



## COMBAT VEHICLES

M113 FOV Manifold Rust Prevention  
M2/M3 Bradley Ramp and Door Seals  
M1-Series Tank Service Kit Nuts  
M109A6 Paladin, M777A2 Towed Howitzer  
Primer Removal  
M109A6 Paladin, M777A2 Towed Howitzer,  
Don't Hot Swap EPIAFS PIK



## TACTICAL VEHICLES

M915A3 Prop Shaft Retraining Bolts, Strap NSNs  
HEMTT Dash Pin Removal Tool  
FMTV Transmission Upgrade Kit NSN  
TACOM LAR Location  
HMMWV Glow Plug Wait Light



## CONSTRUCTION VEHICLES

Backhoe Loader Operation on Slopes  
Backhoe Loader PM Pointers  
Backhoe Loader Seat Parts  
M9 ACE Hydraulic Kit NSN  
M9 ACE Blade Lock Pin, Clip  
120M Road Grader Shank Stowage  
120M Road Grader, Lube Data Plate Correction  
120M Road Grader Moldboard Wear Strip Cracks  
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TB 43-PS-759, 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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Just write to:

MSG Half-Mast

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

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Administrative Assistant to the Secretary of the Army

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Issue 759

# PS

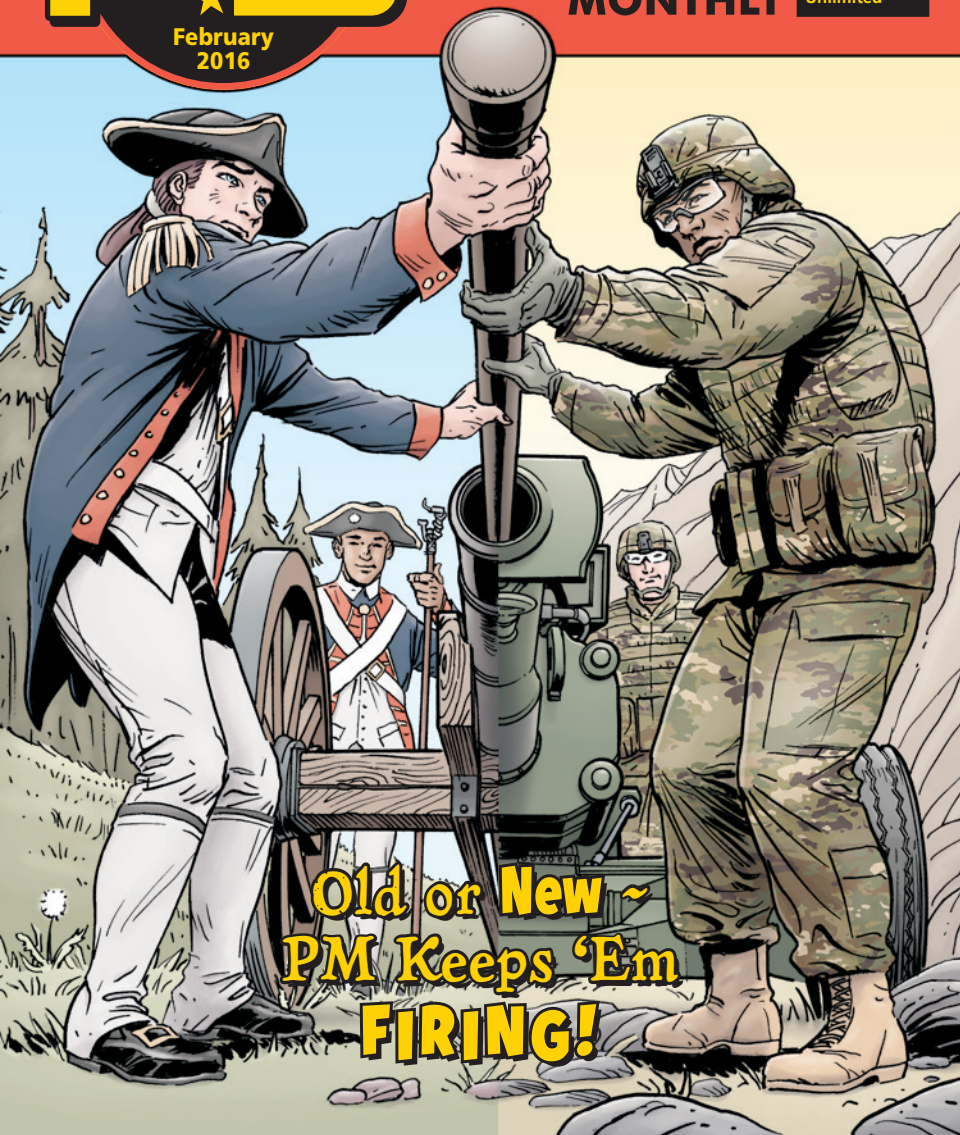


February  
2016

## THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-759

Approved for  
Public Release;  
Distribution is  
Unlimited



Old or New ~  
PM Keeps 'Em  
**FIRING!**

# DON'T SPIN OUR WHEELS!

NOBODY  
LIKES TO SPIN  
THEIR WHEELS!



SO LET US  
KNOW WHEN  
YOU FIND THE  
ANSWER TO  
A QUESTION  
YOU'VE SENT  
TO PS.



**PS** Magazine gets lots of maintenance and supply questions each month. Sometimes we can send out an immediate answer. Other times, those answers take a couple days to a few weeks to track down.

In the meantime, you may find the solution on your own. Maybe a vendor helped out or you ran into a buddy who already solved the problem. Point is, if you found the answer, you need to let us know!

First, that keeps us from spinning our wheels, trying to find an answer to a problem that's already solved.

Second, we may be able to use that information for an article in *PS*. After all, if the problem was tough enough that you took the time to write us, chances are other Soldiers could be stumped as well.

Got a supply or maintenance question you need help with? Email us at:

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

Then remember to email us if you find the answer on your own!

# PS COMBAT VEHICLES

GONNA BE TIME  
FOR THIS BABY'S  
SEMIANNUAL SERVICES  
WHEN WE GET BACK.

HOPE OUR MECHANIC SEES  
THAT STORY ON PAGE 6  
ABOUT SELF-LOCKING NUTS  
IN THE SERVICE KIT!

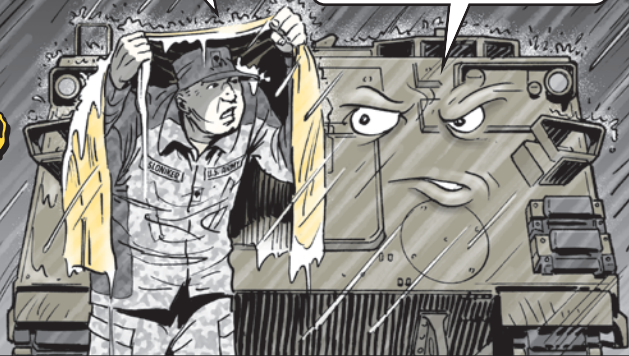




# GUARD AGAINST MANIFOLD RUST

HEY, YOU NEED  
AN UMBRELLA,  
PAL?

UMBRELLA?! PTCH... I  
NEED A COVER OVER MY  
WHOLE ENGINE GRILLE SO MY  
MANIFOLD DOESN'T RUST!



Dear Half-Mast,

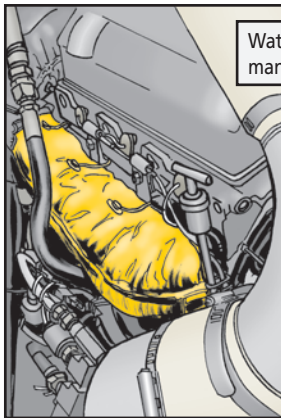
We're seeing quite a few M113-series FOV personnel carriers with rusted out exhaust manifolds here at the National Training Center (NTC).

The heat shield covers retain water from rain and vehicle washing. Over time, rust develops on the exhaust manifold. Eventually, the rust can eat holes and cause splits in the manifold. And the heat shield covers themselves rot from the inside out.

That's why it's a good idea to inspect exhaust manifolds for rust during annual services. Be sure to replace the heat shield covers when they become unserviceable. Replacing a heat shield cover is a lot cheaper than replacing an exhaust manifold. Do you have any other ideas for protecting the manifold?

SSG L.D.B.

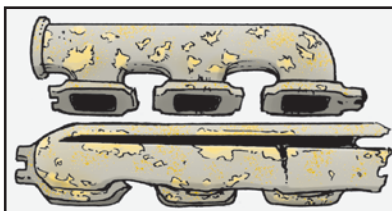
Water that gets on exhaust  
manifold heat shield...



...will rot  
heat shield...



...and  
rust out  
manifold



Dear Sergeant,

You bet. We also suggest keeping the engine grille buttoned up with grille cover, NSN 5120-01-105-0779 (green) or NSN 2510-01-496-9646 (tan). Just don't forget to remove the grille cover before operating the vehicle.

Covering the vehicle with a tarp whenever it's stored outdoors is a good idea, too. NSN 8340-00-841-6456 brings a 12x17-ft green tarp. NSN 2540-01-330-8062 gets a 12x17-ft tan tarp. Both are listed in the -10 TM's Additional Authorized List (AAL).

When washing the vehicle, avoid spraying wash water directly onto the engine as much as possible. If the heat shield cover does get wet, run the engine at fast idle afterward. The heat generated will dry out the cover and lessen moisture buildup.

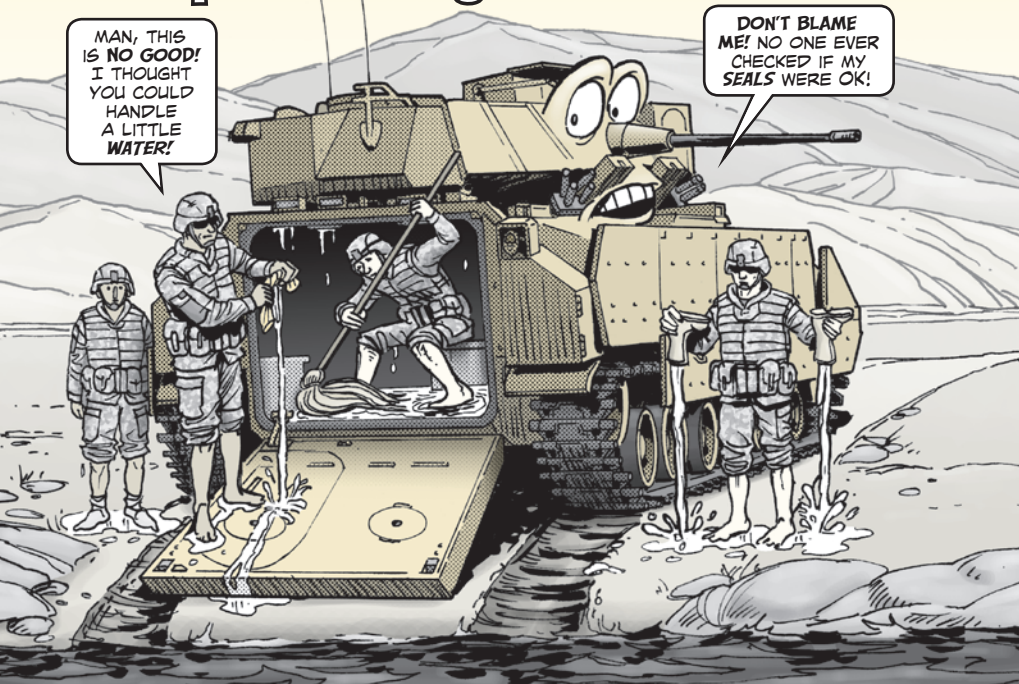
Half-Mast 

M2/M3-Series Bradleys...

## Keep Feet Dry With Seal PM

MAN, THIS IS NO GOOD! I THOUGHT YOU COULD HANDLE A LITTLE WATER!

DON'T BLAME ME! NO ONE EVER CHECKED IF MY SEALS WERE OK!

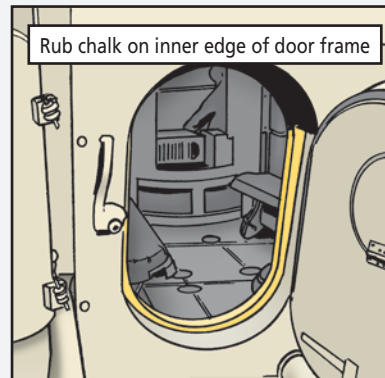


Crewmen, wet feet aren't a lot of fun when you're on a mission. But that's what you could have the next time your Bradley has to ford a stream if you haven't checked the ramp and rear door seals semiannually.

Your Bradley can ford water up to 3 1/2 feet deep. So if you want dry feet, make sure the ramp and rear door seals are in good condition.

Here's how to check them...

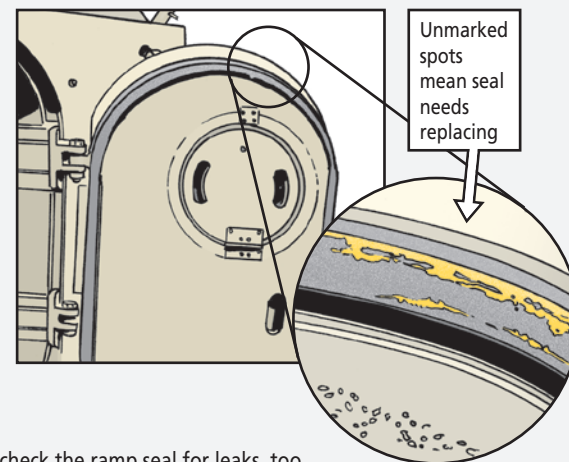
1. Open the ramp door and rub chalk on the inner edge of the door frame. Mark all the way around the frame where the seal seats.



2. Close and latch the ramp door.



3. Open the ramp door and inspect the seal. If the entire seal is marked with chalk, the door is OK. Unmarked spots mean the seal isn't doing its job. Your mechanic will replace a bad door seal with NSN 5330-01-124-9314.



4. Follow Steps 1-3 to check the ramp seal for leaks, too. Mechanics will use NSN 5330-01-125-4269 to replace a bad ramp seal.



# LOCK DOWN MOUNTING STUD DAMAGE

TIME FOR YOUR SEMIANNUAL SERVICE!

HANG ON! DID YOU CHECK TO MAKE SURE THE SERVICE KIT HAS THE RIGHT SELF-LOCKING NUTS FOR MY MAIN HYDRAULIC PUMP?

Some self-locking nuts supplied in the M1-series tank's semiannual service kit, NSN 2540-01-255-3347, can damage the threaded mounting studs on the main hydraulic pump when the nuts are tightened or removed.

Problems occur when the self-locking mechanism doesn't release properly and flattens or damages the threaded hydraulic pump mounting studs.

Check right away for the problem self-locking nuts, NSN 5310-01-074-4980. If you find any, file a product quality deficiency report (PQDR) through the product data reporting and evaluation program (PDREP). Access PDREP at:

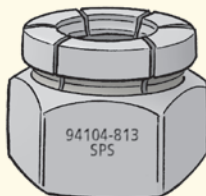
<https://www.pdrep.csd.disa.mil/>

Wrong self-locking nut...



...can damage main hydraulic pump mounting studs

Kits with correct self-locking nuts are good to go!



If the mounting studs are damaged, coordinate repairs with a Honeywell field service engineer (FSE) or TACOM LAR. Repair of the mounting studs isn't authorized for field-level maintenance because of the risk of permanent damage to the accessory gear box (AGB) top cover assembly.

See TACOM Maintenance Action Message 15-023 for more information. You'll find the message on the TACOM-Unique Logistics Support Applications (TULSA) website at:

<https://tulsa.tacom.army.mil/Maintenance/message.cfm?id=MA15-023.html>

You'll need your CAC and first-time users must first request access.

Questions? Contact Terry Smart at DSN 786-7849, (586) 282-7849, or email:

[terry.d.smart2.civ@mail.mil](mailto:terry.d.smart2.civ@mail.mil)

M109A6 Paladin, M777A2 Towed Howitzer...

