety Center  
Launches New Toolbox**



The U.S. Army Combat Readiness/Safety Center (CRC) launched a new toolbox in early Oct. 08, to help leaders to prevent weapons handling accidents on military ranges.

Since FY 2000, 13 Soldiers have died and another five Soldiers have permanent physical impairments or disabilities from range accidents. Another 44 Soldiers received relatively minor injuries resulting in personal discomfort and lost duty time.

The Range and Weapons Safety Toolbox collection includes publications, training support packages and a variety of training aids, as well as links to other sites and tools like the Defense Ammunition Center (DAC) Explosive Safety Toolbox and the Ground Risk Assessment Tool (GRAT), which is designed to assist in identifying hazards and controls for various missions.

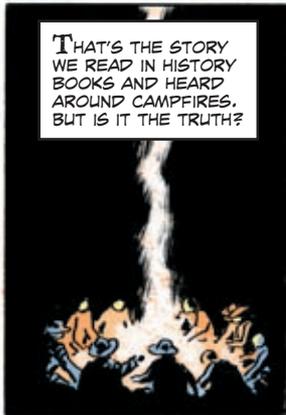




SEVEN YEARS LATER, JENKINS, WITH HIS SEVERED EAR IN HAND, PLEADED HIS CASE BEFORE THE BRITISH HOUSE OF COMMONS.



HAVING SUFFERED THROUGH A LONG PERIOD OF PEACE AND BORED WITH IT, THE BRITISH DECLARED WAR ON SPAIN. BY THE TIME IT ENDED IN 1748, THE WAR HAD GROWN INTO A GLOBAL CONFLICT.



THAT'S THE STORY WE READ IN HISTORY BOOKS AND HEARD AROUND CAMPFIRES. BUT IS IT THE TRUTH?

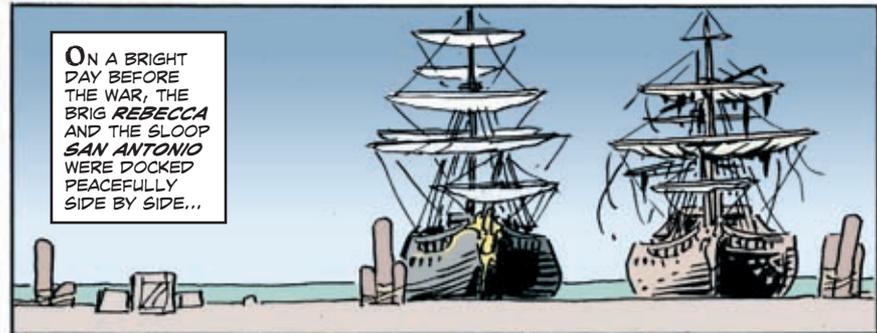


A RECENTLY FOUND DOCUMENT IN A HERMETICALLY SEALED RUM BOTTLE BURIED IN THE SAND NEAR A SEASIDE RESORT TELLS A DIFFERENT STORY.



IT'S A STORY THAT STARTED WITH A CARD GAME. SO LEND US YOUR EAR AND WE'LL TELL YOU THE REAL REASON JENKINS LOST HIS.

# THE TRUE STORY BEHIND The WAR of JENKINS'S EAR



ON A BRIGHT DAY BEFORE THE WAR, THE BRIG REBECCA AND THE SLOOP SAN ANTONIO WERE DOCKED PEACEFULLY SIDE BY SIDE...



IN THE CABIN ABOARD THE REBECCA ARE CAPTAIN JENKINS AND CAPTAIN FRANCISCO...

GOT ANY THREES?

GO FISH!



YOU DON'T UNDERSTAND THE CARD GAME, D'YOU?



ARE YOU CALLING ME A LOWDOWN SCALLYWAG?



YOU DON'T UNDERSTAND ENGLISH, DO YOU?

THERE'S ONLY ONE THING I UNDERSTAND AND THAT'S PREVENTIVE MAINTENANCE!

MY SHIP IS IN GREAT SHAPE BECAUSE OF GREAT PM!



LOOK AT YOUR SHIP, FRANCISCO, IT'S FALLING APART!



YOU INSULT MY *SHIP*, YOU INSULT *ME!* WE DUEL AT DAWN!

I'VE GOT A *BETTER* IDEA: LET US RACE AT DAWN.

MY PM-STRENGTHENED BRIG AGAINST YOUR PM-DEFICIENT SLOOP.



AGREED! SHALL WE RACE FOR PINK SLIPS?

WHITE, PINK, BLACK - WHATEVER THE COLOR LINGERIE YOU CHOOSE IS FINE WITH ME!



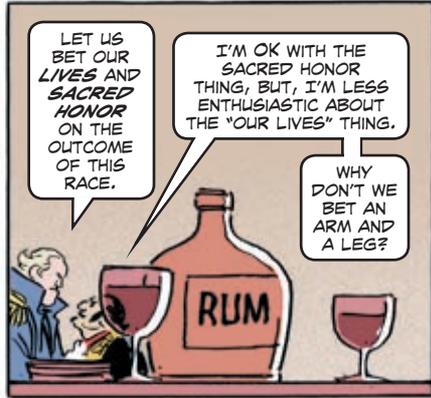
CAPTAIN FRANCISCO RETURNS TO HIS SLOOP WITH HEAD DOWN...

WHY SO GLOOMY, MI CAPITAN?



ARE YOU *SURE* YOU'RE THE CAPTAIN OF THIS SHIP?

AGAIN YOU INSULT ME.



LET US BET OUR LIVES AND SACRED HONOR ON THE OUTCOME OF THIS RACE.

I'M OK WITH THE SACRED HONOR THING, BUT, I'M LESS ENTHUSIASTIC ABOUT THE "OUR LIVES" THING.

WHY DON'T WE BET AN ARM AND A LEG?



I AM AFRAID I HAVE MADE A *FOOLISH* BET!

I HAVE BET MY *EAR* THAT MY *SAN ANTONIO* CAN OUTFRAN THE *REBECCA*.



BUT, I SEE NOW, BECAUSE I HAVE NOT KEPT UP WITH PM, THAT MY SHIP WILL LOSE THE RACE.

SIR, IT'S NEVER TOO LATE TO DO PM.



WHAT IF THE SHIP HAS *SUNK*?

WELL, THEN IT IS TOO LATE.

BUT, UNTIL THAT TIME ...IT'S NEVER TOO LATE.



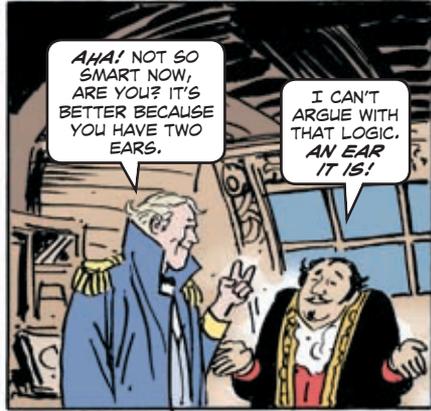
YOU AREN'T RELATED TO CAPTAIN JENKINS, ARE YOU?

NO, SIR. BUT, I DO KNOW A THING OR TWO ABOUT PM.



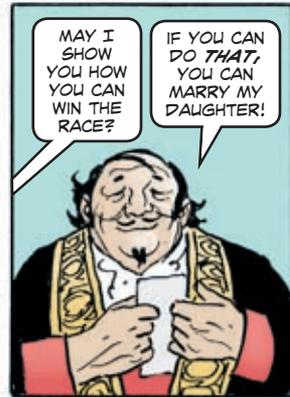
I HAVE A *BETTER* IDEA. LET'S BET AN *EAR*.

WHY IS AN *EAR* BETTER THAN AN ARM OR A LEG?



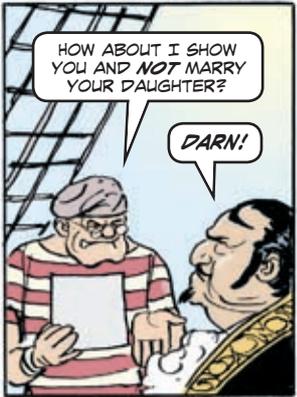
AHA! NOT SO SMART NOW, ARE YOU? IT'S BETTER BECAUSE YOU HAVE TWO EARS.

I CAN'T ARGUE WITH THAT LOGIC. AN *EAR* IT IS!



MAY I SHOW YOU HOW YOU CAN WIN THE RACE?

IF YOU CAN DO THAT, YOU CAN MARRY MY DAUGHTER!



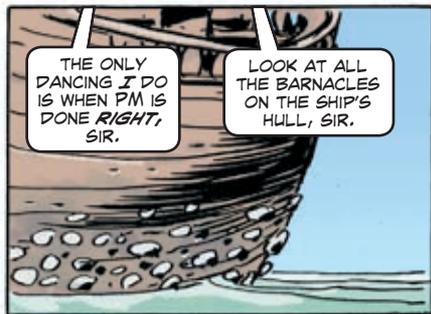
HOW ABOUT I SHOW YOU AND NOT MARRY YOUR DAUGHTER?

DARN!



SORRY, MATILDA. I TRIED.

ARE YOU SURE? SHE'S A GOOD WALTZER.



THE ONLY DANCING I DO IS WHEN PM IS DONE RIGHT, SIR.

LOOK AT ALL THE BARNACLES ON THE SHIP'S HULL, SIR.



IT SAYS IN THE TM THAT IN ORDER TO OBTAIN MAXIMUM SPEED YOU MUST KEEP THE BARNACLES SCRAPPED OFF THE HULL.

