

Issue 711

PS

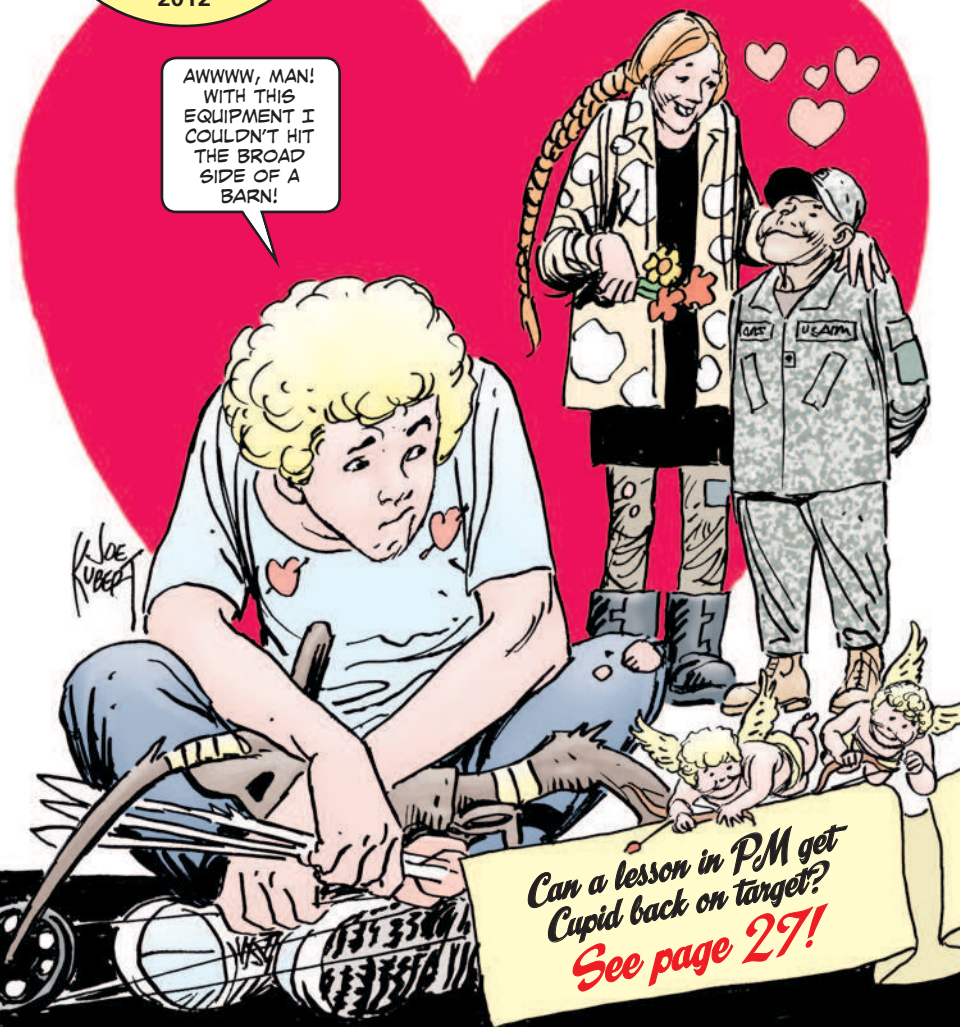
February  
2012

# THE PREVENTIVE MAINTENANCE MONTHLY


TB 43-PS-711

Approved for  
Public Release;  
Distribution is  
Unlimited

AWWWWW, MAN!  
WITH THIS  
EQUIPMENT I  
COULDN'T HIT  
THE BROAD  
SIDE OF A  
BARN!



# PS Education Required



WE HERE AT *PS* MAGAZINE MAKE CONSIDERABLE EFFORT TO PUT OUT THE LATEST MAINTENANCE INFORMATION *EACH MONTH*.

*PS* ARTICLES COVER EVERYTHING FROM NEW OR CHANGING NNS, TO UPDATES OF TM PROCEDURES, TO SUGGESTIONS FOR BETTER WAYS TO OPERATE OR REPAIR EQUIPMENT, TO WARNINGS ABOUT UNSAFE PRACTICES.

BUT WHEN *PS* WRITERS GO TO THE FIELD EACH YEAR TO TALK TO THEIR AUDIENCE—SOLDIERS WHO OPERATE AND MAINTAIN ARMY EQUIPMENT—THIS EXCHANGE MAY OCCUR...

WHAT'S *PS* MAGAZINE?

YOU KNOW, THE TECH BULLETIN THAT USES COMICS.

OH, YEAH, I THINK I'VE SEEN THAT.

THAT REPLY IS A GOOD INDICATION MANY SOLDIERS ARE **MISSING OUT** ON INFORMATION THAT COULD VERY WELL HELP THEM DO THEIR JOBS BETTER AND SAFER.

COMMANDERS, WARRANT OFFICERS AND SENIOR NCOs, IT'S UP TO **YOU** TO MAKE SURE THE SOLDIERS WHO WORK FOR YOU AT LEAST KNOW **WHAT** *PS* IS AND **HOW** IT CAN HELP THEM.

The best way is to make the magazine readily available. Order enough so every Soldier has a chance to read a copy. *PS* doesn't cost your unit a dime. It can be ordered through your pubs account.

Discuss during training like Sergeant's Time how helpful it can be for Soldiers to look through *PS* each month and check out any articles that have to do with their work. It only takes minutes.

And, when *PS* articles address issues important to your unit, copy them and hand the articles out or post them. That can encourage Soldiers to develop the *PS* habit.

Make sure Soldiers know that *PS* is online and its website includes a search function that will locate all the articles for the last decade on any subject. The *PS* website is at:

<http://www.logs.a.army.mil/psmag/pshome.cfm>

Make *PS* an education requirement at your unit. It will make everyone's job easier.



# THE PREVENTIVE MAINTENANCE MONTHLY

ISSUE 711 FEBRUARY 2012

TB 43-PS-711, 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:

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

Or email to:

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

Internet address:

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

By order of the Secretary of the Army:

**RAYMOND T. ODIERNO**

General, United States Army Chief of Staff

Official:

*Joyce E. Morrow*

**JOYCE E. MORROW**

Administrative Assistant to the Secretary of the Army

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Stryker...

HEY!

YOU  
DIDN'T  
SET MY  
TRANSFER  
CASE  
GEAR  
LOCK!

I TRIED, BUT  
THE LEVER  
WOULDN'T PULL  
OUT. S'OKAY,  
THOUGH. THE  
PARKING  
BRAKE  
IS SET.

THE PARKING  
BRAKE'S NOT GOOD  
ENOUGH WHEN THE  
SLOPE IS MORE  
THAN 30 DEGREES!

SEE  
YA!

## TRANSFER GEAR LOCK NEEDS EXERCISE

DRIVERS, IT  
MAY SEEM LIKE  
SMALL CHANGE,  
BUT WEEKLY  
EXERCISE FOR  
YOUR STRYKER'S  
TRANSFER CASE  
GEAR LOCK  
CAN PAY **BIG**  
DIVIDENDS!

Without that exercise, the control cable gradually loses its lubrication. The gear lock lever slowly gets stiffer until it eventually seizes up completely. That means risking a runaway vehicle if you park on a slope greater than 30 degrees, even with the parking brake engaged.

Exercising the transfer case gear lock is simple and takes only a few seconds. Just pull and rotate the gear lock lever towards the driver. While the gear lock is engaged, double-check to make sure the parking brake LED lights up on the driver's panel. To disengage, push and rotate the lever away from the driver. You're done!

Pull and rotate lever toward driver to engage

IF THE LEVER  
WON'T MOVE OR  
THE PARKING  
BRAKE LED  
DROESN'T LIGHT  
UP, YOUR  
VEHICLE IS  
**NMC.**

YOU'LL FIND  
THIS CHECK IN  
THE WEEKLY  
PMCS CHART OF  
YOUR VEHICLE'S  
-10 TM.

Does parking brake LED light up?

M113A2 FOV...

## NO LUBE FOR ME, PLEASE

You can't judge a book by its cover, crewmen. That's especially true when it comes to the pivot steer brake assembly hydraulic bleeder valves in the M113A2 family.

The valves may look a lot like grease fittings, but they're not.

Grease clogs the valves and keeps you from bleeding the system. Cleanup is no fun, either. Your mechanic will have to remove the bleeder valves and clean them with solvents and compressed air.

It's easy to prevent this problem, though. Just make sure you keep the grease gun away from those valves the next time you lube.

Keep lube away from bleeder valves



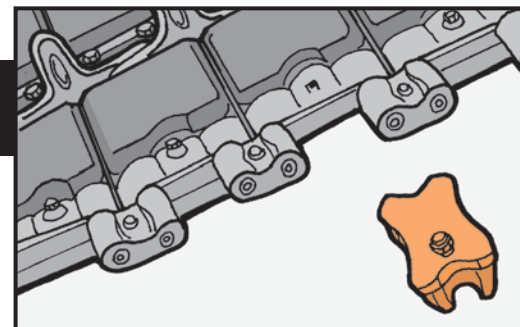
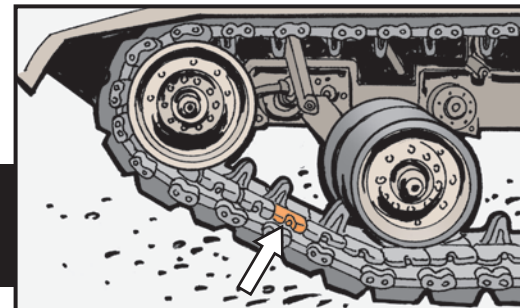
# CLEATS KEEP YOU MOVING!

HEY,  
I GOT  
THOSE  
CLEATS  
YOU  
WANTED!

DO YOU  
REALLY THINK  
THEY'LL FIT?

## Here's how to install 'em:

1. Clean the left and right track to remove all dirt and debris.
2. Position the first track shoe between the compensating idler wheel and the number one roadwheel.
3. Remove the track shoe's inner and outer pad and self-locking nut.
4. Install two ice cleats on the track shoe in place of the removed pads.
5. Lock each cleat in place with a new self-locking nut, NSN 5310-01-102-2711. Torque the nuts to 260-300 lb-ft.
6. Follow steps 3-5 for the track on the other side of the tank.
7. Move the tank forward to position the next track shoe needing cleats.



For best performance, put a set of cleats on every fifth shoe. The kit brings enough cleats for one complete tank.

Remember, these cleats are for T158 track only. They **will not** work with T156 track.

Traction is the key to keeping your M1-series tank moving. But if you're faced with ice and snow, traction can be a little hard to come by.

FM 9-207, *Operations and Maintenance of Ordnance Materiel in Cold Weather*, says it's OK to remove track pads or reverse every third center guide to improve traction. But that can damage track components and still doesn't provide much traction.

For tanks with T158 track, a special ice cleat kit, NSN 2530-01-369-9994, is available to prevent all that slipping and sliding.

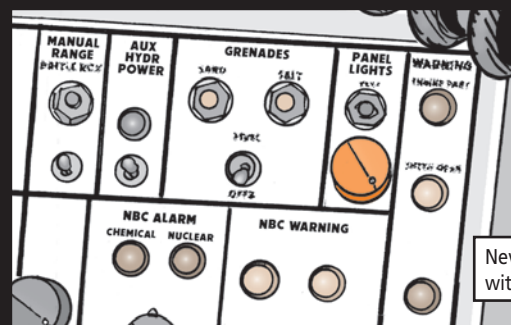
## M1A1 Tank...

# LIGHTS OUT?

Just because you can use the PANEL LIGHTS knob to completely dim the lights on the commander's panel of your M1A1 tank doesn't mean you should.

Dimming those lights completely is a real safety hazard, especially when it comes to the warning lights.

One crew learned that lesson the hard way when the NBC filter on their tank caught fire after the air cycle turbine failed. The crew reported that the NBC OVERHEAT SPONSON OUT light didn't provide any warning. Turned out that the warning light was working but had been completely dimmed.

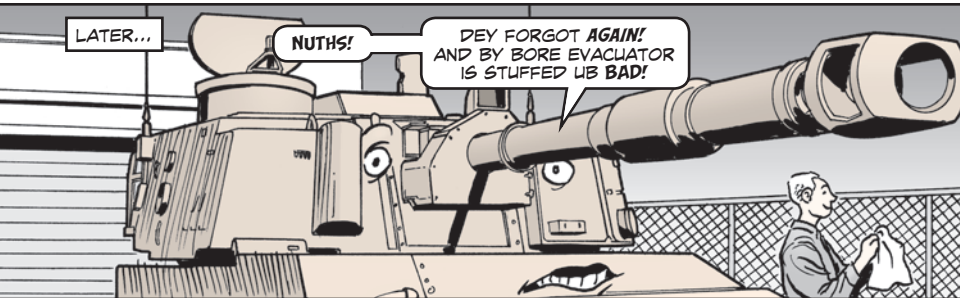
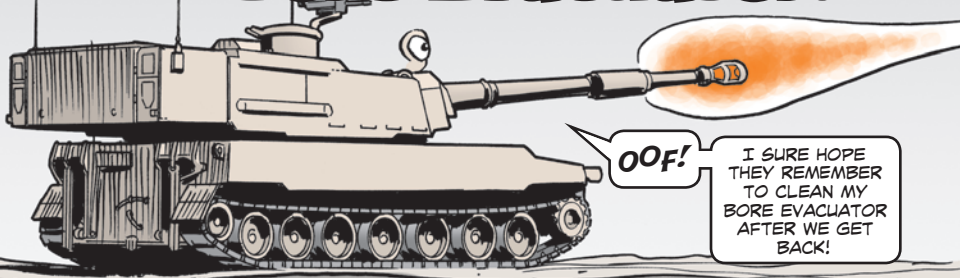


So pay attention to the information on WP 0094-5 of TM 9-2350-264-10-1 (Sep 11). It tells how to test the panel lights and adjust the PANEL LIGHTS knob so the lights are dimmed but still visible.

Never dim lights completely with PANEL LIGHTS knob

M109A6  
Paladin...

# Don't Forget the Bore Evacuator!



**A**fter a long, hot day of firing on the range, you may not feel like doing all of your Paladin's after-operation PMCS, crewmen. That would be a **big** mistake!

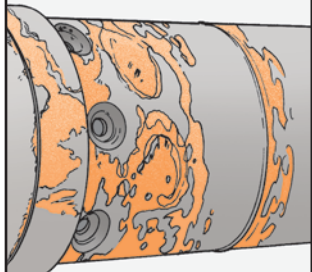
For example, after firing you're supposed to slide back the bore evacuator, inspect for damage and then clean, clean, clean!

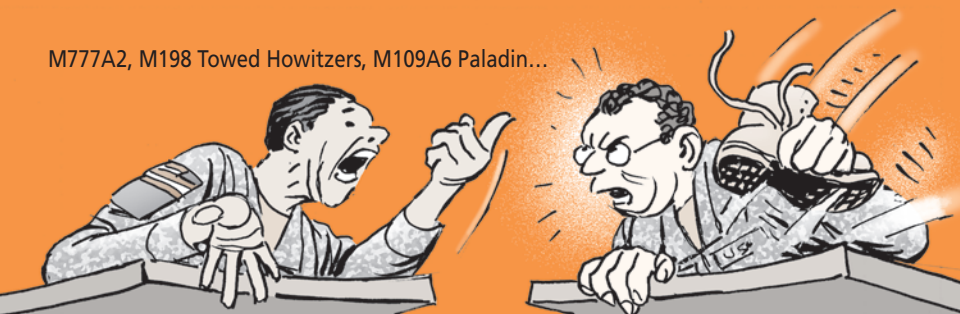
Unfortunately, that's not always happening, especially when it comes to the prereservoir. After you've cleaned and lubed the cannon tube, evacuator orifices, and metering holes, you've still got to separate the prereservoir. That allows you to clean and lube the evacuator ball valves, tube surface, tube threads and prereservoir orifices.

Neglect any of these areas and the surface of the cannon tube will begin to rust and pit. Not only will the cannon tube have to be condemned early, but the damage can let carbon monoxide back into the crew compartment during firing.

So make sure you follow **all** of the instructions in Check 58 of the after-operation PMCS. It starts on Page 2-55 of TM 9-2350-314-10 (Feb 99, w/Ch 8, Apr 11).

Tube will rust and pit if bore  
evacuator is not cleaned





## WINNING THE GREAT BREECH RUST DEBATE

Dear Half-Mast,

We've been having a lot of trouble lately with breech corrosion on our M777A2 towed howitzers. Specifically, the spindle and obturator pad are turning up coated with rust!

I think the problem is that the spindle and obturator pad aren't being removed for cleaning and lubing after the howitzer is fired. But others in my unit argue that since the lube instructions on Page 3-5 of TM 9-1025-215-10 don't say anything about removing the components, it's unnecessary.

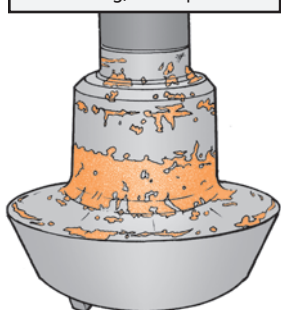
What do you say, MSG Half-Mast? Can you resolve this argument?

SSG J.C.B.

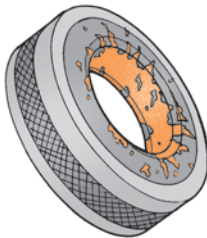
Dear Sergeant J.C.B.,

In this case, you win the argument, Sergeant! While the TM doesn't specifically tell you to remove the spindle and obturator pad for cleaning, that is what was intended. In fact, the TM is scheduled to add removal of the components for cleaning and lubing at the next update.

If not removed for cleaning and lubing, both spindle...



...and obturator pad will rust



By the way, the M198 towed howitzer and M109A6 Paladin have the same breech configuration and both have had the same rusting problems. In their case, however, the lubrication instructions already say to remove the spindle and obturator pad for cleaning after firing.

*Half-Mast*



# AIN'T THAT A PUNCH IN THE EYE?!

WOW!

WHERE'JA  
GET THAT  
SHINER?

I BET IT WASN'T FROM AN  
UNLOCKED FEEDER HANDLE!