# PRIMER REMOVAL MADE EASY!

YA EVER GET A STUCK PRIMER? THAT'S THE WORST!

YEAH, MY CREW KNOWS HOW TO TAKE CARE OF THAT FAST, THO!

CREWMEN, A STUCK OR RUPTURED PRIMER CAN SHUT A FIRE MISSION DOWN FAST.

THAT CAN HAPPEN DURING TOP-LEVEL FIRING WITH THE M109A6 PALADIN AND THE M777A2 TOWED HOWITZER.

**TWO TOOLS ARE BEING ADDED TO THE BASIC ISSUE ITEMS (BII) FOR THE PALADIN AND THE M777A2.**

**THE FOLLOWING PROCEDURES FOR REMOVING STUCK AND RUPTURED PRIMERS WILL BE ADDED TO THE TMS:**

**THE RUPTURED PRIMER EXTRACTION TOOL (PET),  
NSN 1025-01-530-5873...**



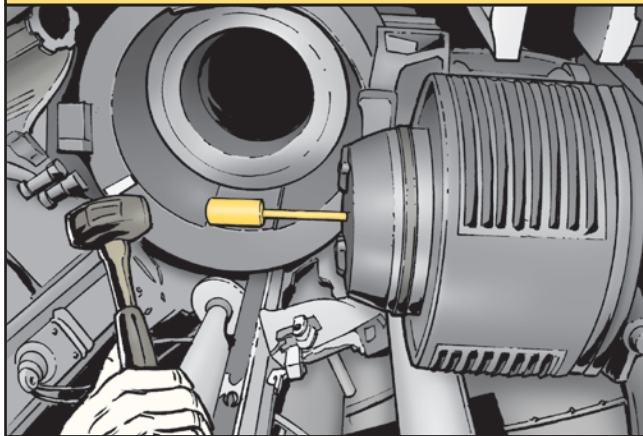
**... AND PRIMER REMOVAL TOOL,  
NSN 4933-01-646-5946...**



**... WILL HELP GET YOUR HOWITZER BACK IN THE FIGHT  
IN A HURRY.**

### **Stuck Primer Removal**

1. Insert the drift end of the primer removal tool into the muzzle side of the spindle primer hole.
2. Push the tool in until contact is made with the primer casing.
3. Push primer out manually using the palm of your hand or by tapping on the large end of the tool with a hammer. Remove the primer magazine (M777A2 only).



**AFTER  
EITHER  
PROCEDURE,  
BE SURE TO  
CLEAN AND LUBE  
THE BREECH  
AND BORE  
EVACUATOR  
JUST LIKE IT  
SAYS IN  
THE TM!**



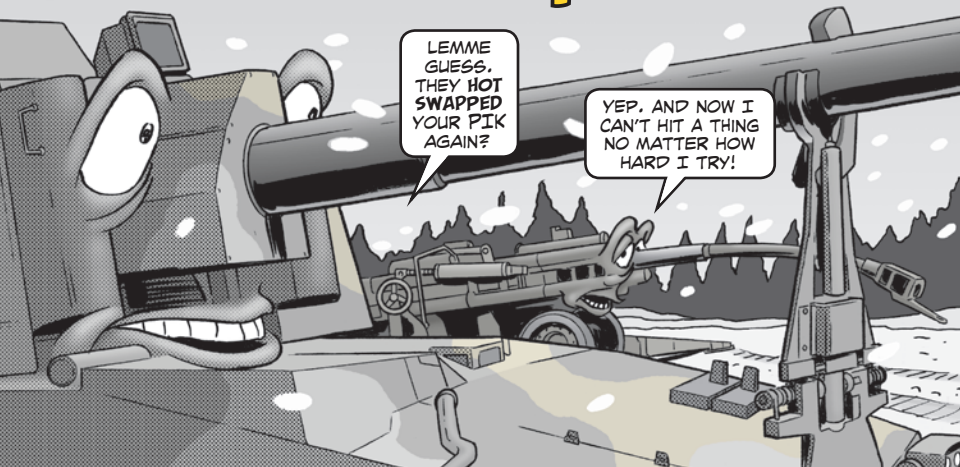
### **Ruptured Primer Removal**

1. Insert the PET through the breech end of the primer vent hole. Turn the tool slowly until the tap screws are secured into the ruptured primer's casing.
2. Tap the handle with a brass hammer until the casing is securely gripped.
3. Quickly move the tool's slide hammer from side to side to remove the stuck primer casing.

**PS END**



# Don't Hot Swap the PIK!



Crewmen, don't "hot swap" the enhanced portable inductive artillery fuze setter's (EPIAFS) platform integration kit (PIK), NSN 1290-01-538-9257, in the M109A6 Paladin and the M777A2 towed howitzer.

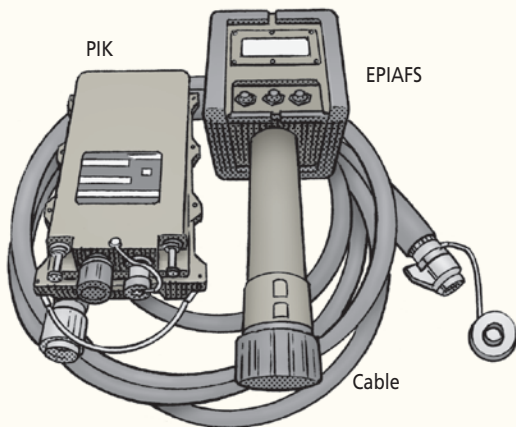
Several field artillery units have burned up PIKs by hot swapping them. Hot swapping is removing or installing the PIK without shutting off the power from the howitzer first.

**Always** turn off the power to the PIK before removing or installing it to avoid damage.

Also, be sure to disconnect the EPIAFS from its cable if the PIK is not installed or has been temporarily removed. The EPIAFS can be damaged if it's left connected while the PIK is disconnected or removed.

For more information on removing and installing the PIK, see WP 0045 of TM 9-1290-211-13&P (Dec 14, w/Ch 1, Mar 15).

Disconnect EPIAFS if PIK is removed



# PS TACTICAL VEHICLES



M915A3 Tractor Truck...

HEY! ARE THOSE MY NEW  
PROP SHAFT RETAINING  
STRAP AND BOLTS?

SORRY, PAL.  
THE ONES THAT  
CAME IN ARE  
THE **WRONG**  
SIZE!

## PUZZLED OVER PROP SHAFT BOLTS, STRAP

Dear Half-Mast,

I need the retaining strap and bolts for the main propeller shaft on my M915A3 tractor truck.

I ordered items 8 and 9 from Fig 148 of TM 9-2320-302-24P (Feb 06, w/Ch 2, Aug 12), but the bolts and strap I got were the wrong size.

What are the correct NSNs for these parts?

Mr. J.J.

Dear Sir,

Here are the parts you need:

Item	NSN
Strap	3110-01-612-9543
Bolt	5305-01-518-8434
Strap with bolt kit	5340-01-563-6486

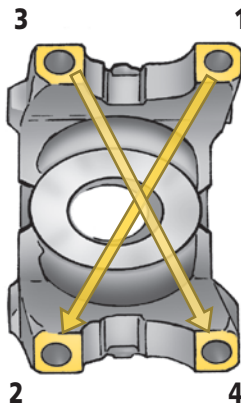
Replace the bolts every time they're removed from the prop shaft.

First, install 'em finger-tight and make sure the bearing caps are fully seated in the yoke. Then torque the bolts in a crisscross pattern to 115-125 lb-ft.

The strap doesn't have to be replaced as long as it's serviceable.

*Half-Mast*

**Torque bolts in  
crisscross pattern**





# HEMTT... Dash Pin Pulling Made Easy

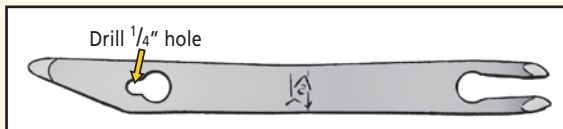
TIRED OF  
BUSTING UP  
YOUR FINGERS  
REMOVING DASH  
PINS? HERE'S A  
**TOOL IDEA**  
THAT MAKES THE  
JOB EASY!

Dear Editor,

Removing the HEMTT's dash pins is no easy task. We designed a tool that makes it less of a chore.

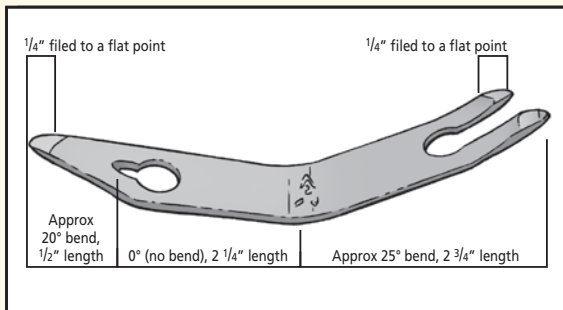
Here's how to make it:

- Take a normal HMMWV starter shim, NSN 5365-01-210-4903, and drill a 1/4-in hole like this:



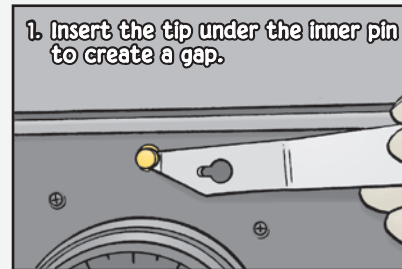
- File both ends to 1/4-in flat points.
- Bend 2 3/4 inches of the slotted end 25 degrees.
- Bend 1/2 inch of the other end 20 degrees.

When you're done, it should look like this:

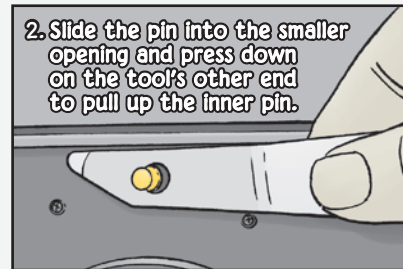


Here's how to use the tool:

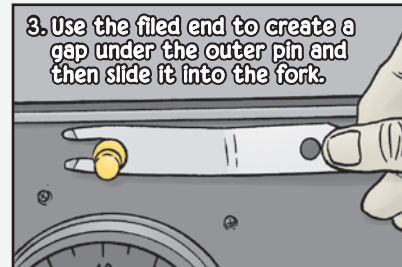
1. Insert the tip under the inner pin to create a gap.



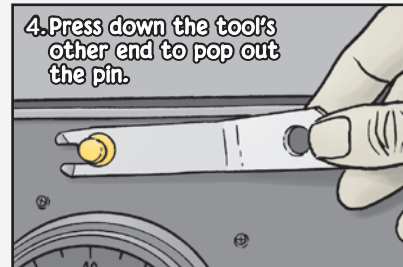
2. Slide the pin into the smaller opening and press down on the tool's other end to pull up the inner pin.



3. Use the filed end to create a gap under the outer pin and then slide it into the fork.



4. Press down the tool's other end to pop out the pin.

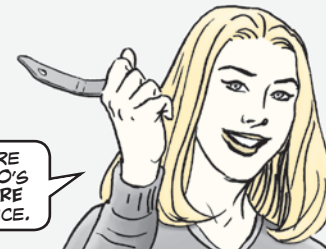


*You're done!*

SGT Johnathan Jones  
1149th FSC, KYARNG  
London, KY

YOUR TOOL CERTAINLY  
PINS DOWN DIFFICULT  
DASH PINS. A **GREAT**  
IDEA, SERGEANT!

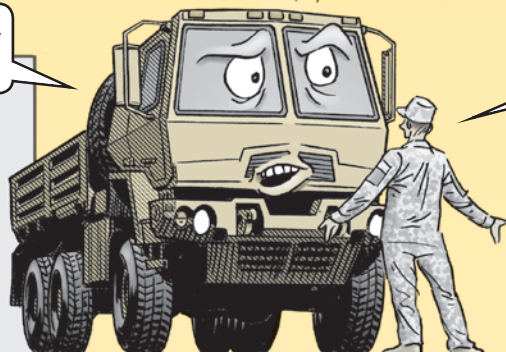
UNITS, MAKE SURE  
YOU GET YOUR CO'S  
APPROVAL BEFORE  
MAKING THIS DEVICE.



FMTV...

HEY! I THOUGHT YOU  
WERE GOING TO **UPGRADE**  
MY TRANSMISSION TO A  
WTEC III?

**Transmission  
Upgrade Kit  
Available**



I WILL. IF  
I CAN EVER  
FIND THE  
CONVERSION  
KIT NSN.

GUESS I'D  
BETTER  
DROP  
HALF-MAST  
A LINE!

Dear Half-Mast,

I'm looking for information on how to convert the FMTV's WTEC II transmission to a WTEC III. I remember seeing something about it a few months ago, but can't find it now. Can you help me out?

CW2 A. R.

Dear Chief,

You bet! NSN 2520-01-516-7305 (PN 57K2053) brings the conversion kit for upgrading your FMTV's WTEC II transmission to the WTEC III configuration. Instructions are included with the kit, but for a copy of the TACOM drawing, drop me a line at:

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

*Half-Mast*



# How to Find Your TACOM LAR



**L**ogistics assistance representatives (LARs) are the folks to call when tough problems crop up with equipment, weapon systems and logistics. LARs can advise units in many areas, including supply, maintenance, transportation, personnel and training. They travel to motor pools, hangars and maintenance shops all over the world.

For help with wheeled and tracked vehicles, small arms, CBRN, tools and most types of the equipment we cover here at *PS*, TACOM LARs are terrific resources.

There are three primary types of TACOM LARs, which are subdivided into specific LAR skill sets:

## • Automotive

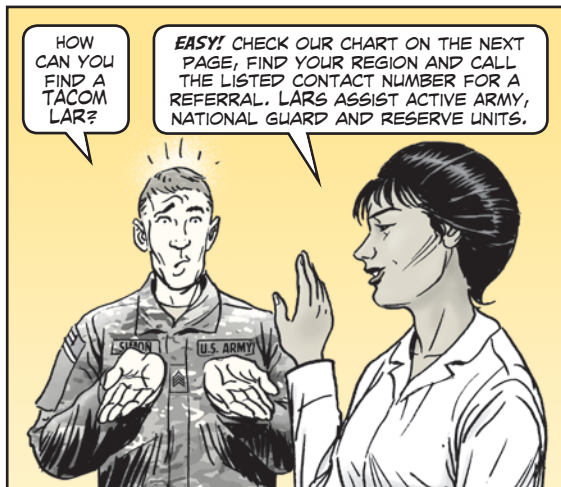
- Tactical
- Combat
- Engineer

## • Armament

- Small arms/artillery
- Armor/fire control
- Aircraft

## • Soldier

- Tools
- CBRN
- Kitchen, showers, tents
- Gear and clothing



## TACOM Find-a-LAR Helplines

Region	Covers	Phone
CONUS-East	AL, CT, DE, FL, FORSCOM, GA, IL, IN, KY, LA, MA, MD, ME, MI, MS, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT, WI, WV	DSN (312) 236-6921 Comm (910) 396-6921
CONUS-West	AR, CO, IA, KS, MN, MO, ND, NE, OK, SD, TX, WY	DSN (312) 737-0263 Comm (254) 287-0263
Pacific	AZ, CA, Guam, ID, MT, NM, NV, OR, UT, WA	DSN (312) 357-2991 Comm (253) 967-2991
Hawaii	AK, HI	DSN (315) 438-4985 Comm (808) 438-4985
Europe	Belgium, Bosnia, Germany, Great Britain, Italy, Kosovo, Luxembourg, Macedonia	DSN (314) 483-4090 Comm (011) 49-631-411-4090 Germany (0631) 411-4090
Far East	Japan, Korea, Kwajalein, Okinawa	DSN (315) 768-7970 Comm (011) 82-53-470-7970
SWA-Kuwait	Kuwait	DSN (318) 430-4189
SWA-OEF	Afghanistan	DSN (318) 481-4814
SOF	Special Operations	DSN 745-3114 Comm (859) 566-4198, or toll free (888) 763-7259

For more information, check out TACOM's Logistics Assistance Directorate (LAD) homepage at: <https://www.tacom.army.mil/ilsc/lad/>

HMMWV...

