

**PS****THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY****ISSUE 742 SEPTEMBER 2014**

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**COMBAT VEHICLES****3**

- M2/M3-Series Bradley Idler Wheel Nuts 3  
 M2/M3-Series Bradley M242 Automatic Gun PMCS 4-5  
 MLRS Cab Lifting and Launcher Jury Struts 6-7  
 M1-Series Tank's M18A1 Filter Caution 7  
 M119-Series Towed Howitzer New Tire Assembly 8-9

**TACTICAL VEHICLES****11**

- FMTV Battery Tray Retainer Corrosion Prevention 11  
 Hawker Battery Life Extension 12-13  
 Tactical, CCE, Combat Vehicle Service Kit NSNs 14-16

**CCE****18**

- M9 ACE PM Pointers 18-19  
 130G Road Grader Hydraulic Unloading Valve 20  
 HYEX 230LCR Engine Starter Options 21

**AVIATION****23**

- DA PAM 738-751 Updated 23  
 M230 Automatic Gun PMCS Cautions 24-26

How the Vest Was Won - Part 2 27-34

**MISSILES****36**

- MLRS Launcher PMCS Reminders 36-38  
 HIMARS Shock Absorbers, Replace Every Two Years 46

**SMALL ARMS****39**

- New M9 Pistol Holsters Available for Deployment 39  
 M240-Series Machine Gun MWOs Extended 40  
 M249-Series Machine Gun Buttstock MWO 41  
 M2A1 Machine Gun Barrel Installation 42  
 AN/PSQ-23, -23A STORM Grounding Screw 43  
 M205 Tripod for M2/M2A1, MK 19 Machine Guns 43

**CBRN****44**

- M40/M42 Mask, Be Your Own Inspector 44-45

**TOOLS****46**

- SATS Tools Drawer Layout Available 46

**COMMUNICATIONS****48**

- AS-3900A/VRC Antenna Matching Unit 48-50  
 Ground Strap  
 COMSEC NET Team Training 51

**LOGISTICS MANAGEMENT****53**

- EMS NG Viewer Printing Tips 53-55  
 Manufactured Tool Limits 56-57  
 TMDE AR 750-43 Revision 57  
 COEI Property Book Accountability 58-59

Connie's Post Scripts 60-61

You are invited to send *PS* your ideas for improving maintenance procedures, questions on maintenance and supply problems and questions or comments on material published in *PS*.

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**MSG Half-Mast**  
**PS, the Preventive Maintenance Monthly**  
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**Bldg. 3303**  
**Redstone Arsenal, AL 35898**

Or email to:

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**usarmy.redstone.logsa.mbx.psmag@mail.mil**

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Administrative Assistant to the Secretary of the Army

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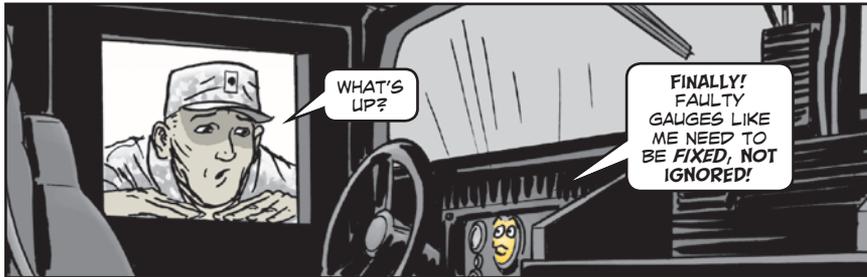
**THE  
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TB 43-PS-742

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# REPORT THE PROBLEM GAUGE!



**F**aulty gauges can lead to expensive repairs down the road.

An engine gauge, warning light or dashboard indicator keeps the driver or operator aware of critical machine functions. For a gauge to be serviced, two things have to happen: First, the driver has to report the problem.

Second, the mechanic has to fix the problem.

Think about how often a vehicle is handed off to another driver for another mission. That means a neglected or ignored gauge can be a bad surprise for the next driver!

An engine can break down in the middle of nowhere just because its oil pressure gauge bit the dust a while back and wasn't reported. That \$45 gauge ends up costing your unit \$30,000 to replace the engine!

Fixing or replacing that gauge is a key part of preventive maintenance. It keeps the vehicle running safely and prevents expensive repairs. So don't ignore a bad gauge.

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



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<b>COMBAT VEHICLES</b>	<b>3</b>	<b>SMALL ARMS</b>	<b>39</b>
M2/M3-Series Bradley Idler Wheel Nuts	3	New M9 Pistol Holsters Available for Deployment	39
M2/M3-Series Bradley M242 Automatic Gun PMCS	4-5	M240-Series Machine Gun MWOs Extended	40
MLRS Cab Lifting and Launcher Jury Struts	6-7	M249-Series Machine Gun Buttstock MWO	41
M1-Series Tank's M18A1 Filter Caution	7	M2A1 Machine Gun Barrel Installation	42
M119-Series Towed Howitzer New Tire Assembly	8-9	AN/PSQ-23, -23A STORM Grounding Screw	43
		M205 Tripod for M2/M2A1, MK 19 Machine Guns	43
<b>TACTICAL VEHICLES</b>	<b>11</b>	<b>CBRN</b>	<b>44</b>
FMTV Battery Tray Retainer Corrosion Prevention	11	M40/M42 Mask, Be Your Own Inspector	44-45
Hawker Battery Life Extension	12-13		
Tactical, CCE, Combat Vehicle Service Kit NSNs	14-16	<b>TOOLS</b>	<b>46</b>
<b>CCE</b>	<b>18</b>	SATS Tools Drawer Layout Available	46
M9 ACE PM Pointers	18-19		
130G Road Grader Hydraulic Unloading Valve	20	<b>COMMUNICATIONS</b>	<b>48</b>
HYEX 230LCR Engine Starter Options	21	AS-3900A/VRC Antenna Matching Unit	48-50
<b>AVIATION</b>	<b>23</b>	Ground Strap	
DA PAM 738-751 Updated	23	COMSEC NET Team Training	51
M230 Automatic Gun PMCS Cautions	24-26	<b>LOGISTICS MANAGEMENT</b>	<b>53</b>
How the Vest Was Won - Part 2	27-34	EMS NG Viewer Printing Tips	53-55
<b>MISSILES</b>	<b>36</b>	Manufactured Tool Limits	56-57
MLRS Launcher PMCS Reminders	36-38	TMDE AR 750-43 Revision	57
HIMARS Shock Absorbers, Replace Every Two Years	46	COEI Property Book Accountability	58-59
		Connie's Post Scripts	60-61

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

By order of the Secretary of the Army:  
**RAYMOND T. ODIERNO**  
 General, United States Army Chief of Staff

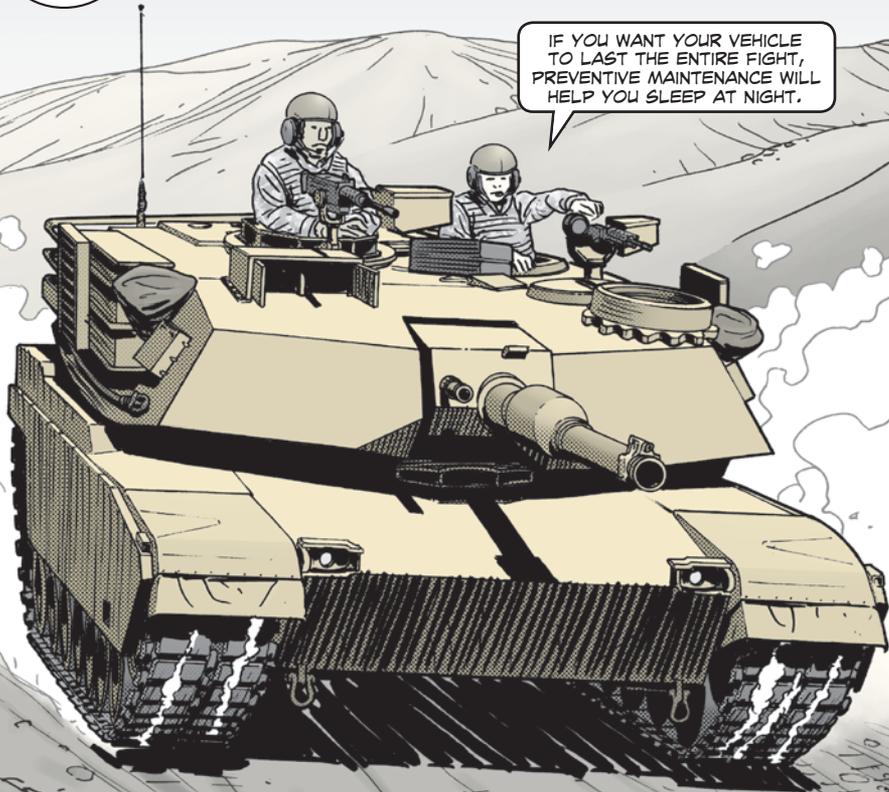
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# PS COMBAT VEHICLES

IF YOU WANT YOUR VEHICLE TO LAST THE ENTIRE FIGHT, PREVENTIVE MAINTENANCE WILL HELP YOU SLEEP AT NIGHT.



This section covers Bradleys, MLRS, M1-tanks, and M119 towed howitzers.

M2/M3-Series Bradley...

## KEEP IDLER WHEELS WORKING HARD!

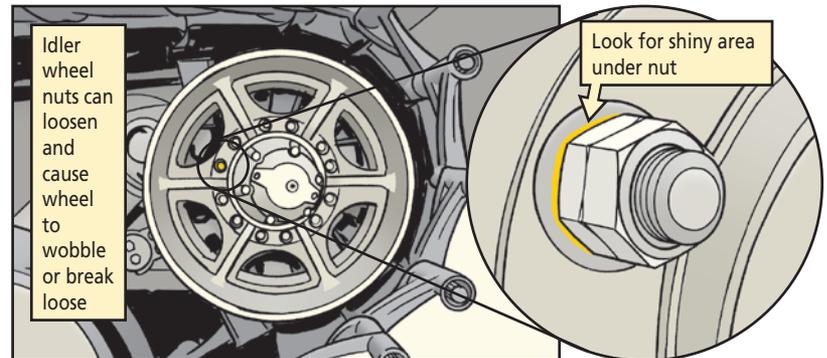
HEY, YOU CAN'T BLAME ME FOR BREAKING AWAY.

THEY SHOULD'VE KEPT MY NUTS TIGHT!



Crewmen, your Bradley's idler wheels work hard to keep you and your vehicle rolling along on the mission. But you gotta take care of those idler wheels if you don't want one going idle at the worst possible time.

Hard driving in the field can loosen the idler wheel nuts. And once one nut loosens, it puts pressure on the other nuts. Before you know it, the wheel is wobbling and can even break loose. The last thing you want to see is an idler wheel rolling away from your vehicle!



But you can make sure the idler wheels stay on the job with a little PM diligence. Check the idler wheel nuts after every operation. Look for a shiny area under the nut where it has rubbed against the wheel. Tell your mechanic if you spot any. He'll replace loose nuts with NSN 5310-00-175-2710 and torque them to 170-200 lb-ft.

If you spot any loose nuts while you're in the field, go ahead and tighten them. Just make sure you mark which nuts were loose so your mechanic can replace them when you get back to the motor pool.

M2/M3-Series  
Bradleys...

MAN! THAT WAS SOME PMCS  
JOB YOU DID ON ME. I AM  
**FIRED UP FOR FIRING!** LET'S  
HIT THE ROAD. YOU READY?  
I'M READY! **HOOAH!**

I GUESS  
PMCS  
REALLY  
**DOES**  
WORK!

# FIRED UP FOR FIRING

YOUR BRADLEY'S  
M242 AUTOMATIC  
GUN WILL BE  
FIRED UP FOR  
FIRING IF YOU  
REMEMBER A FEW  
POINTERS...

DO THE  
PRE-FIRING  
CHECKS IN  
APPENDIX  
B-72 IN FM  
3-20.21, HEAVY  
BRIGADE  
COMBAT TEAM  
GUNNERY.