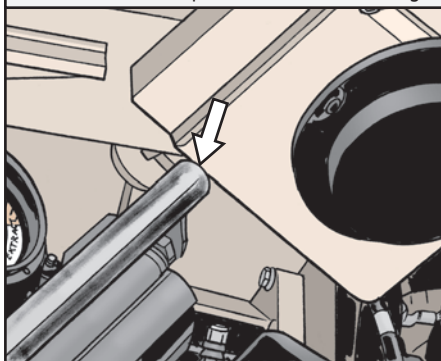
A punch in the eye's not something you go out of your way to find. Your M2A3/M3A3 Bradley feels the same way when it comes to the commander's remote biocular display (RBD) being "punched" by the M242 chain gun.

Crewmen are sometimes leaving the feeder assembly's feeder handle in the unlocked position. That means whenever the gun is depressed, the corner of the feeder handle hits the RBD. **BAM!**

The hit is hard enough to damage the feeder handle and will usually punch a hole in the RBD. Then, as the nitrogen leaks out, there's nothing to keep moisture from getting in.

Preventing damage is easy. Just make sure you **always** place the gun elevation drive in manual when accessing the feeder, power cable or feed-and-eject chutes. And **never** depress or elevate the gun when the handle is unlocked.

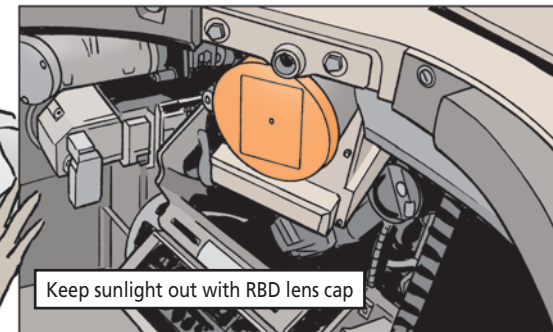
Feeder handle can punch hole in RBD housing



EVEN IF YOU KEEP THE  
RBD FROM BECOMING A  
PUNCHING BAG, IT CAN  
STILL BE DAMAGED IF  
YOU DON'T USE ITS  
LENS CAP.

## Don't Forget the Cap!

With the hatch open, sunlight shines directly into the lens. The light is magnified and focused on the cathode ray tube (CRT) faceplate, which then cracks from the heat.



Replace a missing or damaged lens cap with NSN 6650-01-505-0147.

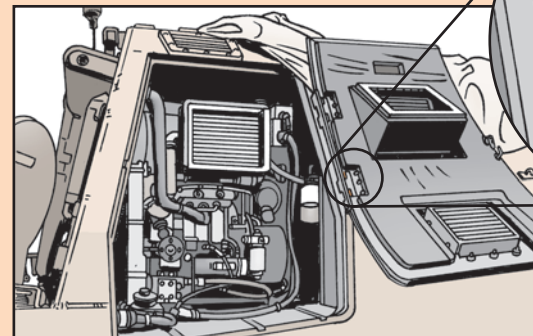
M992A2 Ammo Carrier...

## APU Door Health Hinges on *LUBE!*

Crewmen, taking care of the oil can points on your M992A2 ammo carrier is just as important as any other lubing task. Just take the front and side APU door hinges, for example.

Without lube, the pins inside those hinges will rust. Over time, they weaken and can eventually snap. That could let the 210-lb door come crashing down on you!

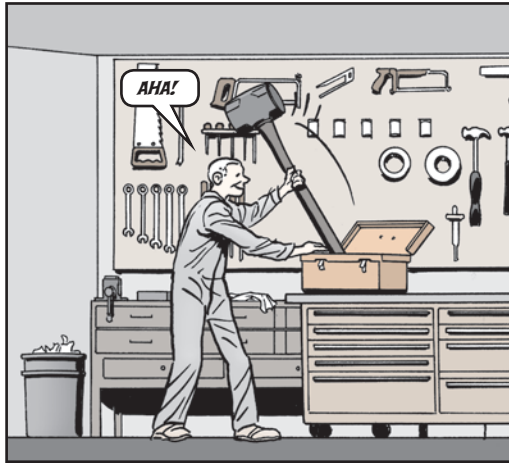
Keep those hinges strong and in the fight. Lube them semiannually with OE/HDO like it says in WP 0048 00-22 of TM 9-2350-372-10 (Mar 08).



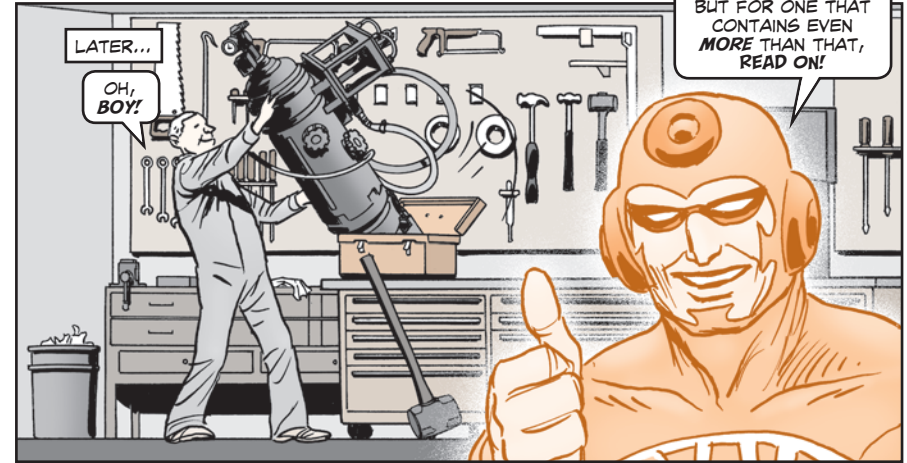
Lube APU hinges  
semiannually with  
OE/HDO



# Hot Tip: USACRC Driver's



# Training Toolbox



ARMY SAFE IS ARMY STRONG

U.S. ARMY COMBAT READINESS/SAFETY CENTER

USACRC/SAFETY CENTER HOME ABOUT US HELP CONTACTS & FEEDBACK

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## DRIVER'S TRAINING TOOLBOX

DTTB AKO LOGIN

Welcome to the Driver's Training Toolbox

IF YOU'RE LOOKING FOR MATERIALS TO SET UP OR IMPROVE YOUR UNIT'S DRIVER'S TRAINING PROGRAM...

... THE DRIVER'S TRAINING TOOLBOX FROM THE US ARMY COMBAT READINESS/SAFETY CENTER (USACRC) CAN GIVE YOU A JUMP-START.

THE TOOLBOX IS CHOCK FULL OF GOODIES LIKE SAMPLE SOPs, PRESENTATIONS, LESSON PLANS, GRAPHIC TRAINING AIDS, HANDBOOKS, VIDEOS AND MORE. EQUIPMENT OPERATOR GUIDES ROUND OUT THE NEWEST OFFERINGS.

NAVIGATING THE TOOLBOX IS A SNAP BECAUSE THE MENU AND WEB PAGE LAY-OUT ARE CLEARLY DESIGNED.

ARMY SAFE IS ARMY STRONG

U.S. ARMY COMBAT READINESS/SAFETY CENTER

USACRC/SAFETY CENTER HOME ABOUT US HELP CONTACTS & FEEDBACK

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## DRIVER'S TRAINING TOOLBOX

WHEELED VEHICLES

Home

Information by Vehicle

Publications

Sample Programs & SOPs

Graphics & Videos

Useful Links

Stryker

Training Circulars

TC 7-21: Stryker Driver Training

Standard Operating Procedures (SOPs)

YOU'LL FIND HELPFUL GUIDES IN THE TOOLBOX FOR A VARIETY OF VEHICLES.

THE WEBSITE FEATURES SEPARATE MENU LISTINGS FOR INFORMATION BY VEHICLE TYPE, PUBLICATIONS (INCLUDING REGULATIONS, TRAINING CIRCULARS AND TRAINING SUPPORT PACKAGES), SAMPLE PROGRAMS AND SOPs, AND GRAPHICS AND VIDEOS.

Videos

Posters

Graphic Training Aids

# Posters

## Rollover

Prevention of Injury in Tactical Vehicle Rollover Accidents - HMM/VV



Download: (430Kb)



Download: (461Kb)



Download: (432Kb)

YOU CAN DOWNLOAD A VARIETY OF POSTERS FOR YOUR UNIT'S BULLETIN BOARD.



EQUIPMENT SUPPORT MATERIALS FALL INTO SEVEN CATEGORIES...

Wheeled vehicles

Tracked vehicles

Engineer equipment



Power generation equipment

Miscellaneous

Emergency vehicles

Material handling equipment

## Bonus Material

The MRAP Safety Awareness Site contains hazard and risk mitigation information and tools you can use to supplement operator and crew training programs:

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

Some other specialized course offerings in the toolbox include:

- Rough terrain driver's training
- Common battle drills for rollovers
- Combat Vehicle Operator's Training (Afghanistan)

You'll also find links to the:

- TACOM-Unique Logistics Support Applications (TULSA)
- Library of TACOM Training Information Site (LOTTIS)
- Accident Avoidance Course

So, whether you're a Soldier who wants to sharpen your driving skills, or a leader who needs materials to develop SOPs or driver's training materials, the USACRC toolbox makes achieving these goals a lot easier. You'll find it at:

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

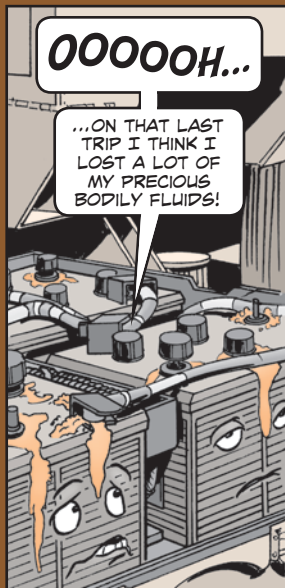
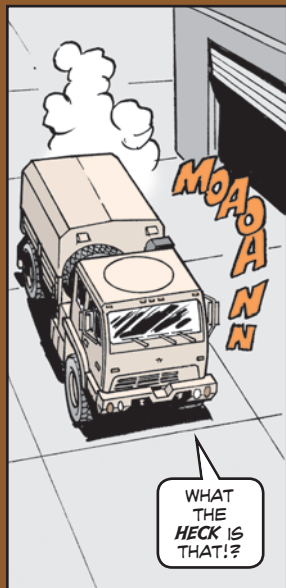
Questions? Contact the Ground Task Force at DSN 558-1390, (334) 255-1390, or email:

[safe.helpdesk@conus.army.mil](mailto:safe.helpdesk@conus.army.mil)





# Battery Cap Coverage



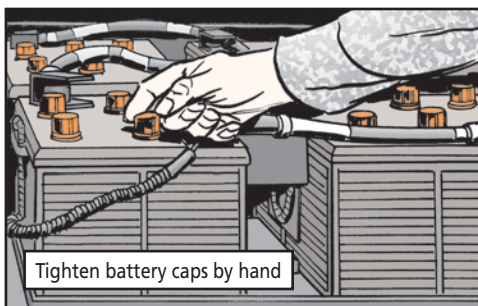
Dear Editor,

The caps on FMTV truck batteries can vibrate loose. That's why it's a good idea to tighten the caps more often than the monthly interval directed by the TM.

Tight battery caps prevent electrolytes from sloshing out and possibly even burning holes in uniforms or coveralls. But don't overtighten the caps because overtightened caps are hard to remove.

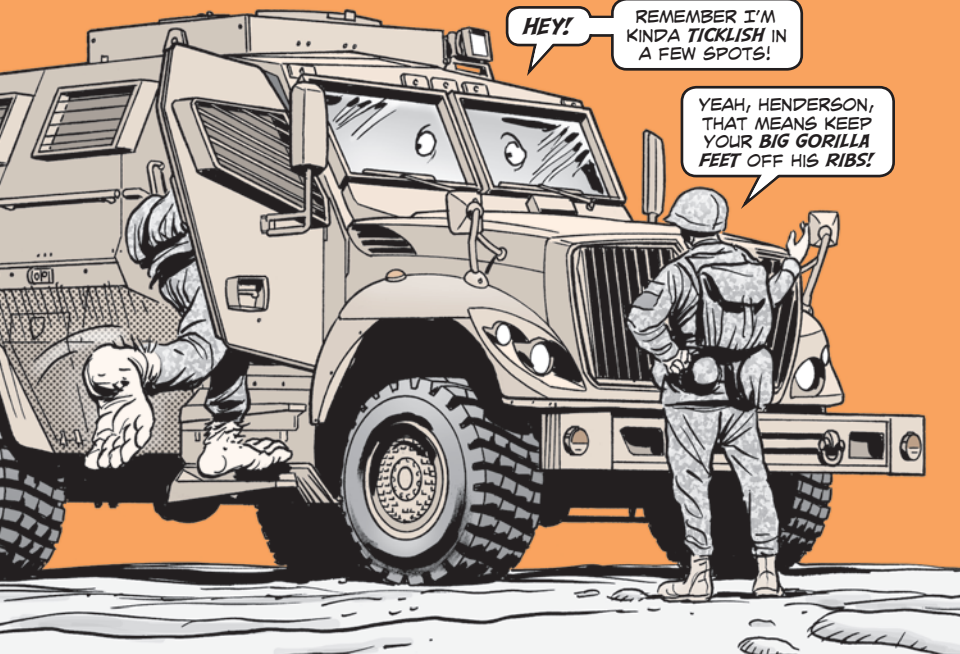
This may not seem like a big deal, but I've learned that the little things matter.

Concerned Sergeant  
2d Chem Bn  
Ft Hood, TX



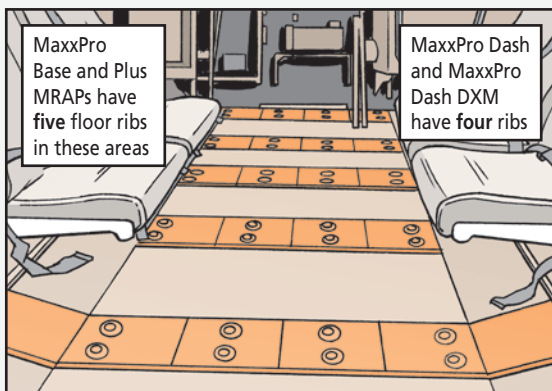
**Editor's note:** Thanks for that battery cap coverage, Sergeant. Readers, note that this info applies only to FMTVs with the older style, electrolyte-filled batteries with caps. The sealed, maintenance-free batteries you see on a lot of FMTVs don't have filler caps.

# MaxxPro MRAP... **NO PLAYING FOOTIE WITH RIBS**



The semi-floating floor panels in MaxxPro MRAPs are purposely designed to separate from the hull in an IED blast. This helps protect the personnel inside. But you won't get the benefit of that protection if your feet are in the wrong place.

The MaxxPro Base and MaxxPro Plus floor panels are connected by five ribs that are directly attached to the vehicle's hull. The MaxxPro Dash and MaxxPro Dash DXM have four ribs. In a blast, these ribs can transmit the shock wave from the hull. If your feet are touching the ribs at that moment, you may be severely injured.



- **Never place your feet on the floor ribs in MaxxPro MRAP cabins.** Instead, put them on the floor panels between the floor ribs.
- **Watch where you place your feet during missions** (maintain situational awareness).

Feet should *never* rest on MRAP ribs

Place and keep feet between MRAP ribs

- If you see other Soldiers putting their feet on the MaxxPro's floor ribs, remind them to move their tootsies to a safer spot. (Yep, when it comes to safety, you always have Half-Mast's permission to nag your buddies!)

## Elastic Cord for Truck and Trailer Covers

If the covers on your truck or trailer are secured by black elastic bungee cords, you can make your own replacements with NSN 4020-01-463-8181. That NSN brings 280 feet of bulk cord with a diameter of  $\frac{1}{4}$  to  $\frac{3}{8}$  inches.

## Painting TB Is Obsolete

TB 43-0209, *Color, Marking, and Camouflage Painting of Military Vehicles, Construction Equipment, and Materials Handling Equipment*, is now obsolete. So use TM 43-0139, *Painting Instructions for Army Materiel*, to get needed guidance. This TM doesn't officially supersede TB 43-0209, but it's your best bet until a new painting plan is in place.

## Hawker Battery Customer Support

If you've got questions about the Hawker battery, NSN 6140-01-485-1472, a military customer support line is available to give you answers. It's toll-free: (877) 485-1472.

Free, on-site battery maintenance training is also yours for the asking. Interested units should call the support line or contact the battery maintenance team online:

<http://www.hawkeraplus.com>

# FOIL TOO MUCH OIL

DON'T FORGET  
TO **RETRACT** MY  
CYLINDERS THIS  
TIME!

**RIGHT!**  
I DON'T  
WANT YOU  
TO BLOW  
ANOTHER  
SEAL!

Operators, follow the word in TM 5-3805-248-14&P-1 when you check the hydraulic oil with the scrapper idling and the cylinders retracted. Checking oil that way saves seals and the hydraulic reservoir's sight glass by making sure you don't overfill the reservoir.

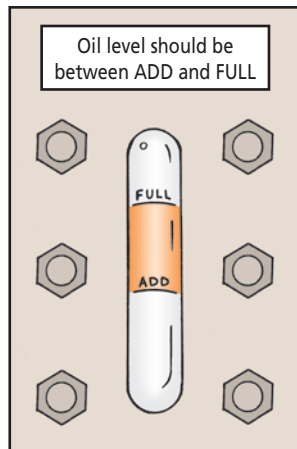
Why idling? Oil expands as it warms up. Warm oil registers a little higher on the gauge than cold oil.

OK, but why retract cylinders? Oil used to extend the cylinders isn't in the reservoir to be measured. It's in the cylinders doing its job. If you measure the tank with the cylinders extended, it looks low.

If you overfill the tank for either reason, pressure builds up—blowing seals. Too much oil has even been known to blow out the hydraulic reservoir's sight glass.

So, before you add oil, make sure the scrapper is in the parked position with all cylinders retracted. Let the scrapper warm up a few minutes. The hydraulic oil level should show between the ADD and FULL marks.

If you overfill the reservoir, remove the excess with an AOAP vampire pump, NSN 4930-01-119-4030.





# AIR FILTER REMINDER



But you don't have to replace the primary filter element every time the restriction indicator turns red. Save the cost of a new element by cleaning the old one with compressed air or warm, soapy water.

When you use air, blow out from the inside of the element, since the dust is in and on the outside of the filter.