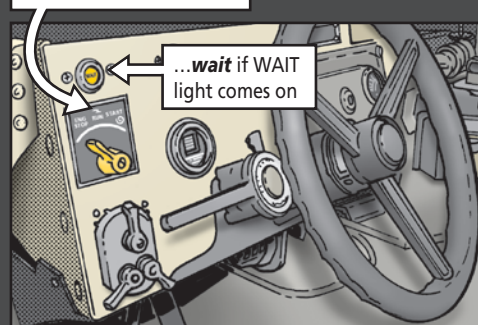
## WAIT FOR THE LIGHT

**P**atience is a virtue, drivers. So if the WAIT light in your HMMWV comes on when you turn the ignition switch to RUN, wait for the light to go out before attempting to start.

Not waiting can overheat and damage the glow plugs. That sets you up for a no-start surprise when the weather turns cold.

All simple stuff, but easy to forget when you jump into your HMMWV for a mission.

Turn switch to RUN and...



PM IS WHERE THE  
RUBBER MEETS THE  
ROAD. AT LEAST  
IT *WILL* BE WHEN I  
GET FINISHED!



UH...YOU WANT ME TO GO UP THERE? I THINK THAT SLOPE'S A *LITTLE* STEEPER THAN 15 DEGREES!

## HOW TO OPERATE ON HILLY GROUND

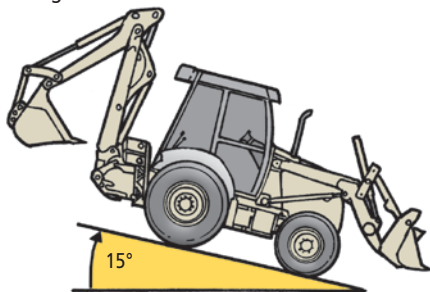
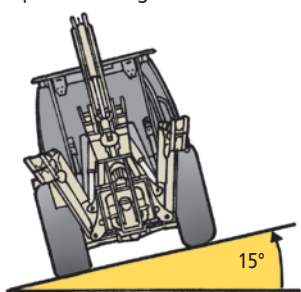
Keep your backhoe loader (BHL) low and balanced when you travel across rough or hilly ground, operators.

A full bucket that's carried high can throw off the BHL's center of gravity. Gullies, bumps and slopes can rock the vehicle from side to side. With enough bouncing, you could tip over.

So if you're hauling a bucket of dirt, keep it low to the ground until it's ready to drop.



- Do not approach a slope greater than 15 degrees on hard ground. The maximum slope on softer ground is less than 15 degrees.



- Never move the vehicle downhill with the direction control lever in neutral or with an engine speed greater than 2,500 rpms.
- Be especially cautious about using the vehicle's clutch cutout switch on a hill. The switch disengages the transmission from the drive wheels. If that happens, you'll need to use the service brakes to stop the vehicle.



# DIG UP SOME PM!

OPERATORS,  
**SAFETY IS JOB #1**  
WHEN USING THE  
BACKHOE LOADER  
(BHL):

SO FOR **TIP-TOP BACKHOE**  
**OPERATIONS**, KEEP THESE  
POINTERS FROM WP 0012-8  
AND 0012-9 OF TM 5-2420-  
231-10 (FEB 09) IN MIND.

THESE ARE SOME  
GREAT TIPS, HALF-  
MAST! I FEEL LIKE  
I COULD WORK  
24/7!

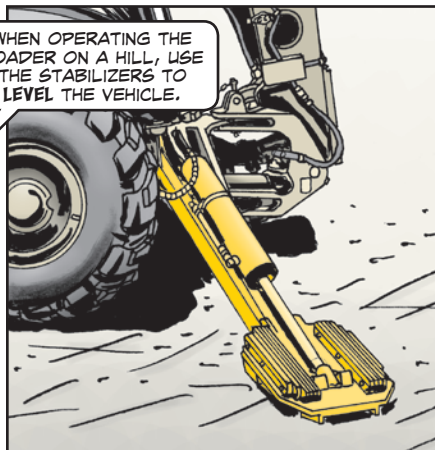


## Time for Some Digging



WHEN OPERATING THE  
LOADER ON A HILL, USE  
THE STABILIZERS TO  
LEVEL THE VEHICLE.

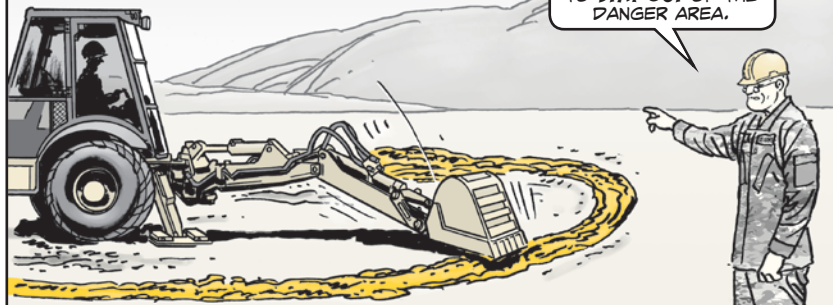
- Put dirt from the trench on the highest side of the trench.
- Do not use the bucket to move the BHL on a side slope.
- Always position the seat in the loader position with the seat belt fastened.
- Always engage the parking brake and move the shift-direction control lever to neutral before operating the backhoe.



## Drawing the Line

A good rule of thumb is to extend the backhoe boom and draw an arc in the dirt before you start digging. This line forms a half-circle that's almost 18 feet from the back of the vehicle.

THE HALF-CIRCLE  
WARNS SOLDIERS  
TO STAY OUT OF THE  
DANGER AREA.



## Backfilling Trenches

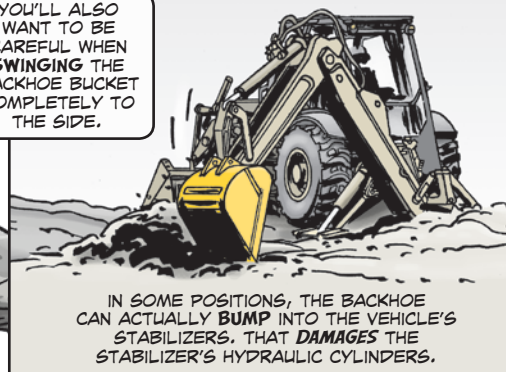
**DO NOT**  
BACKFILL A  
TRENCH WITH  
THE BACKHOE  
BY SWINGING ITS  
BUCKET AGAINST  
THE SOIL.

USING THE  
BUCKET TO PUSH  
DIRT CAUSES  
**UNNECESSARY**  
WEAR-AND-TEAR  
ON THE BUCKET  
AND BOOM.

Backhoe  
is used for  
scooping up dirt  
only



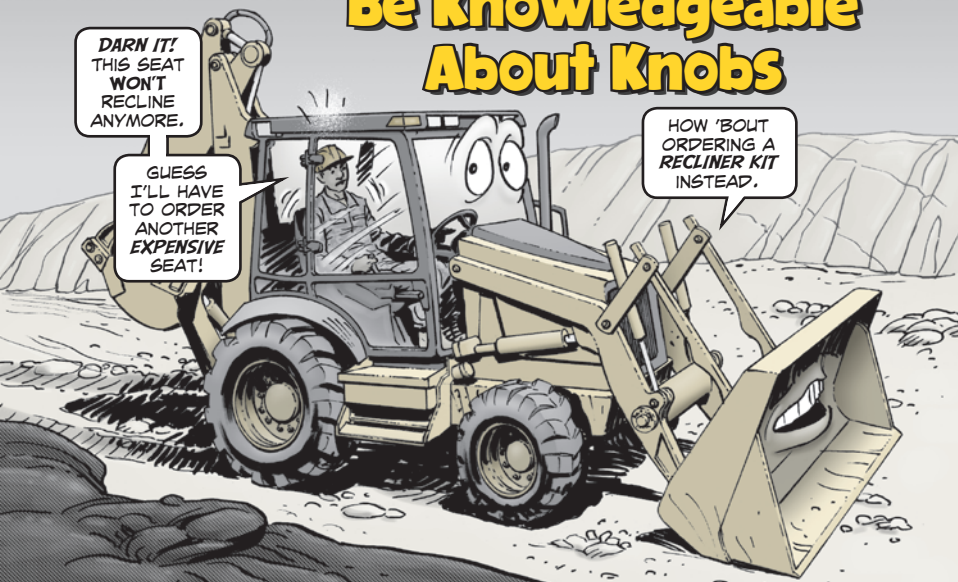
YOU'LL ALSO  
WANT TO BE  
CAREFUL WHEN  
**SWINGING** THE  
BACKHOE BUCKET  
COMPLETELY TO  
THE SIDE.



IN SOME POSITIONS, THE BACKHOE  
CAN ACTUALLY **BUMP** INTO THE VEHICLE'S  
STABILIZERS. THAT **DAMAGES** THE  
STABILIZER'S HYDRAULIC CYLINDERS.



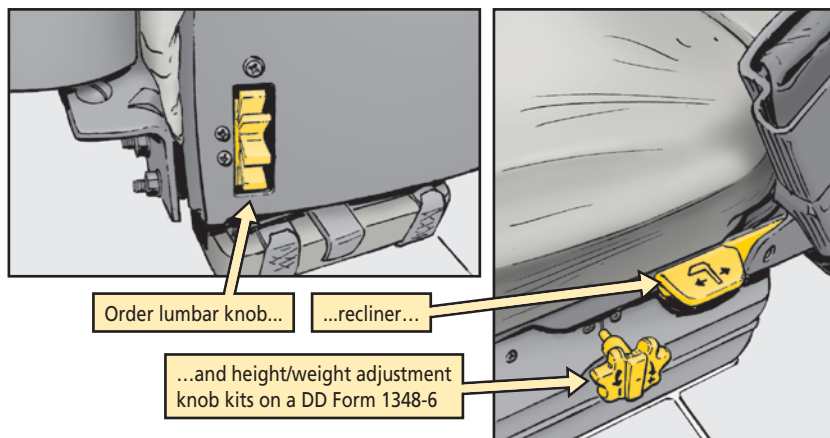
# Be Knowledgeable About Knobs



Dear Editor,

There are several adjustment knobs for the backhoe loader's seat that weren't included in Fig 147 of TM 5-2420-231-24P. Problem is, those components wear out due to constant use and have to be replaced often. That means the entire seat assembly, NSN 2540-01-549-0816, has to be replaced at a cost of more than \$1,100!

It makes a lot more sense to order those components on a DD Form 1348-6 using the part number and CAGE 4B236. Here's what you need:



Item	Part Number
Lumbar knob (includes knob and 1/8 x 5/8 inch roll pin)	87037462
• Lumbar kit (includes 2 screws, 2 rivets, 1 back support and 1 lumbar shaft yoke)	87308130
Height/weight adjustment knob (includes knob, shaft and 5/32 x 1 inch pin)	123969A1
• Lock pin (5/32 x 1 inch, slotted)	38-11016
• Thrust washer (2 OD x .6 ID inches)	87308145
Recliner kit (includes 2 brackets, 3 spacers, 2 springs, knob, latch, lever, 2 bolts, 2 washers and 5 nuts)	86994165
• Recliner cap	87416475
• Boxed upper housing	87308143
• Block bearing (includes 4 tube bearings, 1 ride indicator, 1 A45512 slider block, 1 A45515 slider block, 1 A45516 slider block, 1 NSS slider block)	197725C1

Mark Waldron  
TACOM FMX,  
Engineer Support  
Ft Leonard Wood, MO

GOOD INFO,  
MARK!

THE BEST WAY TO  
GET NSNs ASSIGNED  
TO HIGH-USE PARTS  
LIKE THESE IS BY  
PROPERLY ORDERING  
THEM THROUGH THE  
SUPPLY SYSTEM.



WE HAVE MORE INFORMATION ABOUT USING THE  
DD FORM 1348-6 ON PAGES 52-53 OF PS 738 (MAY 14):  
<https://www.logsa.army.mil/psmag/archives/PS2014/738/738-52-53.pdf>

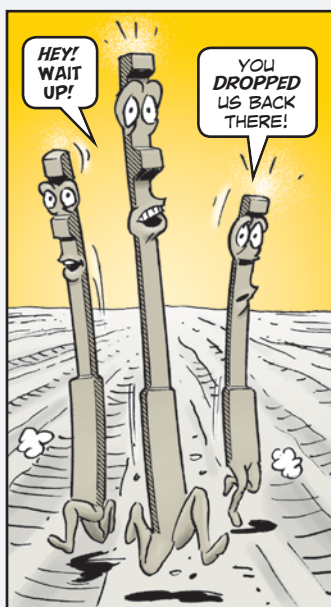
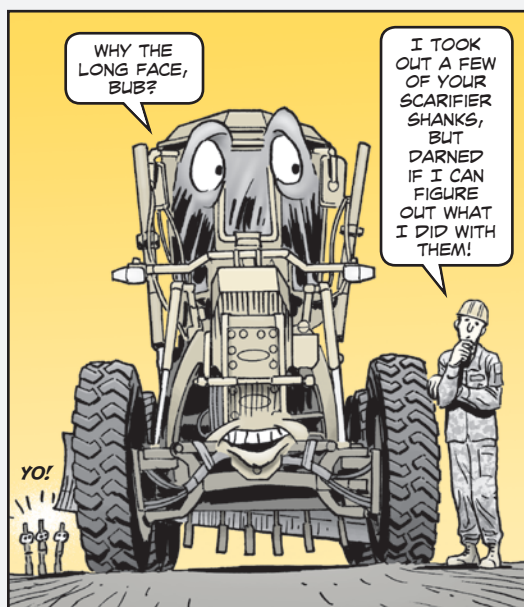
## M9 ACE Hydraulic Kit NSN

Get a hydraulic parts kit for your M9 armored combat earthmover with NSN 2590-01-216-8646. Need replacement parts? Check out Fig 228 of TM 5-2350-262-24P (Jun 12) for a complete list.

## M9 ACE Blade Lock Pin, Clip

The M9 ACE's blade lock pin and retaining clip are missing from Fig 50 of TM 5-2350-262-24P (Jun 12). Get the pin with NSN 5315-01-184-4868. The retaining clip, which is used to hold the lock pin in place, comes with NSN 2590-01-239-1664. Make a note until the NSNs are added to the TM.

# SHANK STOWAGE MADE SIMPLE

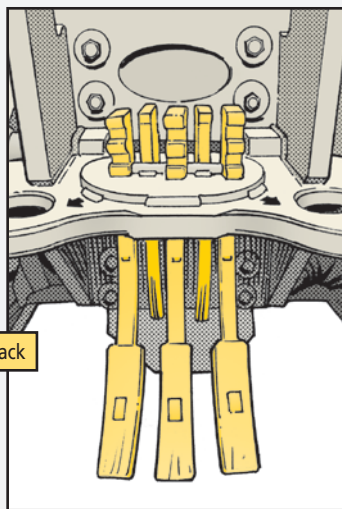


**O**perators, your 120M road grader's scarifier assembly uses up to 11 shanks to break up hard material so that it's ready to grade. The number of shanks used will depend on the consistency of the material.

You can remove the center five shanks so the scarifier assembly can be raised for more ground clearance when necessary. Just remember: When you remove a shank, put it in the grader's scarifier shank stowage rack. Put it anywhere else, like in the cab or lying around at the work site, and it'll disappear on you.

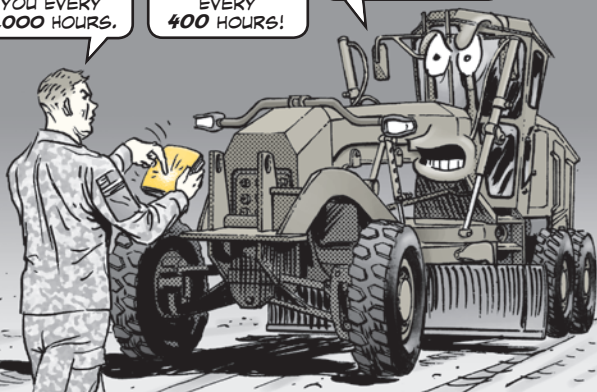
Store scarifier shanks in stowage rack

The stowage rack is located at the front of the grader and can hold up to five shanks. Arrange the shanks with every other one facing backwards to allow enough room. Then secure the shanks with the stowage rack strap.