THEY PROVIDE  
A GOOD DOUBLE-  
CHECK AFTER THE  
PMCS IS FINISHED  
THAT THE M242  
IS READY FOR  
FIRING.

**MAKE  
SURE THE  
RETAINING  
RINGS  
FOR THE  
STRAIGHT  
DRIVE SHAFT  
HAVEN'T  
COME OFF.**

NO RETAINING  
RINGS MEAN THE  
DRIVE SHAFT  
CAN WORK OUT.

IT'S A GOOD  
IDEA TO  
REPLACE THE  
RETAINING  
RINGS DURING  
ANNUAL  
SERVICES TO  
ENSURE THEY'RE  
UP TO THE JOB.

**DO A COMPLETE  
PMCS BEFORE  
YOU FIRE.**

YOUR M242 HAS  
PROBABLY GONE A  
LONG TIME SINCE  
BEING FIRED.

SO IT NEEDS TO  
BE THOROUGHLY  
CHECKED OUT  
**BEFORE** YOU LEAVE  
THE MOTOR POOL.

GOOD GRIEF, YOU  
HAVEN'T FIRED ME IN  
**MONTHS!** I NEED A  
THOROUGH PMCS!

AND HOW ABOUT A  
LITTLE GMD TO GET  
EVERYTHING MOVING  
AGAIN?

IT'S ESPECIALLY IMPORTANT TO  
LUBE THE GUN WITH GMD.

GMD IS A HEAVY-DUTY LUBE THAT CAN  
HANDLE THE **HEAT** THE M242 PUTS OUT.

SOME UNITS  
SUBSTITUTE  
CLP. A VERY  
**BAD IDEA.** CLP IS **TOO  
WEAK** FOR  
THE JOB AND  
THE M242  
CAN BE  
**DAMAGED.**

CLP SHOULD BE  
USED **ONLY** ON AND IN  
THE BARREL, EXCEPT  
FOR THE BARREL'S  
LOCKING LUGS AND  
SUPPORT BEARINGS.  
THEY NEED A LIGHT  
COAT OF ME, GMD.

WEAR GLOVES WHEN  
YOU APPLY GMD.  
IT'S A GOOD IDEA TO  
KEEP IT OFF YOUR  
SKIN BECAUSE IT CAN  
CAUSE **DERMATITIS.**

WHILE DOING PMCS, MAKE SURE THE M242 AND TOW LAUNCHER ARE SET  
TO 0 (ZERO) ELEVATION. OTHERWISE, THE GUN AND LAUNCHER WILL BE OUT  
OF SYNC AND THAT CAN **DAMAGE** THE LAUNCHER'S DRIVE GEARS.

**RELEASE  
TENSION ON  
THE AMMO  
CHUTES.**

AFTER THE  
M242 IS  
INSTALLED  
AND THE AMMO  
CHUTES ARE  
HOOKED UP, YOU  
NEED TO RELEASE  
THE TENSION ON  
THE CHUTES.

OTHERWISE, THE FEEDER  
CAN'T WORK PROPERLY AND  
THE M242 WILL **MISFIRE.**  
REMOVING LIVE ROUNDS  
FROM THE FEEDER CAN BE  
**DANGEROUS.**

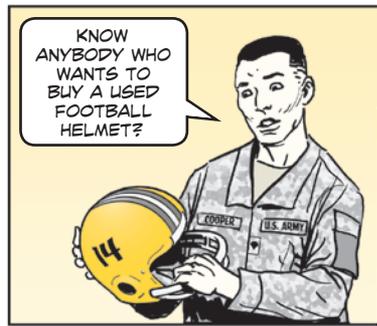
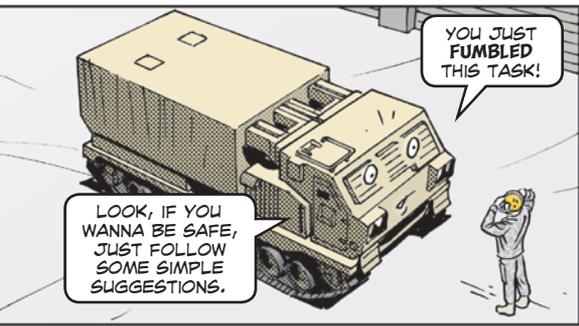
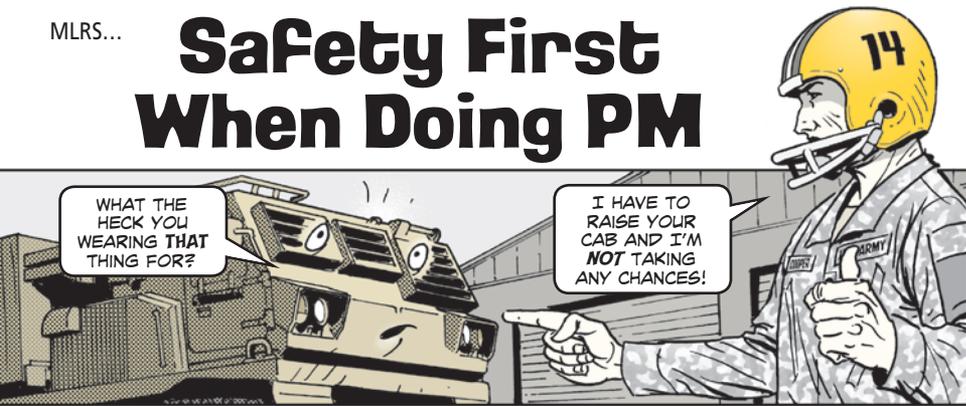
Back off forwarder until  
feed chutes slacken

**AFTER  
FIRING, CLEAN  
THE DECK.**

IF BRASS IS  
LEFT ON THE  
DECK, IT CAN  
GET STUCK IN  
THE TURRET  
RING...

... AND  
**DAMAGE MY  
TURRET RING  
BEARINGS!**

# Safety First When Doing PM

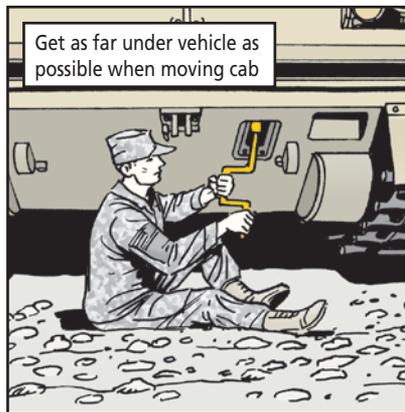


**C**rewmen, your MLRS is a big, heavy beast of a combat vehicle. Here are a few safety tips to remember.

**CAB:** When you're cranking the cab up or down, make sure to stay as low and as far under the vehicle as possible. If your head is poking out, the cab can come crashing down on it. Talk about a headache!

Always crank slowly. If you crank too fast, the cab bounces and that can break the lift mechanism. Any time you feel the cab start to bounce, immediately stop cranking! The cab is most likely to bounce when its weight shifts forward or backward, depending on which direction it's going. So that's when it's especially important to crank slowly.

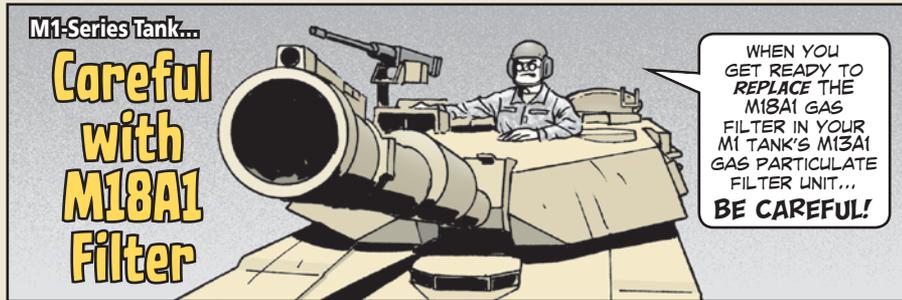
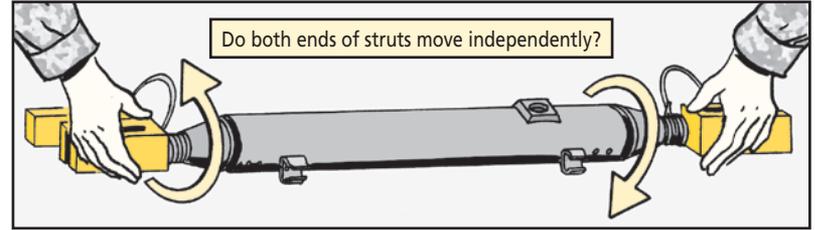
When you're raising or lowering the cab, make sure no one else is in front of the cab. You don't want them getting hit by the cab either.



**LAUNCHER:** It's critical you install **both** jury struts before working under the launcher. If the elevation actuators that hold up the launcher collapse without both struts in place, the launcher will crush anyone underneath it. Remember both the launcher drive system (LDS) and launcher engine have to be off before you install the struts.

But before you install those struts, make sure they're ready to strut their stuff. Look them over for cracks, deformities and loose or missing rivets. Ensure that both ends of the struts can move freely and independently.

Also make sure they have the correct quick-release pins. Never substitute! If the locking pins are broken or missing, order more with NSN 5315-01-394-0837.

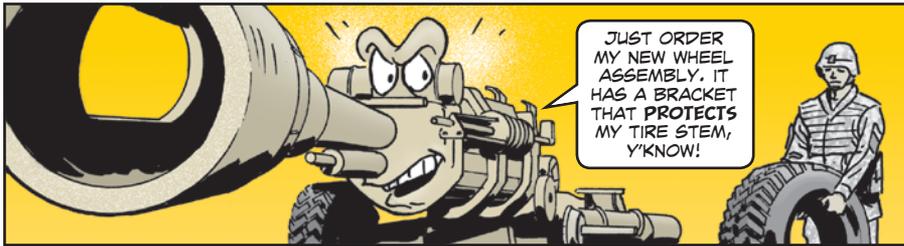
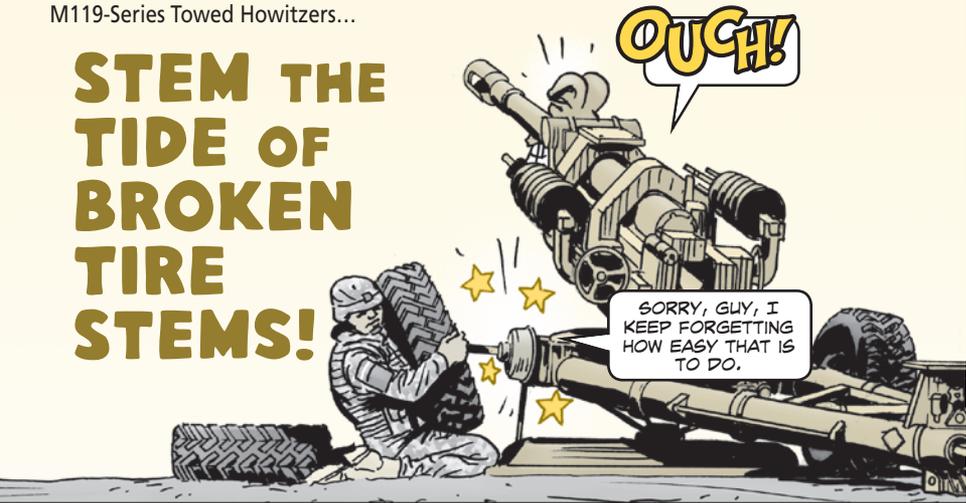


When you open the M18A1 filter's container, it exposes you to two very large and sharp edges. Those edges can badly slice up your hands if you don't watch what you're doing.

Your best bet is to wear cut-resistant, heavy-duty gloves while opening the container to protect your hands. A good pair of barbed wire handler's gloves, NSN 8415-00-926-1674, will do the trick.