Then hold the nozzle at an angle to blow off sand from the outside. That keeps you from damaging the paper element.

To get rid of oily sand, you'll need to wash the filter element with warm water and soap, NSN 7930-00-282-9699.

Rinse away the soap with warm water and let the element dry completely before you put it back in the crane.

Replace the filter element, NSN 2940-01-438-5680, after six cleanings or if it's ripped, torn or won't come clean.



If the indicator still shows red after cleaning the filter element, tell your mechanic. Something is wrong.

THAT'S A NICE POINTER YOU'VE GOT THERE, BUT YOUR READERS WILL PROBABLY BE MORE INTERESTED IN THESE...

...PM LUBE POINTERS!

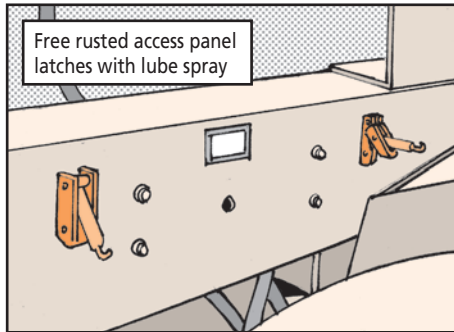
SMIFF  
SNUFFLE

A shot of lubricating spray or a few pumps of grease in the right places will work wonders on your scoop loader. Avoid unnecessary repairs by following these PM lube pointers before heading out for the day's run.

### Engine Access Panels

Pull latches on the engine's access panels get caked with mud. That rusts the latches' internal spring in place and makes the latches a bear to pull open when you need to get at the engine.

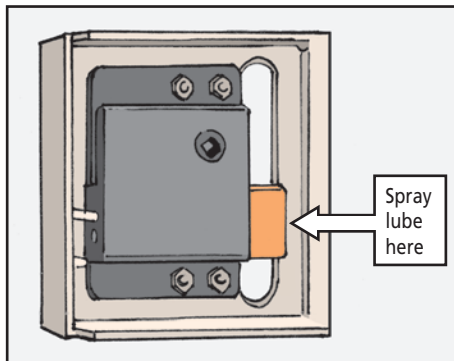
Free up the spring with a shot of lubricating spray, NSN 9150-00-458-0075. Open and close the latch vigorously a few times. Then spray the spring at every scheduled service.



### Door Handle Latch

The spring latch behind the door handle is constantly exposed to the elements. That means corrosion sets in and the latch sticks in the open position. Then you can't shut the door or keep it closed.

Get the "stuck" out with a shot of lubricating spray. Open and close the door a few times to work the lubricant around the latch. Do this once a month so the latch will open and close smoothly.



The pivot pins on the clamshell bucket and bucket lift arms need lots of clean lube to do their job.

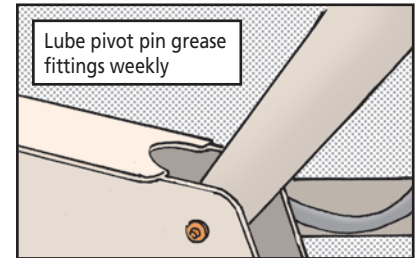
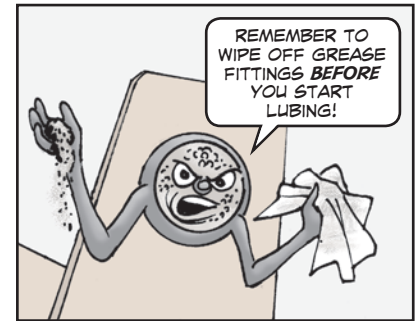
Those grease fittings are usually coated with dirt and sand. So make sure you wipe any gunk off the fittings before you start the lube job. And don't forget to wipe off the dirty end of the grease gun between lube points. That way you won't pump any grit into a pivot pin.

Lube the pivot pins on the clamshell bucket every week. If you don't, the pins will bind and break. Then your loader's down until the pins are replaced.

When you lube, pump grease into the fittings until you see clean grease oozing out. Three to five pumps should do it.

If a fitting clogs and won't take grease, report it. Your mechanic will replace the fitting with NSN 4730-00-050-4208.

### Pivot Pin Pointer



### Snub the Smear Job

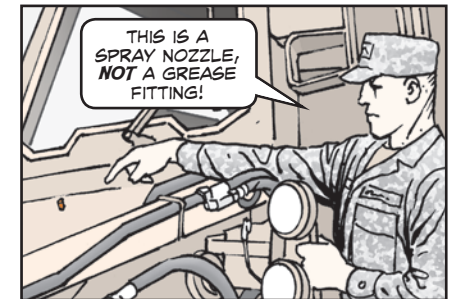
Windshields on some scoop loaders are getting a royal smear job.

That's because the spray nozzle for the windshield washer fluid is located smack dab in the middle of a bunch of grease fittings just below the loader's windshield.

The nozzle looks just like the grease fittings, so it's not surprising that it gets pumped full of grease each time the fittings are lubed.

That grease either clogs the nozzle or ends up on the windshield whenever you push the washer fluid button to clean the windshield.

One way to prevent this mess is to have your mechanic stencil a small note below the nozzle that says, "Not a grease fitting."

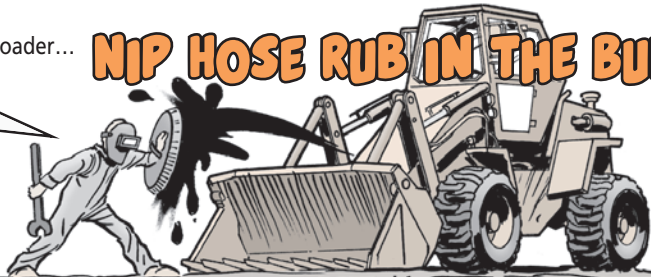


AND KEEP YOUR LUBE INSTRUCTIONS HANDY TO BE SURE YOU'RE LUBING **ONLY** FITTINGS...

...AND THAT YOU HAVE LUBED **ALL** OF THEM

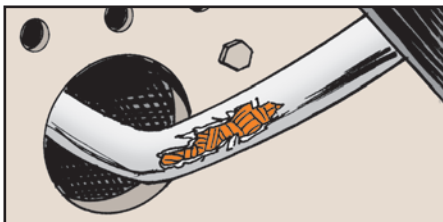
# NIP HOSE RUB IN THE BUD

COVER  
ME BOYS!  
I'M GOING  
IN!!



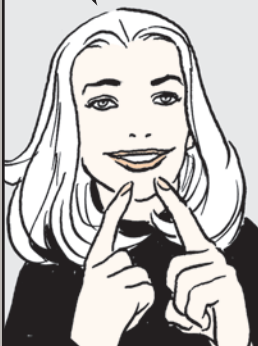
THE SCOOP LOADER'S  
LIFT CYLINDER  
HYDRAULIC HOSES RUB  
AGAINST THE STEEL  
LINES TO THE BUCKET  
CLAM CYLINDERS.

AS THE WEAR INCREASES,  
THE HOSES WEAKEN AND  
BURST.

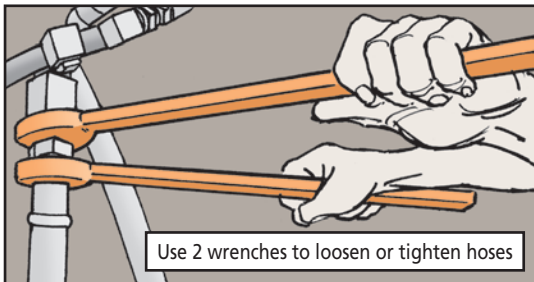


Hose  
worn  
through  
to steel  
braid  
can rust  
and  
burst

TO PREVENT  
HOSE DAMAGE,  
REPOSITION EACH  
ONE SO THAT IT'S  
ABOUT AN INCH AWAY  
FROM THE STEEL  
LINE. HERE'S HOW...



1. Loosen the upper hose for each forward lift cylinder. You'll need to use two wrenches at the same time to keep from twisting the hose as you loosen the connection. It takes a 1<sup>1</sup>/<sub>4</sub>-in and a 1<sup>3</sup>/<sub>16</sub>-in open-end wrench to loosen the connection.

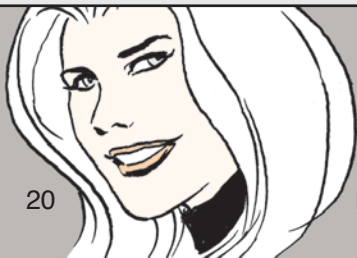


Use 2 wrenches to loosen or tighten hoses

2. Get a buddy to hold the hose about an inch away from the steel lines while you retighten the connection.

PAINT ANY BARE SPOTS  
ON THE STEEL LINES.

BUT IF A HOSE HAS  
WORN THROUGH ITS OUTER  
COVER, REPLACE IT!





All Aircraft...

## PROTECTING AIRCRAFT FROM

# CORROSION

I GOT THIS PEN  
TO HELP PROTECT  
YOU FROM  
CORROSION!

YOU'D BETTER CHECK  
WHICH NSN GOT YOU  
THAT PEN!

OR **YOU**  
MIGHT  
SUFFER!

Mechanics, aircraft corrosion treatment to protect aluminum is an ever changing, never-ending job as product improvements remain ongoing.

If you've been using the current Alodine Touch-N-Prep 1132 pens, NSN 8030-01-460-0246, you know they save time and easily apply corrosion treatment.

If your requisitions are being cancelled through the supply system, or through GSA, it's because there is a more environmentally-friendly version available. The 1132 pens contain hexavalent chromium, a dangerous carcinogen.

Here's the big question a lot of people are asking: Is there a replacement corrosion pen to do touch-up corrosion treatment? The answer is yes. The AMCOM corrosion team says you can order the replacement Alodine Touch-N-Prep 871 pen using NSN 8030-01-560-9113. These pens use trivalent chromium, which is safer to use.

Make a note until each aircraft's Expendable and Durable Items List is updated in the next change.

As always, when you are applying corrosion treatment, don't forget to wear your personal protective equipment (PPE).

If you have questions, call the AMCOM Corrosion Center of Excellence Hotline, (256) 313-0209, DSN 897-0209 or toll free at (866) 222-2364.

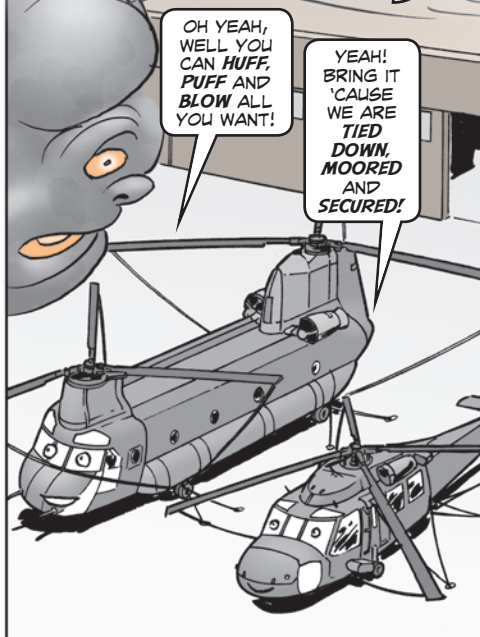


Do **not** use Alodine 1132 pen for corrosion touch up...

...instead use Alodine 871 pen



# SECURE AIRCRAFT IN HIGH WINDS

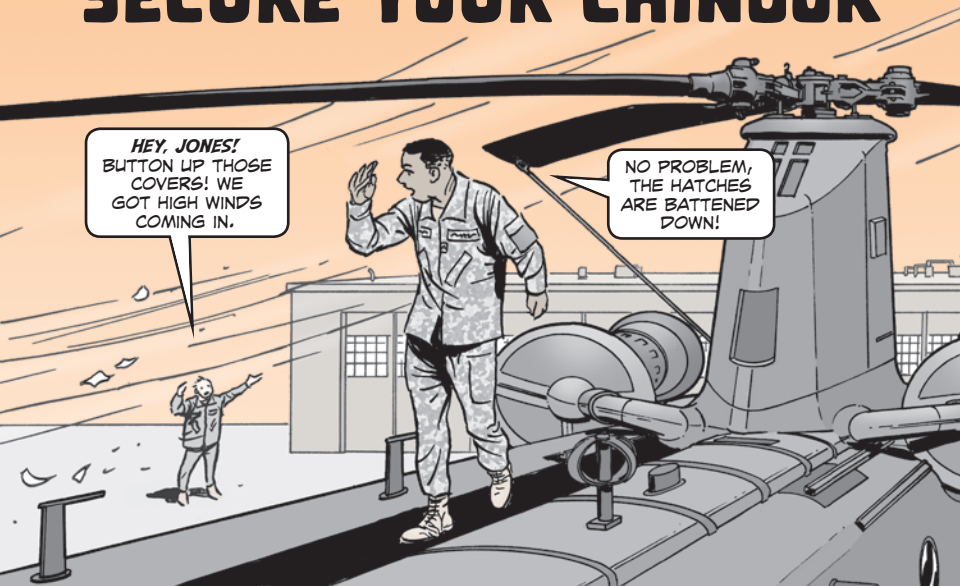


Your first step should be your -23 TMs for typical blade tie-down instructions and aircraft mooring procedures. When blades are not secured in high winds, you can be certain that wind gusts will blow rotor blades into the airframe causing damage.

Your second stop for tie-down and mooring information is TM 1-1500-250-23, *Aviation Unit and Aviation Intermediate Maintenance for General Tie-Down and Mooring*, on all Army Aviation models including the AH-64, UH-60, UH-1, CH/MH-47, AH-1, and OH-58 helicopters. The TM is the bible for aircraft tie-down and mooring procedures and hardware. It's information will help keep your aircraft anchored in heavy sustained winds.

If there is a conflict that exists between the -23 maintenance TM and the tie-down manual, follow the procedures described in the tie-down manual.

# SECURE YOUR CHINOOK

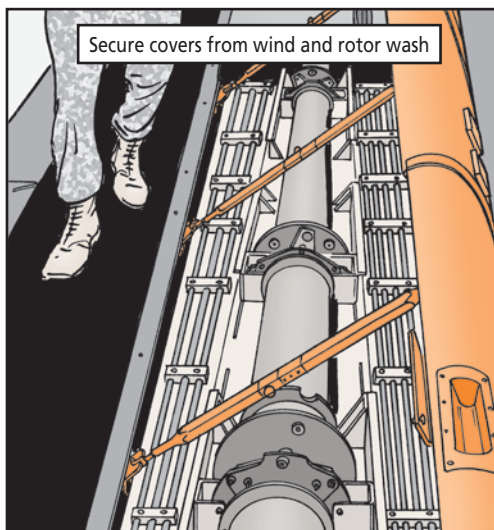


**M**echanics, you know it's important to tie down and moor your Chinook on the flight line in high winds.

Well, it is equally important that drive shaft covers on top of your aircraft be locked and secured to protect them from the rotor wash of other aircraft wash, and from high winds.

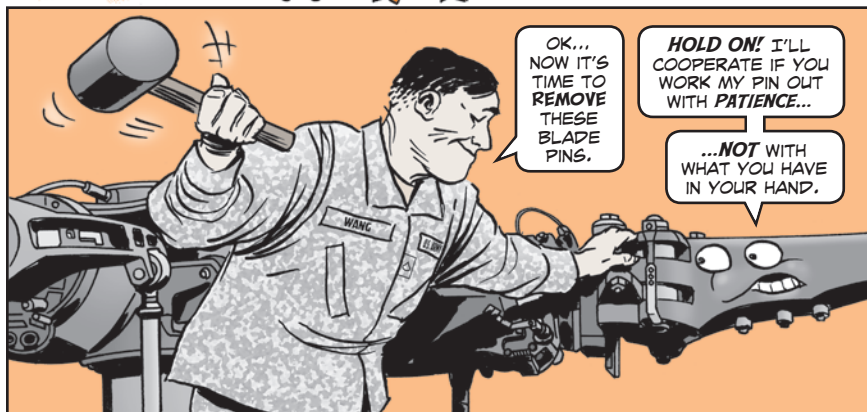
Drive shaft covers that are left half-open or unsecured are no match for rotor wash or high winds. If either get under a partially open cover, the cover and its struts get bent and can be ripped off its hinges.

Keep the airframe shop happy by always locking and securing all the drive shaft covers.





# BANGIN' on Blade Pins



**A**t times, Black Hawk blade pins have to be removed, replaced or reinstalled.

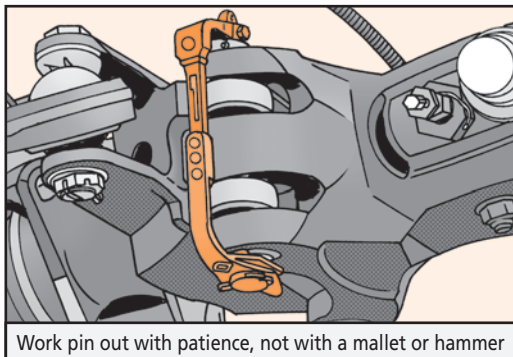
When trying to remove a pin, don't get frustrated and start beating on blade pins to get them out.

Always remember that rotor blades should be repositioned to slide the pin out of the blade cuff. Removing the blade pins requires lifting the blade to relieve tension. But sometimes you may have to lead, lag, or even lower the blade to get the stubborn pin out. This applies to both the traditional expandable pin and the new solid blade pins. That's the easy part.

Now the hard part. Sometimes blade pins are a challenge to remove, so you'll have to keep adjusting the blade to work the pin out. It doesn't take much to get a blade pin stuck. If that happens, there's a tendency to want to pound or hammer the pin out.

Pounding or hammering out blade pins can damage the blade pin and unseat the bushings in the blade cuff.

With a little effort and some patience, the blade pin should slide out without the use of a mallet or hammer. If the pins do get stuck, call your senior mechanic and check your TM for the details on dealing with stuck pins.



Work pin out with patience, not with a mallet or hammer

AH-64A/D...

# THE BIRDS ARE BACK

LOOKS LIKE  
THE BIRDS  
ARE BACK!

SHOO!