# The LO or Data Plate: Who You Gonna Believe?

WHO YA GONNA  
BELIEVE?



Turns out, a zero was left off the lube data plate. It should have said 4,000 hours, not 400.

This problem was fixed during production for graders with serial numbers RMY00404 and above. But take a quick look at your grader's lube data plate anyway. If it reads, "Every 400 service hours," you can get a permanent label that will change the 400 to 4,000 from your local CAT dealer.

...then apply to lube data plate

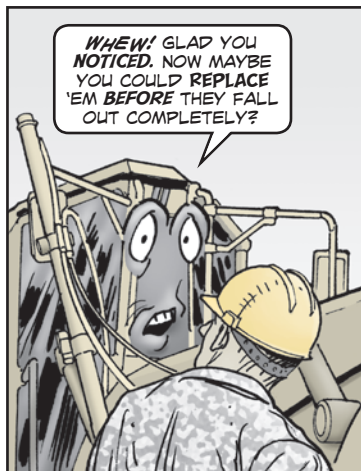
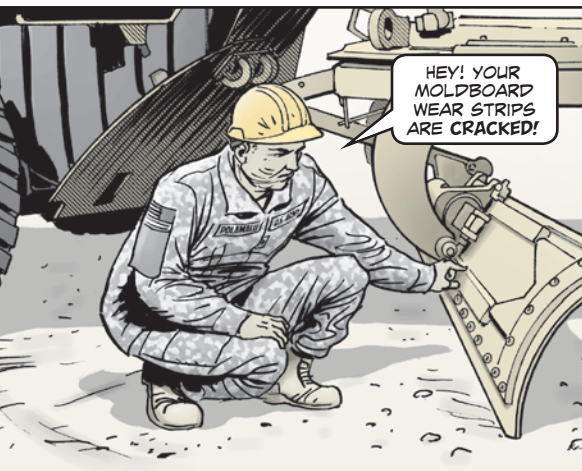
[illegible]

EVERY 1000 SERVICE HOURS OR 1 YEAR		
15	OIL FILTER (AWD)	R 2
18	TANDEM DRIVE OIL	CHG 2
13	TRANSMISSION AND DIFFERENTIAL OIL	CHG 1
EVERY 2000 SERVICE HOURS OR 2 YEARS		
8	CIRCLE DRIVE OIL	CHG 1
19	COOLING SYSTEM PRESSURE CAP	C/R 1
17	EVAPORATION OIL AND HEATER COIL	C 2
3	EVERY 4000 SERVICE HOURS	
13		

- C - Clean
- CHG - Change
- L - Lubricate
- I - Inspect
- R - Replace
- O - Obtain
- X - Check, add fluid when needed
- D - Drain

If you need a replacement lube data plate, get it with NSN 9905-01-579-3306 (PN 3348091).

# Wear Strip Worn Out?



Dear Editor,

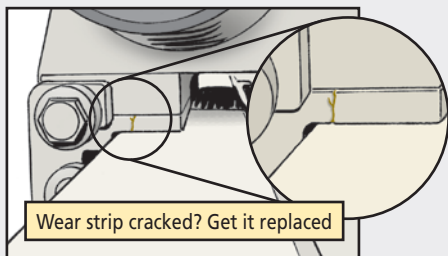
Some 120M road graders are coming into our shop with the moldboard's lower wear strip, NSN 9390-01-579-5299, cracked or broken in half.

A busted wear strip eventually falls apart and drops out of its channel. That means both the moldboard and its mount come in direct contact with the vehicle's circle drive assembly. The end result is unnecessary wear-and-tear to the moldboard and mount.

The reason for this problem is that there's no specific check for the moldboard wear strips in the PMCS tables of TM 5-3805-293-10 or -23-3. Until those TMs are updated, operators and mechanics need to eyeball the wear strips to make sure they're not cracked or missing.

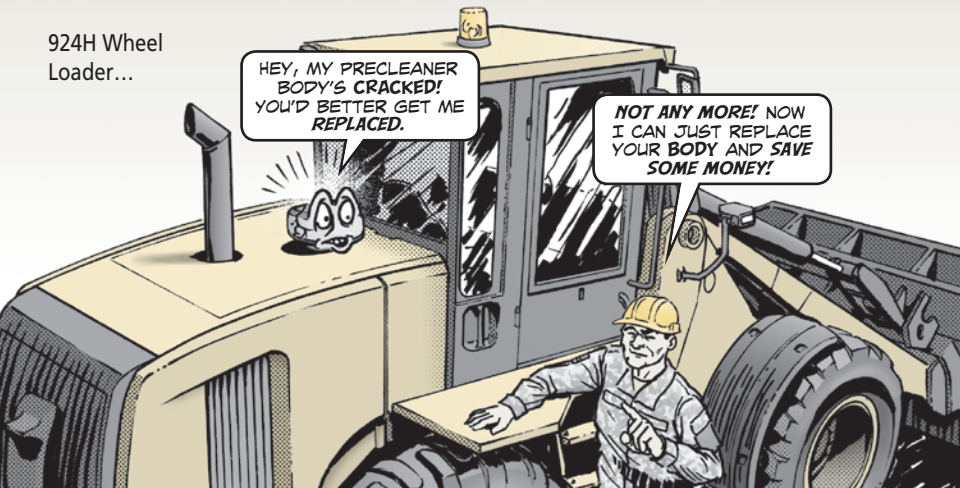
If you find a cracked or missing strip, let your mechanic know. WP 0306 in TM 5-380-293-23-1 covers removal, cleaning, installation and inspection of wear strips.

Clayton Nagel  
TACOM FMX,  
Engineer Support  
Ft Leonard Wood, MO



**Editor's note:** *Excellent info, Clayton! Operators and mechanics, check those wear strips today.*





## BREATHE EASY WITH PRECLEANER PARTS

Dear Editor,

If you need to repair the 924H wheel loader's air precleaner, you'll come up empty looking for parts in Fig 22 of TM 5-3805-298-24P. The air precleaner is listed only as an assembly, NSN 2940-01-068-7108, and costs about \$107.

But we've found that the precleaner does have two repair parts. So keep these NSNs handy and save yourself a little money by repairing the precleaner whenever possible.

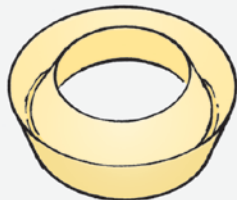
Item	NSN	Cost
Access cover	5340-00-103-8902	\$17.56
Air precleaner body	2940-00-876-2181	\$19.61

Of course, you'll still have to replace the whole assembly if a part other than these two breaks.

Jeff Boyd  
TACOM FMX  
Engineer Support  
Ft Leonard Wood, MO

Order  
repair part  
needed

Access  
cover



Body

**Editor's Note:** Good info, Jeff. Those two parts will keep the air flowing. Thanks for a great cost-savings tip!

HYEX...

# HOLD DOWN THE CHATTER!

WHAT'S GOING ON? YOU SCARED OF SOMETHING?

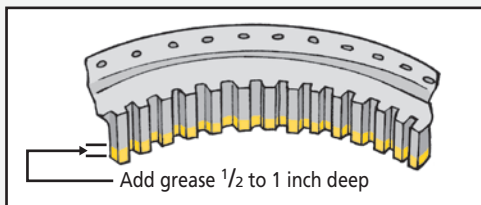
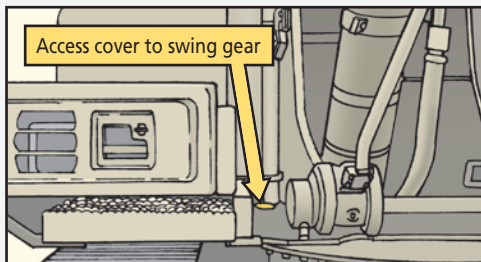
NOPE! THAT'S JUST THE TEETH ON MY **SWING BEARING RING GEAR** CHATTERING. CAN'T YOU LUBE IT OR SOMETHING?

Old cruddy grease that's mixed with dirt and sand will chew up the teeth on your hydraulic excavator's swing bearing ring gear. And by the time you hear the sound of gears grinding while traversing, it's just plain too late! The ring gear's teeth are worn, repairs are needed and costs are high!

So remove the swing bearing's access cover to eyeball the ring gear. Look at the ring to see how much grease and grit have built up. If you see a heavy coating with a lot of crud, wipe it off with a clean rag.

Add new grease until it reaches 1/2- to 1-inch deep from the bottom of the ring gear. Too much grease can damage the swing gearbox seal. So remove any grease that's over the top of the swing drive pinion.

You'll find this info on Page 15-2 of TM 5-3805-280-10 (Feb 00).

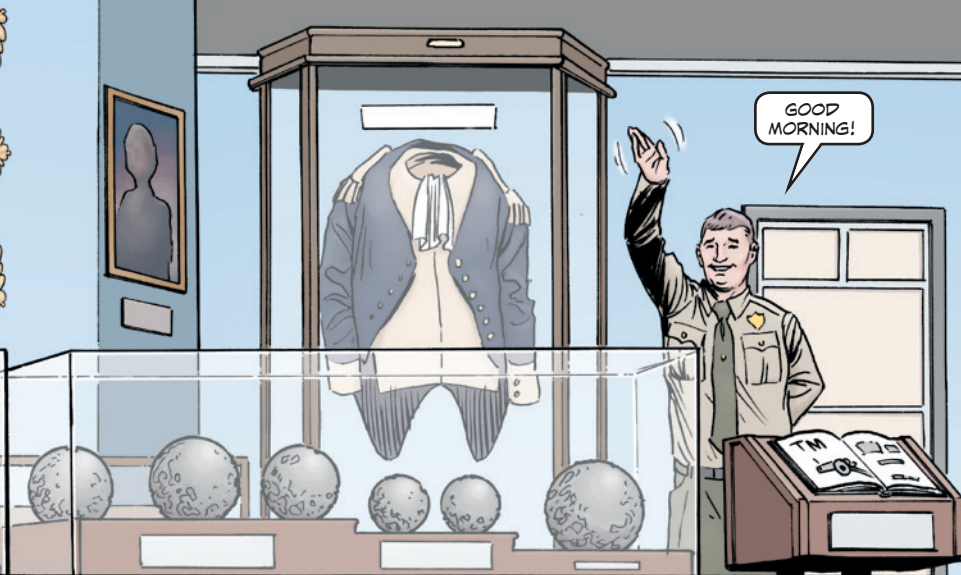
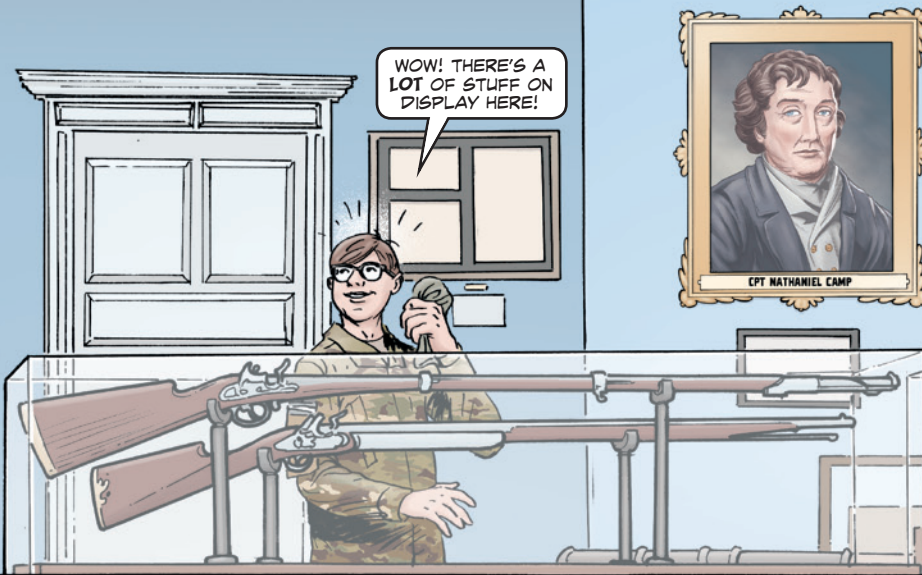


# Old Nat's Cannon (A Burst of PM)

SO, THIS IS WHERE GEORGE WASHINGTON AND THE CONTINENTAL ARMY SPENT THE WINTER IN 1780.

NATIONAL  
HISTORICAL  
PARK  
MORRISTOWN,  
NJ

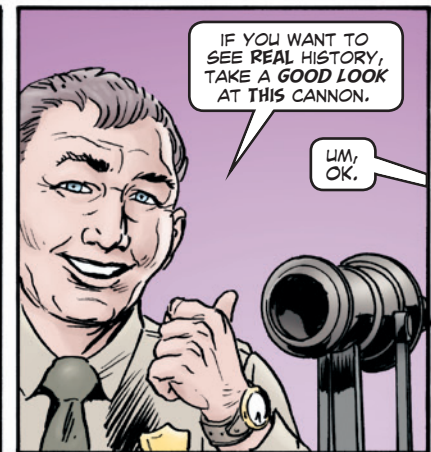




YEAH, IT SURE IS!



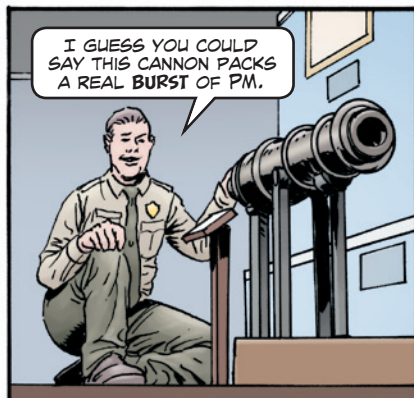
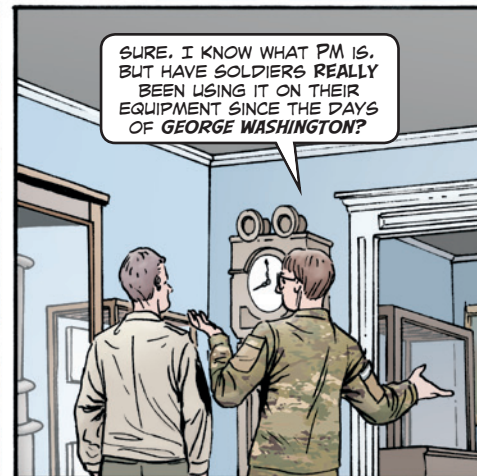
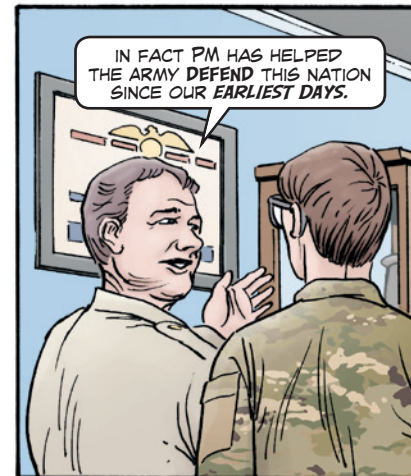
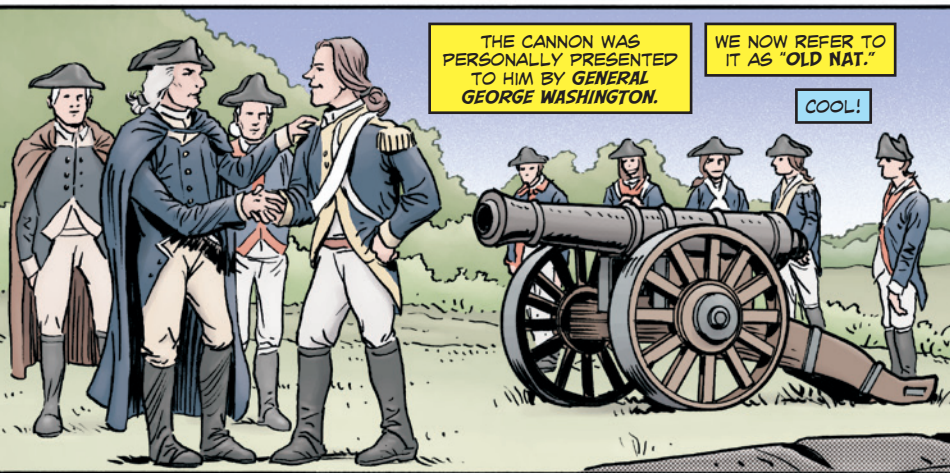
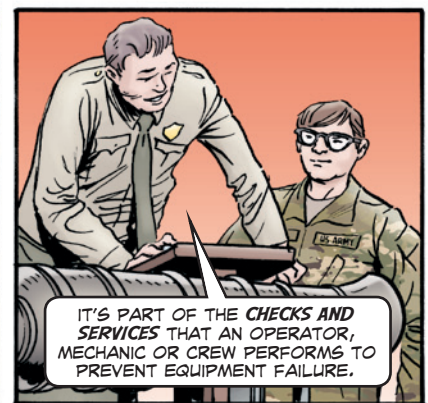
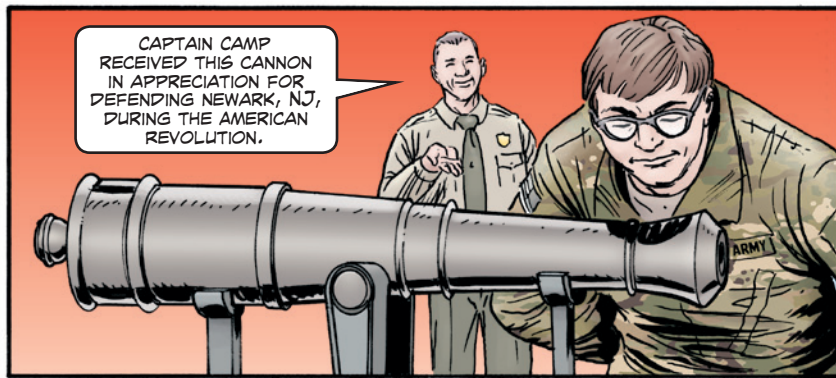
WOW! LOTS OF HISTORY THERE.