# STEM THE TIDE OF BROKEN TIRE STEMS!



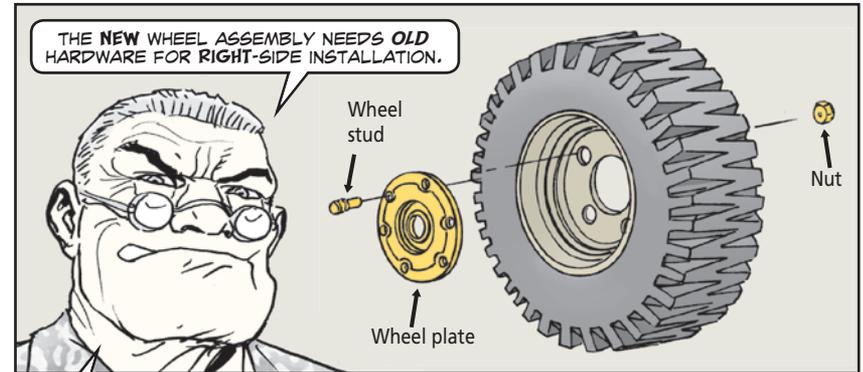
Crewmen, at one time or another you've probably broken the tire stem off the right-side (knockoff) wheel on your M119-series towed howitzer. It's easy to do when removing the wheel for emplacement.

It's frustrating because now you have to take the time to replace the tire. Even worse, your howitzer is NMC until that's done.

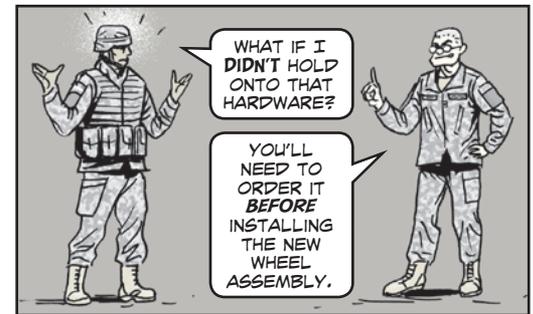
But now there's a new tire assembly, NSN 2530-01-626-2559, designed to prevent broken tire stems and keep your howitzer in the game.

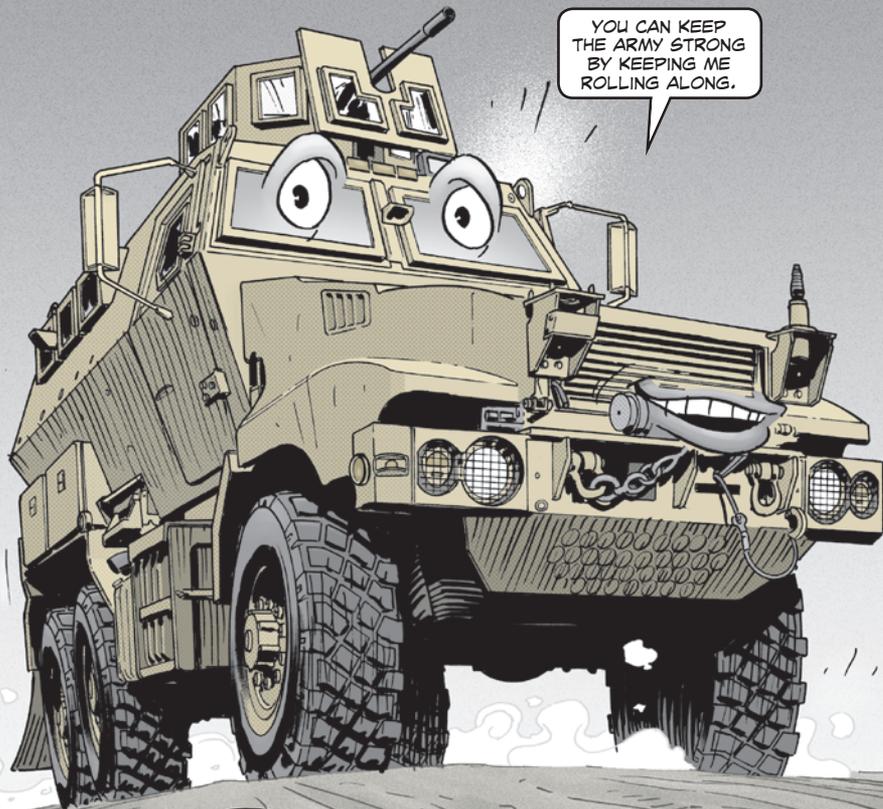
The new assembly has a bracket and counterweight welded to the wheel rim.

This acts as a guard to protect the valve stem when removing or remounting the wheel.



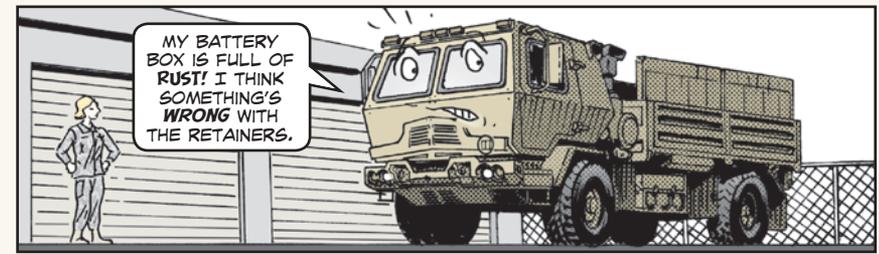
THE WHEEL PLATE,  
NSN 1015-01-341-8687;  
SIX WHEEL STUDS,  
NSN 1015-01-343-1901;  
AND SIX NUTS,  
NSN 5310-01-342-3687,  
FROM THE OLD RIGHT-SIDE  
ASSEMBLY.





**T**his section covers FMTVs, Hawker batteries, and CCE, tactical vehicle and combat vehicle service kits.

## FMTVs... WATCH FOR BATTERY TRAY RETAINER CORROSION

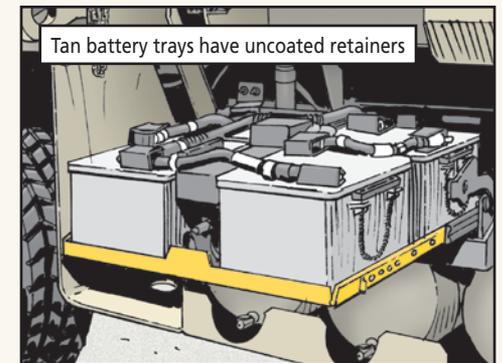


**B**elieve it or not, all battery retainers are not the same. That's especially true for the retainers used on battery trays for some FMTVs.

Turns out some of the battery retainers, NSN 6160-01-567-2595, did not receive a special coating before they left the factory floor. The coating is designed to help prevent corrosion.

Rather than replace them, Oshkosh has extended the warranty for battery trays with non-coated retainers to five years from the date of handoff. Battery trays with coated retainers still have a two-year warranty.

How do you know which retainers you have? The battery trays with non-coated retainers are tan. Trays with coated retainers are black.

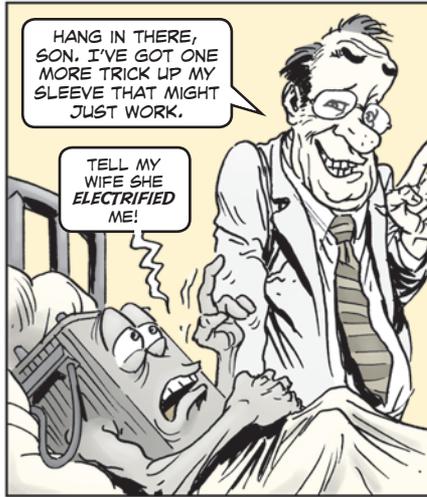


If you have corrosion issues with coated or non-coated retainers that are still under warranty, call the Oshkosh warranty hotline at (800) 393-9921. Or send an email to:

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

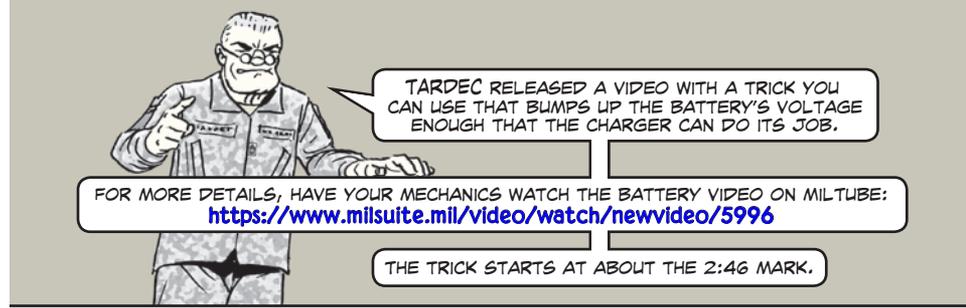
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# TRICK DEAD BATTERIES BACK TO LIFE



Dear Half-Mast,  
I heard there's a way to keep my unit's Hawker batteries in the fight a little longer, even if it seems like the batteries are dead. Is that true?

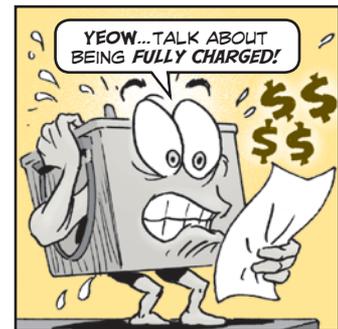
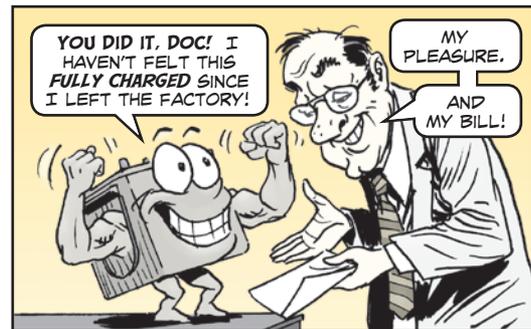
1LT T.C.



OR THEY CAN SIMPLY FOLLOW THESE STEPS...

1. PLACE A GOOD BATTERY IN PARALLEL TO THE DEAD BATTERY, POSITIVE TO POSITIVE AND NEGATIVE TO NEGATIVE.
2. ATTACH THE CHARGER'S JUMPER CABLES TO THE GOOD OR THE BAD BATTERY, POSITIVE TO POSITIVE AND NEGATIVE TO NEGATIVE. YOU CAN AVOID SOME MINOR RESISTANCE LOSSES BY CONNECTING TO THE DEAD BATTERY.
3. CHARGE FOR ABOUT 15-20 MINUTES. THAT PUSHES AMPERAGE INTO THE DEAD BATTERY, RAISING THE VOLTAGE HIGH ENOUGH TO BE SENSED BY THE CHARGER.
4. REMOVE THE GOOD BATTERY.
5. NOW CHARGE THE BAD BATTERY AS YOU WOULD NORMALLY.

Attach jumper cables in parallel, positive to positive and negative to negative



# Service Kits a'Plenty

**M**echanics, this comprehensive list gives you NSNs for all of the service kits currently available for tactical, commercial construction and combat vehicles:

Tactical Vehicles	NSN (Annual except as noted)
ASV	4910-01-526-7869
M1074/M1075 PLS	2590-01-539-6378 2590-01-521-9985 semiannual
PLS A1	4910-01-621-1667 4910-01-621-1957 semiannual
M1000 HET semitrailer	4910-01-523-1410
M1070 HET tractor	4910-01-523-1645 4910-01-523-1408 semiannual
M1070A1 HET Tractor	4910-01-621-1373 4910-01-621-1380 periodic kit* 4910-01-621-1613 biennial (every 2 years)
HMMWV (These are generic kits for all models. You may have to order additional parts based on the HMMWV model.)	2590-01-495-6900 2590-01-496-0055 semiannual
M977, M985 HEMTT (cargo)	2590-01-496-2588 2590-01-496-3052 semiannual
M978 HEMTT (tanker)	2590-01-496-1974 2590-01-496-4057 semiannual
M978A2 HEMTT (tanker)	4910-01-591-4509
M984A1 HEMTT (wrecker)	2590-01-496-2839 2590-01-496-2097 semiannual
M984A2 HEMTT (wrecker)	4910-01-591-4489
M977A2, M985A2 HEMTT (cargo), M1120A2 HEMTT (LHS), M1977A2 HEMTT (CBT)	4910-01-591-4454
M983A2 HEMTT (LET)	4910-01-591-4463
HEMTT -A4 (all variants)	4910-01-619-4329
M985A4 HEMTT (additional filters to combine with NSN 4910-01-619-4329 for annual service)	4910-01-619-4330
M915 tractor truck	4330-01-538-9910**
M915A1	4330-01-538-9934
M915A2	4330-01-538-9919

\* This kit contains the items identified in the IETM that are needed for periodic services.  
\*\* Terminal item, but orders can be submitted until stock is depleted.