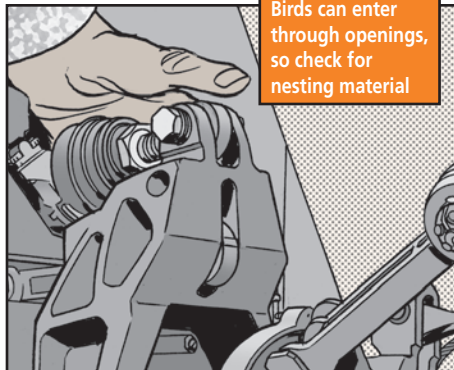
HEY!  
DON'T  
MESS  
WITH  
OUR  
HOME  
SWEET  
HOME!

**M**echanics, just when you thought the bird problem was over, here they come again!

If you have not checked your AH-64A/D tail rotor gearbox area for bird nests lately, make sure you do so on the next pre-flight inspection.

While aircraft sit on the flight line, birds squeeze into the opening of the tail rotor gearbox section. That creates a FOD problem you don't need. Bird nests hold moisture that creates corrosion. Dry grass creates a fire hazard when it falls onto a searing hot gearbox. Even in the desert, birds can make nests out of discarded wire or just about anything else.

Birds can enter  
through openings,  
so check for  
nesting material

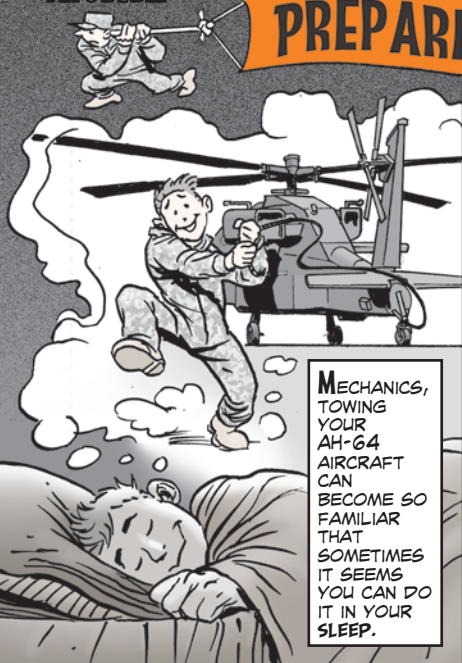


So inspect the tail rotor section for bird nests by removing the cover according to the procedures in your Longbow IETM and TM.

Be aware that bird droppings are not only messy, but highly corrosive. Droppings can eat through paint, wiring and insulation. They also carry diseases so for your own health, always wear gloves when cleaning off droppings.

If birds have made your aircraft home sweet home, evict them and see your upholstery shop about making a removable cover for the tail rotor section to keep 'em out! Make sure you add a "Remove Before Flight" streamer.

# PREPARING FOR TOWING



NOT SO  
FAST  
THOUGH.

NO MATTER HOW  
FAMILIAR YOU ARE WITH  
THE PROCEDURE, DON'T  
GET IN A HURRY WHEN  
IT'S TIME TO TOW YOUR  
AH-64.



Too often the quick-release pin isn't in place before towing or gets overlooked when preparing your helicopter for the tow bar. If that happens, you'll shear off the tail wheel lock actuator and put your bird out of commission.

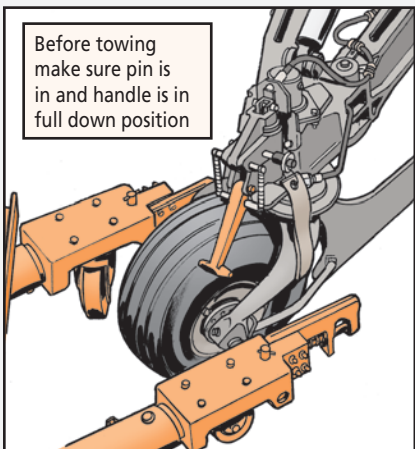
To avoid ripping the tail wheel apart, always press the lock handle down first and fully insert the quick-release pin. Remember, the lock handle can pop back up before inserting the pin.

Then hook up the tow bar and you're ready to go with the tow.

And don't forget the ground guides required by your TM. They keep you from running into something.

As an extra measure of safety, keep a whistle handy to warn the tow driver and the person on the cockpit brakes to stop if rotor blades are getting too close to the hangar doors or another aircraft.

Before towing  
make sure pin is  
in and handle is in  
full down position



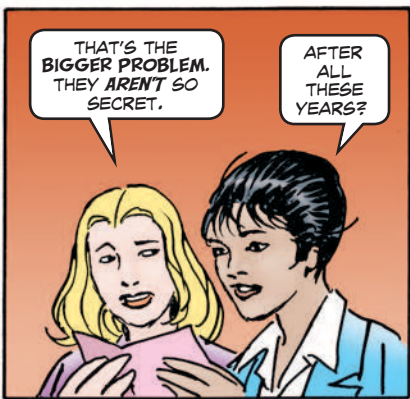
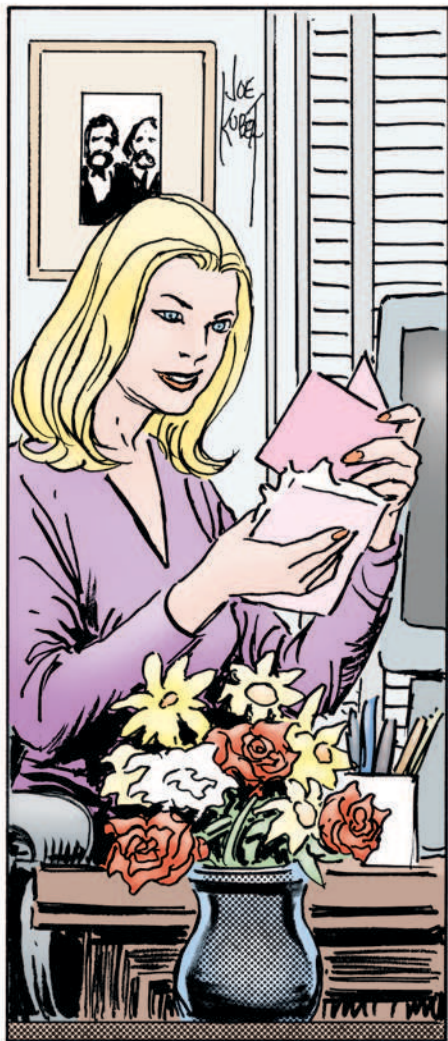




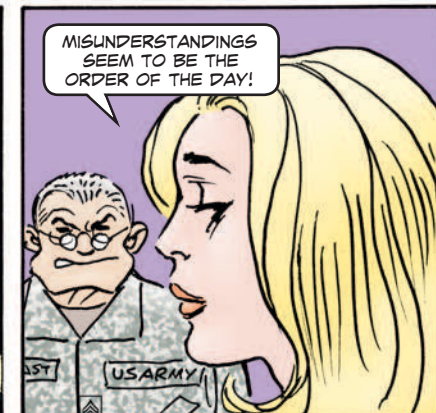
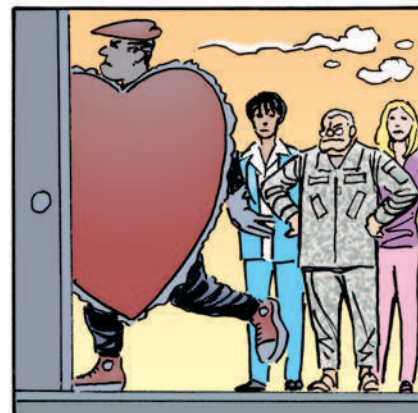
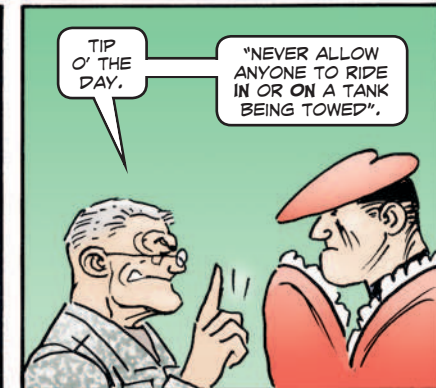
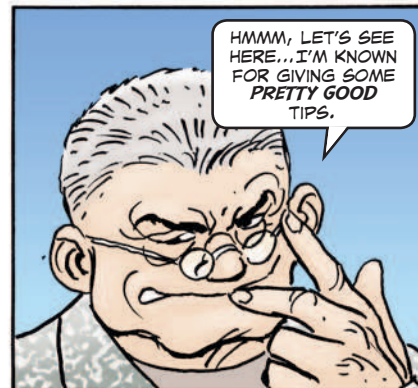
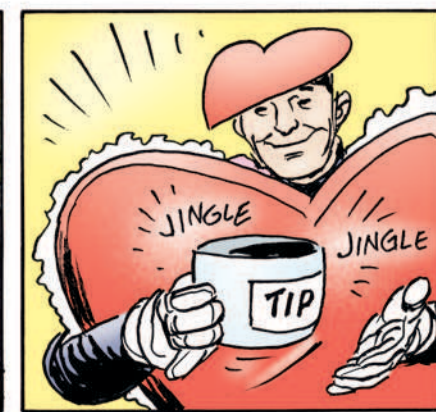
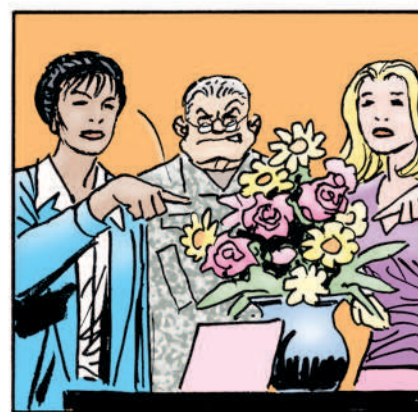
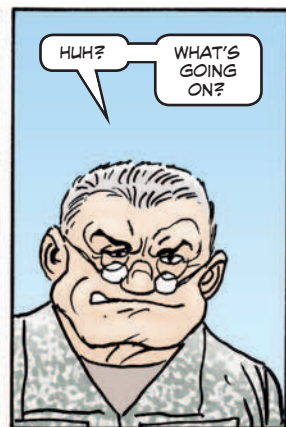
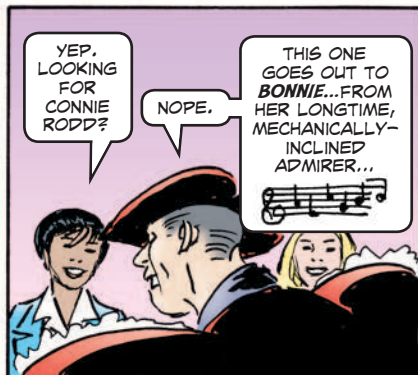
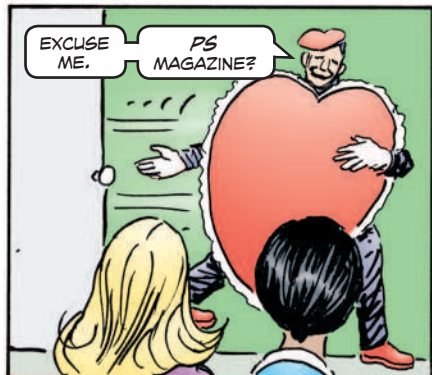
*Ah, Amore! Lauded by poets...  
sung about by balladeers...  
and generally welcomed by all and  
sundry, except when it's not...*



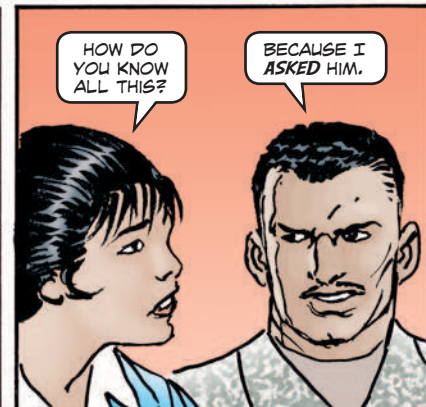
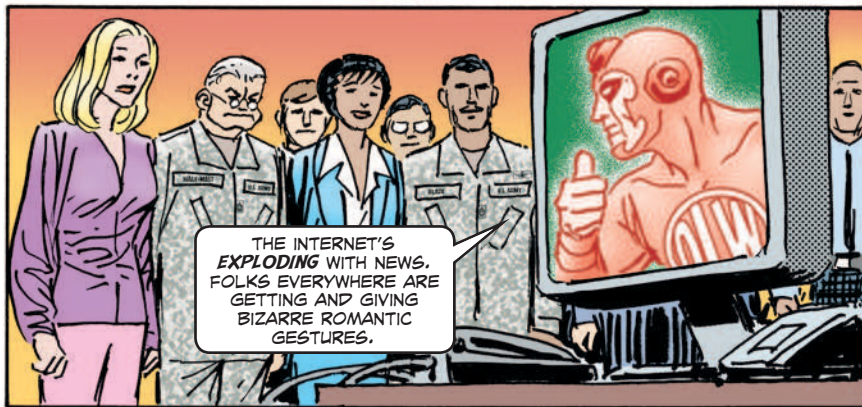
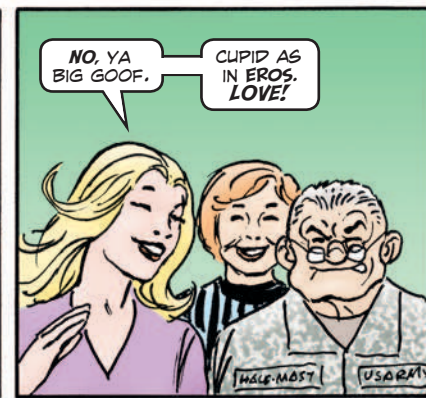
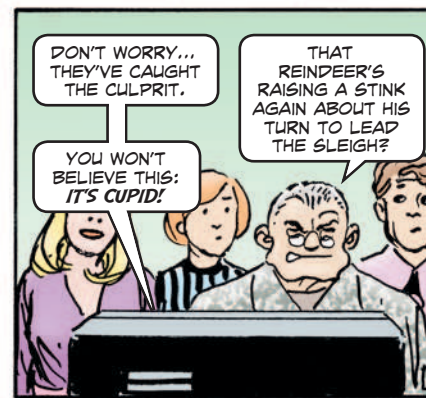
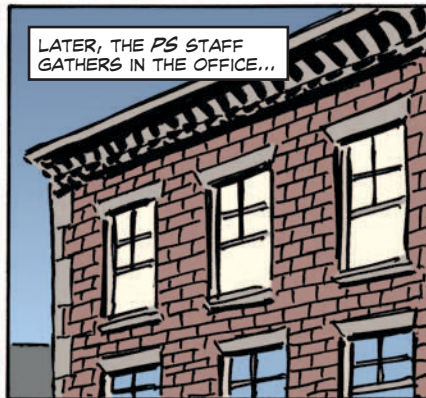
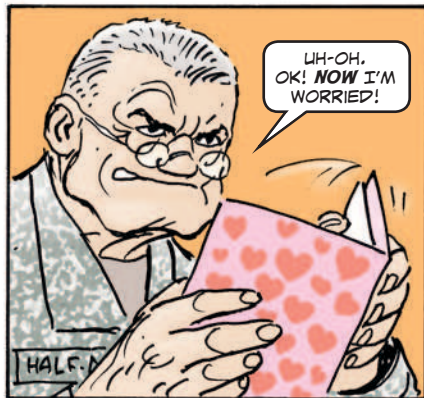
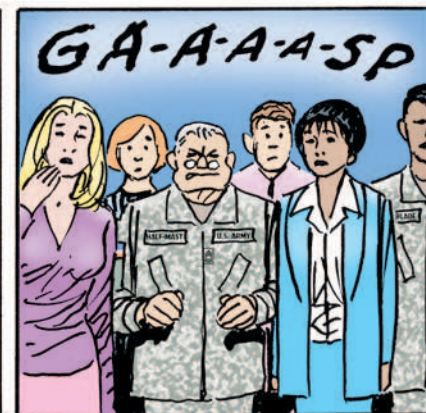
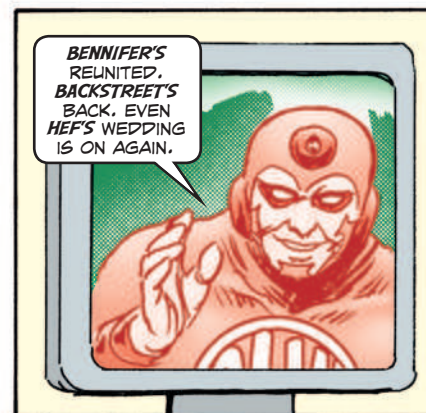
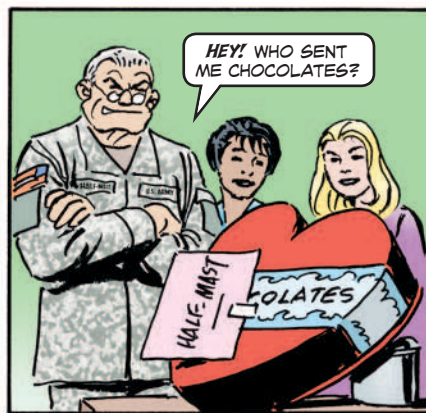
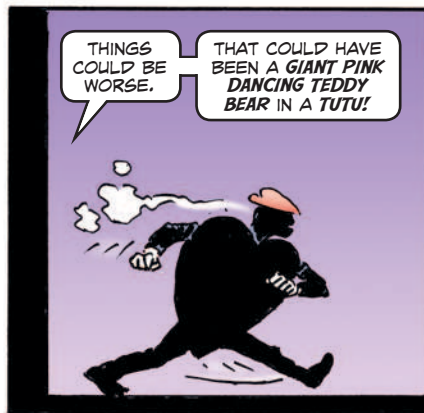
## *The Error of Eros*