UM, OK.



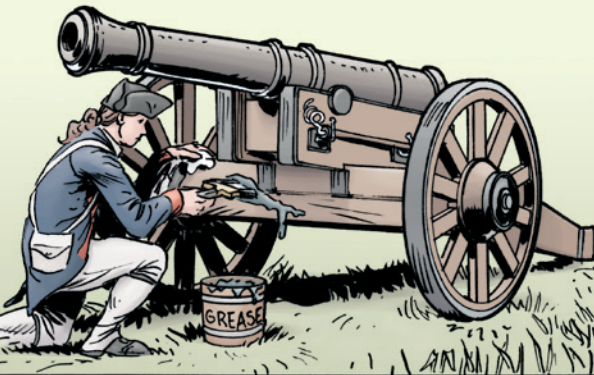






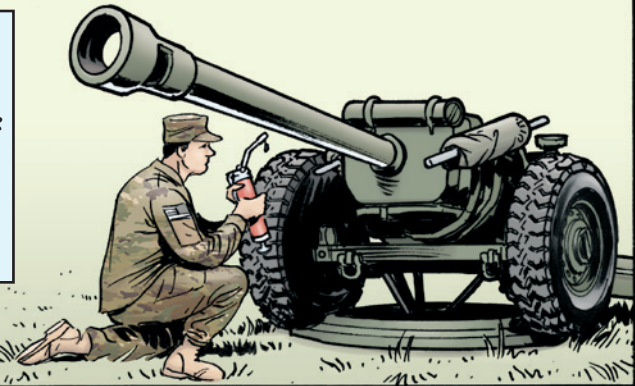
THE CANNON CREW **LUBED AND TESTED** THEIR ARTILLERY BEFORE BATTLE.

THAT KEPT THE CANNON BATTLE-READY AND LET THEM FIND **SMALL PROBLEMS BEFORE** THEY COULD BECOME **BIG ONES.**



WE'RE ALWAYS CAREFUL TO CLEAN AND LUBE OUR HOWITZERS **BEFORE** THEY GO OUT FOR A FIRE MISSION.

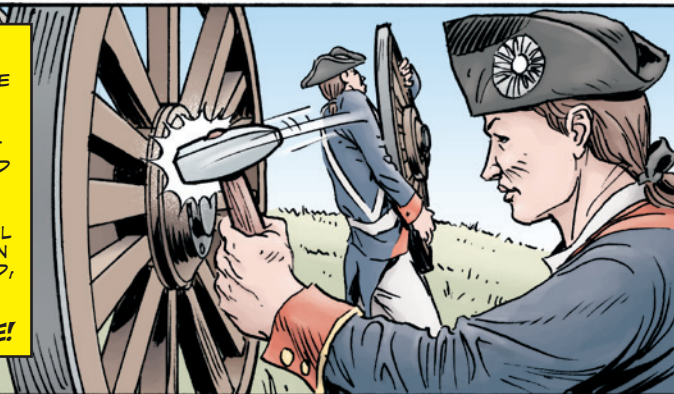
THAT MEANS FOLLOWING THE STEPS IN THE -10 TM SO WE DON'T MISS ANYTHING.



BROKEN AND WORN PARTS WERE REPLACED.

SOLDIERS DIDN'T PUT OFF NEEDED REPAIRS.

IF THEY'D **WAITED** UNTIL THE CANNON WAS NEEDED, IT WOULD HAVE BEEN **TOO LATE!**



AND DURING PMCS, WE'RE CAREFUL TO ACCURATELY WRITE DOWN ANY PROBLEMS ON THE DA FORM 5988-E.

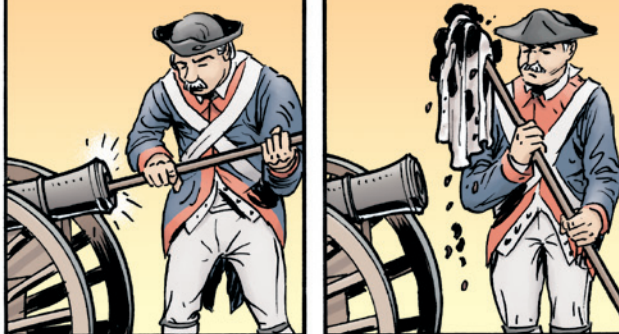
BECAUSE IF WE DON'T REPORT A PROBLEM, THE **MECHANICS** CAN'T FIX IT.

YEAH. I'D BETTER MAKE A NOTE OF THAT.



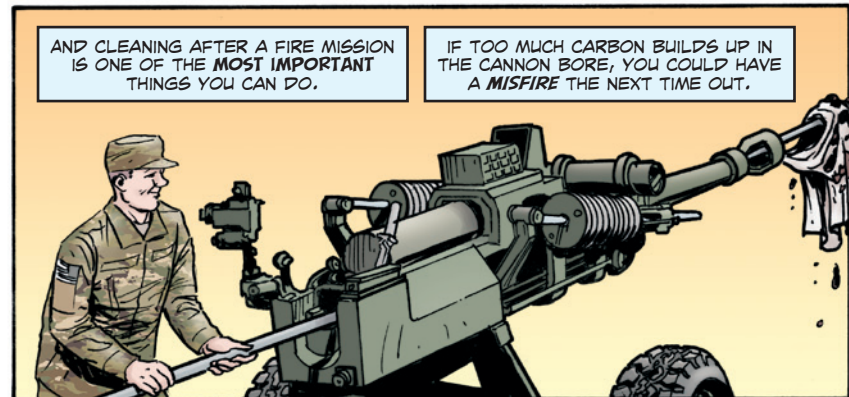
CREWS **ALWAYS** CLEANED THE CANNON AFTER FIRING. POWDER RESIDUE AND DIRT COULD CAUSE A MISFIRE THE NEXT TIME THE CANNON WAS NEEDED.

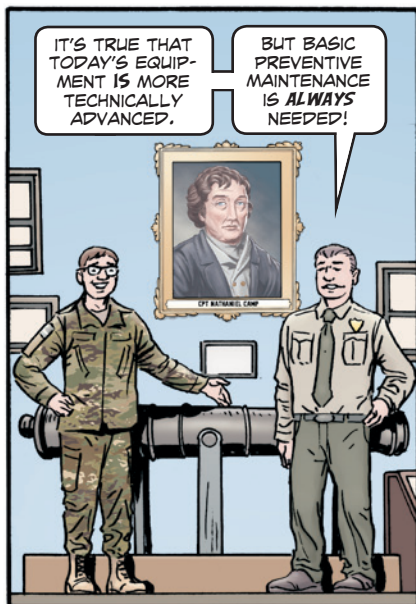
HEY, THAT SOUNDS A LOT LIKE THE BEFORE, DURING AND AFTER PMCS **OUR** UNIT PERFORMS ON OUR M119A2/A3 AND M777A2 TOWED HOWITZERS!



AND CLEANING AFTER A FIRE MISSION IS ONE OF THE **MOST IMPORTANT** THINGS YOU CAN DO.

IF TOO MUCH CARBON BUILDS UP IN THE CANNON BORE, YOU COULD HAVE A **MISFIRE** THE NEXT TIME OUT.







# PS **SMALL ARMS**

ALSO  
FEATURING  
**CBRN**  
AND  
**TOOLS**





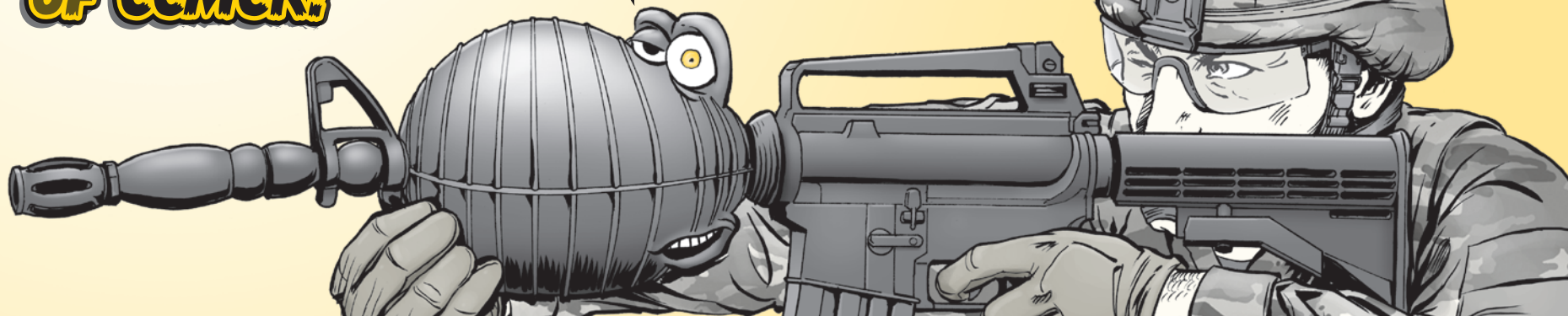
# THE DANGERS OF CCMCK!

I'B STILL GOT WAX IN BY BARREL FROM DUH LAST TIMB WE TRAINED WID CCMCK.

I'B TOO **PLUGGED** UB TO FIRE SO I BAY NEED DRY CLEANING SOLVENT TO GED RID OF DIS WAX.

OH, MAN!

IF I'D ONLY DONE REAL PMCS ON YOU BEFORE WE LEFT BASE!



Dear Editor,

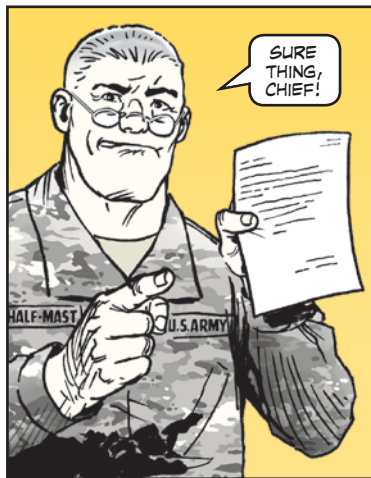
I am the senior ammunition technician at the US Army Combat Readiness Center at Ft Rucker. Over the last few months we have had numerous reports of weapons blowing apart because of stuck close combat mission capability kit (CCMCK) projectiles. So far no one has been killed, but there have been several injuries.

I think this often happens after Soldiers have done urban training/house clearance exercises using CCMCK rounds.

They then march to a range to do regular firing. But before they fire real rounds they don't do the necessary PMCS to ensure the weapons' barrels are clear of obstructions. And that's when the trouble starts.

It would help if PS would explain what Soldiers need to do after firing CCMCK.

CW4 Mark Parr  
Ft Rucker, AL



THE PROBLEM WITH CCMCK IS THAT THE **WAX** FROM THE ROUNDS CAN LEAVE THE INSIDE OF THE BARREL A **MESS**.

IF YOU DON'T CLEAN OUT **ALL** THE WAX, THE BARREL CAN END UP **PLUGGED**.

## SO HERE'S HOW TO PREVENT THAT:

**BEFORE—**  
**CLEAN AND LUBE** YOUR WEAPON WITH CLP LIKE IT SAYS IN THE WEAPON'S -10 TM.  
YOUR WEAPON SHOULD BE **AS CLEAN AS POSSIBLE** BEFORE FIRING CCMCK ROUNDS.

**AFTER—**  
DO THE **SAME** CLEANING AND LUBING PROCEDURE, BUT PAY SPECIAL ATTENTION TO THE **CHAMBER, BARREL AND BORE**. THOSE ARE THE MOST LIKELY AREAS FOR WAX BUILDUP.

**REALLY TOUGH WAX DEPOSITS** MAY REQUIRE DRY CLEANING SOLVENT, NSN 6850-01-474-2319. USE SOLVENT UNDER THE DIRECTION OF YOUR ARMORER. THE SOLVENT MAY NEED TO SOAK INTO THE WAX FOR SEVERAL MINUTES BEFORE IT WILL WORK.

WHEN YOU **THINK** YOU HAVE ALL THE WAX CLEANED OUT OF THE BARREL, RUN YOUR CLEANING ROD FROM MUZZLE TO CHAMBER TO **MAKE SURE** THERE ARE **NO OBSTRUCTIONS**.

Clear barrel by running cleaning rod from muzzle to chamber



MAKE SURE THE BARREL IS **CLEAR** BEFORE YOU FIRE OR TURN IN THE WEAPON TO THE ARMS ROOM.



LOOK FOR THE END OF THE CLEANING ROD IN THE CHAMBER.

IF YOU CAN'T SEE THE END OF THE ROD, YOU MAY HAVE A **STUCK CCMCK ROUND**. IF YOU CAN'T PUSH OUT THE ROUND, TELL YOUR ARMORER.

ARMORERS OR SMALL ARMS REPAIRMEN, **DON'T** USE A NEW M16/ M4 BARREL THAT HAS FIRED **FEWER** THAN 200 STANDARD ROUNDS FOR CCMCK.

OLDER BARRELS ARE **LESS** LIKELY TO HAVE PROBLEMS WITH A STUCK CCMCK ROUND.



M249 BARRELS COME FROM THE MANUFACTURER READY FOR CCMCK FIRING.

THE M9 PISTOL CONVERSION KIT, NSN 1005-20-003-2362, HAS A BLUE BARREL FOR FIRING CCMCK ROUNDS.



AFTER TRAINING WITH CCMCK, CHECK THE M16S AND M4S WITH THE **BARREL STRAIGHTNESS GAGE**. SEE WP 0015-24 IN TM 9-1005-319-23&P.