Tactical Vehicles	NSN (Annual except as noted)
M915A3	4330-01-538-9926
M915A4	4330-01-539-1488
M915A5	No kit available
M916, M920	4330-01-538-9955**
M917, M918, M919	4330-01-538-9946**
M916A1, M916A2, M917A1, M917E1	4330-01-538-9923
M916A3, M917A2, M917E2	4330-01-538-9930
M939/A1-series trucks	2590-01-541-4620 semiannual (No annual kit exists; Order the semiannual kit and the transmission filter kit, NSN 2520-01-211-6702, to perform an annual service.)
M939A2-series trucks	2590-01-541-4611 semiannual (No annual kit exists; Order the semiannual kit and the transmission filter kit, NSN 2520-01-211-6702, to perform an annual service.)
FMTV MTV Serial numbers 0001 – 11,437	2590-01-528-7508
FMTV LMTV Serial numbers 0001 – 11,437	2590-01-528-7243
FMTV MTV A1 Serial numbers 11,438 – 99,999	2590-01-528-7507
FMTV LMTV A1 Serial numbers 11,438 – 99,999	2590-01-528-7239
FMTV MTV A1R Serial numbers 100,001 and up	2590-01-533-6748
FMTV LMTV A1R Serial numbers 100,000 and up	2590-01-533-6745
FMTV MTV A1P2 Serial numbers 700,000 and up	2590-01-603-9368
FMTV LMTV A1P2 Serial numbers 700,000 and up	2590-01-602-8178
MRAP RG-33/RG-33 Plus	2990-01-570-3733
MRAP RG-31A2/A2M1/A2RTR	2990-01-570-3759
MRAP RG-31A3	2990-01-578-9652
MRAP Cougar	4910-01-576-3422
MRAP M1224/A1 MaxxPro Base	2990-01-570-3792
MRAP M1234/A1 MaxxPro Plus and M1235/A1/A2/A3 Dash Service Kit	2990-01-578-9655
M1240/M1240A1 M-ATV	2530-01-591-1753
M1245 SOCOM M-ATV	2530-01-591-1751



THESE ARE THE  
COMMERCIAL CONSTRUCTION  
SERVICE KITS...

...AND  
THESE  
ARE THE  
COMBAT  
VEHICLE  
SERVICE  
KITS...

Forklift	250-hr Kit NSN 2990-	500-hr Kit NSN 2990-	1,000-hr Kit NSN 2990-
Atlas I		01-586-9819	01-586-9815
Atlas II	01-600-4318		01-600-4317
6K		01-585-9284	01-585-8958

Combat Vehicle	NSN (annual except as noted)
M1A1 tank	4910-01-117-7943 2540-01-255-3347 semiannual
M2/M3-Series Bradley	4910-01-461-2809
C7 Stryker	4330-20-007-4533 4330-20-007-4536 semiannual
3126 Stryker	4330-20-007-0295 4330-20-007-0297 semiannual

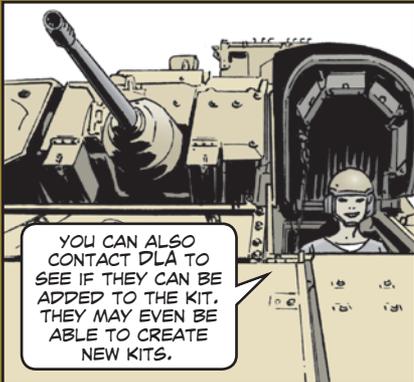
IF YOU FIND THE KIT YOU GET  
COMES WITH ALL ITS COMPONENTS,  
BUT IT DOESN'T INCLUDE ALL THE  
PARTS NEEDED TO COMPLETE THE  
ANNUAL SERVICE, NO WORRIES.



EYEBALL YOUR VEHICLE'S  
MAINTENANCE TM TO GET THE  
INFO NEEDED TO ORDER THOSE  
MISSING PARTS.



YOU CAN ALSO  
CONTACT DLA TO  
SEE IF THEY CAN BE  
ADDED TO THE KIT.  
THEY MAY EVEN BE  
ABLE TO CREATE  
NEW KITS.



THEY'RE AT DSN 850-1759/4857,  
(614) 692-1759/4857 OR EMAIL:  
[land.kitting.team@dla.mil](mailto:land.kitting.team@dla.mil)



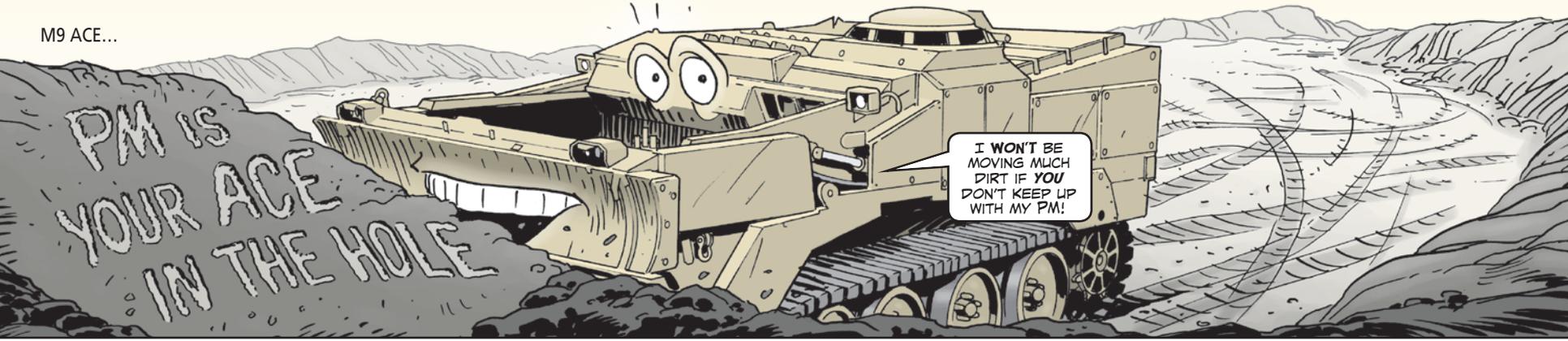
PS

# CONSTRUCTION

IF YOU WANT ME  
TO DIG AWAY, DO  
MY PMCS TODAY.



Read  
about M9 ACE  
PM, 130G road  
grader hydraulics  
and HYEX 230LCR  
engine starters.



OPERATORS, YOUR ARMORED COMBAT EARTHMOVER HAS A LOT OF DIRT TO MOVE.

IF YOU REMEMBER TO DO YOUR PM, YOU'RE WELL ON THE WAY TO A JOB WELL DONE.

KEEP THESE PM POINTERS IN MIND BEFORE YOU HEAD BACK FOR THE NEXT LOAD.



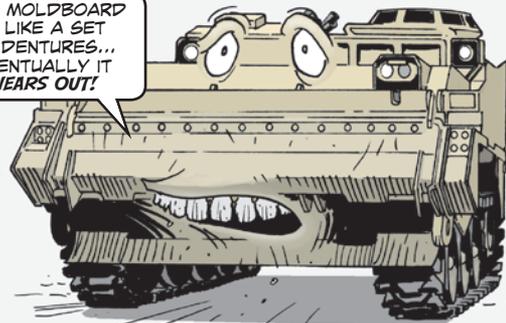
### A Keen Edge

The earthmover blade's cutting edge protects the moldboard. If the edge wears down too far, the moldboard gets damaged and has to be replaced or sent back to sustainment for repair.

So get down on your hands and knees, clear away the dirt and mud, and eyeball the blade's cutting edge. Better yet, fold the blade—like you do for cross-country travel—to get a closer look.

If the edge is worn to less than  $\frac{3}{4}$ -in., about the diameter of a penny, report it. Your mechanic can reverse the edge or replace it entirely if it has already been reversed.

THIS MOLDBOARD IS LIKE A SET OF DENTURES... EVENTUALLY IT WEARS OUT!



### Fold the Blade

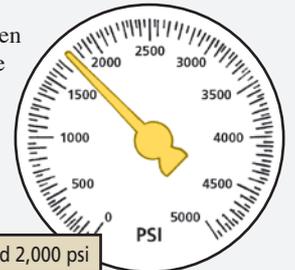
As always, follow the word in WP 0013-10 of TM 5-2350-262-10 (Jun 12) and fold the blade when traveling cross-country. That's the rule no matter what the soil conditions are, even if it's sand or loosely packed dirt. That way the blade can't dig into a ridge or other obstruction and cause extensive damage to the vehicle's blade, moldboard, ejector and hydraulic system.



...and for cross-country travel

### Hydraulics Break

It's no secret that the ACE is temperamental when it comes to its hydraulics, especially when you're digging in the hard stuff. So keep a close eye on the hydraulic pressure gauge. It should stay between 1,500 and 2,000 psi. Lower than that and you've probably got a leak somewhere. Your ACE is NMC until it's found and repaired.



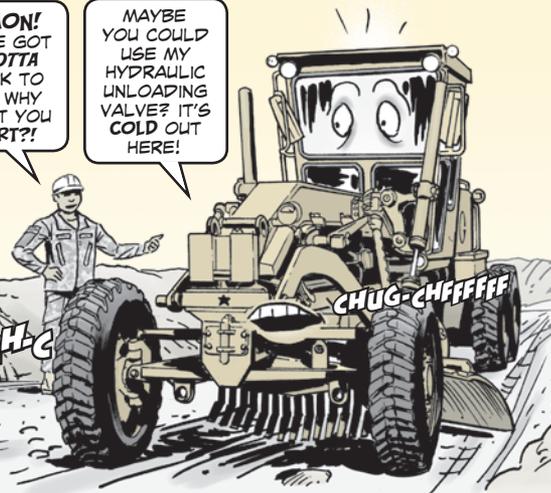
Hydraulic pressure gauge should be between 1,500 and 2,000 psi

# HYDRAULIC UNLOADING VALVE REMINDER

**C'MON! WE'VE GOT A LOTTA WORK TO DO. WHY WON'T YOU START?!**

**MAYBE YOU COULD USE MY HYDRAULIC UNLOADING VALVE? IT'S COLD OUT HERE!**

**H-CH-CH-CH-CHUG-CHUG**



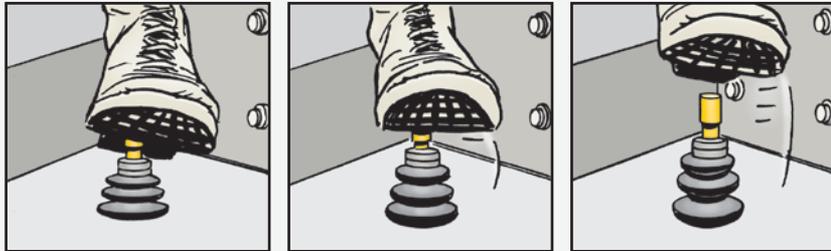
**O**perators, keep this tip in mind when temps drop below 60°F: Use the road grader's hydraulic unloading valve to make starting the engine easier.

The valve is located next to your left foot when you're sitting in the cab. When you press it, you're letting the vehicle's hydraulic pump spin free with no pressure. That reduces the load on the engine starter. It also saves a lot of wear and tear on the starter and pump when the hydraulic fluid gets thick and sluggish in cold weather.

As the engine warms up, don't let your foot off the valve too fast. That'll force too much pressure from the pump into the system's main hydraulic lines. The end result is blown seals and lots of leaks.