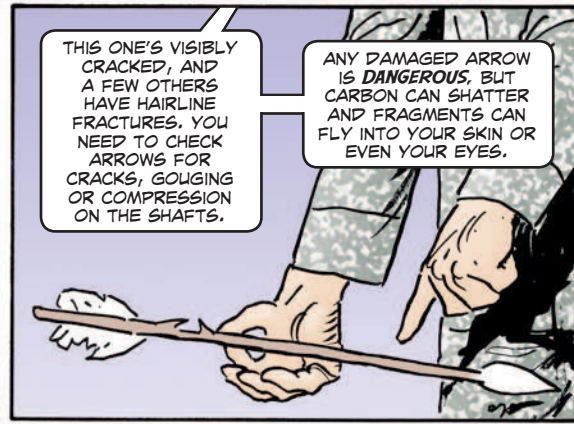
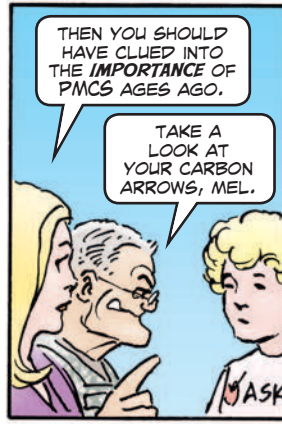
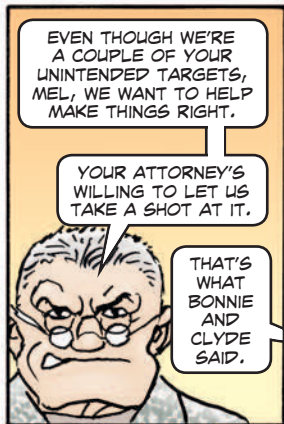
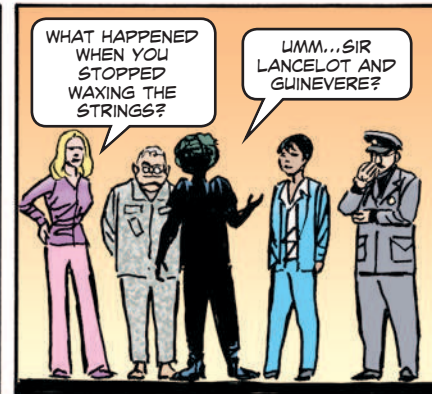
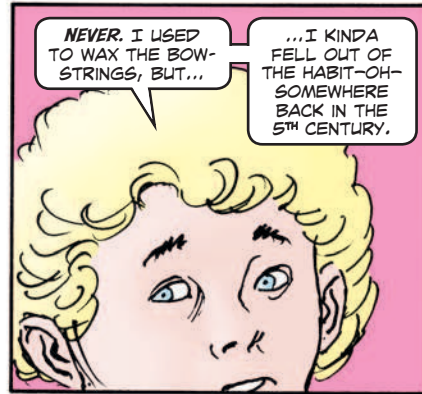
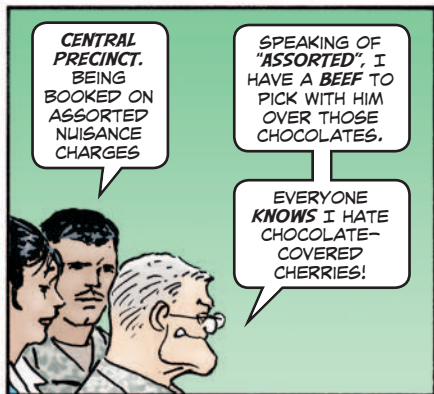
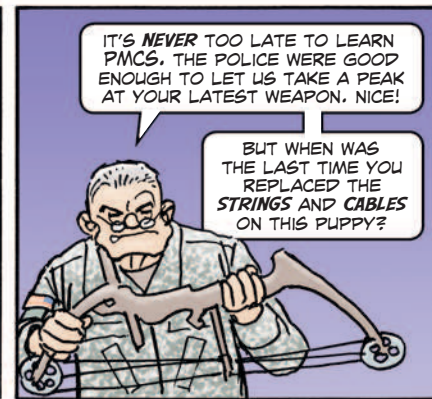
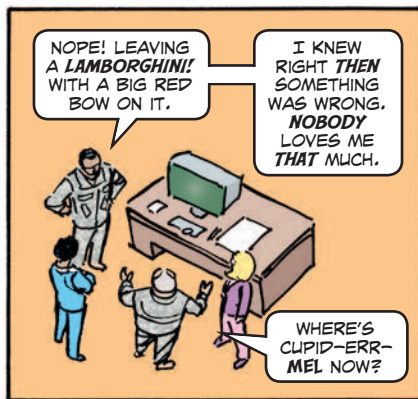


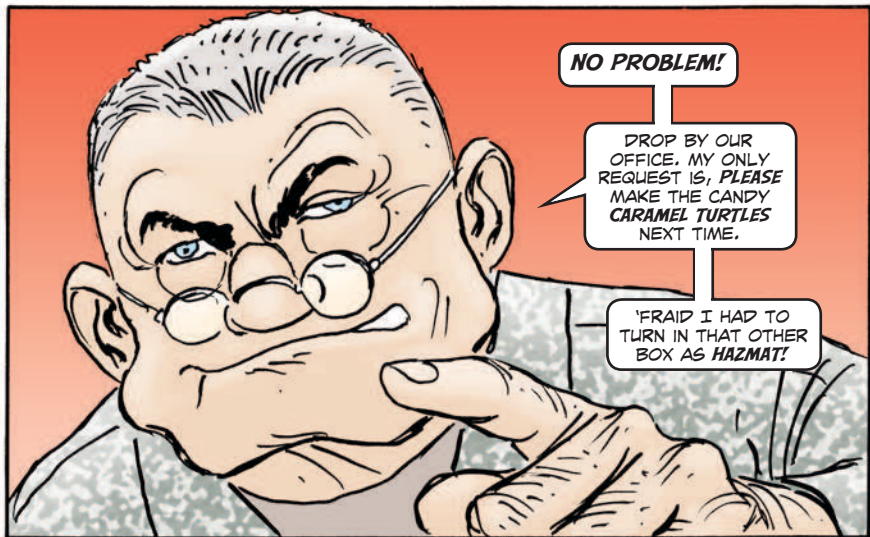
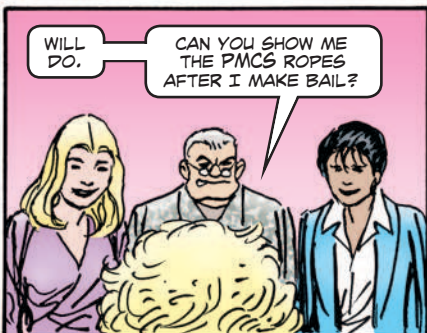
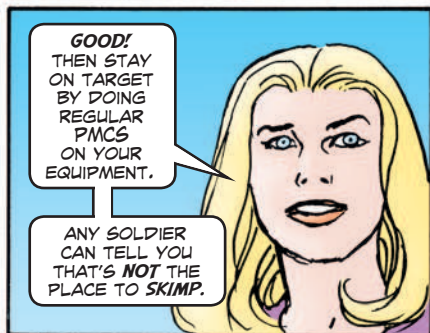
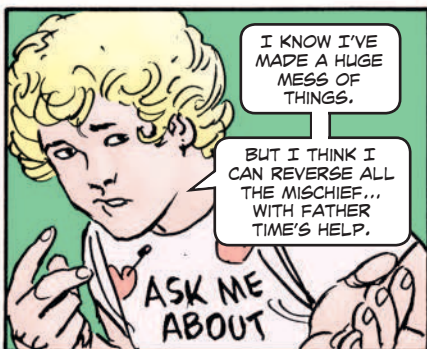
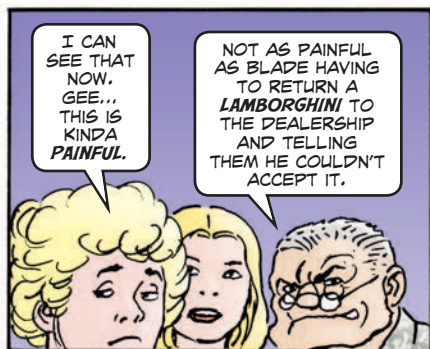






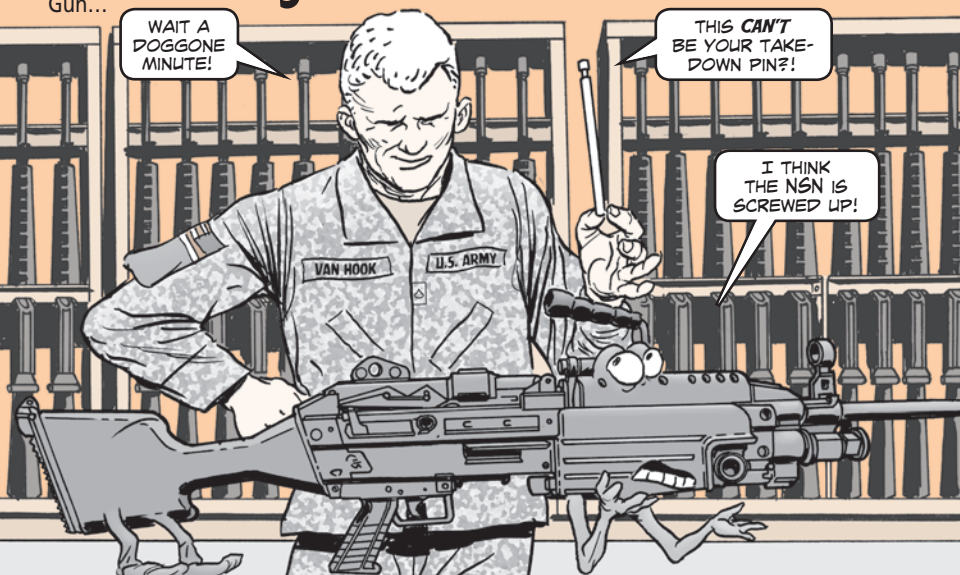








# Wrong NSNs for Takedown Pins



Dear Half-Mast,

We are having trouble getting the M249 machine gun's grooved pin (Item 15 in Fig C-9 of TM 9-1005-201-23&P (Jun 02)). The listed pin's NSN, 5315-01-128-5601, is discontinued, and the replacement NSN, 5315-01-561-6066, brings the wrong pin. We need help.

CW2 M.B.

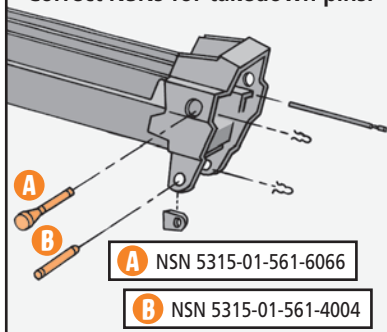
Dear Chief M.B.,

That's why we're here. The correct NSN for the lower takedown pin (Item 15) is NSN 5315-01-561-4004. But that's not all. The upper takedown pin (Item 16), also has the wrong NSN. Use NSN 5315-01-561-6066 to order it.

Eventually the TM will be corrected, but write in the correct NSNs in the meantime.

*Half-Mast*

## Correct NSNs for takedown pins:





# All About ACOG



Dear Half-Mast,

We have several ACOGs (advanced combat optical gunsights) that need minor repairs or are missing parts, but we can't find any information on fixing them. Can you help?

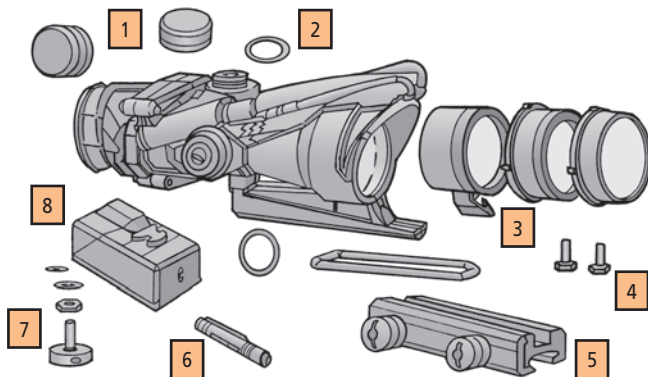
CW2 T.K.

Dear Chief T.K.,

Certainly. Both the ACOG and the RCO (rifle combat optic) are covered by TM 9-1240-416-13&P. It's on the LOGSA ETM site:

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

Here are the available ACOG repair parts and their NSNs:



1. Adjuster caps,  
NSN 5340-01-559-3866

2. Adjuster cap O-ring,  
NSN 5331-01-528-2147

3. LFU/ARD assembly (includes LFU,  
ARD, adapter and retaining band),  
NSN 1240-01-540-2890

4. TA51 mount screws,  
NSN 5305-01-531-6659

5. MIL-STD-1913 mount,  
NSN 1240-01-527-7101

6. Lens cleaning tool,  
NSN 1240-01-535-0972

7. M16A2 thumbscrew kit (includes  
thumbscrew, washer, special washer,  
and O-ring), NSN 5305-01-559-3863

8. Soft case, MOLLE (brown),  
NSN 1240-01-535-4485

## Radiation Warning

The ACOG contains a small amount of tritium gas. If the tritium source breaks or no longer illuminates, notify the local radiation safety officer immediately.

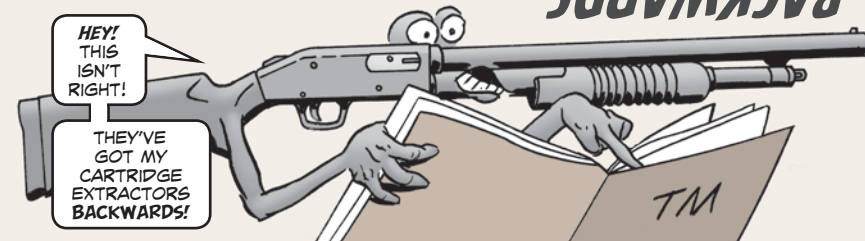
Anyone who has handled an ACOG with a broken tritium source should wash thoroughly with non-abrasive soap and lukewarm water. Anyone handling the damaged ACOG should wear rubber or latex gloves. The ACOG and gloves should then be double-wrapped in plastic and put in a sealed container labeled **BROKEN TRITIUM DEVICE-DO NOT OPEN**.

The safety officer should contact Trijicon for shipping instructions for the damaged ACOG. Call (800) 388-0563.

*Half-Mast*

M500 Shotgun...

## EXTRACTORS GOT IT BACKWARDS



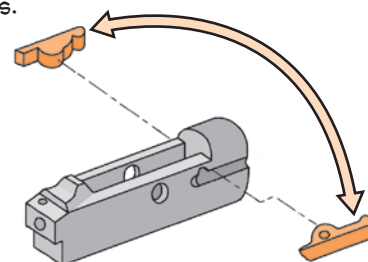
Dear Editor,

There is a mistake in the M500 shotgun's TM 9-1005-338-13&P that will cause major round ejection problems.

In the section on bolt assembly in WP 0029 00-1, the right- and left-hand cartridge extractors are reversed in the picture. If the extractors are put on like the picture shows, it will take a very hard pump of the shotgun to eject a round. Plus, this wrong position will eventually damage the extractors.

Armors need to correct this in their TMs so they don't make this mistake.

Trevor Weston  
Arden Hills, MN



Reverse cartridge extractors  
for proper bolt assembly

**Editor's note:** Absolutely, Mr. Weston. Make sure you make this change, armors. This will be corrected in the next revision of the TM.

# Headspace and Timing Aids



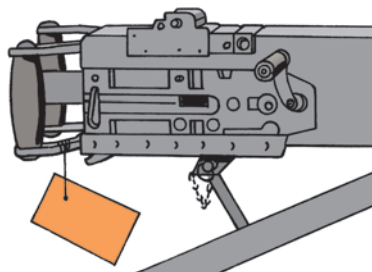
Dear Editor,

The Army has come out with a great card for M2 gunners that lists the whole headspace and timing procedures. The problem is that usually the cards make it out to the field just one time and then they disappear.

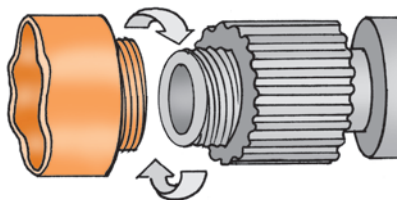
We suggest that in a non-combat situation armorers punch a hole in the cards and use a chain or 550 cord to secure them to the M2's trigger handles. That way the cards will stay with the M2s longer.

We have one other suggestion: The M2 barrel threads are constantly getting banged up. It's a good idea to cut a plastic sports bottle in half and stick one half over the barrel threads when the barrels aren't installed. That keeps burrs from developing on the threads. Burrs make it difficult—if not impossible—to screw in the barrel. Of course, it's important not to toss barrels around or leave them rolling around in the back of a truck, which happens too often.

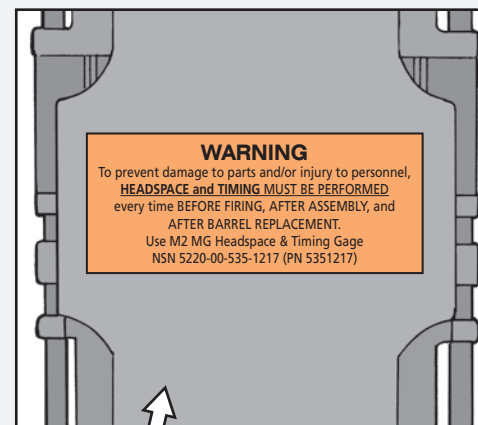
Hang card from trigger handles



Cover threads with a sports bottle



Finally, we know all M2s are supposed to have a warning sticker now concerning headspace and timing. But how do you get the stickers?



Sticker comes with  
NSN 9905-01-573-6847

SSG Alex Pereira  
SPC Francis Rudnicki  
183rd Mtn Co  
Ft Carson, CO

*Editor's note: First, let's take care of your question. Order the warning stickers with NSN 9905-01-573-6847. That brings 25 stickers.*

*Those smart cards with the whole headspace and timing procedure can be ordered by your pubs clerk with GTA 09-06-045.*

*Using a sports bottle as temporary protection for the barrel threads is fine, but the best fix is to get SoftCaplugs, NSN 5340-01-552-0082. They are specifically designed to protect barrel threads.*

*Thanks for the great suggestions. Good headspacing on your part!*



# Round Limit for New M225A1 Cannon

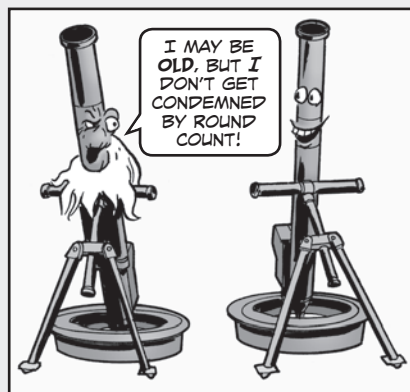


**T**he M225A1 60mm cannon for the new lightweight M224A1 mortar currently has a limit of 4,000 rounds fired, regardless of the round type. After that, the M225A1 is considered unserviceable and must be turned in.