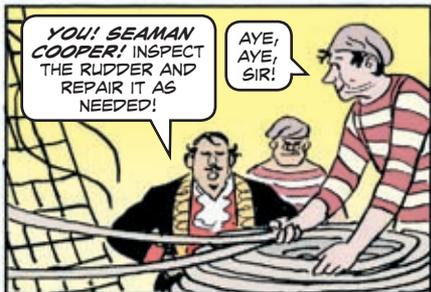


**YOU! SEAMAN GUILLERMO!** OVER THE SIDE AND SCRAPER THOSE BARNACLES!

AYE, AYE, SIR!



IT SAYS IN THE TM THAT THE RUDDER MUST BE INSPECTED DAILY AND REPAIRED AS NEEDED.



**YOU! SEAMAN COOPER!** INSPECT THE RUDDER AND REPAIR IT AS NEEDED!

AYE, AYE, SIR!



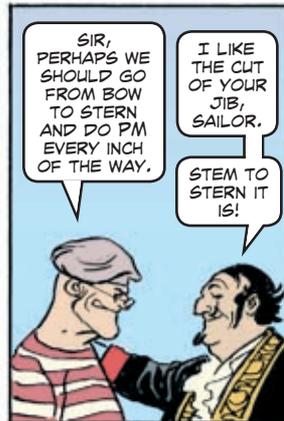
THE TM SAYS THE SAILS SHOULD BE CHECKED FOR HOLES AND THE HOLES SHOULD BE SEWN OR PATCHED AS NECESSARY.



SEAMAN! WHAT'S YOUR NAME?

TAYLOR, SIR.

**PERFECT!** REPAIR THOSE SAILS!



SIR, PERHAPS WE SHOULD GO FROM BOW TO STERN AND DO PM EVERY INCH OF THE WAY.

I LIKE THE CUT OF YOUR JIB, SAILOR.

STEM TO STERN IT IS!



**BOW, SIR!**



NO, SIR... I MEANT-

NEVER MIND! LET'S DO PM!!



BACK ON THE REBECCA, CAPTAIN JENKINS IS STILL OCCUPIED...

I WONDER WHAT THEY'RE UP TO ON CAPTAIN FRANCISCO'S SHIP?

IT LOOKS LIKE THEY'RE DOING PM, SAH.

MAYBE WE SHOULD BE DOING PM, TOO.



**NON-SENSE!** WE DID PM LAST MONTH. WHY DO IT AGAIN?

PM, SAH, IS NEVER COMPLETE. IT'S A JOB THAT MUST BE DONE EVERY DAY.



MAYBE YOU'RE RIGHT.

BUT, I'M STILL IN THE MIDDLE OF THIS FOOL CARD GAME!



THE DAY OF THE BIG RACE ARRIVES...

...AND THE SAN ANTONIO WINS BY A MILE.



THE TWO CAPTAINS MEET TO SETTLE THEIR BET...

THE SPOILS ARE AN EAR!

I THINK YOU MEAN THE SPOILS IS AN EAR.

THE DEBT IS PAID!

TO THE VICTOR GOES THE SPOILS!

SWHEW! I WAS WORRIED. I THOUGHT WE BET AN EAR!

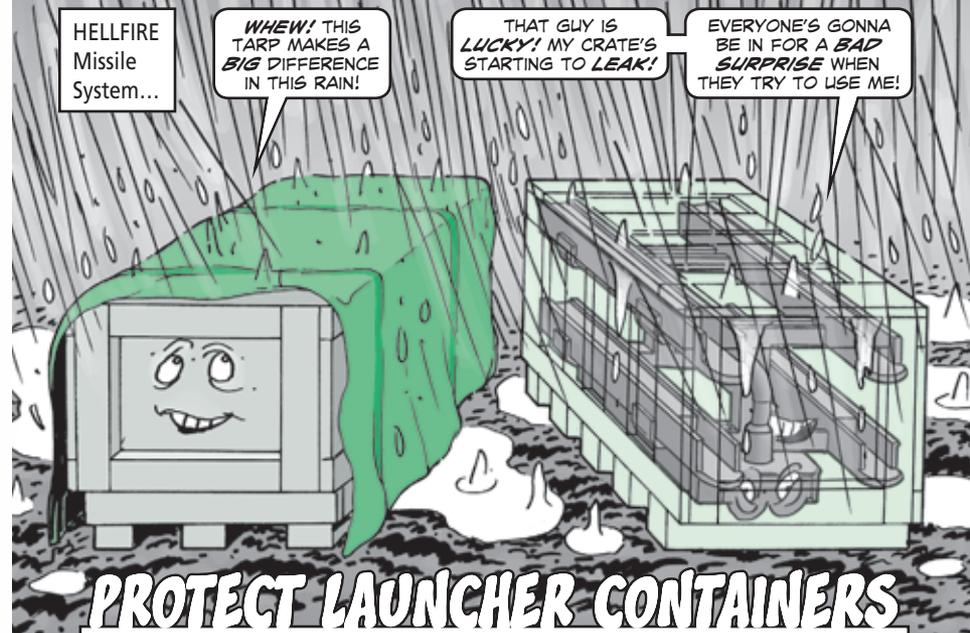
WHAT DID YOU SAY?



LISTEN UP! NOT DOING PM WILL ALWAYS COST YOU. IT MAY NOT COST YOU AN EAR... IN FACT...

...IT MAY COST YOU MORE!

DO PM EVERY DAY AND NEVER LOSE AN IMPORTANT RACE!



HELLFIRE Missile System...

WHEW! THIS TARP MAKES A BIG DIFFERENCE IN THIS RAIN!

THAT GUY IS LUCKY! MY CRATE'S STARTING TO LEAK!

EVERYONE'S GONNA BE IN FOR A BAD SURPRISE WHEN THEY TRY TO USE ME!

## PROTECT LAUNCHER CONTAINERS

The shipping containers for the HELLFIRE missile launchers aren't waterproof. If they're left sitting outside with no protection, water can seep in and mix with the chemical outgassing of the treated wood. That mixture can cause severe corrosion on the launcher. The moisture can also get in and damage the launcher electronics assembly (LEA).

If you must temporarily store launchers outside in their containers, put the containers and their pallets on 3-point dunnage (boards at least 4x4x88 inches) and cover them with a tarp.

But the best place to keep the launcher is inside the hangar where it has plenty of protection against the elements.

Any time your unit receives a launcher, do a complete PMCS on it as soon as possible and test it with the AN/AWM-101A test set. If you find corrosion or any other problems, contact your local depot maintenance tech (DMT) or the Joint Attack Munitions System (JAMS) Project Office:

[mslsPMJAMS@msl.army.mil](mailto:mslsPMJAMS@msl.army.mil)

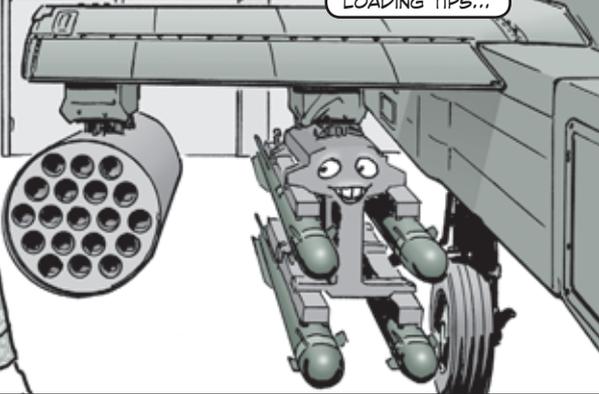


Cover launcher container with tarp and set it on 3-point dunnage

# A Load of Good Loading Info

IF YOU CAN'T LOAD YOUR HELLFIRES ON THE LAUNCHER, YOU SURE AS HECK WON'T BE BLOWING UP THE ENEMY.

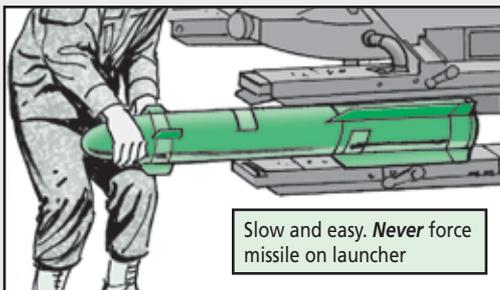
AVOID LOADING PROBLEMS BY GETTING A LOAD OF THESE LOADING TIPS...



## Take it slow and easy.

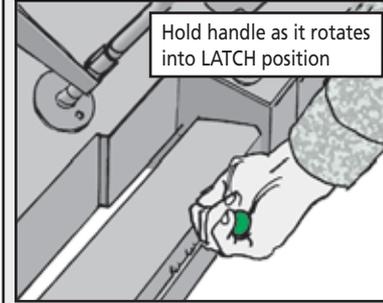
If you slam the missile into place, count on damaging the internal missile components, the shotgun connectors on the missile and on the launcher, and the missile stops on the rail. Make sure that you don't scratch the missile dome with any metal on your clothing, such as zippers or belt buckles. Place the release handle to UNLATCH. Slide the missile slowly down the rail, watching the spring of the upper/lower rail wiring harness. When the springs slightly compress, move the release handle to the LATCH position while you hold the missile in place. The play in the release handle should be no more than 10 degrees. When the missile is latched, it shouldn't move more than 1/4 inch.

A HELLFIRE should slide easily into place. If it doesn't, something is probably wrong with the launcher, missile shoes, or umbilical connector. Do not load a different missile. Get your repairman to check out the launcher.