Slow and easy is the way to go when easing off the hydraulic loading valve.

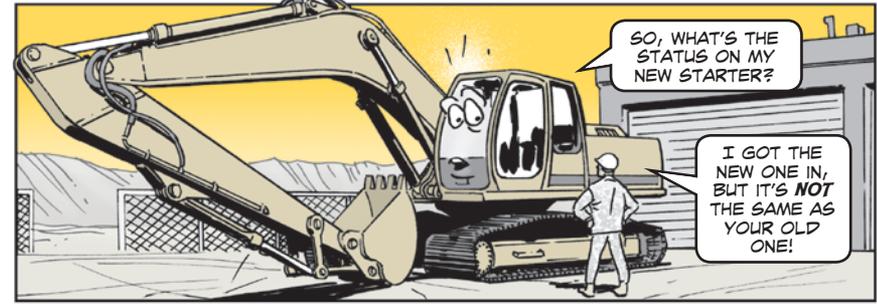
**After warm up, slowly release valve!**



**ONE MORE THING: DON'T ACCIDENTALLY PUSH DOWN ON THE VALVE WHILE OPERATING THE GRADER.**

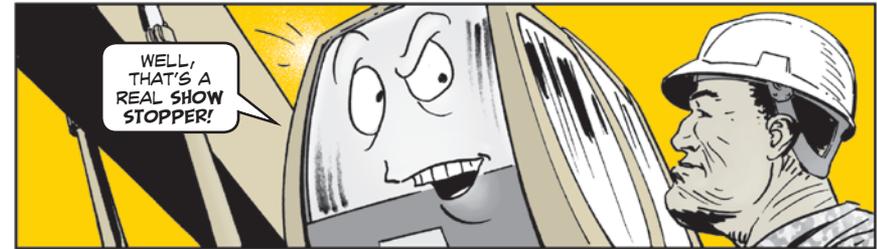
**THAT CAUSES UNNECESSARY WEAR AND TEAR ON THE GRADER'S HYDRAULIC SYSTEM.**

# ENGINE STARTER COULD BE A STOPPER!



**SO, WHAT'S THE STATUS ON MY NEW STARTER?**

**I GOT THE NEW ONE IN, BUT IT'S NOT THE SAME AS YOUR OLD ONE!**



**WELL, THAT'S A REAL SHOW STOPPER!**

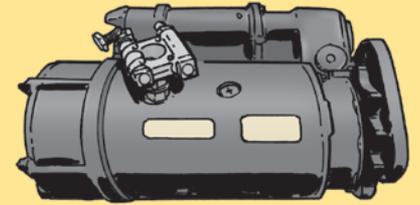
**M**echanics, if you need to install a new starter on the engine of a HYEX 230LCR excavator, wait a second.

There's only one starter listed in TM 5-3805-280-23P-1 (Jul 11). But there are actually two different starters available. Both are very distinct in shape and color, so as long as you know the NSNs, you should have no problems getting the right replacements.

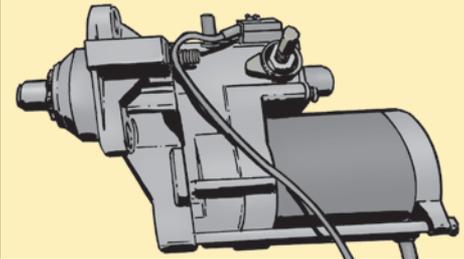
NSN 2925-01-473-9544 is the one shown as Item 3 in Fig 100 of the TM. It comes in a black housing.

The other starter is NSN 2920-01-510-1834 and comes in a gray housing. Make a note until this starter is added to the TM.

**Black starter, NSN 2925-01-473-9544**



**Gray starter, NSN 2920-01-510-1834**



# PS AVIATION

CAV  
YESTERDAY...

...CAV  
TODAY!

Read about the revised DA Pam 738-751 and the M230 automatic gun.

All Aircraft...

## Updated DA Pam 738-751 Now Available

SO THEY FINALLY REVISED DA PAM 738-751.

WHERE CAN WE GET A COPY?

IT'S AS CLOSE AS YOUR INTERNET CONNECTION!

YOU CAN FIND THE NEWLY REVISED DA PAM ON THE ARMY PUBLISHING DIRECTORATE WEBSITE.

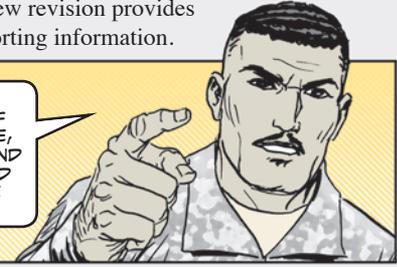


**M**echanics, the revision to *Functional Users Manual for the Army Maintenance Management System-Aviation*, DA Pam 738-751, TAMMS-A, was published on 28 February 2014. That's the first revision since March 1999, about 15 years ago.

Well, here's some more good news! The new revision provides many changes, updated forms and better reporting information.

ARMY AVIATION DEPENDS ON YOU FOLLOWING THE REVISED DA PAM.

THAT HELPS PROVIDE ACCURATE ACCOUNTING OF ALL RELATED MAINTENANCE, HISTORICAL INFORMATION AND FLIGHT HOURS OF TRACKED COMPONENTS TO ENSURE OPERATIONAL SAFETY.



The new DA Pam is located on the Army Publishing Directorate (APD) website:

[http://www.apd.army.mil/pdf/files/p738\\_751.pdf](http://www.apd.army.mil/pdf/files/p738_751.pdf)

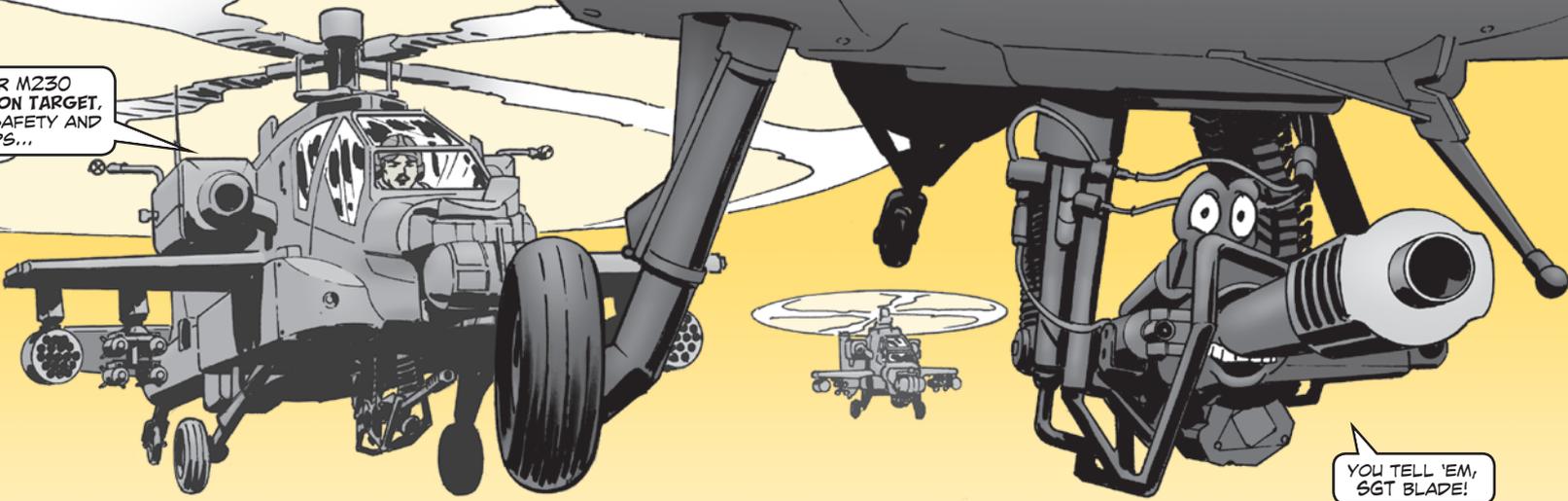
If you have questions about the publication, contact the TAMMS-A policy lead and subject matter expert (SME), Dean Geiselhart, at (256) 842-2971 or by email:

[dean.d.geiselhart.civ@mail.mil](mailto:dean.d.geiselhart.civ@mail.mil)

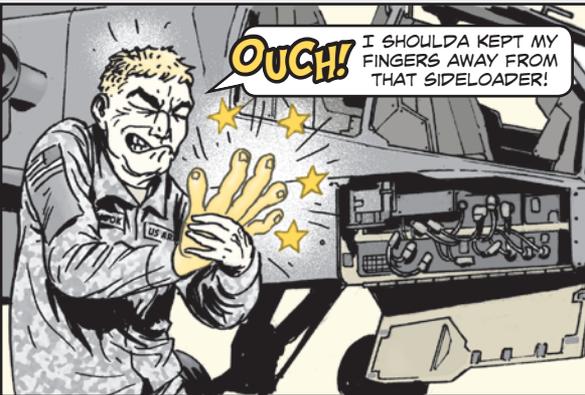
Click here for a copy of this article to save or email.

TO KEEP YOUR M230 AUTOMATIC GUN ON TARGET, TARGET THESE SAFETY AND PMCS TIPS...

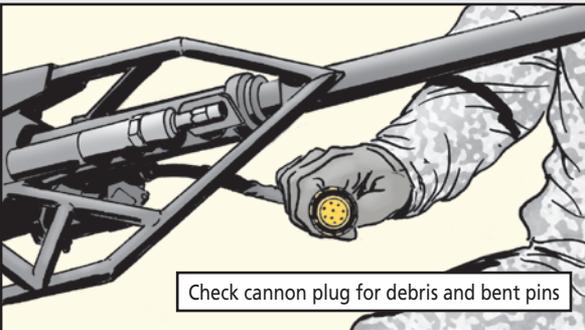
# Target This PMCS



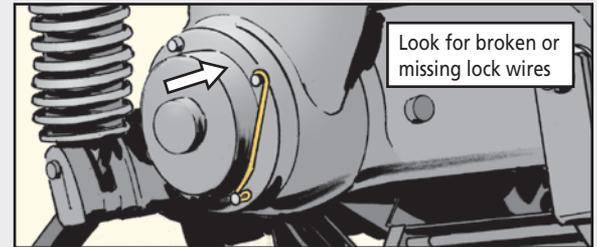
Keep fingers away from the sideloader. The sideloader can hurt your hand badly if you're not careful during loading. Keep hands away from the sideloader and use AUTOMATIC mode for loading. MANUAL mode should only be used if AUTOMATIC isn't working.



Check that the cannon plug is clear of debris and its pins aren't bent. If dirt is in the plug or its pins are bent, your M230 will have a poor electrical connection.

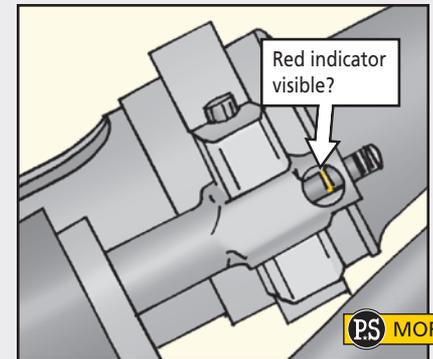


Look for loose, broken or missing lock wires. If screws aren't lock-wired tightly, the M230's vibration will shake them loose. Then components start falling off.



Make sure the gun door and round ejection areas are clear. Debris can be blown in there, which can lead to firing problems.

Check the recoil adapter viewing hole for the correct amount of damping fluid. Too much or too little fluid can lead to damage. Unless required by a combat situation, do not fire the M230 unless the recoil mechanism has been properly serviced. Remember that temperature can affect the fluid level, too. If the temperature changes dramatically, so will the damping fluid level. Just make sure the red indicator is visible in the viewing hole. Add or drain fluid as necessary.