In addition, the M225A1 must be inspected by support after every 500 rounds fired and within 180 days before it's fired again.

This round limit does not apply to the older M225 cannon, which is not condemned by round count.

This round count limitation for the M225A1 will likely be raised to 10,000 once the new M225A1s have been inspected by TACOM after sufficient firings to provide wear data. TACOM will put out a maintenance action message when the change is made.



All rounds fired should be recorded on the cannon's DA Form 2408-4, *Weapons Record Data Card*. This can be done for the Army through TULSA at:

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

or for Marines at the Electronic Weapons Record Book at:

<http://www.logcam.usmc.mil/merit>

If the gun card is lost or is suspected of being wrong, call DSN 786-1216, (586) 282-1216, or send an email to:

[DAMI\\_MORTAR\\_SYSTEMS@conus.army.mil](mailto:DAMI_MORTAR_SYSTEMS@conus.army.mil)

Support personnel need to make a note of this new M225A1 round count limit and new inspection criteria in TM 9-1000-202-14, *Evaluation of Cannon Tubes*. The information should also be added to TM 9-1010-233-10.

For more info, see TACOM maintenance action message 11-044 at:

[https://tulsa.tacom.army.mil/safety/mam/tacom\\_wn/ma11-044.html](https://tulsa.tacom.army.mil/safety/mam/tacom_wn/ma11-044.html)

## TURN IN UNSERVICEABLE/ EXCESS M95/M96 MORTAR FIRE CONTROL SYSTEMS

- **Commander's interface**, NSN 1220-01-534-9740, NSN 1220-01-485-6549, NSN 1220-01-503-4393, or NSN 1220-01-518-9035. Whichever of these NSNs you have, turn it in as NSN 1220-01-534-9740.
- **Hard drive**, NSN 7025-01-571-6116, NSN 5962-01-535-0334, NSN 5998-01-505-3672, or NSN 7025-01-511-1253. Turn it in as NSN 7025-01-571-6116.
- **Power distribution assembly (PDA)**, NSN 6150-01-485-6552
- **Pointing device (PD)**, NSN 6605-01-522-1649, NSN 6605-01-498-1337, or NSN 5342-01-503-4392. Turn it in as NSN 6605-01-522-1649.

QUESTIONS? CONTACT TACOM'S BRIAN CONNELLY AT DSN 786-1221, (586) 282-1221, OR EMAIL: [brian.v.connelly.civ@mail.mil](mailto:brian.v.connelly.civ@mail.mil)

THE ARMY NEEDS M95/M96 MORTAR FIRE CONTROL SYSTEM (MFCS) LINE REPLACEABLE UNITS (LRUs).

THEY ARE IN HIGH DEMAND AND THE ARMY IS RUNNING OUT.

SO IF YOU HAVE LRUs THAT ARE UNSERVICEABLE OR EXCESS, TURN THEM IN ASAP.

YOUR UNIT WILL RECEIVE CREDIT FOR THESE LRUs...

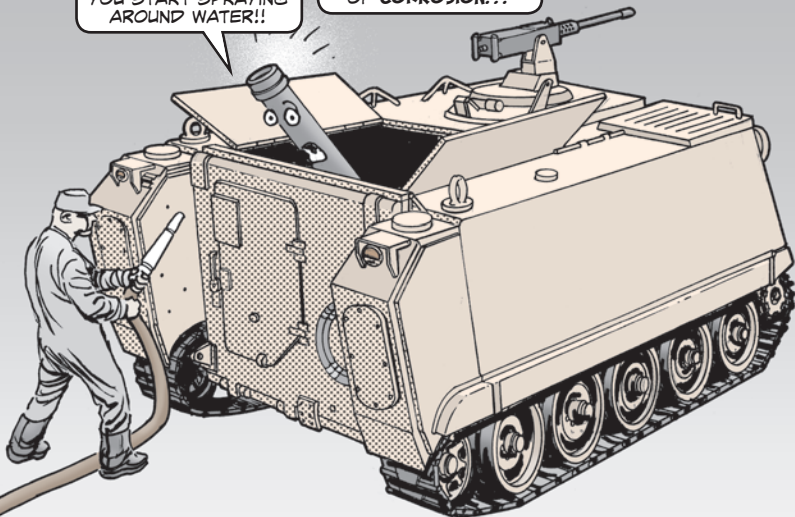




M121  
Mortar...

HEY! TAKE ME  
OUTTA HERE **BEFORE**  
YOU START SPRAYING  
AROUND WATER!!

ARE YA **TRYIN'** TO  
GIVE ME A BAD CASE  
OF **CORROSION!?!**



## REMOVE MORTAR BEFORE WASHING

Dear Editor,

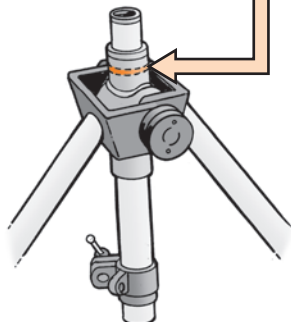
As a TACOM LAR at Ft Riley, I've encountered several M121 with M191 bipod mortars that had corroded so badly that their elevation systems had seized.

The usual cause of this is Soldiers leaving the M121 inside the mortar carrier while they pressure wash the rear of the carrier. Some of that water ends up inside the M121 and corrosion follows. If Soldiers remove the M121 before they wash the M1064-series mortar carrier, there is no problem.

A worn felt seal inside the mortar can also lead to corrosion. Rainwater seeps in past the seal. The semiannual services state "remove and inspect preformed felt for serviceability." I suggest repairmen replace the \$1 seal every six months regardless of its condition. Order the seal with NSN 5330-01-325-9971.

Gerald Knipe  
Ft Riley, KS

Wash rack ruins bipod felt seal (inside)



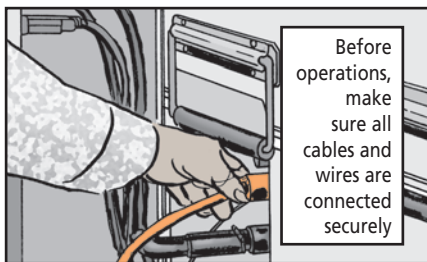
**Editor's note:** Excellent suggestions, Gerald. Listen up, mortar men!

# Best Bid Is BIDS PM

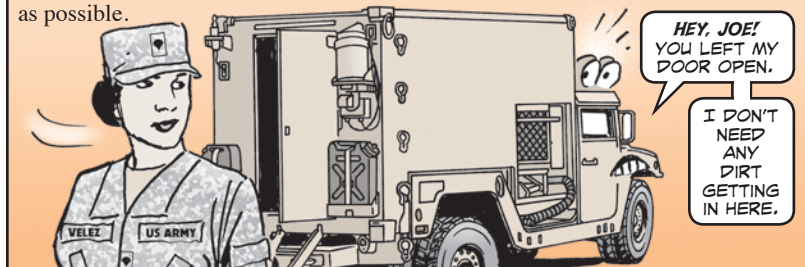


**T**he M31A2 BIDS (pre-planned product improvement biological integrated detection system) can give you a good deal if you make your best bid with PM. Here's the deal:

**Wires and cables**—BIDS has lots of wires and cables. Often one is left disconnected or comes loose, especially if your BIDS has just come back from services. Save lots of troubleshooting time by systematically checking that all wires and cables for each component are connected and tight before you try operating.



**Keep it clean**—The cleaner the inside of the BIDS shelter, the better BIDS works. Daily, especially in the desert, vacuum the floor. Keep the door shut as much as possible.



# LOOSE NOSECUP PART 2



Dear Editor,

There are a few points that need clarifying in your M40/M42 article, "Beware of Loose Nosecup," on Page 41 of PS 705 (Aug 11) to keep from confusing Soldiers:

The first and third paragraphs confuse the front voicemitter with the outlet valve. The first paragraph should read *"...I often run into M40/M42 masks in which the nosecup has pulled away from the back of the outlet valve housing."*

And the third paragraph should say *"When a Soldier clears his mask or exhales, all of the air is supposed to be blown out through the outlet valve body. If the nosecup is unseated from the outlet valve housing, you could have trouble with the mask fogging up."*

The nosecup is bonded and sealed to the front voicemitter housing and then attached to the outlet valve body. If the nosecup isn't attached to the outlet valve body, all the air won't be blown out of the mask when the Soldier exhales. This is explained in WP 0003-1 in TM 3-4240-346-10.

But just because the nosecup is not assembled correctly doesn't mean the mask won't seal. You can blow out any contaminated air by pressing in on the center of the outlet valve cover while blowing out hard. You shouldn't breathe in at all until you've cleared your mask like this, which is a good thing to practice in the CS chamber during training. Even if the nosecup is not seated correctly, incoming air will still have to pass through the filters, which makes it OK to breathe. But you could have trouble with the eyelenses fogging or moisture building up in the nosecup.

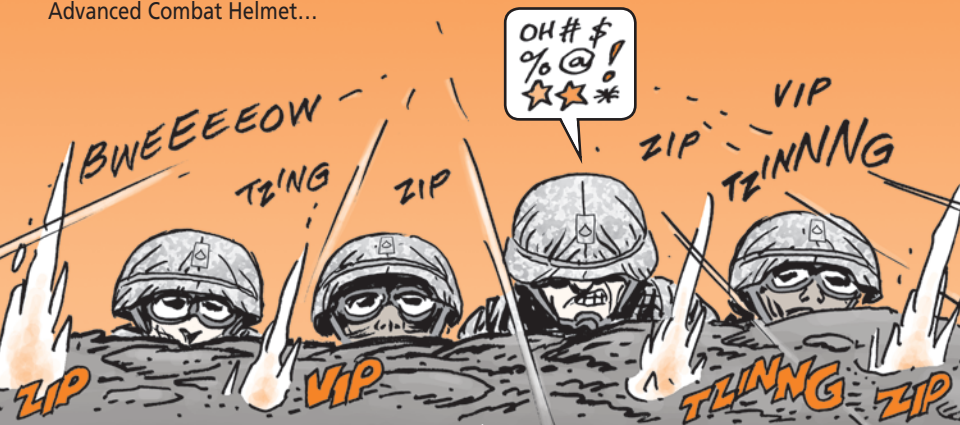
Joseph Maheady  
APG, MD

IF CONTAMINATED AIR IS  
IN YOUR MASK, PUSH IN ON  
THE CENTER OF THE OUTLET  
COVER AND BLOW OUT HARD!



**Editor's note:** Thanks for the clarification, Joe. Soldiers, remember to check for a loose nosecup while you do your normal PMCS and function checks. The PMCS is listed in WP 0005-10 and the function checks in WP 0005-14 in the -10 TM.





# KEEP IT ON YOUR HEAD!

**W**ithout a chin strap, your advanced combat helmet (ACH) will soon tumble off your head. Get a four-point chin strap with NSN 8470-01-530-0868.

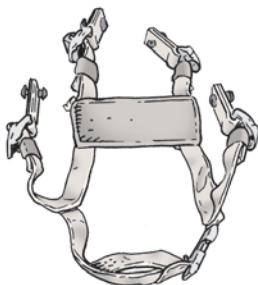
The NSN includes the strap and four each of the attachment tabs, mounting screws and posts. The strap comes in a one-size-fits-all foliage green.

NSN 8470-01-531-3351 gets the strap alone without hardware.

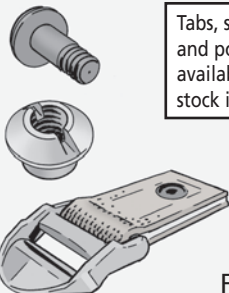
Need to order the individual hardware—attachment tabs, mounting screws and posts—for the strap? FED LOG gives these items an acquisition advice code of V, terminal item. That means the items are available, but only until the current stock is exhausted. Here are the hardware NSNs:

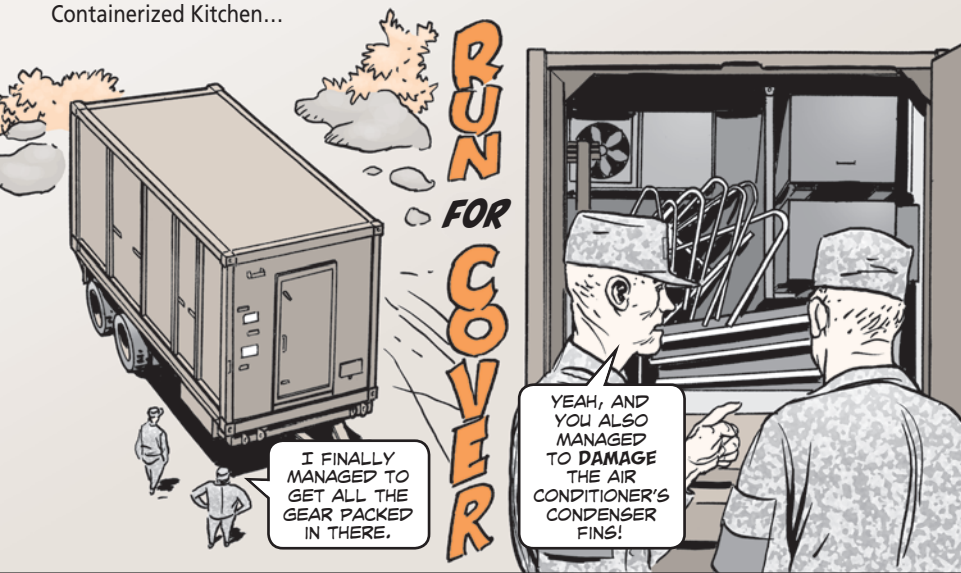
Item	NSN 8470-01-
Mounting screw set. Includes four each of attachment tabs, posts and screws.	533-1011
Attachment tabs (box of 50)	531-3897
Mounting screw (box of 50)	531-4268
Post (box of 50)	531-4284

NSN 8470-01-530-0868 brings strap and hardware



Tabs, screws and posts are available until stock is gone



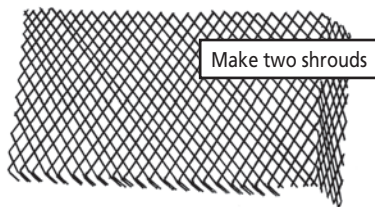
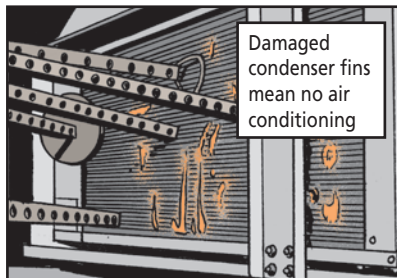


Loose gear banging around in the mechanical room of the containerized kitchen can wreck equipment. The air conditioners especially take a beating. The slide hammer, the ground rod and the jacks ram the condensers and bend the fins. Once the fins are bent, the condenser can't let heat escape. The air conditioners won't operate. And because they work in tandem, if one goes down, the other one won't work either.

To prevent damage, pack your gear like it says in WP 0006 of TM 10-7360-226-13&P (Aug 01, w/Ch 4, Mar 07).

For added protection, put a metal shroud over each air conditioner's condenser. Ask your metal shop or field maintenance shop to fabricate two shrouds. Here are the tools and materials:

- **Tools:** cutting grinder or metal cutting shears, measuring tape, hammer and screwdriver
- **Materials:** sheet of steel mesh, NSN 5680-00-551-3810, 8 feet long x 4 feet wide; twelve 1/4-in inner diameter washers, NSN 5310-00-463-0268 (six washers for each air conditioner)

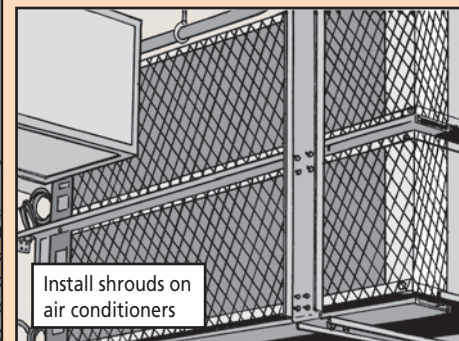


## HERE ARE THE FABRICATING INSTRUCTIONS:

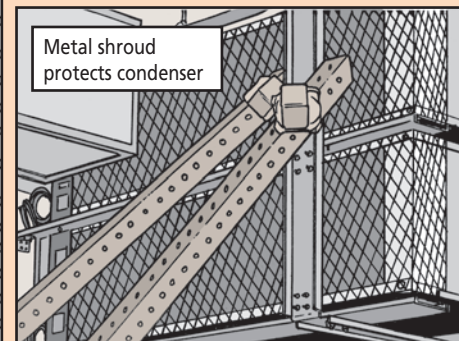
1. Cut out two shrouds from the sheet of steel mesh. Each shroud should measure 40 inches long x 20 inches wide.
2. Bend both long sides of each shroud 90°. Each bend should measure 1 inch deep.
3. Bend one short side of each shroud 90°. The bend should measure 2 inches deep.

AND HERE'S HOW TO INSTALL THE SHROUD...

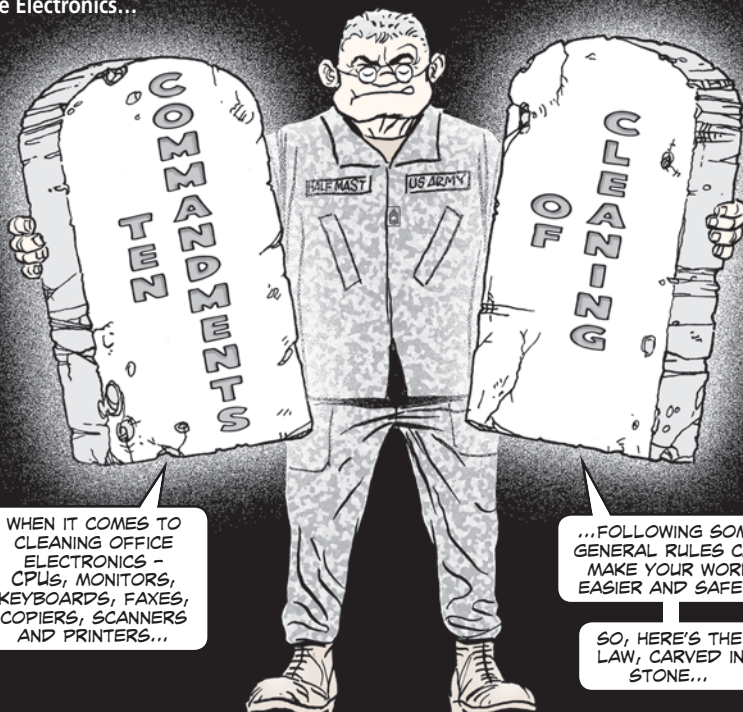
1. Remove the screws from the frame that holds the condenser to the air conditioner.
2. Slide the shroud over the condenser and frame.
3. Place a washer over each screw hole, insert a screw and tighten. Continue until all screws and washers are in place.