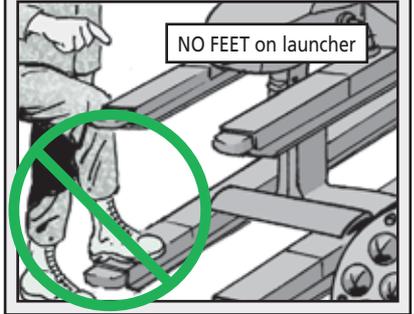
Slow and easy. *Never* force missile on launcher

**Hold the release handle as it rotates into the LATCH position.** If you let the handles flip down, it could damage the stop pin.



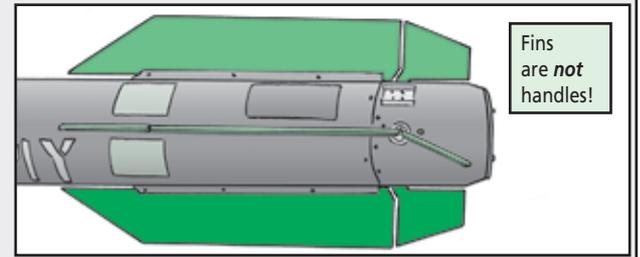
Hold handle as it rotates into LATCH position

**Don't put your feet on the launcher.** It's not a step. Your big feet can damage the EPC cover or break the connectors. Then the launcher is out for repairs.



NO FEET on launcher

**Don't use the fins as a handle.** They break and the missile is out of action. Hold the body of the missile to guide it into place on the launcher.



Fins are *not* handles!

MITAS...

## HIGH SECURITY LOCKS NEEDED?

Dear Half-Mast,  
We have heard that high-security locks are no longer required to secure MITAS (modified improved target acquisition system). Is that true?

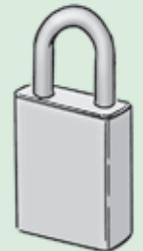
SGT G.M.

Dear Sergeant G.M.,

It's true. Now you can use the normal 5200-series padlock for securing MITAS. Your MITAS support people can give you a copy of ITAS/MITAS and IBAS Security Classification Guide (Aug 07) that authorizes this. Or you can email:

[@us.army.mil](mailto:@us.army.mil)

Or call her at DSN 746-3006, (256) 876-3006.



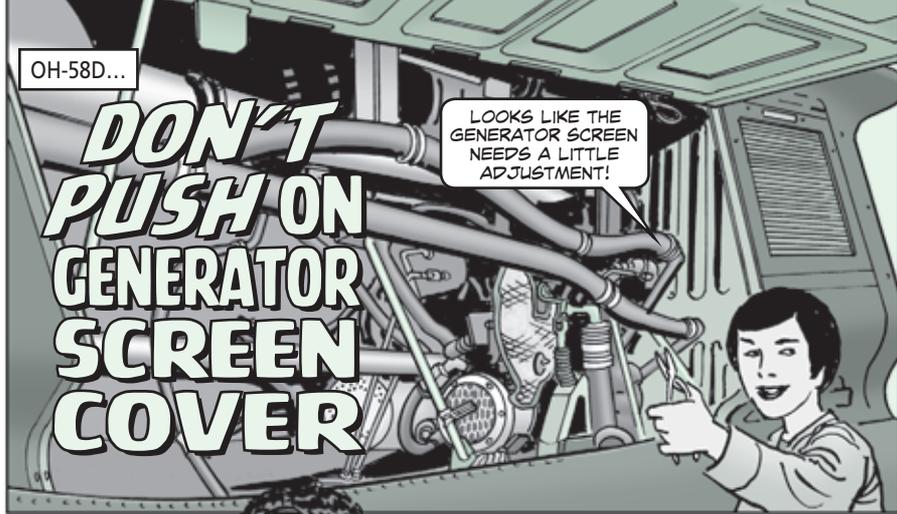
5200-series padlock OK for securing MITAS

*Half-Mast*

OH-58D...

# DON'T PUSH ON GENERATOR SCREEN COVER

LOOKS LIKE THE GENERATOR SCREEN NEEDS A LITTLE ADJUSTMENT!



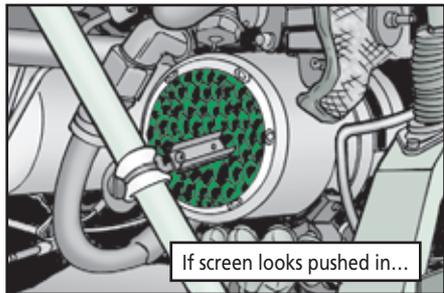
MECHANICS, BE CAREFUL HOW YOU HANDLE YOUR OH-58D'S DIRECT CURRENT GENERATOR COVER AFTER MAINTENANCE OPERATION CHECKS (MOC).



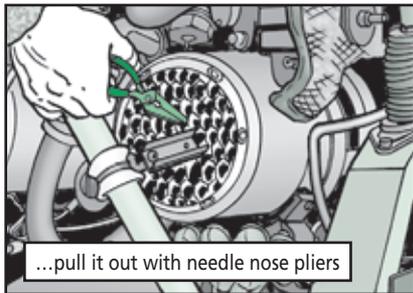
While doing maintenance, the cover is removed for MOC. But when it's time to reinstall the cover, don't shove it back in place too hard and push on the screen. That's because the blades are behind the generator cover.

When you push the screen too far in it gets in the way of the generator fan blades. When you run up your bird, the spinning fan blades will rub against the screen scraping off fine metal particles that can get ingested into the generator and cause it to fail. Then your bird will be NMC until the generator is replaced.

On your next inspection, check to make sure the screen is out of harm's way of the blades. If the screen is pushed in too far, use a pair of needle-nose pliers to pull the screen back in place away from the blades.



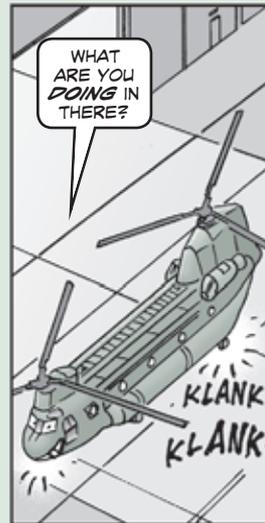
If screen looks pushed in...



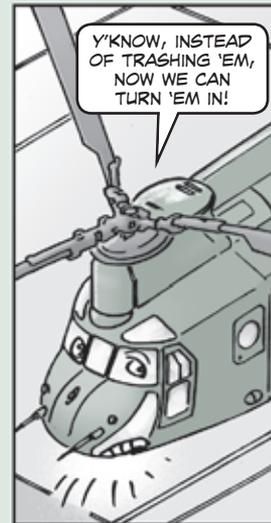
...pull it out with needle nose pliers

CH-47D...

# FIRE EXTINGUISHER SQUIBS IN STOCK



TIME FOR THESE SQUIBS TO COME OUT AND GO INTO THE TRASH.



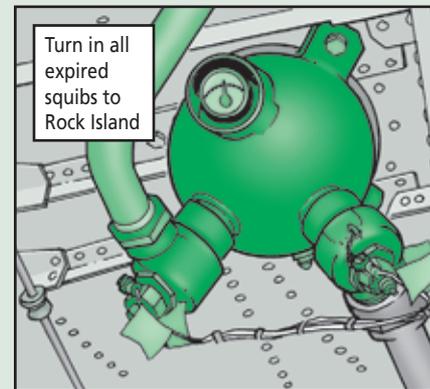
Mechanics, the once hard-to-get fire extinguisher squibs for your Chinook are now available in the supply system.

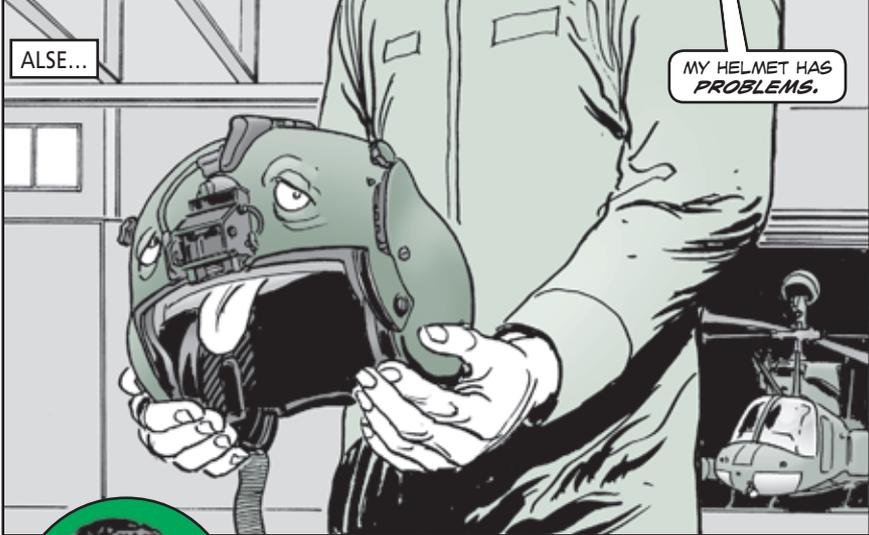
Just order the extinguisher squibs with NSN 1377-01-185-2622 and NSN 1377-00-101-0428.

And there's more good news. When the shelf life or service life of the squibs expire, don't discard them after removal. The Rock Island head shed wants squibs returned so they can determine whether they can extend their shelf or service life for reuse.

To get the shipping information for expired squibs, contact the quality assurance manager, \_\_\_\_\_, DSN 793-7584, (309) 782-7584 or email:

[@us.army.mil](mailto:_____@us.army.mil)





**HELMET PROBLEMS? LET ALSE TECH TAKE CARE OF FIXES!**

## Have It Your Way Maintenance

Pilots and co-pilots, taking one class on aviation life support equipment (ALSE) doesn't make you an expert helmet repairer.