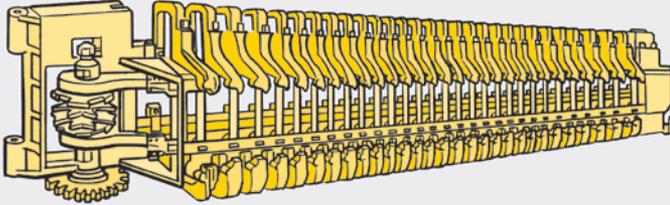


PS MORE

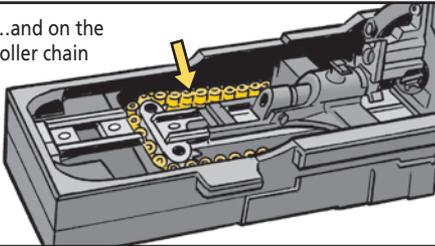
Use **TW-25B lubricant**. Units have found TW-25B works better than lubricants like grease, molybdenum disulfide (GMD), especially in the desert. GMD attracts sand, which hurts its ability to lube.

Before applying TW-25B, clean off the old grease with isopropyl alcohol. When you lube the roller chain, drive gear/bearing and the bearing surfaces where the rotor mates, apply a heavy coat of lubricant. Use a brush or a caulk or grease gun to apply it. When you're finished, white grease should be visible and plentiful.

Use TW-25B on gun parts such as the rail...



...and on the roller chain



Use a brush, cloth, or syringe to apply a light to moderate coat of TW-25B to the forward and aft tracks, bolt and cam area, bolt locking lugs, receiver walls, breech barrel support, gun support bearings, rails, and chutes. When you're finished, white grease should be slightly visible.

Make sure you don't get TW-25B on areas of the feeders that contact ammo and limit the amount you apply to areas that the feeders slide on.

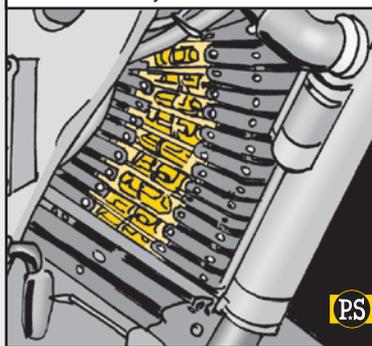
But you should still use GMD on parts of the gun not exposed to sand, such as the constant speed drive.

Order a 4-oz tube of TW-25B with NSN 9150-01-439-1873 or a 32-oz jar with NSN 9150-01-535-8687.

**Clean the contacts on the contact box.** Dirty contacts can cause a **ROUNDS DECREMENT FAIL** when you try to fire. Even a brand new electrical box for the M230 has a thin layer of anti-corrosion coating that may interfere with firing voltage. Just wipe these contacts with a clean cloth to ensure a good connection.

**Check forward flex chutes before use.** Corrosion, bent or broken links and improper installation can all cause the ammo system to jam. Even new chutes need to be inspected for proper assembly and lubrication prior to installation.

Make sure forward flex chute's straight connecting links are properly assembled **before** you install chute



PS END

# How The Vest Was Won Part 2



LAST MONTH, I BEGAN TELLING THE STORY OF THE BEST DECISION I EVER MADE!

YOU MET THE GOOD PEOPLE OF THE WAGON TRAIN HEADED WEST IN SEARCH OF BETTER LIVES...

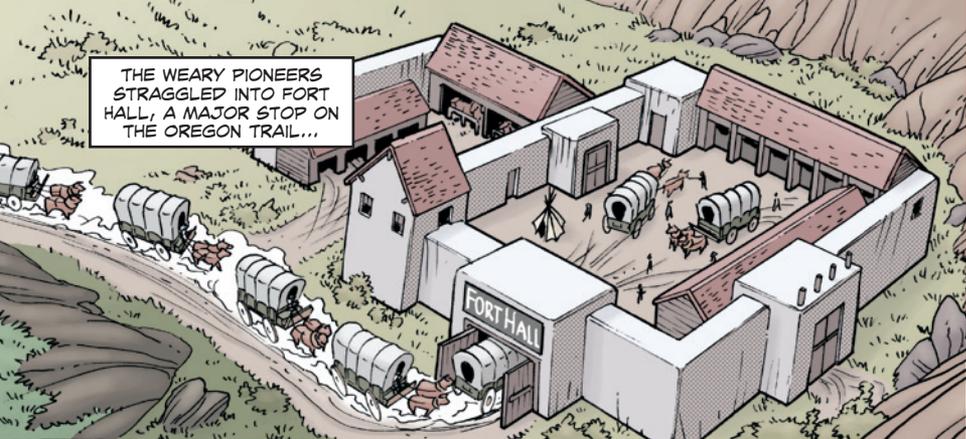
...AND YOU MET THE NE'ER-DO-WELL LEX DOILEY OF WHOM THE LESS SAID, THE BETTER.

PS 742

27

SEP 14

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



THE WEARY PIONEERS STRAGGLED INTO FORT HALL, A MAJOR STOP ON THE OREGON TRAIL...

...AND WORD SPREAD QUICK AS A JACKRABBIT THAT THERE WAS A NEW JACK-OF-ALL-WAGON-REPAIRS IN TOWN AND HIS NAME WAS...



ZEBULON MCCANICK!

ZEBULON MCCANICK!

ZEBULON MCCANICK!

ZEBULON MCCANICK!



HELLO?!



HELLO?!?

IT WASN'T LONG BEFORE ZEB'S PM COUNTERPARTS CAME OUT TO GREET HIM.

WELCOME TO FORT HALL, MISTER MCCANICK.

CALL ME ZEB!



WE'VE BEEN EAGER TO MEET YOU EVER SINCE WE HEARD YOU DID TOP-NOTCH PM ALONG THE TRAIL.



I'M GRADY BROWN, THE BLACKSMITH HERE.

HOWDY, GRADY!



CAN'T BELIEVE SO MANY OTHER FOLKS ARE DEDICATED TO PM LIKE ME!



YEP. THERE ARE SO MANY OF US HERE NOW, WE'VE EVEN STARTED A GUILD.

PS



WE'RE THE COLLABORATIVE COLLECTIVE ON THE OREGON TRAIL FOR PRESCRIBED SUCCESS (CCOTPS), OR JUST PS FOR SHORT.



MORE LIKE BS FOR SHORT!



BWA HAHA HA



ZEB, WE'D LIKE YOU TO STAY ON AND JOIN PS HERE AT FORT HALL, SERVING PIONEERS ON THE TRAIL.



FROM WHAT WE HEAR, YOU'VE EARNED THIS VEST ALREADY, SO WE MADE UP AN EXTRA ONE.



WE HOPE YOU'LL ACCEPT IT.

I-I DON'T KNOW, GRADY.



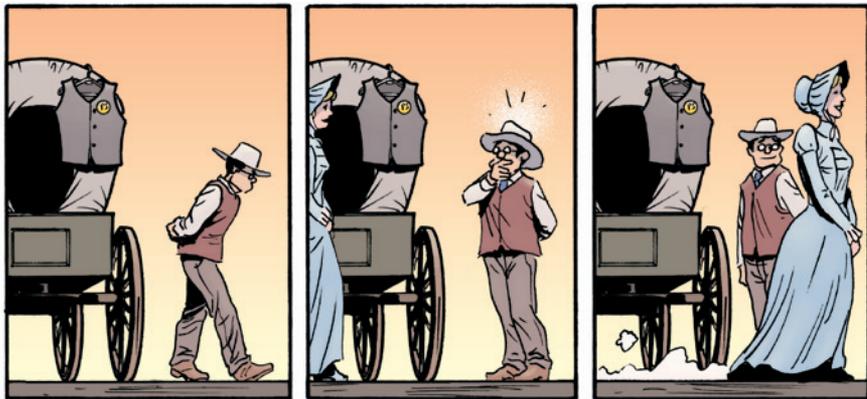
THIS IS HAPPENING SO FAST. I NEED SOME TIME TO THINK ON IT.



CAN I LET YOU KNOW LATER?

'COURSE. IF YOU DECIDE THIS IS YOUR DESTINY, JUST SHOW UP AT MY SHOP WEARING THE VEST.

NOW ZEB WAS MIGHTY FLATTERED OF COURSE, BUT THERE WAS ONE WEE OBSTACLE TO HIS SETTling DOWN AT FORT HALL TO DO PM: AND THAT WAS THE WAGON TRAIN -- WELL, **ONE PARTY** IN PARTICULAR -- WOULD HAVE TO GO ON WITHOUT HIM...



JEN-  
MISS  
WILSON!



MAY I HAVE A  
WORD WITH YOU?  
PRIVATELY?

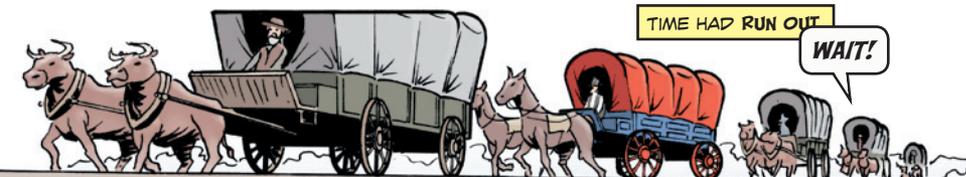


WHY SURELY,  
MISTER MCCANICK.

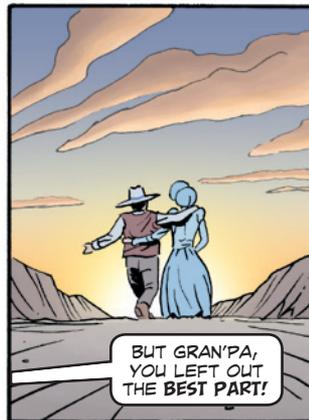
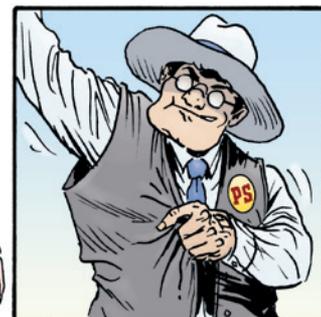
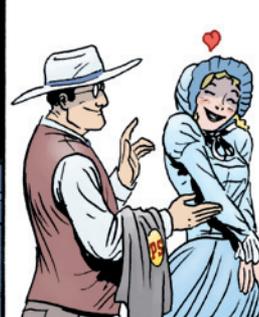


THE NEXT  
DAY CAME  
FAR TOO  
SOON FOR  
ZEB.

WAGONS,  
HO!



IN THE MERE MINUTES LEFT, POSSIBLY NO MAN IN HISTORY EVER SPOKE MORE HONESTLY, ELOQUENTLY, OR FASTER THAN ZEBULON MCCANICK.

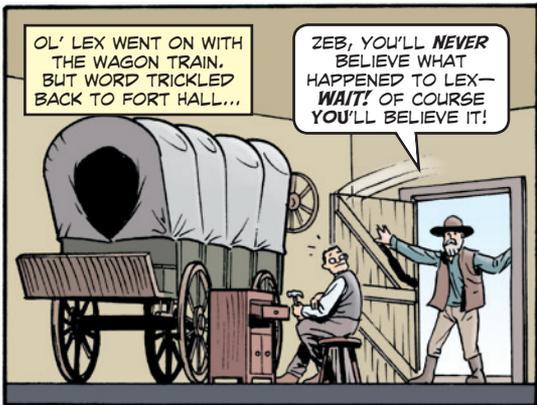


BUT GRAN'PA,  
YOU LEFT OUT  
THE BEST PART!



'BOUT WHAT  
HAPPENED  
TO LEX!

DID I? WELL,  
LEMME SEE...  
WHAT BECAME  
OF OL' LEX...



OL' LEX WENT ON WITH THE WAGON TRAIN. BUT WORD TRICKLED BACK TO FORT HALL...