FOR THE **COMPLETE WORD** ON CCMCK, SEE TM 9-6920-3700-10. IT'S ON THE LOGSA ETM WEBSITE:

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

ALSO SEE GPA 15-009, "CLEARING AND CLEANING WHEN FIRING CCMCK," AT:

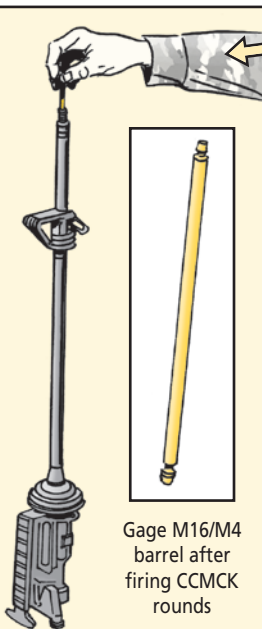
<https://tulsa.tacom.army.mil/Safety/message.cfm?id=GPA15-009.html>

## QUESTIONS?

CONTACT ARDEC'S ROBERT WEISSMAN AT DSN 880-3056, (973) 724-3056 OR EMAIL: [robert.j.weissman.civ@mail.mil](mailto:robert.j.weissman.civ@mail.mil) OR

EDWARD GILLIGAN AT DSN 880-4992, (973) 724-4992, OR EMAIL: [edward.gilligan2.civ@mail.mil](mailto:edward.gilligan2.civ@mail.mil)

YOU CAN ALSO CONTACT TACOM'S KEN HILTUNEN AT DSN 786-1271, (586) 282-1271, OR EMAIL: [kenneth.r.hiltunen2.civ@mail.mil](mailto:kenneth.r.hiltunen2.civ@mail.mil)



Gage M16/M4 barrel after firing CCMCK rounds

**JUST REMEMBER CCMCK TRAINING ROUNDS REQUIRE *REAL* PMCS!**



## New M240/M249 Scraper Available

M240 and M249 machine gun gunners can now order a new pocket tool that makes cleaning the guns' gas systems easier. The tool, which folds up like a Swiss Army knife, has eight different scrapers. Order the tool with NSN 5110-01-641-4777.

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

WELL, I FINISHED THE  
CLEARING PROCEDURE.  
NOW ALL I HAVE TO  
DO IS DRY FIRE YOU.

# DRY UP DRY FIRING

WHAAAT!?  
WHO TOLD  
YOU THAT?  
DRY FIRING  
JUST WEARS  
ME OUT.  
DON'T DO IT!



Dear Editor,

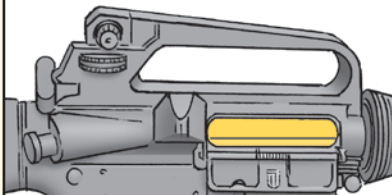
The M16/M4's TM 9-1005-319-10 is very clear about the clearing procedure:

1. Point weapon in a safe direction. Place selector on SAFE. If weapon is not cocked, lever can't be moved to SAFE.
2. Remove magazine by depressing magazine catch button and pulling magazine out of weapon.
3. To lock bolt open, pull charging handle rearward. Press the bottom of bolt catch and allow bolt to move forward until it engages bolt catch. Return charging handle to the forward position. Check receiver and chamber to ensure these areas are clear of ammo.

Pull charging handle to rear



Check chamber for round



4. With selector on SAFE, let the bolt go forward by pressing the upper portion of the bolt catch.

But unfortunately, many commanders and armorers also tell Soldiers to dry fire the weapon. That's unsafe if the Soldier did the procedure wrong, and it also causes unnecessary wear on parts.

If you want a safe weapon, keep it on SAFE and don't pull the trigger.

LTC Paul Darling  
AKARNG

**Editor's note:** *Excellent point, Sir. But armorers need to remember they are supposed to dry fire the weapon before they store it. Their procedure is:*

1. Clear the weapon.
2. Place selector lever on SEMI.
3. Pull trigger.  
Hammer should fall.
4. Close ejection port cover.
5. Place weapon in rack.



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

WE GOT SOME GOOD  
TIPS ABOUT HOW TO...

## ...CATCH LOOSE BARRELS AND MOUNTING RAILS!



Dear Editor,

From our experience taking care of M16s and M4s at Camp Beauregard, we recommend Soldiers pay special attention to these two checks:

**Make sure the mounting rail is securely locked in place.** We find that often the rail's tip that fits in near the front sight hasn't been inserted correctly. That means the rail isn't locked on. When you add a sight, the rail and sight can come off. To mount the rail, you should first fit the tip in place under the handguard cap and then lock down the rear of the rail with the slip ring. Feel the rail for movement to ensure you've got it right.

Make sure mounting rail tip  
is fully inserted

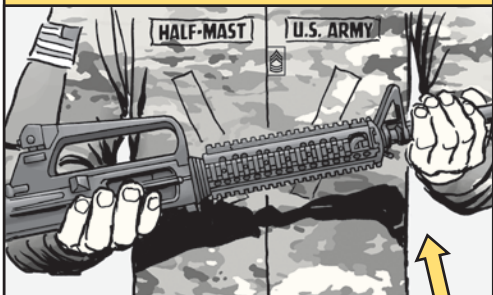


**Check for a loose barrel.** It's surprising how many loose barrels we find. A loose barrel kills accuracy. We know *PS* has run the loose barrel check before. Please repeat it.

CW5 Erwin Venson  
CSMS  
Camp Beauregard, LA

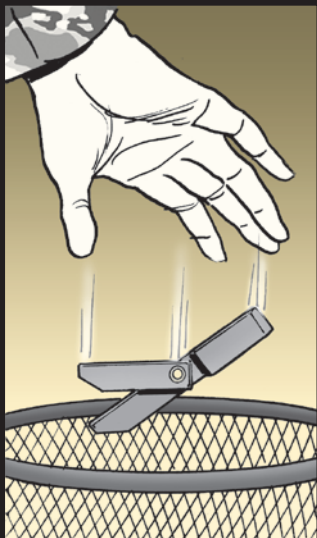
**Editor's note:** You've got it, Chief.

To check for a loose barrel, separate the upper and lower receivers and hold the bottom of the upper receiver while twisting the barrel. Grip the barrel around the front sight assembly for better leverage. If there's any movement, tell your armorer.



Hold bottom of upper receiver with one hand and hold barrel around front sight with the other. Twist barrel to see if it's loose

# Units *Still* Need To Headspace M2A1s



Dear Editor,

One of the big advantages of the M2A1 machine gun over the M2 is that gunners no longer need to headspace and time the gun every time they fire. But that doesn't mean units can forget headspacing and timing altogether.

Field maintenance sets the headspace and timing for each M2A1, but armorers or 91Fs should be checking the headspace and timing with the wear limit/timing gage, NSN 5220-01-580-6602, when an M2A1 is signed out or signed in. If the M2A1 fails the wear limit or timing checks, it needs to go back to field maintenance for adjustment of the headspacing and timing.

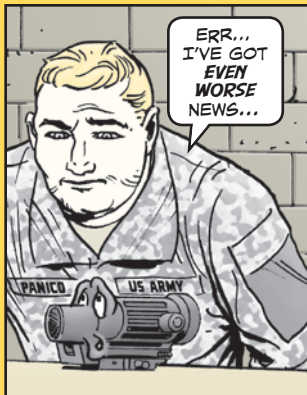
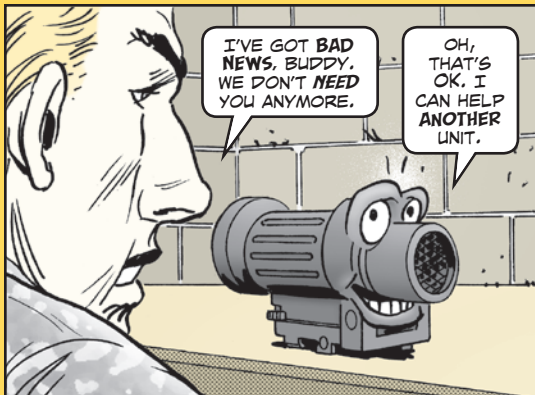
The wear limit/timing gage should be calibrated every 12 months by TMDE. It's a good idea to have two gages in each unit so that at least one gage is always available.

CW2 Ryan Harmon  
302d BSB, 1ABCT, 2ID  
Camp Casey, South Korea

ANOTHER GOOD TIP FROM YOU, CHIEF! THANKS AGAIN FOR SHARING YOUR EXPERIENCE.



# WHY ARE M145 SIGHTS BEING TURNED IN?



Dear Half-Mast,  
Why are we being told to turn in M145 optic sights for demil that are still unopened in their boxes?

R.A.

Dear Sir,

The Army has a surplus of some items and is directing units to reduce excess stock. The M145, NSN 1240-01-411-6350, has a demil code of F. That means units like yours that have extra M145s should turn them in for demil following the instructions at the TULSA website:

<https://tulsa.tacom.army.mil/demil/codefmain.cfm>

*Half-Mast*

## Machine Gun Mounts...

# MK 93 Saves Wear and Tear

Dear Editor,

If you have a choice of which carriage and cradle to use when firing the MK 19 or M2/M2A1 machine guns, choose the MK 93. It has hydraulic buffers that absorb much of the recoil during firing, which means less wear and tear on your weapon and fewer trips for repair.

The MK 93 MOD 2 can be ordered with NSN 1010-01-502-7547.

WO1 Bill Eldridge  
101th Sustainment Bde  
Ft Campbell, KY

**Editor's note:** The MK 93 MOD 2 has replaced the MK 64 mount. So if you still have MK 64s, you should turn them in to your local DLA Disposition Services. Then submit a requisition for the MK 93 MOD 2.

Questions? Contact Mariann Haniak, (586) 282-1649, email:

[mariann.haniak.civ@mail.mil](mailto:mariann.haniak.civ@mail.mil)

or Grant Baker, (586) 282-1238,

or email:

[grant.t.baker.civ@mail.mil](mailto:grant.t.baker.civ@mail.mil)



**REMOVE  
AMPLIFIER  
BEFORE  
WASHING!**

WHAT? I CAN'T  
HEAR YOU.

THAT'S BECAUSE YOU  
DIDN'T REMOVE MY AMPLIFIER  
BEFORE WASHING ME. NOW I  
CAN ONLY WHISPER.



ELECTRONICS AND  
WATER **DON'T** MIX.

THAT'S WHY YOU  
**MUST** REMOVE THE  
M50/M51/M53  
MASK'S AMPLIFIER  
**BEFORE** YOU WASH  
YOUR MASK.



OTHERWISE  
YOUR  
AMPLIFIER  
WILL BE  
THROUGH  
AMPLIFYING  
**PERMANENTLY!**

JUST REMOVING THE AMPLIFIER BATTERIES  
BEFORE WASHING **ISN'T** A SOLUTION, EITHER.  
IF YOU PUT BATTERIES BACK IN A **WET**  
AMPLIFIER, THE AMPLIFIER IS **DAMAGED**.

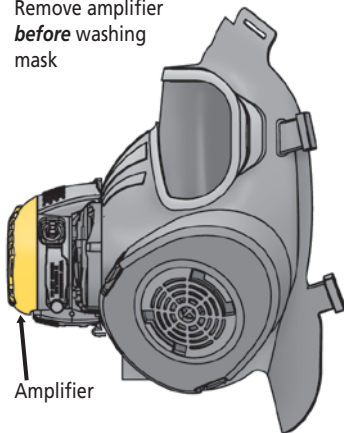
TAKE OUT THE AMPLIFIER **BEFORE** WASHING  
AND WAIT UNTIL THE MASK IS **COMPLETELY**  
**DRY** BEFORE REINSTALLING IT.

**DON'T FORGET  
TO REMOVE THE  
MICROPHONE AND  
ADAPTER, TOO!**

IF THE AMPLIFIER  
ITSELF REQUIRES  
CLEANING, DIP THE  
OUTSERT POUCH  
IN **WARM, SOAPY**  
**WATER** AND WRING  
THE POUCH ALMOST  
DRY. THEN USE  
IT TO WIPE THE  
AMPLIFIER CLEAN.



Remove amplifier  
**before** washing  
mask

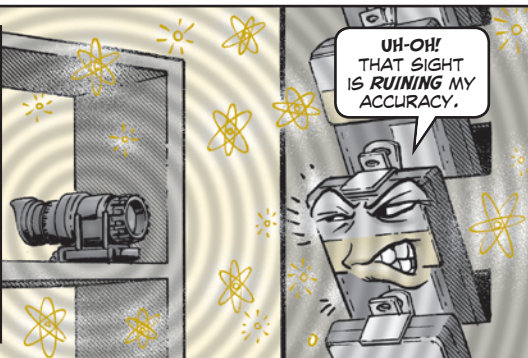


# Do's and Don'ts for Dosimeter Badges

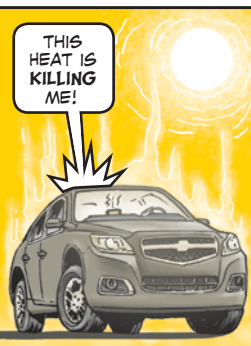


THE OPTICALLY STIMULATED LUMINESCENCE DOSIMETER (OSLD) BADGES WON'T DO MUCH OF A JOB MEASURING RADIATION IF YOU DON'T REMEMBER THESE **DO'S** AND **DON'T'S**...

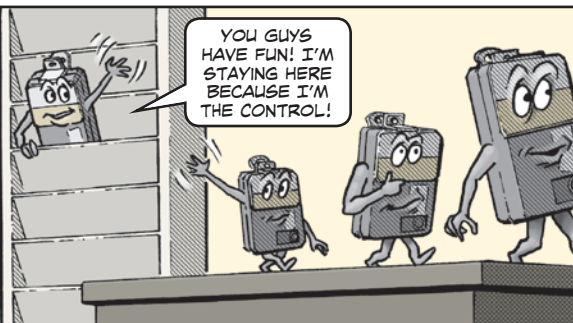
**Always store OSLDs away from any equipment with radioactive sources.** This is so critical that the location must be approved by your radiation safety officer in writing. The OSLDs can pick up other equipment's radiation, which throws off the OSLD's readings.



**Make sure Soldiers don't take OSLDs with them when the mission ends.** OSLDs should be turned in and stored in the approved location if they're to remain accurate.



**Make one OSLD badge a control badge that never leaves the storage area.** The control badge will be used as a measure of radiation in a normal environment.



When shipping OSLDs to TMDE, make sure the box is marked **DO NOT X-RAY**. If the box is x-rayed, there goes the OSLDs' accuracy.



ALL OF THIS **ALSO** APPLIES TO THE DT-236A WRISTWATCH DOSIMETER. IF YOUR UNIT USES THE DT-236A, FOLLOW THE **SAME** PRECAUTIONS.

M4/M4A1 Carbine...

## WHAT IS AUTHORIZED?



Dear Half-Mast,

I keep hearing about different grips and buttstocks that can be ordered for the M4/M4A1 carbine. But I'm wondering if these items are authorized.

SPC J.S.

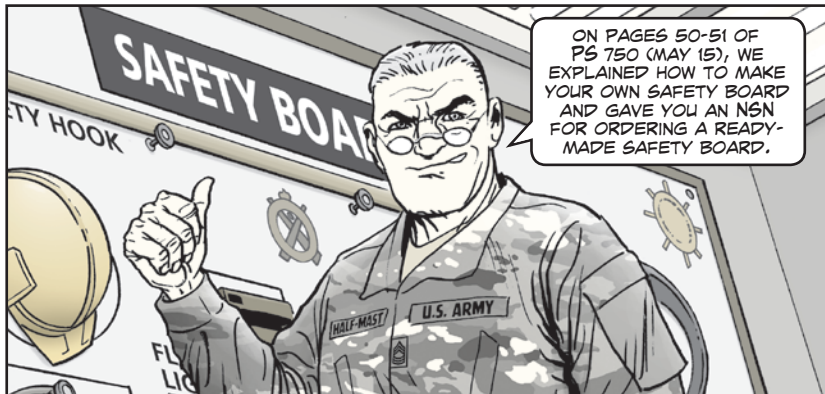
DEAR SPECIALIST, THERE ARE **ONLY** TWO GRIPS AND ONE ADDITIONAL BUTTSTOCK **AUTHORIZED** FOR THE M4/M4A1...