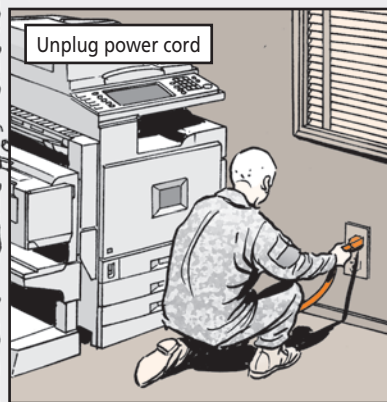
4. Install the second shroud over the second air conditioner in the same way.





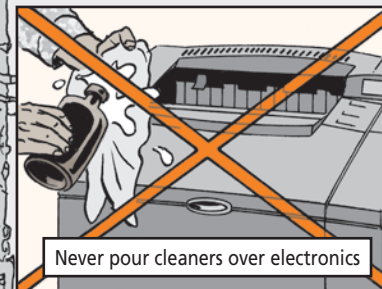


1. Turn off the power and unplug power cords to equipment before cleaning.

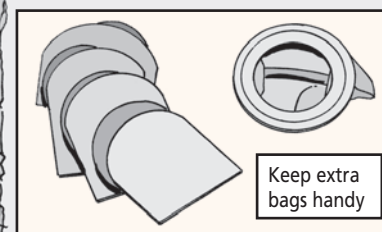
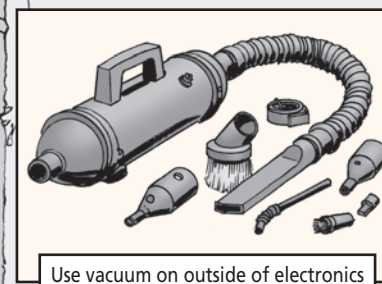


2. Follow the care and cleaning guidelines in the user's manual.
3. Choose wisely when selecting cleaning solvents for your gear. Some solvents can damage the plastic case. Use the cleaner recommended by the manufacturer. Or use mild soap and water or isopropyl alcohol, NSN 6505-00-655-8366.
4. Never pour cleaners, soapy water or alcohol directly onto the gear. Same goes for spray cleaners. Liquid could drip inside and damage internal components. Instead, apply cleaners to a lint-free cloth. Wring out any excess moisture. The cloth should be little more than damp.

5. Never pour cleaning solutions onto cloths while holding them over a keyboard, CPU, or other electronics. They're not waterproof. If liquid gets inside, it can ruin them.



6. Use a vacuum cleaner, NSN 7910-01-423-9525, to clean dust, lint and hair from the **outside cases** of electronic equipment. Use it to clean keyboards, too. It also picks up toner spills from around laser printers and copiers. NSN 7045-01-417-3206\* brings a package of five replacement vacuum bags.



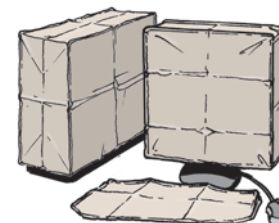
7. **Do not** use the vacuum mentioned above to clean the **insides** of your electronics. It could generate too much static electricity that can damage internal components and circuit boards. If you need to clean inside your electronics, use a compressed gas duster. Use it to clean keyboards, too. NSN 7930-01-398-2473 brings a box of six 10-oz cans of duster.

8. Take care not to accidentally change settings or adjust knobs or controls on your electronics. Make sure you don't disconnect any cables (except for power cords). Check cable connections to make sure they're firmly connected. If they're loose, tighten them with a small screwdriver.

9. Internal components need a steady flow of cool air or they'll overheat. Keep vents and air holes clean. Use a cloth to wipe away dirt, sand, lint and dust bunnies. Or you can run the vacuum over the vents and air holes.

10. In the desert, fine sand regularly builds up on and in your electronics, causing them to overheat. They'll need a thorough cleaning once a week. Use dust covers when your gear is idle. But **never** put a cover on equipment when it's running. You'll block the cooling airflow and cause overheating.

Put dust covers only on idle equipment



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



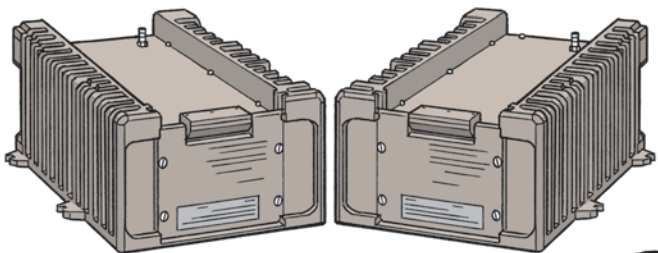
# ONE AND THE SAME

## What's in a Name?

THERE'S ONE MAJOR DIFFERENCE BETWEEN THESE TWO POWER SUPPLIES.

CAN YOU FIND IT?

IF YOU SAID "THEY HAVE DIFFERENT NSNs" YOU WERE RIGHT!



Let's clear up some confusion surrounding tactical power supplies PP-6224C/U, NSN 6130-01-571-2142, and PP-2953D/U, NSN 6130-01-522-3494.

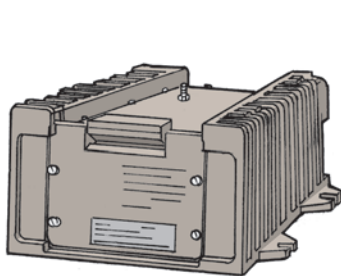
Some units think the PP-2953D/U is strictly a replacement for the PP-6224C/U. Other units have received PP-2953D/Us but don't know what they're used with. Unaware they need these power supplies, units have turned them in.

Here's the straight story on the two power supplies:

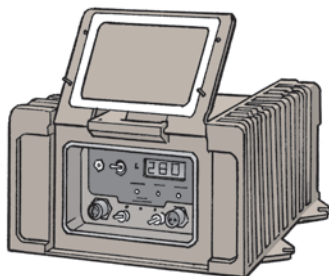
The **PP-6224C/U** is the most recent power supply under LIN P40750. The **PP-2953D/U** is the **exact same power supply** with the same uses.

PP-6224C/U and PP-2953D/U can substitute for the following power supplies:

Power Supply	NSN 6310-
PP-2953/U	00-985-7899
PP-2953C/U	01-235-3787
PP-6224/U	00-133-5879
PP-6224B/U	01-223-0267



PP-2953D/U and PP-6224C/U are the same



WHAT'S THE DIFFERENCE BETWEEN THE PP-6224C/U AND PP-2953D/U?



The PP-6224C/U is a major item requiring authorization. The PP-2953D/U is a secondary item ordered through a funded requisition. As stated earlier, each has its own NSN.

WHY DOES THE ARMY HAVE A MAJOR NSN AND A SECONDARY NSN FOR THE SAME ITEM?



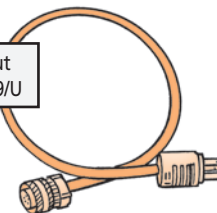
Here's the main reason: The power supply is a high demand item with many uses. It provides power to operations centers, command posts, radios, sensors and other electronics. Having a power supply with two NSNs gives the Army more flexibility in procuring it.

To sum up, the PP-6224C/U and the PP-2953D/U are manufactured on the same assembly line. The only difference is the NSN plate put on them as they come off the conveyor belt. Otherwise, the PP-6224C/U and the PP-2953D/U are identical in looks and use.

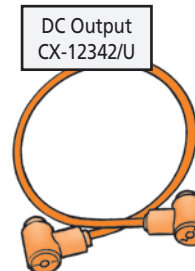
ACTUALLY, THERE'S ANOTHER SLIGHT DIFFERENCE BETWEEN THE TWO POWER SUPPLIES...



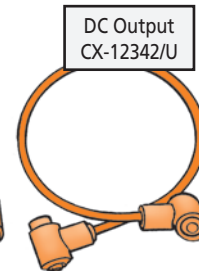
AC Input CX-11979/U



DC Output CX-12342/U



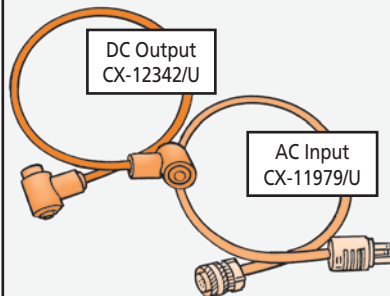
DC Output CX-12342/U



PP-6224C/U is shipped with one AC IN cable and one DC OUT cable

DC Output CX-12342/U

AC Input CX-11979/U



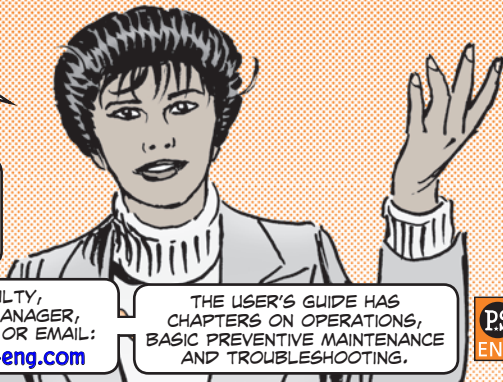
PP-2953D/U is shipped with one AC IN cable and two DC OUT cables

ONE LAST NOTE... AT PRESENT, THE ARMY HAS **NOT** PUBLISHED A TECHNICAL MANUAL FOR THE PP-6224C/U AND PP-2953D/U.

**BUT** YOU CAN GET A BASIC USER'S GUIDE FROM THE MANUFACTURER, CUSTOM MANUFACTURING & ENGINEERING™.

JUST CALL DON MCNUITY,  
PRODUCTION PROGRAM MANAGER,  
(727) 547-9799, EXT 1739, OR EMAIL:  
[dmcnulty@custom-mfg-eng.com](mailto:dmcnulty@custom-mfg-eng.com)

THE USER'S GUIDE HAS CHAPTERS ON OPERATIONS, BASIC PREVENTIVE MAINTENANCE AND TROUBLESHOOTING.

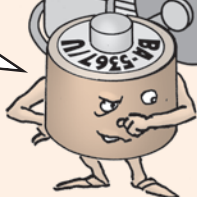


Interrogator Set...

# NEW IMPROVED BATTERY AVAILABLE

BAD NEWS, BUDDY! YOU'RE TERMINAL!

I'M CHEAPER AND STRONGER THAN YOU, AND I DON'T SMELL BAD!



If your interrogator set, such as the AN/TPX-57(V)1/(V)2, uses the BA-5567A/U battery, you now have a better battery choice.

The BA-5367/U is a lithium manganese dioxide battery, which means it doesn't use smelly, toxic sulfur dioxide gas like the BA-5567A/U. Plus, it has 30 percent more energy at temperatures as low as -20°F and 38 percent more at temperatures as high as 130°F.

Order the BA-5367/U with NSN 6135-01-507-1135.

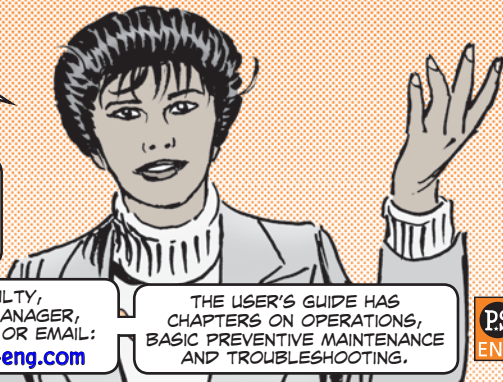
By the way, the BA-5567A/U is being phased out. It is now coded as a terminal item (AAC V). Eventually, the BA-5367/U will be the only version available.

ONE LAST NOTE... AT PRESENT, THE ARMY HAS **NOT** PUBLISHED A TECHNICAL MANUAL FOR THE PP-6224C/U AND PP-2953D/U.

**BUT** YOU CAN GET A BASIC USER'S GUIDE FROM THE MANUFACTURER, CUSTOM MANUFACTURING & ENGINEERING™.

JUST CALL DON MCNULTY, PRODUCTION PROGRAM MANAGER, (727) 547-9799, EXT 1739, OR EMAIL: [dmcnulty@custom-mfg-eng.com](mailto:dmcnulty@custom-mfg-eng.com)

THE USER'S GUIDE HAS CHAPTERS ON OPERATIONS, BASIC PREVENTIVE MAINTENANCE AND TROUBLESHOOTING.

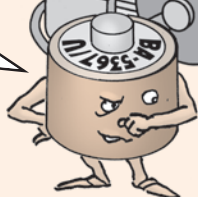


Interrogator Set...

# NEW IMPROVED BATTERY AVAILABLE

BAD NEWS, BUDDY! YOU'RE TERMINAL!

I'M CHEAPER AND STRONGER THAN YOU, AND I DON'T SMELL BAD!



If your interrogator set, such as the AN/TPX-57(V)1(V)2, uses the BA-5567A/U battery, you now have a better battery choice.

The BA-5367/U is a lithium manganese dioxide battery, which means it doesn't use smelly, toxic sulfur dioxide gas like the BA-5567A/U. Plus, it has 30 percent more energy at temperatures as low as -20°F and 38 percent more at temperatures as high as 130°F.

Order the BA-5367/U with NSN 6135-01-507-1135.

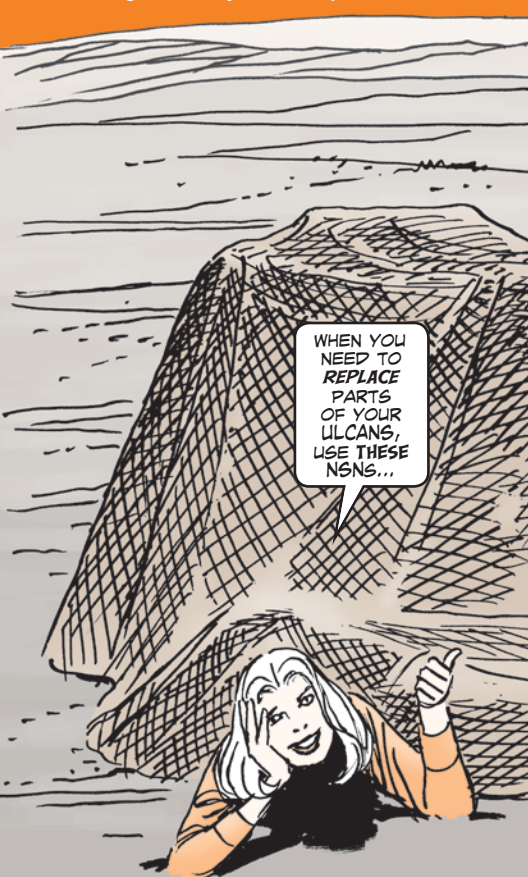
By the way, the BA-5567A/U is being phased out. It is now coded as a terminal item (AAC V). Eventually, the BA-5367/U will be the only version available.



# Be Accountable with ULCANS

The ultra-lightweight camouflage net system (ULCANS) is not a throw-away item. It's like your rifle or your protective mask. You are accountable for it on your property books.

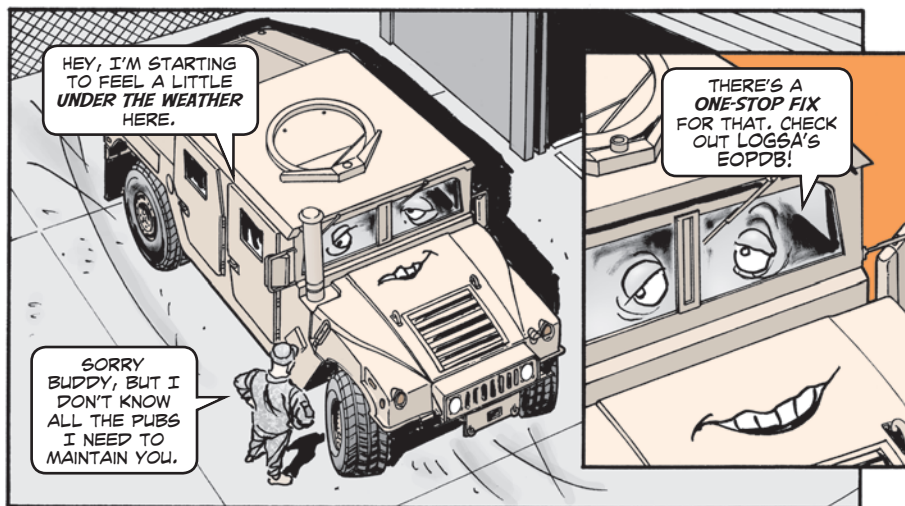
When you dispose of an ULCANS that is damaged or not needed, you must do so using normal DLA Disposition Services. The Army has found ULCANS for sale on commercial sites like eBay®. Not a good move. If you are caught selling ULCANS, you can be prosecuted.



WHEN YOU  
NEED TO  
REPLACE  
PARTS  
OF YOUR  
ULCANS,  
USE THESE  
NSNS...

Item	NSN 1080-01-
<b>Desert Radar Scattering System</b>	475-0696
Screen system	475-1592
Hex screen	475-1593
Rhomb screen	475-1594
Repair kit	475-1595
Cloth	475-1597
<b>Desert Radar Transparent System</b>	475-0694
Screen system	475-1583
Hex screen	475-1584
Rhomb screen	476-1479
Repair kit	475-1586
Cloth	475-5250
<b>Woodland R/S System</b>	457-2956
Screen system	462-0278
Hex screen	461-0155
Rhomb screen	461-0154
Repair kit	463-4081
Cloth	462-3601
<b>Woodland R/T System</b>	475-0697
Screen system	475-1590
Hex screen	475-1588
Rhomb screen	475-1589
Repair kit	475-1591
Cloth	474-8352
<b>Screening support system</b>	463-0046

# HOW TO GET UNIT-TAILORED EQUIPMENT PUBLICATION LISTS



It can be a challenge to make sure your unit has all the publications needed to maintain its equipment.