Do-it-yourself maintenance fixes on the HGU-56/P aircrew integrated helmet system (AHIS) only cause unnecessary helmet damage and frustration for the ALSE tech.

Since you don't have the tools or all the knowledge to repair the helmets, report helmet problems to the ALSE tech while you stick to flying and taking care of your bird. That means staying out of the helmet repair business.



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

## AGSE... PARTS FOR MAINTENANCE STAND



Dear Sergeant Blade,  
 Recently a young soldier asked me how to take care of maintenance stands we have around the hangar. I told him to identify the stand by the NSN and locate what he needs. He came back to me stating he could not find any information.  
 I researched and found NSN 1730-00-269-8283 for the low-level maintenance platform. During my research, I found publications for several types of maintenance stands but nothing on the low-level stand.  
 Do you have any TM and repair part information?  
 SGT J. B.

Dear Sergeant J. B.,  
 Yes, we can help you with your maintenance stand parts. But when it comes to TMs, the stand was never supported and does not have a TM for maintenance. There's not much maintenance on the stand anyway.  
 However, you can order the parts you need with this information:

- Wheel assembly with universal brake, NSN 5340-01-340-8799
- Quick release pin, NSN 5340-00-935-8804
- Body catch clamp, CAGE 63422, PN 99-105-CO-BP1\*
- Plate catch clamp, CAGE 63422, PN 99-106-CO-BP1\*

\*Order on a DD-Form 1348-6.

*Rotor Blade*

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

All Aircraft...

HMMM... WHERE'S THE **GOOD SOAP!**

AHH, I'LL JUST USE THIS STUFF WE GOT AT THE PX.

Y'KNOW, THAT'S A LOT OF **SUDS...**

# WHAT ARE YOU

# CLEANING WITH?

HOW DO I FIND OUT WHAT'S OK?

CHECK OUT GEN-MIM 2005-005 TO SEE WHAT'S AUTHORIZED.

BUT, **FIRST**, GET THOSE **SUDS** OFF THAT BIRD!

**WHOA!** YOU CAN'T USE JUST **ANY** OLD CLEANER ON YOUR HELICOPTER! IT'S GOTTA BE **APPROVED!**

It's not a good idea to use high-pressure water to blast grime away from your bird's exterior. Neither is it good to use unauthorized cleaners.

When cleaning your aircraft, **never** use industrial cleaners, detergents and degreasers (including Simple Green) that the Army hasn't tested and approved.

Some unapproved cleaners have a "citrus" compound called "D-Limonene." These commercial cleaners did not pass Army performance tests and should not be used. These cleaners cause corrosion when runoff is trapped in nooks and crannies and that reduces strength in steel, make alloys brittle, degrades canopy transparencies, damages painted surfaces and cadmium plating.

If you've used unapproved cleaners on your bird, lots of fresh water and an approved Army cleaning agent will get the stuff off.

Check your airframe TMs for approved cleaners. Follow up cleaning with a corrosion inspection and treatment. Apply approved corrosion preventive compound like it says in your -23 TMs and the info in TM 1-1500-344-23, *Cleaning and Corrosion Control*.

Make sure that every cleaning product used on your bird is approved by the Army and is listed in your TMs. Then check MIL-PRF-85570 and MIL-PRF-87937 and order the approved cleaners you need.

IF YOU NEED A COMPLETE LIST OF APPROVED AIRCRAFT CLEANERS AND CPCs, ALONG WITH THEIR NSNs, CHECK THE AMRDEC CORROSION SECTION ON AKO.

<http://www.us.army.mil/suite/page/219232>

Take a look at GEN-MIM 2005-005 for additional details on aircraft washing equipment, cleaners and procedures.

M230 Gun...

**DON'T BE A DUMMY, GET A DUMMY!**

GET A CONTINUITY TEST ROUND MADE. IT MAKES CONTINUITY CHECKS A SNAP!

PS676

42

MAR 09

Dear Editor,

Through my work as an armament logistics assistance representative, I've found that most aviation units aren't aware that you can fabricate a continuity test round for the M230 gun.

The test round makes it much easier to do the continuity checks on the entire gun system. And the test round can be fabricated from a standard M230 dummy round, NSN 1305-01-164-0206.

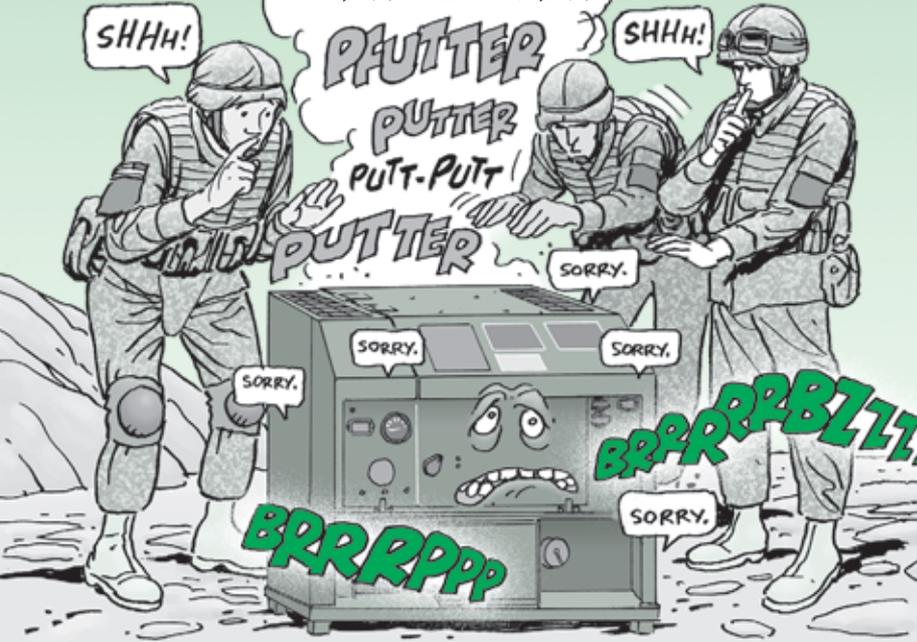
The instructions for making the test round are in IETM 1-1520-Longbow/Apache under "Task, Armament System, Area Weapon System".

G.S.  
Logistics Assistance Office  
Ft Hood, TX

*Editor's note:* Thanks for clueing us in to the test round, Sir. That should make PMCS simpler for aviation crews.

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

# REPLACE THE MUFFLER HARDWARE



IN THE PAST, OUR ADVICE WAS TO CHECK THE MOUNTING HARDWARE OFTEN AND TIGHTEN AS NECESSARY.

OUR ADVICE *DID NOT* SOLVE THE PROBLEM.




Don't reuse the lock washers. Get new ones with NSN 5310-01-476-9079.

SO, WE HAVE **NEW** ADVICE. USE **STRONGER** MUFFLER-MOUNTING HARDWARE!

Replace the current muffler bracket mounting cap screws—M6, 8.8—with cap screws—M6, 10.9—NSN 5305-01-303-5631.

Replace this black screw...

...with this yellow screw

Add two new flat washers, NSN 5310-01-566-5242, to each cap screw. These washers are black and thicker than the old yellow washers

THE MUFFLER ON THE 3-KW TACTICAL QUIET GENERATOR TAKES QUITE A SHAKING WHILE THE GENERATOR IS RUNNING

PUTT S-S-S-SAW REE. FZZZZZZZ ZZBZZZZZ

THIS VIBRATION LOOSENS THE MOUNTING HARDWARE AND LEADS TO CRACKS IN THE EXHAUST PIPE.

A CRACK IN THE PIPE OR MUFFLER CAN LEAD TO EXHAUST SYSTEM FAILURE, WHICH MEANS MORE SMOKE AND NOISE.

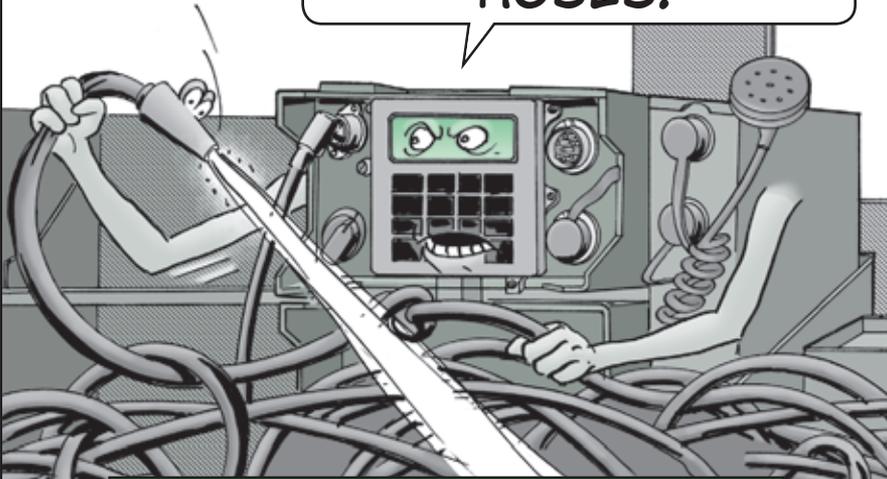
IT CAN ALSO LEAD TO GENERATOR SET DAMAGE OR FAILURE!

It could be that this job has already been done on your generator. Check the top of the cap screws. If the top has a raised W.T 10.9 and is yellow, you're good. If it has a raised FS 8.8 and is black, you're bad. Replace the hardware!