- Enhanced sliding buttstock assembly, NSN 1005-01-544-9825
- Forward vertical pistol grip, NSN 1005-01-453-6655
- Forward grip bipod, NSN 1005-01-563-8451

ANYTHING ELSE IS **OFF LIMITS!**

THESE ITEMS ARE AUTHORIZED ALONG WITH THE OTHER ITEMS LISTED IN THE TM.

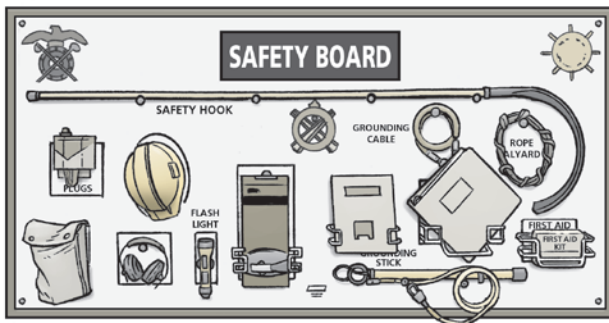
# LESS COSTLY SAFETY BOARD AVAILABLE



NSN 4910-01-618-4321 BRINGS ALL THE REQUIRED SAFETY ITEMS, BUT NOW COSTS AROUND \$3,800. AND THE ARMY *ISN'T* LISTED AS A USER IN FED LOG.

THERE *IS* A CHEAPER ARMY ALTERNATIVE: NSN 4910-01-620-2614.

IT RUNS AROUND \$2,270 AND COMES WITH:



- Ground stick
- Safety hook
- Grounding cable
- Hearing protection
- Safety goggles
- First aid kit
- Flashlight
- D batteries
- Sash cord rope
- Insulated gloves
- Material to build the safety board

OTHER ITEMS YOU MIGHT WANT TO CONSIDER AROUND OR ON THE SAFETY BOARD ARE: A RESUSCITATOR, A PORTABLE DEFIBRILLATOR AND HAZARD SIGNS.



REMEMBER, **DON'T** STACK THINGS IN FRONT OF THE BOARD AND **DO** PUT IT IN A CENTRAL LOCATION. IF SOLDIERS CAN'T GET TO IT QUICKLY, IT WON'T BE OF MUCH HELP.

**INSPECT THE BOARD EVERY MONTH** TO MAKE SURE ALL ITEMS ARE ON-HAND AND IN GOOD SHAPE.

**AND MAKE SAFETY TRAINING SOP. EVERYONE WORKING IN THE AREA SHOULD KNOW EACH PIECE OF EQUIPMENT ON THE SAFETY BOARD AND HOW TO USE IT.**

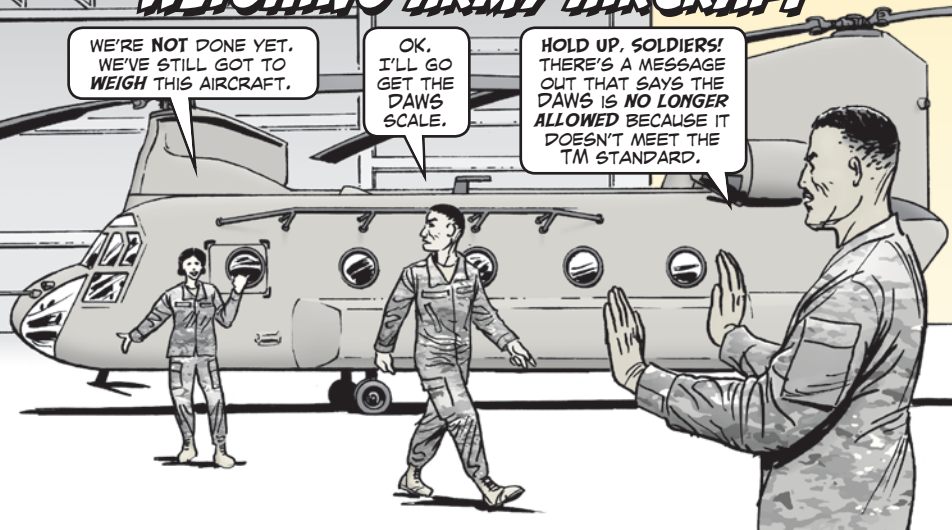


JONES, DIDJA HEAR  
ABOUT THE CHINOOK  
ALTERNATE COVERS?

YEAH, I ORDERED SOME  
AFTER READING ABOUT 'EM  
IN THIS MONTH'S PS.



# AGSE... **QUALIFIED EQUIPMENT FOR WEIGHING ARMY AIRCRAFT**



Whether weighing yourself or your aircraft, the right scale is needed to get the right results.

If you are using the digital aircraft weighing system (DAWS), NSN 6670-01-389-3887, to weigh your aircraft, listen up!

The DAWS is made by several manufacturers. One of those DAWS—the ULP410 model (PN ULP410-00001-1)—does not meet the Army aviation required weight tolerances specified in TM 55-1500-342-23. Because you can't calibrate the scale to the required weight tolerance accuracy of  $\pm 0.1$  percent of the applied load could get you an inaccurate gross weight measurement. That can put your aircraft in danger during flight. That's why the use of the ULP410 DAWS is now **prohibited**. Check the data plate on the scale.

If you did not use this DAWS during your last weighing, your aircraft is good to go. But if you did weigh your aircraft with the ULP410 DAWS, you'll need to make a special entry on the DA Form 2408-13-1. Enter a red horizontal dash status symbol followed by "Aircraft requires weighing per AGSE-14-ASAM-01."

Your next weighing can be done using an approved DAWS or the authorized method using jacks and load cells. Until that weighing is completed, mark the affected aircraft with a status of Red X.

The Aircraft DAWS (ACDAWS), NSN 6670-01-568-1177, is also an approved weighing scale with no issues. Order the DAWS through the supply system.

Units should not use the DAWS, PN ULP410-00001-1 (Model ULP410).

If you have the ULP410, turn it into your local DLA Disposition Services. Have questions? Contact Tawanna Harris at (256) 955-0858 or email:

[tawanna.m.harris.civ@mail.mil](mailto:tawanna.m.harris.civ@mail.mil)

Follow all the steps from AGSE-14-ASAM-01 to get your aircraft properly weighed and mission-capable. You'll find the message on the AMCOM Safety & Maintenance Message website:

<https://asmprd.redstone.army.mil/SplashPage.asp>



AGSE...

## **WHAT COLOR ARE NITROGEN CYLINDERS?**



**M**echanics, Page 14 of PS 744 (Nov 14) stated that nitrogen cylinders, NSN 8120-01-616-9086, used with the generic aircraft nitrogen generator (GANG) are green. Turns out that's not always the case.

According to AR 700-68 and MIL-STD-101, nitrogen cylinders are usually gray. But if you rely on color alone to determine a cylinder's contents, you could be jeopardizing your safety.

While cylinder color is usually an indication of contents, the label or decal on the cylinder's neck should be the primary method of identification. Commercial cylinder color is not regulated, so the color may vary depending on the supplier.



UH-60 Series/AH-64D/E...

JONES! SOMEONE USED THE  
WRONG NUT ON THIS ENGINE!

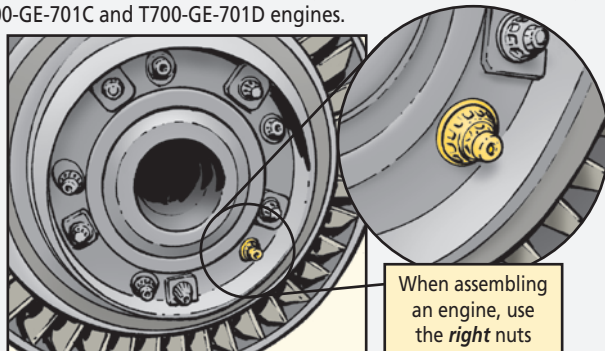
YEAH, I'VE BEEN THERE AND  
DONE THAT. IT'S NO FUN. Y'GOTTA  
PAY ATTENTION TO PARTS, NO  
MATTER HOW SMALL THEY ARE!

## All Parts Are Not Equal

**G**ood mechanics recognize the importance of every repair part they handle, no matter how insignificant it might seem. Taking those parts for granted can cause engine problems.

Take the UH-60 and AH-64 engine component hardware for example. There have been several instances where a nut, NSN 5310-01-099-6537, designed for the T700-GE-700 engine was installed on the T700-GE-701C and T700-GE-701D engines.

Using the wrong nut can cause the cooling plate on the gas generator rotor assembly to crack. Pieces of that cracked cooling plate become foreign object debris (FOD), which can cause engine failure.



Selecting the wrong nut can happen in one of two ways. First, you might grab a nut from the wrong bin. That's easy to do if you're selecting the nut because it looks like the right one.

The second and most common way is selecting the wrong item in the engine's TM 1-2840-248-23&P (IETM EM 0271). Always pay special attention to the description portion of the repair part section.

There you'll find the "Use On" (U/O) model designations. They tell you exactly which engine each part goes on. And keep in mind that no U/O code means the part is usable on ALL engine models.

Here's a tip to make sure you've got the right part number for your engine model. Once you've clicked on the figure's item number:

1. Look at the IETM DATA description to see if it has a U/O code such as T700, T701C or T701D.
2. If a U/O code is listed, click **Select** in the Record block of the SEARCH RESULTS box. That opens a drop-down menu that contains a list of all the part numbers with the same description in the figure that are available for that specific item number. Each part number will include a description and the U/O code(s) for the engine model it can be used on. Just click on the part number for your particular engine model.

Never use the wrong repair parts on your engine. Make sure you identify, select and order the right one from TM 1-2840-248-23&P. When stocking parts bins, make sure they're labeled correctly, and that you check the label before making a selection. Using the correct repair parts will ensure your engine operates properly and safely.

UH/HH-60M Series...

I HEAR WE'VE GOT  
UNSERVICEABLE  
STABILATORS AND  
OTHER PARTS  
STACKING UP!

WE NEED  
TO GET THEM  
TURNED IN!

YEP!  
SOON AS  
YOU'RE  
FINISHED  
THERE I'M  
GONNA  
NEED YOUR  
HELP!

## RETURN PARTS FOR REPAIR!



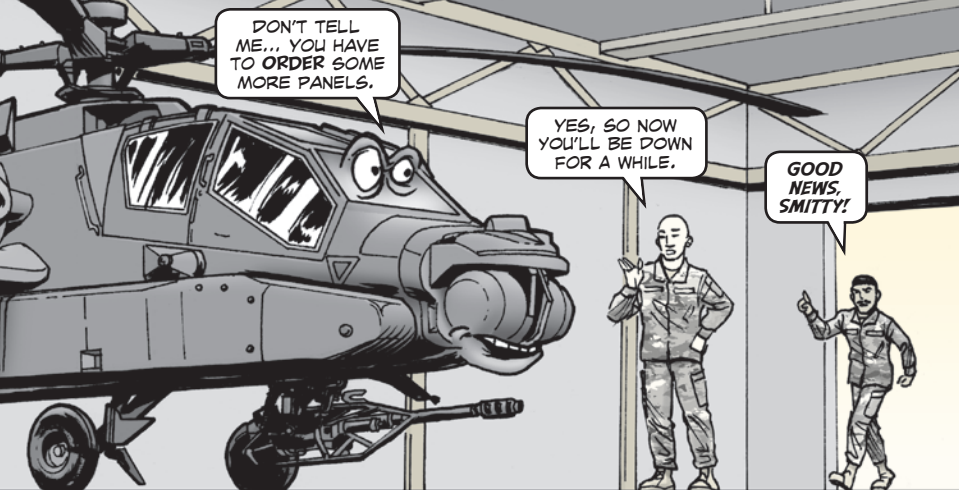
MECHANICS,  
UNSERVICEABLE RETURN  
RATES ARE LOW FOR  
CERTAIN BLACK HAWK  
COMPONENTS, CAUSING A  
HIGH DEMAND FOR PARTS IN  
THE SUPPLY SYSTEM.

UNSERVICEABLE PARTS  
ARE NEEDED TO SUPPORT  
A REPAIR PROGRAM. THIS  
ENSURES THAT REPAIRS  
ARE DONE AND CONSISTENT  
DELIVERIES COME BACK TO  
UNITS WHO ORDER PARTS.

IF YOU HAVE  
AN UNSERVICEABLE  
LEFT HAND STABILATOR,  
NSN 1560-01-542-7904;  
CENTER BOX STABILATOR,  
NSN 1560-01-294-7824;  
RIGHT HAND STABILATOR,  
NSN 1560-01-542-8455;  
DRIVE SHAFT ASSEMBLY,  
NSN 1615-01-491-1924;  
OR AN AIR DATA ASSEMBLY,  
NSN 6610-01-558-4786,  
LYING AROUND,  
**TURN THEM IN!**



# UNITS CAN REPAIR PANELS!



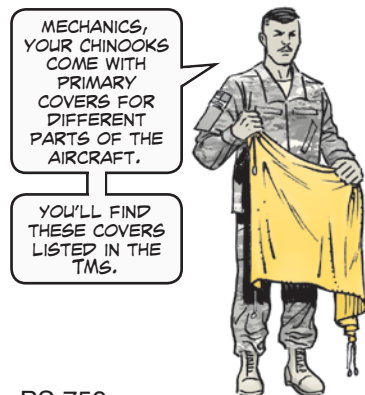
THE SMR CODE FOR MANY OF THESE PANELS IS PA000.

THAT MEANS THE PANELS **CAN** BE REPAIRED AT THE AVUM LEVEL BY ARMAMENT/ELECTRICAL SYSTEMS REPAIRERS USING THE REPAIR TASKS IN THE INTERACTIVE ELECTRONIC TECHNICAL MANUAL (IETM) 1-1520-LONGBOW/APACHE.

TO **REDUCE** DEMAND, COST AND DOWNTIME, REPAIR THESE PANELS WHENEVER POSSIBLE.

Item	NSN
Fire detection/extinguishing panel	1680-01-412-9299
Tail wheel lock/night vision panel	1680-01-441-2737
Pilot lighting panel	1680-01-479-9114
Co-pilot gunner lighting panel	1680-01-442-4346
Power distribution panel	6110-01-442-2735
Video control panel	1290-01-438-6574
Stores jettison panel	1290-01-441-3664
Armament panel assembly	1290-01-438-4763

# CHINOOK ALTERNATE COVERS APPROVED



IN CASE YOU **DON'T** HAVE THE PRIMARY COVERS ON HAND, THE CHINOOK HEADSHED HAS PROVIDED **THREE APPROVED ALTERNATE COVERS** FOR THE PITOT TUBE, THE T-714 ENGINE, AND THE ROTOR HEAD:

Item	NSN 1730-
Pitot tube cover	01-645-1206
T-714 engine maintenance cover	01-646-0357
Rotor head maintenance cover	01-646-0358

THESE COVERS COME FROM A **THIRD PARTY SOURCE** AND THE NSNs **WON'T** BE ADDED TO THE TMS, SO MAKE A NOTE.

IF YOU ORDER THE COVERS, YOU HAVE THE OPTION OF A FREE, THREE-PART, ON-SITE TRAINING SESSION FROM THE MANUFACTURER.