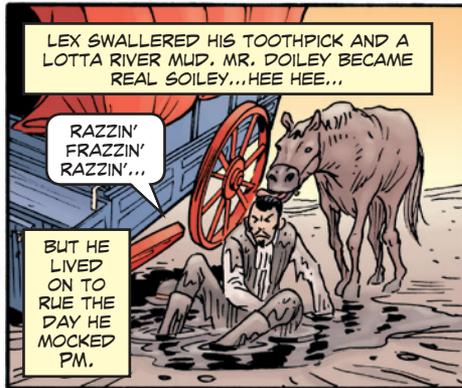
ZEB, YOU'LL NEVER BELIEVE WHAT HAPPENED TO LEX—**WAIT!** OF COURSE YOU'LL BELIEVE IT!



WHILE FORDING THE SNAKE RIVER, AN AXLE SNAPPED ON ONE OF HIS PURDY CANDY-APPLE RED WHEELS!



**SNAP!**



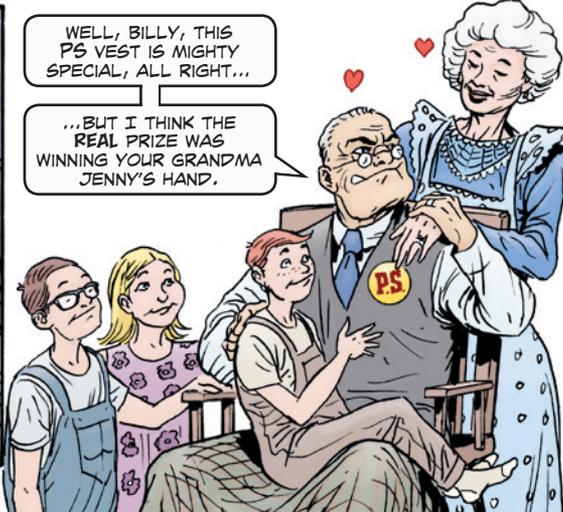
LEX SWALLOWED HIS TOOTHPICK AND A LOTTA RIVER MUD. MR. DOILEY BECAME REAL SOILEY...HEE HEE...

RAZZIN' FRAZZIN' RAZZIN'...

BUT HE LIVED ON TO RUE THE DAY HE MOCKED PM.



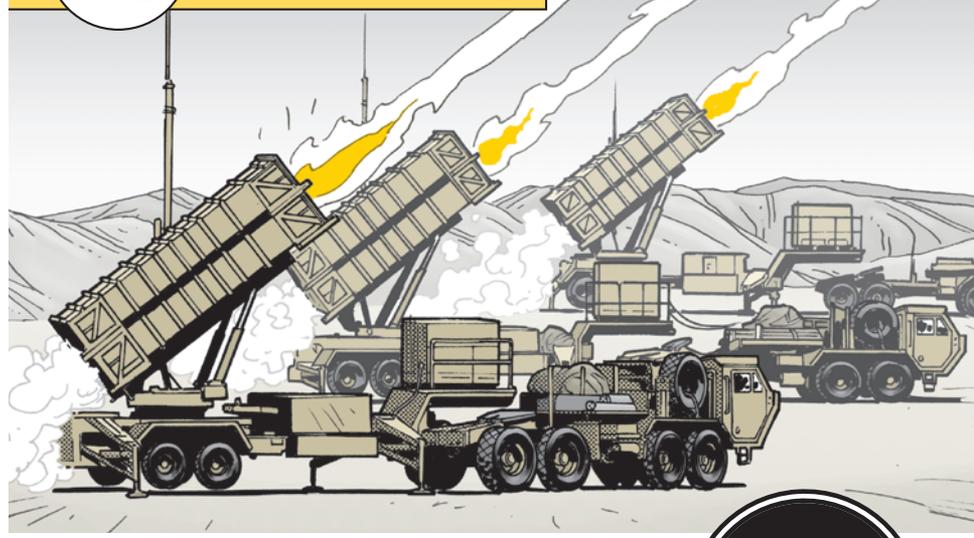
SO WAS THE VEST THE BESTEST THING YOU EVER WON?



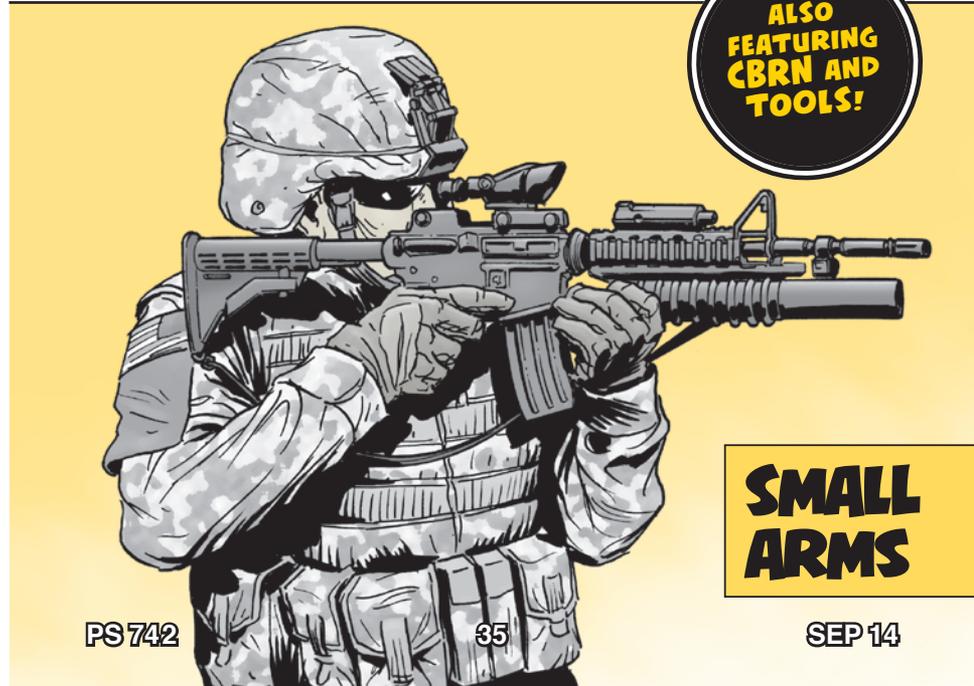
WELL, BILLY, THIS PS VEST IS MIGHTY SPECIAL, ALL RIGHT...

...BUT I THINK THE REAL PRIZE WAS WINNING YOUR GRANDMA JENNY'S HAND.

# PS MISSILES

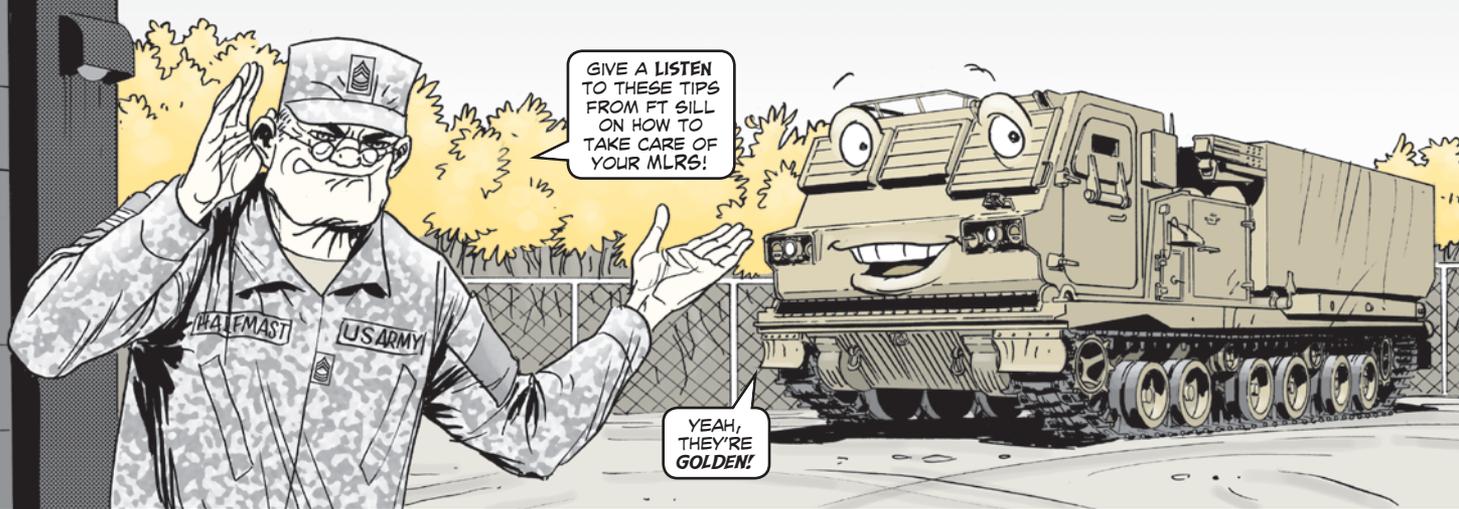


ALSO FEATURING CBRN AND TOOLS!



# SMALL ARMS

# Multiple Tips for Your MLRS

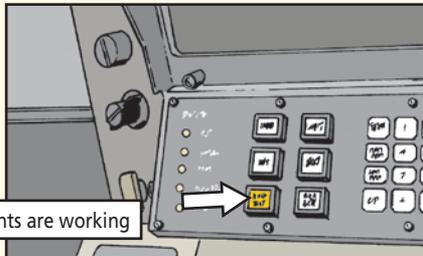


Dear Editor,

At Ft Sill, we've spotted multiple problems maintaining the MLRS launcher that these tips can prevent:

## Check Dash Lights During PMCS

If you do the lamp test, you know the warning lights are actually working. If they're not all working, you could miss something like an oil warning light that would have prevented major damage. Just push the lamp test switch and take a look at the dash lights.



Push lamp test switch to make sure dash lights are working

## Use the TM To Do PMCS and Do PMCS Step by Step

Unless you have a photographic memory, it's impossible to remember all the PMCS the MLRS requires. And, if you rush through the PMCS, you'll miss important checks like loose prop shaft bolts or loose cables. A thorough PMCS will take most of your day.

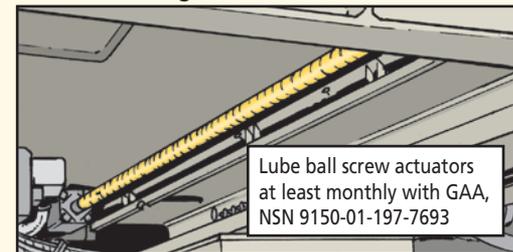
I'VE BEEN CHECKING OUT THIS MLRS FOR SO LONG, I CAN DO IT BY MEMORY!

IN YOUR DREAMS! GET THE TM SO YOU DON'T MISS ANYTHING!



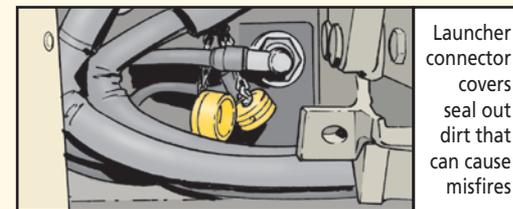
## Lube the Hoist Carriage Assembly

This is often entirely missed. Then when the pods are moved in or out you start getting screeching or jerking (signs the carriage assembly needs immediate lubing). The hoist carriage assembly ball screw actuators have lube points. Give them at least a monthly shot of GAA.



## Use the Launcher Connector Covers

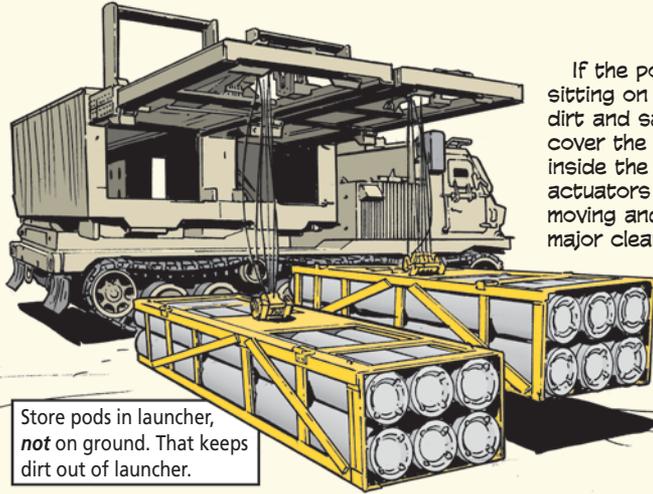
Connectors that are full of moisture and dirt will prevent a good connection with the rockets and cause misfires. Each launcher has four covers. Use them. If a cover disappears, replace it with NSN 5935-00-387-2147.