Look for these raised letters

Black and raised? Replace them

**JUST SAY NO  
TO HIGH PRESSURE  
HOSES!**



**S**ome folks think the terms "water-resistant" and "waterproof" mean the same thing. These are the same folks who have their SINCGARS radios in the shop for repair.

Your vehicle's SINCGARS radio is water-resistant. It is not waterproof.

Water-resistant means it will withstand normal encounters with high humidity and light rain.

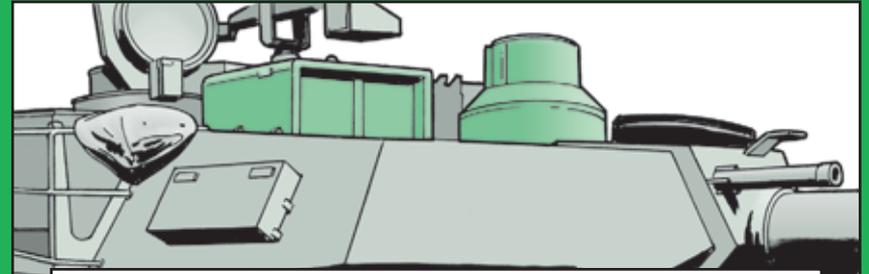
Since it is not waterproof, any blasts from a high-pressure hose forces water into the radio. Corrosion and shorts will follow.

The best solution is to remove the radios when you use high-pressure hoses to wash your vehicles.

If you can't take the radio out before you wash your vehicle, cover your radio with a tarp or equivalent waterproof cover and keep the high-pressure water away from it. It's better to have a little dirt inside the vehicle than to have a little water inside the radio.

Pass the word on this at the wash rack. If you see someone blasting the inside of their vehicle with a high-pressure hose and their radio is still inside, shut their water off!

# SENDING IN PARTS FOR REPAIR



The forward looking infrared (FLIR) sights manufactured by Raytheon has more than a few circuit card assemblies, like the scan control, NSN 5998-01-449-4403; the digitizer, NSN 5998-01-449-6275; the video processor, NSN 5998-01-476-1482; and the video converter, NSN 5998-01-449-6270. It also has cables, like the blower interface cable, NSN 5995-01-463-3747; and filters, like the EMI filter assembly, NSN 5998-01-449-6276.



WHEN THESE AND OTHER PARTS OF THE FLIR FAIL, WHERE SHOULD YOU SEND THEM?



TOBYHANNA ARMY DEPOT - THAT'S WHERE!



TOO MANY OF YOU ARE SENDING THEM TO RAYTHEON.

WHAT TH-!? MORE FLIR'S?

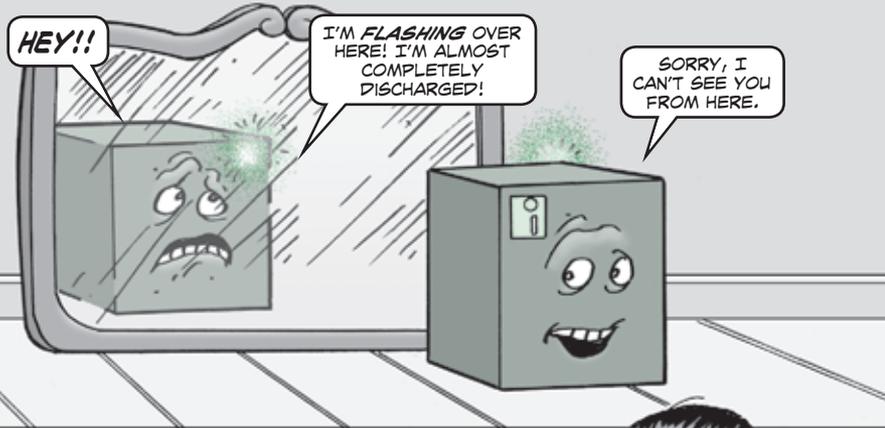
RAYTHEON MAY EVENTUALLY GET THEM FOR REPAIR, BUT THEIR FIRST STOP SHOULD BE AT TOBYHANNA FOR ANALYSIS TO SEE JUST HOW MUCH AND WHAT KIND OF REPAIR THEY NEED.

SO, SHIP ALL FAILED FLIR PARTS TO:  
Tobyhanna Army Depot  
11 Hap Arnold Blvd  
Bldg 11  
Tobyhanna, PA 18466-5059  
USE DODAAC W25G1W.  
USE RIC BYG.



IF YOU HAVE ANY QUESTIONS ABOUT THIS PROCESS, CONTACT AT DSN 992-7036 OR (732) 532-7036. OR REACH HIM BY EMAIL:  
[us.army.mil](mailto:us.army.mil)

# When the SOCI and CDD Don't Talk



The BA-5390A/U lithium battery, NSN 6135-01-517-6060, is used in a lot of equipment, including your SINCGARS radio. But a communications problem between the complete discharge device (CDD) and the state-of-charge indicator (SOCI) can lead to unfortunate results.

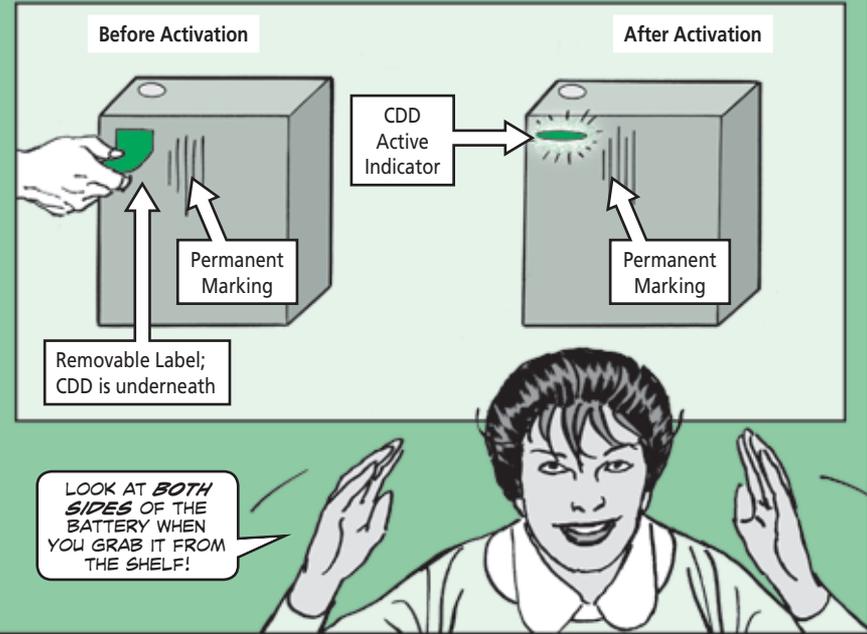


Someone in the know in your battery shop analyzes the battery and decides that the battery doesn't have enough charge left to power a piece of equipment. They make the decision to activate the CDD so that the battery can be processed as nonhazardous waste. So they peel off the CDD label and activate the discharging indicator—a yellow light.

Now the battery goes on a shelf where it could sit for days while it's discharging. Someone not as much in the know comes along looking for a battery to use. He presses the SOCI, which indicates the battery still has juice. He decides that's enough juice for him to use the battery.

The SOCI has not registered the amount of life that has left the battery since the start of discharging. It still reads the same as it did when the CDD was activated. The new user has been misled!

Down the road, batteries will be available that correct this problem, but it will be a while before they arrive. In the meantime, check for an activated CDD on any battery you grab. Is the label gone? Is the yellow light on? And, if the CDD is activated, don't push the SOCI. It's pointless because the measurement is no longer accurate.



IM-93/UD Radiacmeter...

## WHERE DO I GET CAP?

Dear Half-Mast,  
The IM-93/UD radiacmeter is supposed to have a dust cap. But I can't find an NSN in TM 11-6665-214-10 for replacing a lost cap. Is there an NSN?  
SFC D.D.

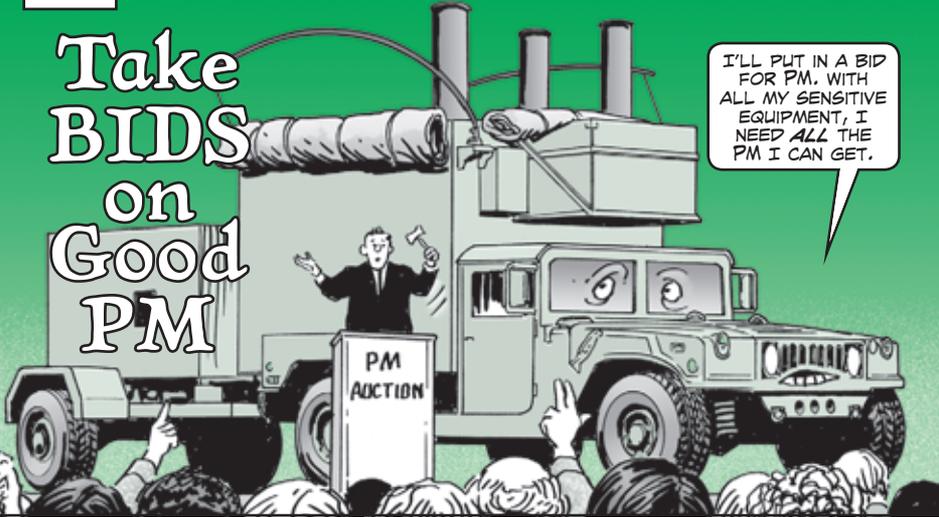
Dear Sergeant D.D.,  
No. You will need to order dust caps directly from the manufacturer, Arrow-Tech. Call (701) 477-6461 or email [ron@arrowtechinc.com](mailto:ron@arrowtechinc.com) or go to their website: <http://www.arrowtechinc.com>

Order cap from manufacturer



Half-Mast

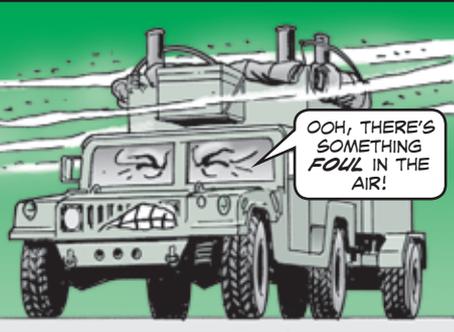
# Take BIDS on Good PM



I'LL PUT IN A BID FOR PM. WITH ALL MY SENSITIVE EQUIPMENT, I NEED ALL THE PM I CAN GET.