If you're wondering which pubs your unit needs, the Logistics Support Activity (LOGSA) Equipment Oriented Publications Database (EOPDB) crew can help. With their expertise, you can get customized listings of the pubs needed to support your unit's equipment.

A customized pubs list is especially helpful to units that are getting ready to deploy, returning from deployment or changing command. A response will come to you by return email within a few business days.

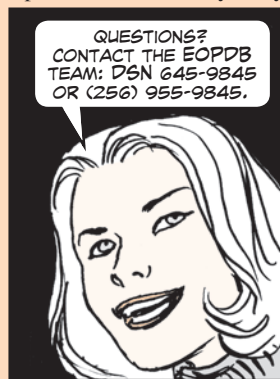
To get a Publication Tailored Index Listing (PTIL), email your request to:

[logsa.eopdb@conus.army.mil](mailto:logsa.eopdb@conus.army.mil)

Include the following information:

- Your unit's six-character Unit Identifier Code (UIC)
- Your unit's maintenance levels (10/20, 10/30, etc.)
- Your name, rank/grade, military address, email address, and phone number.

Note: In general, UIC codes don't work for detachments. So, detachments only should email an Excel spreadsheet attachment that lists their MTOE/TDA line item numbers (LINs) in a single column.



## The Unit Publications Tailored Index Listings

The Unit Publications Tailored Index Listings (PTILs) you'll get from EOPDB include a list of pubs needed to support all authorized equipment listed in your unit's MTOE, plus a list of pubs to support equipment on hand (EOH). EOH includes substitute items.

You'll get PDF files broken out into three separate reports:

- **PTIL by pub number**—Sorted by pub number, includes all pubs.
- **PTIL by LIN**—Same as above, but sorted by LIN.
- **PTIL rejected LINs report**—Any LINs included in your authorized equipment that do not have an associated Army pub (usually because no pub exists).

The title of the listings begin with your unit's six-character UIC code, followed by two numbers that indicate the maintenance levels covered by these reports (all maintenance levels, up to and including the level listed).

The last three characters indicate the type of report, for example, PUB, LIN, or REJ. These characters will be followed by a ".pdf" extension.

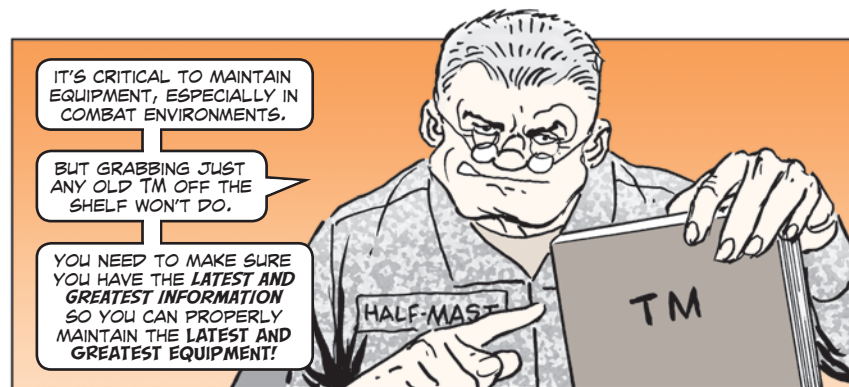
**Remember:** Unit PTILs are based upon the authorized equipment in your unit's current MTOE. However, the reports also include EOH, which are based upon your unit's property book. Any "On Hand but Not Authorized by MTOE" equipment is identified by an asterisk (\*) on the left side of the page.

Publications	Publications Title	Pub Date	Changes	Lst Chg Date	PIN	IDN	EM No.	EM PIN	EM IDN
*TM 9-1290-262-10	OPERATOR'S MANUAL FOR AIMING CIRCLE, M2 W/E (NSN 1290-00-614-0008) AND	1981-04-15	I	2002-01-15	048383	410003	EM 0125	076187	401120

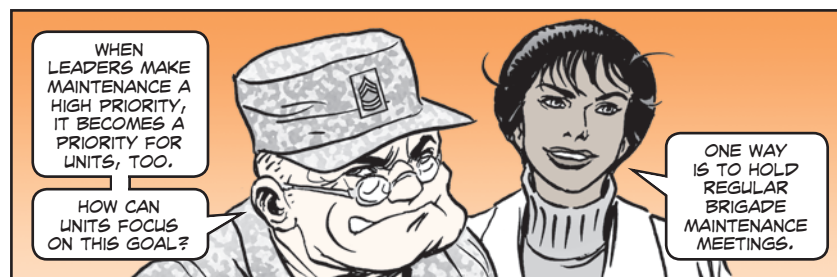
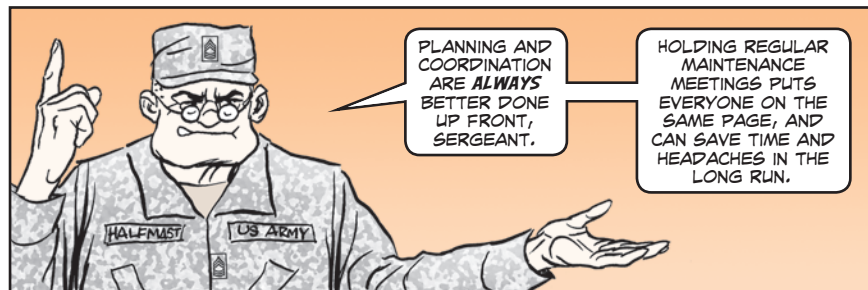
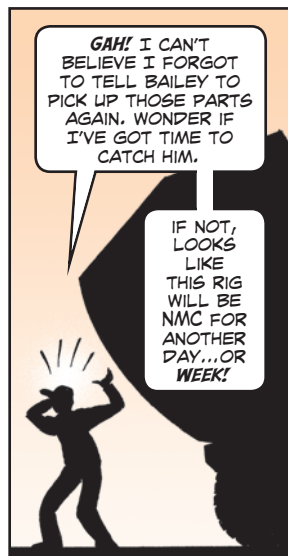
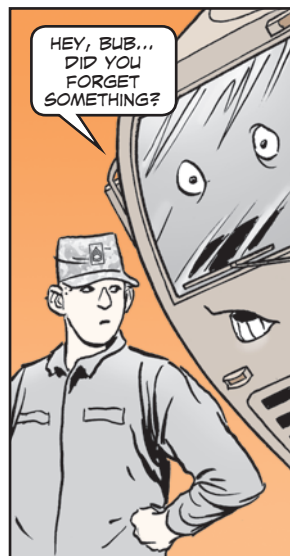
Also, the LOGSA EOPDB folks can tell you what your unit needs, but they can't order the pubs for you. Your unit's pub clerk must order them through the Army Publishing Directorate (APD).

You can find pubs ordering instructions on the APD website:

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



# MAINTENANCE MEETINGS KEEP UNITS ROLLING



HERE ARE SOME TIPS FOR HOLDING EFFECTIVE MAINTENANCE MEETINGS...



- **Time.** Meeting time should be set based on supply and maintenance data processing windows, so everyone has the most current 026 report (maintenance summary.) Try to use a 026 printout that's less than 8 hours old. The meeting should also finish in time so that critical class IX parts can be placed on the evening logistics package (LOGPAC).
- **Location.** Choose a regular meeting location so attendees know where to meet each time. It's a good idea to hold the meeting where attendees can conduct other business, like the brigade support area.
- **Agenda.** Post an agenda that supports the commander's priorities for the next mission, and focuses on building combat power. The agenda should include any info attendees will need to brief, such as the number of systems on hand versus the number of systems fully mission capable, and the number of circle X systems.
- **Attendees.** The brigade combat team (BCT) executive officer (XO) should chair all maintenance meetings. Then the commander's standards can be enforced on those who don't attend or who show up unprepared. The support operations officer should take action on shortcomings identified in the meeting.

## Other participants should include:

- Maintenance officer
- Materiel management center rep
- Brigade S-4 or rep
- Each battalion or task force XO or shop officer
- Separate company XOs or motor sergeants
- Supply support activity (SSA) officer in charge
- Brigade support battalion shop officer
- Logistics assistance officer
- Combat service support automation management officer
- BCT Army Oil Analysis Program rep



To make sure everyone is prepared, a pre-maintenance meeting should be held by:



The pre-maintenance meeting is the time to:

- scrub the 026 printout
- review the status on the nonstockage list of parts required
- identify critical class IX parts awaiting pickup
- identify required class IX parts available on the authorized stockage list
- review jobs that need support work orders
- identify units that need maintenance reinforcement.



FINALLY, A CONTRACT, OR CLOSED LOOP REPORTING SYSTEM, IS A **MUST.**

THE CONTRACT SPECIFIES WHO WILL TAKE CERTAIN ACTIONS, WHEN THOSE ACTIONS SHOULD BE COMPLETED, AND WHO WILL REPORT THEIR STATUS.

NOT EVERY ISSUE REQUIRES A CONTRACT—ONLY THOSE REQUIRING ACTIONS BEYOND NORMAL, DAY-TO-DAY OPERATIONS.

OF ALL THE TACTICAL LOGISTICS FUNCTIONS, MAINTENANCE IS **ESPECIALLY CRITICAL.**

ATTENDANCE AND ACTIVE PARTICIPATION AT REGULAR MEETINGS ARE KEYS TO A **SUCCESSFUL** MAINTENANCE PROGRAM.



*Note: Excerpted from an article by MAJ Eric A. McCoy, and reprinted with permission from the author.*

# Take the ADL Advantage: PACK IT UP, MOVE IT OUT!

MANY OF US TRY TO DO  
A LITTLE SPRING/FALL  
CLEANING EVERY YEAR.

IS IT TIME TO  
CLEAN UP YOUR  
UNIT'S STORAGE  
BAYS AND BINS,  
TOO?

IF SO, THE  
AUTOMATIC  
DISPOSAL LIST  
(ADL) MAY BE  
THE TICKET.



The ADL is useful for units that want to turn in surplus or unwanted equipment. It identifies equipment that can be turned in to DLA Disposition Services (formerly DRMO) without prior approval from the National Inventory Control Point.

The ADL is updated twice a year. A semi-annual review of the ADL gives component commands the chance to scrub their lists of equipment and add, delete or retain equipment to or from the ADL. This data is then used to issue a newly-updated ADL each spring and fall.

It is not mandatory to turn in ADL items. Obsolete items can be turned in directly without waiting for the next ADL. Equipment is turned in "as is."

**Note:** MTOE/TDA units that want to turn in ADL-listed items must do so through their Supply Support Activity. Direct turn in to DLA Disposition Services by MTOE/TDA units is not authorized.

To obtain a copy of the current ADL:

1. Logon to AKO and go to:

<http://www.us.army.mil/suite/folder/17421428>

(Hint: If you need to review previous ADL lists, go to the folder one level up named "Historical Documents")

or

2. Logon to the SLAMIS home page:

<http://www.slamis.army.pentagon.mil>

You'll need to register if you don't already have a SLAMIS account. Once you enter SLAMIS, select "Disposition Instructions."



### M870A3 HYDRAULIC HOSE KIT

Get a hydraulic hose kit for the 40-ton medium-heavy equipment transporter (MHET) by ordering NSN 4720-01-586-5839. This kit connects the transporter to its prime mover and replaces the parts info shown as Item 12 of the BII, on Page D-4 of the BII in TM 5-2330-325-14&P.

### M939/A1/A2-Series Pre-heater Kits

Get an engine pre-heater kit for the M939/A1-series 5-ton trucks by ordering NSN 5340-01-580-5852. NSN 5340-01-580-5850 gets a pre-heater kit for the A2-series trucks. Installation instructions come with these kits that are being added to TM 9-2320-272-24P.

### M992A2 Wiring Harness NSN

Get a new driver's bulkhead to front NATO slave receptacle wiring harness for your M992A2 ammo carrier with NSN 6150-01-591-5962. The IETM gives the correct part number (12496338), but lists the wrong NSN (6150-01-524-9105). That NSN brings the wrong cable. Make a note until the IETM is updated at the next revision.

### M1117 ASV WEBSITE

Let your fingers do the walking by visiting this armored security vehicle (ASV) website:  
<https://www.us.army.mil/suite/page/579044>

Here you'll find the latest info on the ASV technical manuals and technical bulletins. You'll need an AKO account to access this website.

### Get Your Chin Strap Assembly

The quick-release chin strap assembly for the aircrew integrated helmet system (AIHS) is available for ordering. NSN 8415-01-558-1082 brings you the complete assembly. NSN 8575-01-434-0707 brings the quick-release pad, and NSN 8415-01-558-3127, the chin strap only. Make a note that the quick-release chin strap assembly NSN replaces 8515-01-394-8023.

### FMTV LSAC CAB WINDOWS

Use NSN 2510-01-527-4961 to get the front curbside window for the armored cab of the FMTV LSAC vehicles. NSN 2510-01-527-4953 gets the roadside window. These NSNs are reversed and shown as Items 3 and 4 in Fig 58 of TM 9-2320-320-13&P.

### M870A3 MHET Pneumatic Wheel Assembly

To get the pneumatic wheel assembly for the 40-ton medium heavy equipment transporter (MHET), use NSN 2530-01-571-7223. It replaces NSN 2530-01-441-9700, which is shown as Item 2 in Fig 19 of TM 5-2330-325-14-P (Jun 04). That NSN is a terminal item.

### M900-SERIES TANKER ENGINES

When the Onan engine used on your M900-series 5,000-gal fuel semitrailer is no longer repairable, replace it with a Lombardi engine that comes with NSN 2815-01-471-4411. You must use the kit, NSN 2815-01-459-0006, to switch out the old engine, which Onan no longer builds. The kit has frame components and all the hardware with installation instructions.

### THE WORD ON BOOTS

If you need information about approved footwear for aviators and vehicle crewmen, the go-to person at the Natick headshed is Benjamin Cooper. You can reach him by phone, (508) 233-6433 or email:

[benjamin.s.cooper2@us.army.mil](mailto:benjamin.s.cooper2@us.army.mil)

### DEICING FLUID

Get a 16-oz spray can of deicing fluid with NSN 6850-00-835-0484. The fluid removes ice from windshields and windows.

### STRYKER TIRE AND WHEEL ASSEMBLY

Having trouble finding the tire and wheel assembly for your Stryker? Get it with NSN 2530-20-000-3667 (PN 10655042-021, CAGE 56161).

### M870A1 Wood Decking Kit

Use NSN 5510-01-540-5724 to get a complete wood decking kit for the 40-ton lowbed semitrailer. Make a note until this NSN is added to Fig 29 of TM 5-2330-378-14&P.

### HEMTT A4 Service Kits

Keep this list of NSNs handy when you do annual services on the HEMTT A4 vehicles.

Model	NSN 4910-01-
M977A4, M985A4, M1120A4 and M1977A4	588-1344
M978A4	588-1366
M983A4, M983A4 LET	588-1407
M984A4	588-1415
M985A4 GMT	588-1421

Each of these kits includes all the parts you need to perform the annual service. For a list of the kit's components, send a request to:

[donald.j.oconnor18.civ@mail.mil](mailto:donald.j.oconnor18.civ@mail.mil)

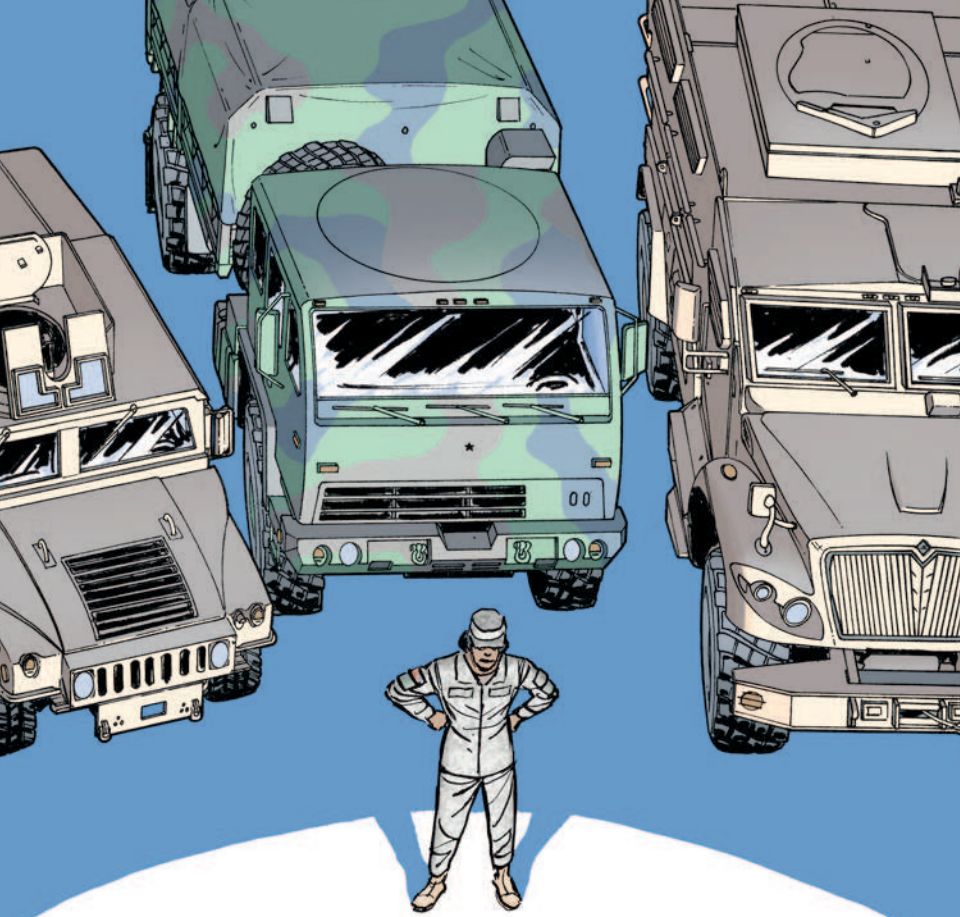
### HEMTT A4 Coolant Sight Glass

Get the coolant sight glass for the HEMTT A4 by using NSN 6680-01-570-1602. Make a note until this NSN is added to IETM 9-2320-326-14&P.

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?





# **WANT ONE-STOP DRIVER'S TRAINING?**

***GRAB THE TOOLBOX THAT HAS IT ALL!***  
**THE DRIVER'S TRAINING TOOLBOX  
CAN BE FOUND ONLINE:**

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