TO ARRANGE FOR THE TRAINING, CONTACT:

Mark Bechtel  
Shield Technologies Corporation  
715-441-0280  
[mark.becht@envelopcovers.com](mailto:mark.becht@envelopcovers.com)

THE  
THREE  
PART  
TRAINING  
COVERS:

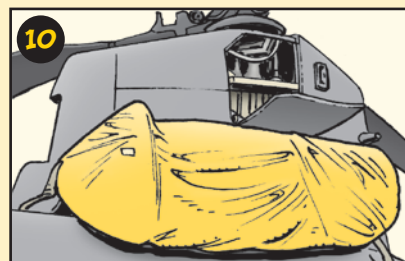
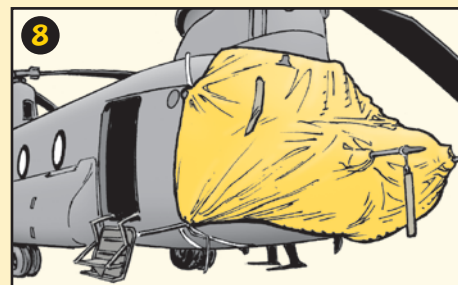
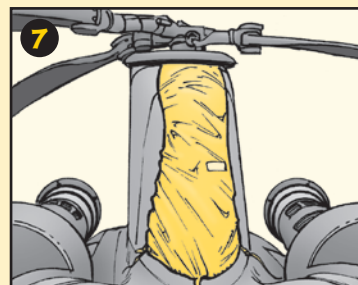
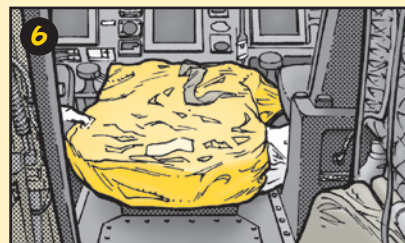
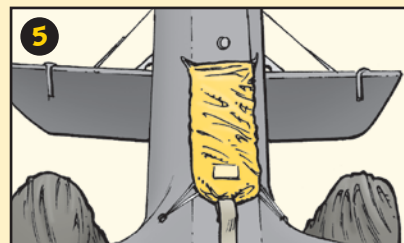
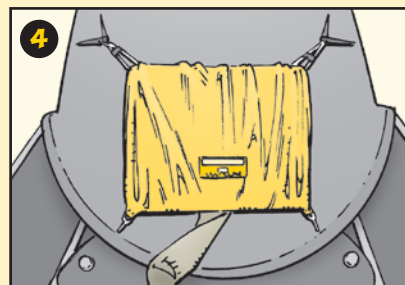
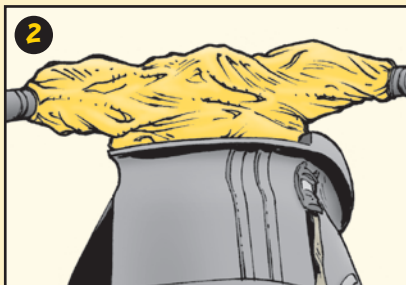
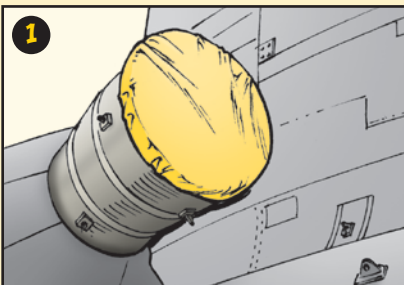
- information about the unique anti-corrosion cover technology and how it benefits your aircraft and equipment.
- hands-on training to properly install, remove and care for the covers.
- a CD with written instructions on how to properly install, remove and care for the covers. The CD also helps train new Soldiers and provides refresher training.

THE TRAINING PREVENTS DAMAGE TO AIRCRAFT COMPONENTS AND EQUIPMENT WHILE EXTENDING THE LIFE OF THE COVERS.

### Primary Cover NSNs

HERE'S A LIST OF THE PRIMARY COVERS FOR THE CHINOOK. KEEP THIS AS A HANDY REFERENCE...

#	Item	NSN 1730-	PN
1	Engine exhaust cover	01-593-9707	CH-47-202
2	Forward rotor head cover	01-593-9690	CH-47-063
3	FWS XMSN oil inlet cover	01-593-9716	CH-47-068
	Aft rotor hub cover	01-593-9723	CH-47-064
4	Hyd/oil cooler exhaust vent cover set	01-593-9684	CH-47-067
5	APU tail cone exhaust cover	01-593-9515	CH-47-150
6	Center console set cover	01-593-9662	CH-47-127
7	Air inlet and oil cooler exhaust cover	01-593-9697	CH-47-124
8	Cockpit enclosure (windshield and nose)	01-593-9636	CH-47-128
9	Aircraft engine right-hand cover	01-593-9359	CH-47-060
10	Aircraft engine left-hand cover	01-593-9488	CH-47-059



**NOTE:** BOTH 9 AND 10 DEPICT COVERS DESIGNED FOR TWO CONFIGURATIONS, ONE WITH AND ONE WITHOUT THE EXTERNAL AIR PARTICLE SEPARATOR (EAPS) AND ENGINE EXHAUST INSTALLED.

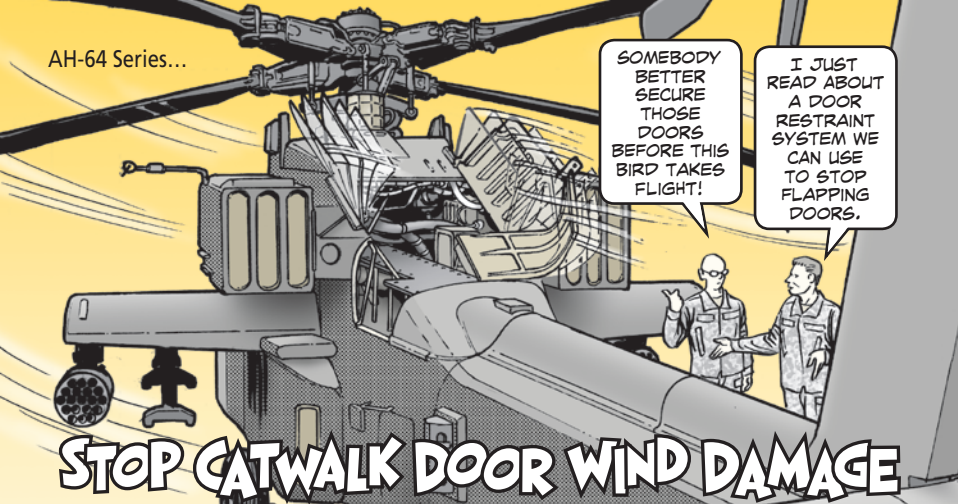
THE MANUFACTURER OF THESE COVERS WILL ALSO PROVIDE HANDS-ON TRAINING IF REQUESTED.

THE POC IS: JIM CROTTY  
COCOON, INC.  
PHONE: 603-964-9421  
EMAIL: [jcrotty@cocoon-inc.com](mailto:jcrotty@cocoon-inc.com)





AH-64 Series...



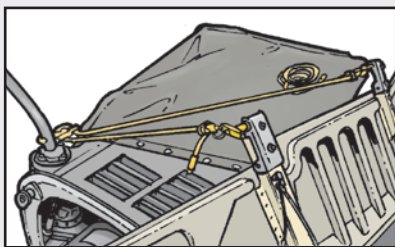
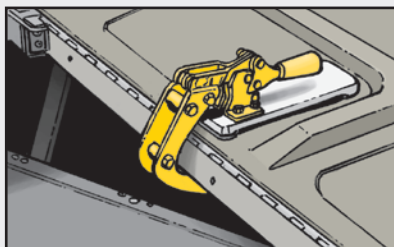
## STOP CATWALK DOOR WIND DAMAGE

**M**echanics, you've known for a long time that all five Apache catwalk doors can get blown shut by high winds.

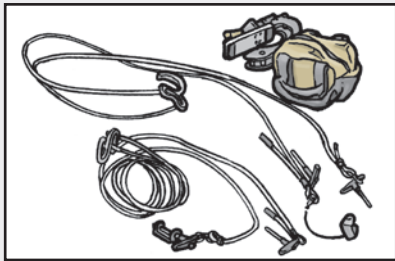
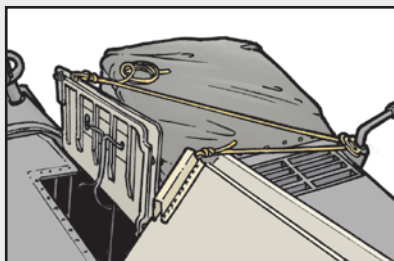
And if the doors close out of sequence, the door panels are damaged—not to mention you can be knocked off the catwalk if you're working on the aircraft.

Right now there is no standard way to secure the doors in the open position while doing pre-flight procedures or maintenance. Over the years, units have devised their own methods to keep the doors open as they perform tasks on the catwalk.

To address the issue, the Apache PM announced an optional commercial solution for tying down open catwalk doors in high winds: the **Apache catwalk door restraint system**.



Catwalk door restraint, NSN 4920-01-628-6268, keeps doors from blowing closed



SOMEBODY BETTER SECURE THOSE DOORS BEFORE THIS BIRD TAKES FLIGHT!

I JUST READ ABOUT A DOOR RESTRAINT SYSTEM WE CAN USE TO STOP FLAPPING DOORS.

The Apache catwalk door restraint system, NSN 4920-01-628-6268, costs about \$467 and is now available through the supply system. You can also order the system with PN AH64CDR, CAGE 38SD5:

Website: <http://www.armick.com>

Email: [sales@armick.com](mailto:sales@armick.com)

Phone: (616) 656-1819

REMEMBER, THERE IS NO REQUIREMENT TO PURCHASE OR USE THIS SYSTEM.

YOUR UNIT CAN ORDER AND USE IT. IT'S UP TO YOUR CO.



HH-60M...

## ORDER THE RIGHT TAPE

WHERE IN THE WORLD DID YOU GET THAT TAPE?

IT'S WHAT THE NSN IN THE TM BROUGHT.

WHATEVER THAT IS, IT'S NOT PRESSURE-SENSITIVE TAPE.



THE TAPE YOU NEED COMES WITH NSN 5970-01-623-9080. THE NSN IN THE TM WILL BE **CORRECTED**.

**M**echanics, the NSN for the fuel cell liner tape listed in the Expendable and Durable Items List of the Black Hawk M model technical manual is incorrect.

Item 329 in WP 1687 of TM 1-1520-280-23&P lists NSN 7510-01-326-1567 for the tape. The correct NSN is 5970-01-623-9080 (PN 80-6109-1847-8).

The tape comes in a case of 20 rolls for about \$690. It isn't available in single rolls. Make a note until the correct NSN appears in the next update to the TM.

# IMPROVE YOUR MAINTENANCE - USE PS



**P**aying attention to detail is one of the primary lessons of basic training. It is often reinforced by the Army's Non-Commissioned Officers.

We've probably all heard the story that a battle was lost because a horseshoe was missing a nail. That caused the loss of the shoe, the horse went lame, and the hero failed to save the day.

Detail matters in equipment maintenance, too. It's the loss of the 60-cent spring that causes a Bradley IFV to go lame, an M4 carbine to stop firing due to a bent firing pin, or an aircraft engine to fail when it's torn up by a forgotten aircraft wrench.

It's these small details that *PS Magazine* has written about for 65 years.

Don't mistake our cartoon art as a reason to discount our advice. Our information has been reviewed by the equipment proponent twice. *PS* is actually a camouflaged technical bulletin.

Pay attention to what we tell you – it's timely, relevant, and approved info. We have the world's best equipment; use *PS Magazine* to help you take care of it.



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## Connie's Post Scripts

### SOAK UP HAZMAT SPILLS

Get a 44-lb bag of absorbent compound for soaking up oil and fuel spills with NSN 7930-00-269-1272. Just sprinkle the compound on the spill and sweep it up once the spill is absorbed. Dispose of the compound in a proper HAZMAT container. Table 1 of CTA 5-970 is your authority for ordering the compound.

### RG31 MRAP TRANSMISSION FLUID

Use only TES-295 transmission fluid in your RG31 MRAPs. Order with these NSNs:

NSN 9150-	Qty
01-552-9119	1 qt
01-565-0981	Six 1-gal bottles
01-552-9157	5-gal container
01-551-2796	55-gal drum

Never mix other fluids, like Dexron III or IV, in the RG31's transmission. That causes performance problems and unnecessary wear-and-tear.

### HMMWV Maintenance Question?

Have a repair part, TM or general maintenance question about the HMMWV? Get an answer from the HMMWV equipment specialists at TACOM LCMC by sending an email to:  
[usarmy.detroit.tacom.mbx.ilsc-hmmwv-maintenance@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-hmmwv-maintenance@mail.mil)

### Website for Cancelled CECOM (B16) Requisitions

Supply requisition cancellation (CA) notes for CECOM LCMC (B16) are now automated at the i2Log website. Find out why your requisition was cancelled and get a CECOM POC for help. You'll need your Common Access Card (CAC) for access. Go to:

<https://lrcweb1.apg.army.mil/i2log/misc/ca.cfm>

You can search for your requisition by document number, DODAAC or NIIN. For i2Log support, call DSN 848-6068, (443) 861-6068, or email: [randy.j.burton4.civ@mail.mil](mailto:randy.j.burton4.civ@mail.mil)

### Up-armored HMMWV Windshield Washer Nozzle and Bracket

Need to replace the windshield washer nozzle on your up-armored HMMWV? A new nozzle comes with NSN 2540-01-596-1571, but you'll need the right bracket to use it. If your truck has the B kit installed, get the new-style nozzle bracket with NSN 5340-01-596-4595. If your up-armored M1151A1, M1152A1, M1165A1, or M997A3 doesn't have the B kit installed, use nozzle bracket, NSN 5340-01-596-4592. For M1151, M1152 and M1165 HMMWVs without armor, use NSN 5340-01-596-4594.

There is also a new improved washer nozzle and hood modification kit available. This kit, NSN 2540-01-629-6780, is for vehicles with the B kit that are also equipped with emergency escape windows.

### MEP-805B 30-kW Fuel Filter Seal Kit NSN

There's a new NSN and PN for the MEP-805B (30-kW) generator's fuel filter seal replacement kit. Order it with NSN 4330-01-512-4284 (PN RE516553, CAGE 75160). It replaces NSN 5330-01-452-0929 (PN RE50752, CAGE 75755), which is listed as Item 8 in Fig 18 of TM 9-2815-259-24P (Nov 00). That NSN is a terminal item.

### M1082/M1095 FMTV Trailer Tire and Wheel Assembly

The article on Page 14 of PS 725 (Apr 13) listed the wrong tire and wheel assembly for the M1082 and M1095 FMTV trailer. There are actually two tire and wheel assemblies available for FMTV trailers. Use either the FMTV basic/A1 spare tire assembly, NSN 2530-01-500-4619, or the FMTV A1P2 spare tire assembly, NSN 2530-01-571-5857. The tire alone comes with NSN 2610-01-356-9098 and the size is 395/85R20.

### Check IE Settings for DOD EMALL

If you're getting a "Page Cannot Be Displayed" error when trying to access DOD EMALL with the Internet Explorer® (IE) browser, be sure that TLS 1.2 is checked and SSL 2.0 is unchecked under IE's "Tools/Internet Options/Advanced" tab. TLS 1.2 is only supported in Windows 7 or later.

### PROTECT HIGH FREQUENCY RADIOS

To keep the AN/ARC-220 high frequency Radio LCD display panel free from small cracks and blemishes caused by seat belts in your Black Hawks and Chinooks, order an LCD panel cover with NSN 6650-01-519-9165 to cover the display.

### REPAIRING BLACK HAWK CABIN SOUND PROOFING

If you have small tears or rips in your cabin soundproofing material, you can fix them by following the repair procedures listed in WP 0370 of TM 1-1520-237-23&P or WP 0365 of TM 1-1520-280-23&P. The TMs also list all the needed materials. The cloth patch part numbers for the -280 M-model are

- Black cloth:  
7050052068-11 and, 70500-52068-128
- Face cloth:  
7050002053-104 and 7050052068-175

For the -237 A & L model Black Hawks use cover fabric: PN 70500-02174-108.

### M969A3 Alternator Belt NSN

Get a new engine alternator belt for the M969A3 fuel tanker with NSN 3030-01-387-5679. It replaces NSN 3030-01-367-7487, which is shown as Item 2 in Fig 62 of TM 9-2330-330-14&P (Nov 05). That NSN is a terminal item.

### SUOS and You're Done

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[http://www.cascom.army.mil/g\\_staff/g3/SUOS/index.htm](http://www.cascom.army.mil/g_staff/g3/SUOS/index.htm)

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