THE BIDS (BIOLOGICAL INTEGRATED DETECTION SYSTEM) CAN DO AMAZING BIOLOGICAL DETECTION WITH ITS COLLECTION OF SOPHISTICATED EQUIPMENT.



OOH, THERE'S SOMETHING FOUL IN THE AIR!

BUT SOME OF THAT EQUIPMENT IS BOTH FRAGILE AND EXPENSIVE AND REQUIRES SENSITIVE CARE ON YOUR PART.

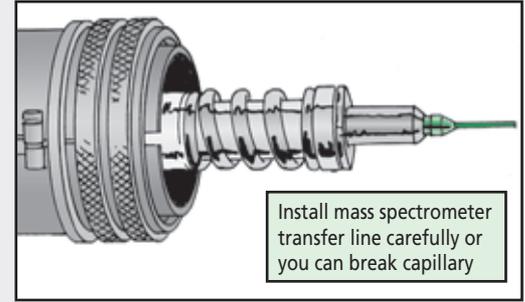


CAREFUL!

## M31A1 Version

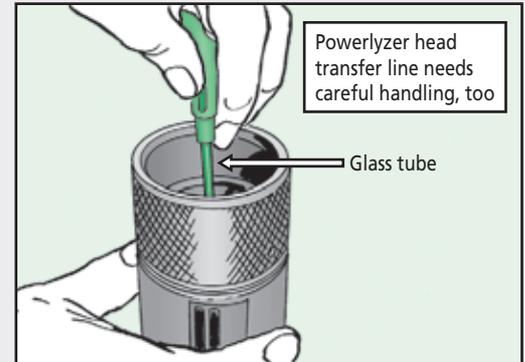
The transfer line for the mass spectrometer has a fine capillary that runs all the way through the line. If you handle the line roughly, count on breaking the capillary. That means the whole \$10,000 transfer line must be replaced.

Install the line very carefully, following the procedure in WP 014500 in TM 3-6665-350-12&P. If you've never put the line on before, get experienced help. Never try to force the line on. When the line is not connected, put on its protective cap to prevent damage to its tip.



Install mass spectrometer transfer line carefully or you can break capillary

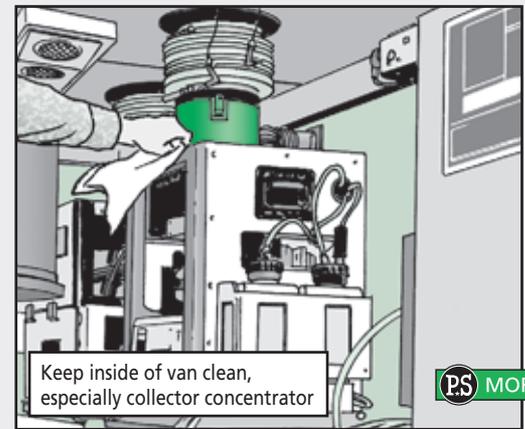
Also use care with the transfer line that goes in the powerlyzer head. The line has a glass tube that breaks easily if you're careless installing the line. If the tube does break, don't try to dig out the pieces with a screwdriver. That tears up the heater stage in the head, which costs \$1,600. Let your maintenance contractors take care of it.



Powerlyzer head transfer line needs careful handling, too

Glass tube

Keep the inside of the van as clean as possible and keep the door closed as much as possible. The more dirt that's inside the van, the more likely dirt will clog the air passages of the BIDS equipment and cause failures and bad readings. Vacuum inside the van and clean surfaces with towels and water. Pay special attention to the collector concentrator when you clean.

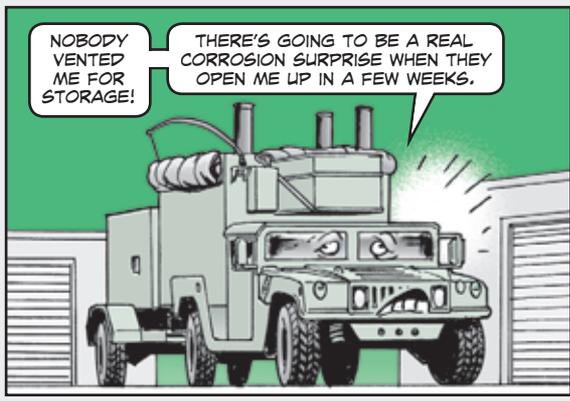


Keep inside of van clean, especially collector concentrator



Because some of the BIDS equipment uses bleach, it's very important to vent the van when you shut it up for storage. If the bleach fumes are trapped in the van they can cause big-time corrosion.

The best way to vent the van is to install the intake stack on top of the shelter.

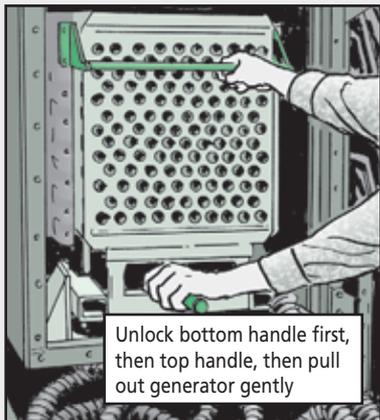


### M31E2 JBPDS

When you pull out the generator, just tugging on the bottom locking handle doesn't unlock the generator. Sliding out the generator by yanking only on the bottom locking handle breaks the slide stops. You could end up pulling the generator completely off the van.

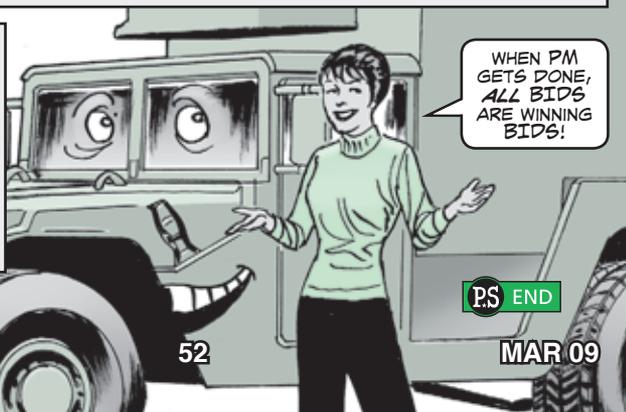
The correct way is to first lift up the bottom handle and, while holding the handle up with one hand, pull up on the top locking handle. Now the slide is completely unlocked. Gently pull out the generator until it locks in place.

See WP 0007 in TM 3-6665-350-12&P for more info.



### Driving

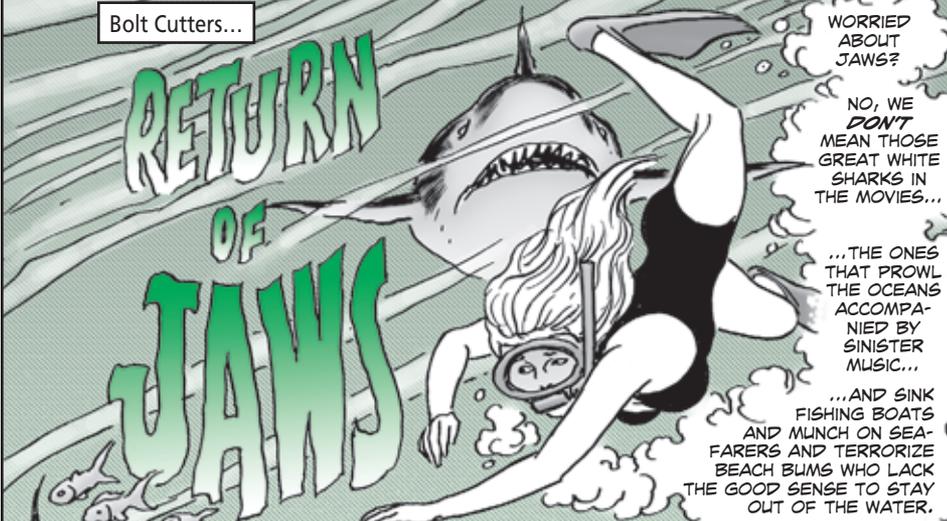
Remember that both versions of BIDS are top-heavy. That means you must drive with extreme caution or you could turn over.



PS END

Bolt Cutters...

# RETURN OF JAWS



WE MEAN THE JAWS ON A BOLT CUTTER, THE ONES USED FOR CUTTING BOLTS, RIVETS, RODS, CHAINS AND PADLOCKS.

SOONER OR LATER, THOSE JAWS GET DULL AND WEAR OUT.

WHEN THEY DO, YOU NEED TO REPLACE THEM.

HERE ARE SOME NSNS FOR REPLACEMENTS...



Bolt Cutter NSN 5110-	Jaws NSN 5110-01-
00-188-2524	381-0808
00-224-7055	380-5089*
00-224-7056	381-0790*
00-224-7057	380-5088*
00-596-9155	380-5095*
00-596-9156	380-5091*
00-596-9162	378-4608
01-491-7478	502-3253

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



# Roof and Cutting Help



IF THE ROOF IS SAGGING ON YOUR SHOP EQUIPMENT WELDING TRAILER OR YOU WOULD LIKE CUTTING HELP, PLEASE READ ON.

## Roof

A sagging roof on the shop equipment welding (SEW) trailer can let water, snow, and ice collect, which eventually leads to leaks. A T-bracket can prevent sagging. Here's how to make the bracket:

You'll need a tape measure or square, a hacksaw or reciprocating saw, a grinder and welding equipment. These are all part of the SEW. The bracket can be welded with any process, but shielded metal arc welding (SMAW) or gas metal arc welding (GMAW)/flux core arc welding (FCAW) are the fastest.

You'll also need two feet of 1 1/2 x 1 1/2 x 1/8-in angle iron.

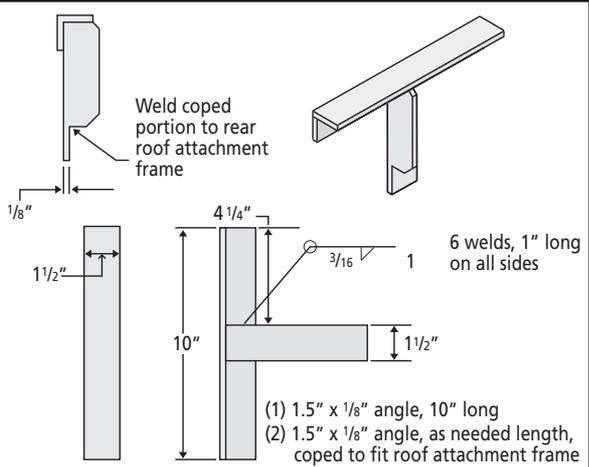
To make the bracket, first open the back doors and roof of the SEW. Make sure the rear stabilizer legs are deployed. Have someone stand underneath the rear cross-member of the square roof attachment frame and push up the roof as far as they can.

Measure the distance from the roof to the top of the square roof attachment frame. Take this measurement and add 1 1/2 inches (for example, 3 1/2 inches become 5).

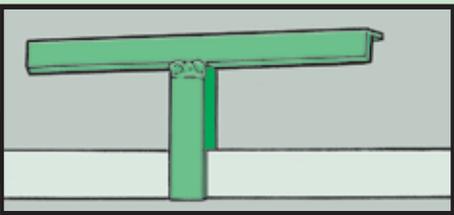
CUT A PIECE OF ANGLE IRON TO THAT LENGTH.



TAKE 1 1/2 INCHES OFF OF ONE FACE OF THE ANGLE IRON AS SHOWN IN THE DRAWING.



Trim the remaining angle iron to 12 inches long. Center and square the first piece on the second piece as shown and then weld as shown.



The bracket can be either welded or bolted into place on the SEW.

## Cutters

A PLASMA CUTTER IS AUTHORIZED BY REMARKS 16 IN SC 4940-95-B33.

IT CAN BE LOCAL PURCHASED USING THESE PART NUMBERS AND CAGE CODES...



Item	P/N	Cage	Qty
Plasma cutter kit	67500VKT	2N560	1 kit
Kit Components:			
Plasma cutter	907404-01-1	2N560	1
Accessory kit	675PTSKT	2N560	1 kit
Airline kit	228926	40608	1 kit
Element	228928	40608	4
Retaining cup	192050	40608	2
Tip	204325	40608	20
Swirl ring	192049	40608	2
Electrode	192047	40608	20
O-rings	169232	40608	10
Silicone grease	169231	40608	2
Circle cutting guide	195981	40608	1
Accessory box	3750	2N560	1

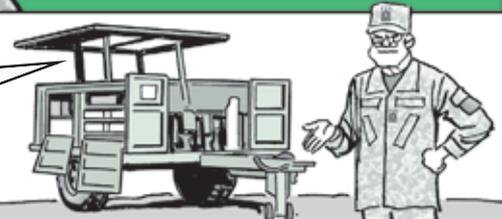


THERE IS ALSO AN EXOTHERMIC CUTTING KIT AUTHORIZED BY REMARKS 16 FOR LOCAL PURCHASE.

USE THESE PART NUMBERS AND CAGE CODES...

Item	P/N	Cage	Qty
Exothermic torch kit	PCA200KVT	2N560	1 kit
Kit Components:			
Apron	4236	2N560	1
Torch body	BR24E	2N560	1
1/4 cutting rods	1418PCSPS	2N560	1 pkg
3/8 cutting rods	3818CSPPS	2N560	1 pkg
1/4 torch adapter	PCRP-305B	2N560	1
3/16 torch adapter	PCRP-305D	2N560	1
1/2 torch adapter	PCRP-305C	2N560	1
Battery	230789	2N560	1
Battery charger	413242	2N560	1

IF YOU HAVE QUESTIONS ABOUT THE SEW, CONTACT TACOM'S AT DSN 793-0633, (309) 782-0633, OR EMAIL [us.army.mil](mailto:us.army.mil)



# ARMY COMBAT BOOTS: FROM THE GROUND UP

IF A SOLDIER'S BEST FRIEND IS HIS RIFLE, NEXT IN LINE MAY VERY WELL BE HIS BOOTS.

AFTER ALL, BOOTS PROTECT HIS FEET, ABSORB SHOCK AND PROVIDE TRACTION.

WHEN HIS COMBAT BOOTS HIT THE GROUND, HE TRUSTS THEY'LL SEE HIM THROUGH THE MISSION.

CONSIDERING HOW WELL YOUR BOOTS SUPPORT YOU, YOU NEED TO RETURN THE FAVOR BY SUPPORTING THEM.

START BY GETTING SOME BACKGROUND ON THE NEW FRESH-SIDE-OUT STYLE ARMY COMBAT BOOTS—BOTH TEMPERATE WEATHER AND HOT WEATHER.

ONCE YOU GET ACQUAINTED WITH THE BASIC FEATURES, THEN READ ON TO LEARN ABOUT FITTING, BREAKING IN, CLEANING AND CARE.

### Features

**BOTH THE TEMPERATE WEATHER AND HOT WEATHER ARMY COMBAT BOOTS SHARE THE FOLLOWING FEATURES...**

- currently issued in the Soldier's clothing bag
- authorized for wear with the Army combat uniform (ACU)
- breathable, flesh-side-out tan cattlehide leather
- removable cushion inserts

- combination leather and nylon upper
- combination speed laces and eyelets
- oil-resistant, durable rubber outsole
- shock absorbing midsole for reducing injuries

### TEMPERATE WEATHER BOOTS ALSO HAVE THESE FEATURES...

- leather pull tabs and comfort ankle collars

Pull tab helps you get a grip

- flame- and heat-resistant
- liquid fuel-resistant
- authorized for flight and combat vehicle crewmen

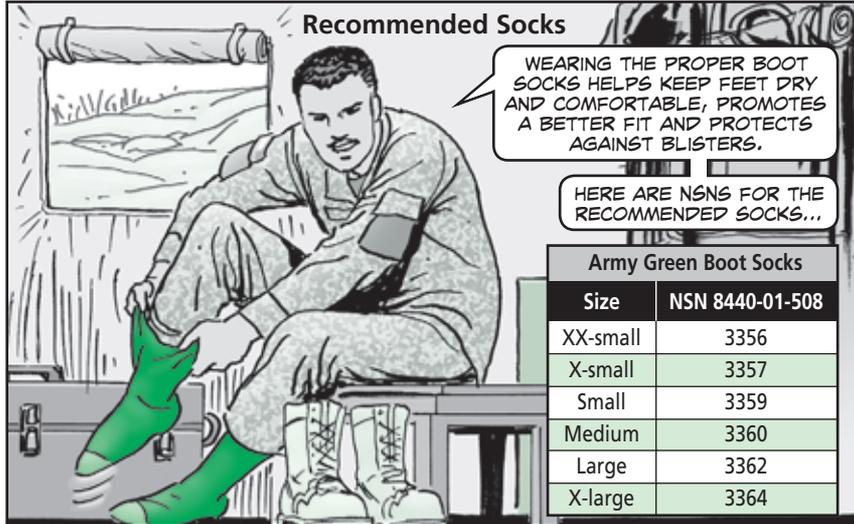
### AND HOT WEATHER BOOTS ALSO HAVE THESE FEATURES...

- padded comfort collars
- drainage eyelets on inner arches

Drainage eyelets help keep boots dry

## Fitting

Pull on your boots, seating the heels firmly in place. Lace them up. The boots should feel snug but not tight. There should be some room between the tip of the boot and your big toe—at least  $\frac{3}{4}$  inch. You'll need that extra room when your feet swell.



### Recommended Socks

Army Green Boot Socks	
Size	NSN 8440-01-508
XX-small	3356
X-small	3357
Small	3359
Medium	3360
Large	3362
X-large	3364

## Breaking In

Do not break in boots by soaking them in water or baking them in an oven. That just degrades the leather. Break them in gradually. Start by walking or marching in your boots for short distances. Over time, work your way up to longer distances. Be alert to any blisters. They're a sign your boots may not fit well or you're not wearing the proper socks.

## Cleaning

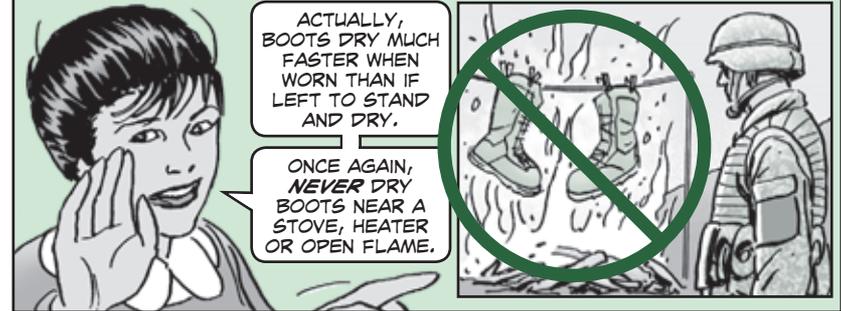
The boots are made for easy upkeep. Clean off dirt and mud with a stiff nylon brush. Then wash lightly in warm water. Do not clean your boots with soap. And never use alcohol or oil-based cleaners. They can damage the boots. Air dry the boots in the sun or shade. To protect the leather and nylon, never dry them near a stove, heater or open flame.



## Drying

Temperate weather boots are waterproof. Hot weather boots have drainage eyelets to help drain water. Both types of boots are made with water-resistant materials. Even so, the boots can become damp or wet from sweat or from water pouring over the top of the boot.

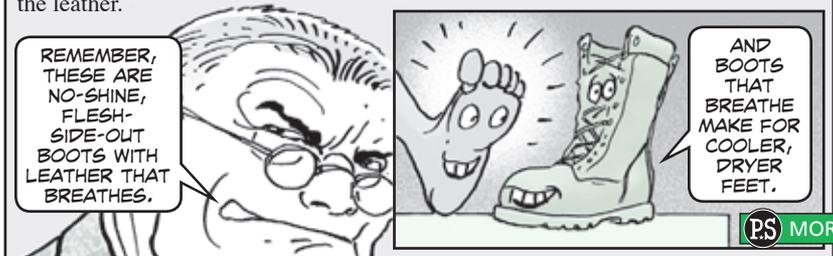
If your boots become wet, shake out the water and change into dry socks. Continue to wear the boots. Just make sure you change into dry socks regularly.



## Waterproofing and Polishing

As stated earlier, temperate weather boots are already waterproof, and hot weather boots are designed to drain water and dry quickly. **So don't apply waterproofing products to them.** That just clogs the pores in the leather so it can't breathe. Heat and moisture get trapped inside, making your feet uncomfortable. These products also increase the boots' drying time and degrade the leather.

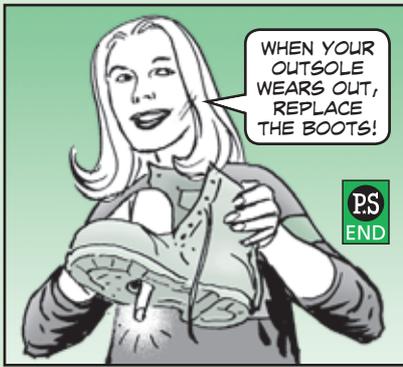
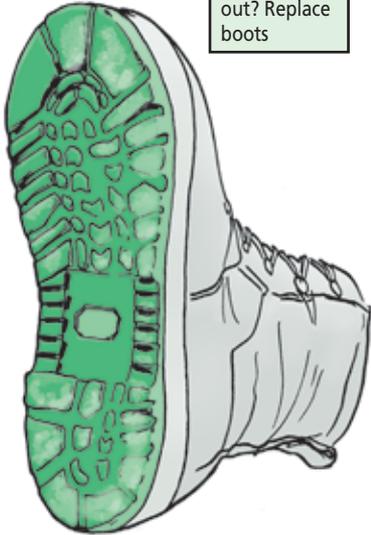
The same thing holds true for polishing. **Don't apply polish to your boots.** You'll clog the pores and discolor the leather.



## Outsole

Your boots come with a replaceable rubber lug outsole. Don't wear out the boots past the outsole into the softer midsole cushion. You could end up damaging your boots and injuring your feet. When the outsole wears out, replace the boots.

Outsole worn out? Replace boots



# Connie's POST SCRIPTS

## LIGHTWEIGHT HEAD WRAP

Need some light headgear to block the sun and sand? Try a Recon Wrap made by Spec-Ops®. The lightweight microfiber wrap can be worn in hot and cold weather. Use it as a sweatband, balaclava, neck gaiter, helmet liner, face cover, goggle cover or dust filter. The wrap is not in the Army inventory. But it is on a GSA schedule. Go to the GSA Advantage website:

<https://www.gsaadvantage.gov>

Once you get to the home page, do a search on the following part numbers:

Color/pattern	Part number
Black	100010101
Coyote brown	100010111
Digital camouflage	100010113

## UH-60 Tail Rotor Blade Correction

On page 38 of PS 672 (Nov 08), the text and the balloons read "leading edge cracks." That's not correct. It should read, "trailing edge cracks."

## MRAP MAC Chart

The commercial off-the-shelf manuals for GDLS-C and RG31A2 MRAP vehicles do not include the maintenance allocation chart.

You can get a copy of the chart online:

[https://aeps2.ria.army.mil/commodity/mam/tacom\\_wn/08/GDLSRG31A2.pdf](https://aeps2.ria.army.mil/commodity/mam/tacom_wn/08/GDLSRG31A2.pdf)

## HEMTT/PLS/HET Headlight Adjustment

The current headlight adjustment procedure in your HEMTT, PLS and HET maintenance manuals could leave the headlights aimed incorrectly. But TACOM MAM 08-050 outlines a new procedure to fix that problem. If you haven't eyeballed this MAM yet, view it online using this link: [https://aeps2.ria.army.mil/commodity/mam/tacom\\_wn/08/mam08-050a.html](https://aeps2.ria.army.mil/commodity/mam/tacom_wn/08/mam08-050a.html)

## HMMWV RECAP Parts Update

In September 08, the HMMWV RECAP program started using the 4L80E 4-speed transmission and 6.5 NA engine. This change affects M1025R1 HMMWVs with serial numbers in the 560,000 series and M1097R1 HMMWVs with serial numbers in the 570,000, 670,000 and 770,000 series. TACOM LCMC is including an overpack list with each vehicle listing its unique parts. Keep the overpack list handy. You can also find the list in the HMMWV RECAP folder in the PM LTV Public Access Knowledge Center on AKO:

<https://www.us.army.mil/suite/doc/12499111>

## REFRIGERATION KIT UPDATED

A supplement has been added to the Army's refrigeration kit, NSN 5180-00-596-1474, that lets repairmen work with refrigerants R404a, R407a, and R410a. The supplement, NSN 5180-01-561-6082, has been added to component list 5180-95-N18. The supplement was specifically created for the mobile integrated remains collections system and the multi-temp refrigerated container system, but it can be used for other systems that use these refrigerants.

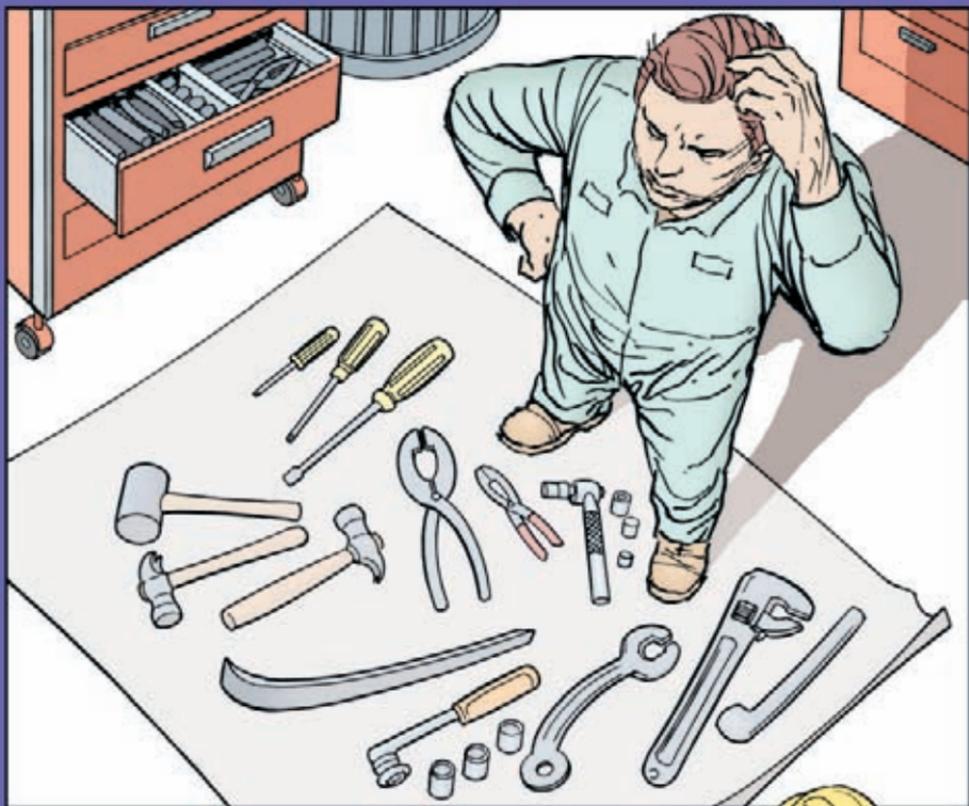
## M113A3 FOV IDLER ARM ROLLER BEARING

Use NSN 3110-00-100-5328 (PN 28584-28521, CAGE 60038) to get a new idler arm roller bearing for your M113A3 FOV. NSN 3110-01-516-0687, which is shown as Item 12 in Fig 165 of TM 9-2350-277-24P (Oct 03), is no longer available.

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

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