## Safety Wire the Prop Shaft Bolts or Paint White Lines on Them

If the bolts work loose, the prop shaft can take out the transmission, final drive, WBO and WB1 cables, and encoders. Tighten the prop shaft bolts to the correct torque requirement and then put a white line (or torque stripe) on them. Safety wire the bolts after they've been torqued so they stay tight. The torque stripe lets you tell at a glance if the bolts need tightening. And make sure to check the bolts daily when you're operating.

### Store the Pods in the Launcher



If the pods are left sitting on the ground, dirt and sand are free to cover the ball actuators inside the launcher. The ball actuators then have trouble moving and you have a major cleaning job.

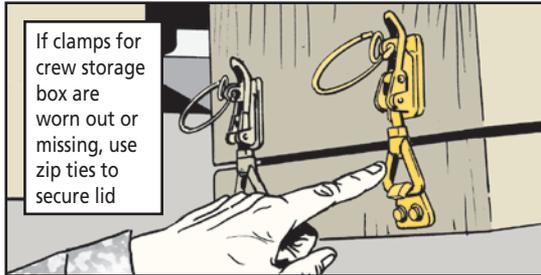
Store pods in launcher, **not** on ground. That keeps dirt out of launcher.

### Operate the PT Pump Weekly

If the pump sits for weeks without being used, it plugs up and eventually quits working.

### Use Zip Ties for Missing or Worn Out Crew Storage Box Clamps

If the clamps won't hold or are missing, the box's lid falls down. Then when the launcher is traversed, the lid takes out the cables by the launcher interface unit (LIU). Zip ties keep the lid shut. Order a new flush catch for the storage box with NSN 5340-01-145-1296.



If clamps for crew storage box are worn out or missing, use zip ties to secure lid

### Disconnect the Two Cables for the Power Takeoff (PTO) Before Pulling the Pack

This is a common mistake, especially for new repairmen. If you forget, say goodbye to the cables and PTO.

CW3 Shawn Barnes  
2/18 FAR  
Ft Sill, OK

**Editor's note:** These are multiple good tips, Chief. Thanks for all the help you're giving MLRS units.



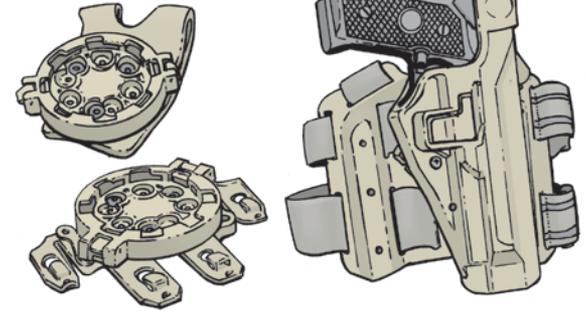
### M9 Pistol...

# NEW HOLSTERS ON THE WAY

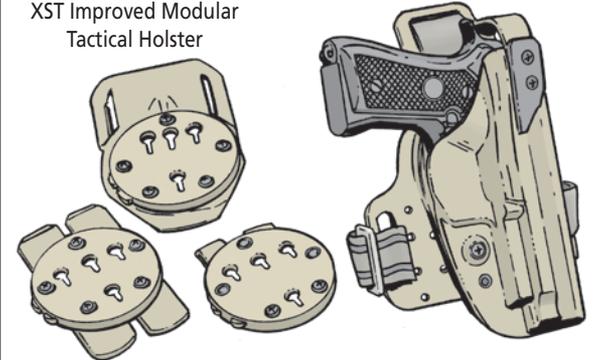
DEPLOYING UNITS ARE BEING GIVEN THE CHOICE OF TWO NEW M9 PISTOL HOLSTERS...



### Blackhawk Serpa Improved Modular Tactical Holster



### XST Improved Modular Tactical Holster



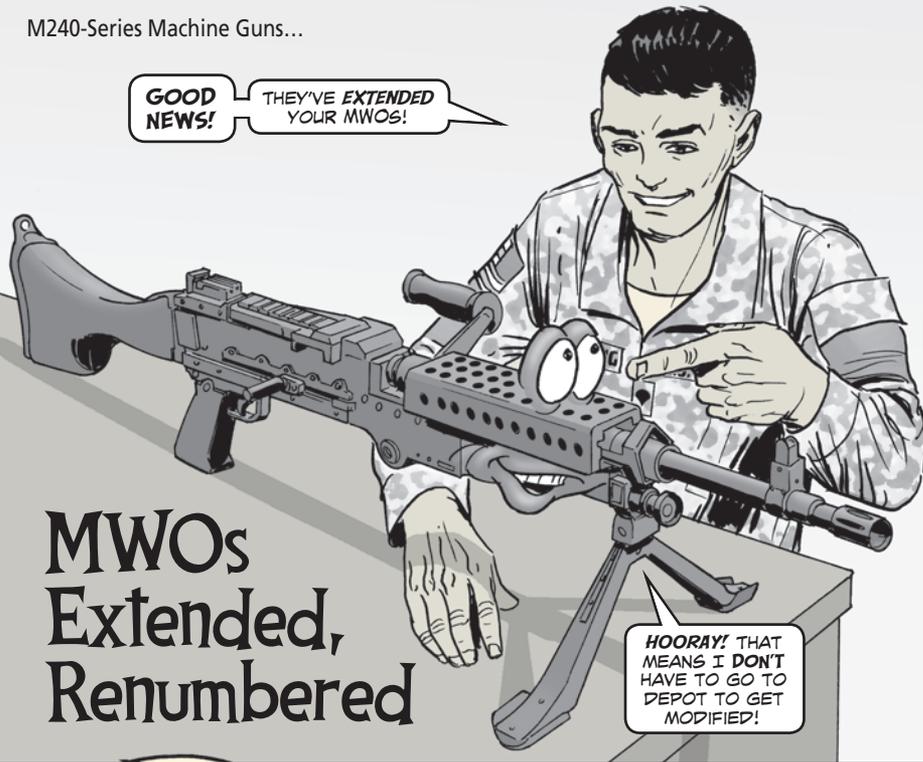
The holsters will be issued only through the rapid fielding initiative (RFI) process. For the time being, you can't order them. If you're deploying, check with your G3/G4 staff for your unit's RFI schedule.

PS will publish the holster NSNs when they become available. In the meantime, you can still order these M9 holsters:

- M12 holster, NSN 1095-01-194-3343
- M7 holster, NSN 1095-00-973-2353
- Holster shoulder harness, NSN 1095-01-247-3917
- Hip holster extender, NSN 1095-01-339-2213

GOOD NEWS!

THEY'VE EXTENDED YOUR MWOs!



HOORAY! THAT MEANS I DON'T HAVE TO GO TO DEPOT TO GET MODIFIED!

# MWOs Extended, Renumbered

THE MWOs FOR THE M240-SERIES MACHINE GUN HAVE BEEN EXTENDED, AND THE MWO NUMBERS HAVE BEEN CHANGED. HERE THEY ARE...

**M240L collapsible buttstock:**

MWO 9-1005-313-50-2 changes to MWO 9-1005-313-23-2

**M240B adjustable bipod:**

MWO 9-1005-313-50-3 changes to MWO 9-1005-313-23-3

**M240L short barrel:**

MWO 9-1005-313-50-4 changes to MWO 9-1005-313-23-4

**M240B collapsible buttstock:**

MWO 9-1005-313-50-1 changes to MWO 9-1005-313-23-5

ALL FOUR MWOs ARE DATED 2 OCT 13, WHICH MEANS YOU HAVE UNTIL 2 OCT 18 TO GET THEM COMPLETED.

THE MWOs SHOULD BE ARRANGED THROUGH YOUR MWO COORDINATOR.

# What Is New MWO Number?

DIDJA HEAR I'VE GOT A NEW BUTTSTOCK MWO?

NEWS TO ME!



Dear Master Sergeant Half-Mast, I know there is a new MWO for the M249 machine gun, but I can't find it. Can you help?  
MSG B.C.

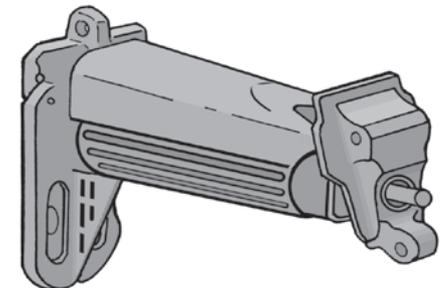


Dear Master Sergeant,

Certainly. MWO 9-1005-201-23-1 replaces MWO 9-1005-201-50-2 as the MWO to replace the M249's buttstock with the lightweight collapsible buttstock. It's dated 1 Aug 13, which means you have until 1 Aug 18 to have your M249s modified.

The work will be done by your field level repair, but needs to be arranged through your MWO coordinator.

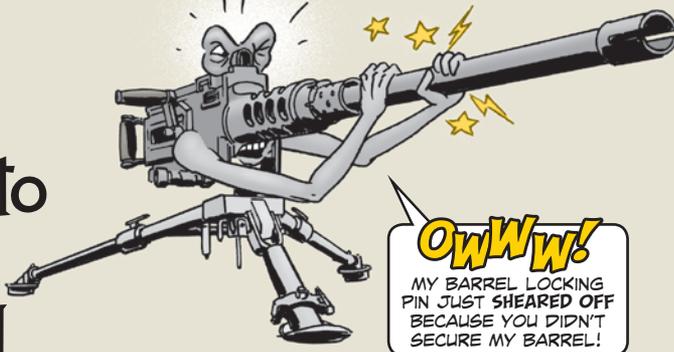
Remember that once the MWO is done, the collapsible buttstock becomes the standard buttstock. The old buttstock should be turned in.



Lightweight collapsible buttstock replaces old buttstock

*Half-Mast*

# Raise Cover to Save Barrel



Dear Editor,  
I've noticed with the new M2A1 machine gun that Soldiers sometimes don't secure the barrel correctly. As a result, the barrel shifts during firing and the locking pin shears off. Then you must replace the whole \$1,200 barrel.

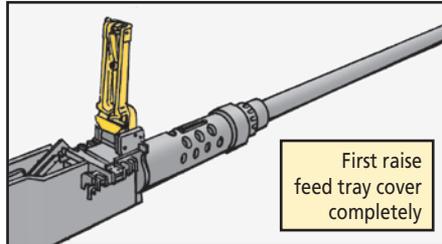
If Soldiers will first completely raise the feed tray cover, they can easily see whether or not the locking pin is secured in the retention slot. That quick check will save barrels of trouble.

CW2 Gerard Clohessy  
501 Sustainment Bde  
Camp Carroll, S. Korea

**Editor's note:**

*Good point, Chief. Soldiers need to follow the barrel installation procedure that begins on WP 0005-00-2 in TM 9-1005-347-10.*

*Raise the feed tray cover all the way up. Grasp the retracting slide handles to align the barrel locking spring lug with the 3/8-in hole in the right side of the receiver while inserting the barrel.*

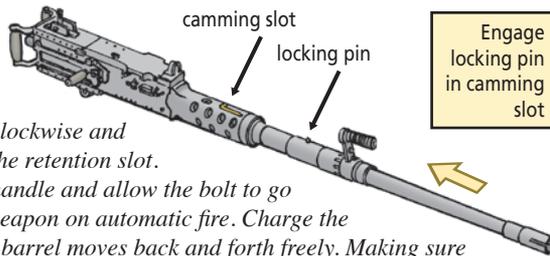


First raise feed tray cover completely

Insert the barrel into the barrel support until the locking pin engages the camming slot.

Then rotate the barrel clockwise and secure the locking pin in the retention slot.

Release the retracting handle and allow the bolt to go forward. Then place the weapon on automatic fire. Charge the weapon to ensure that the barrel moves back and forth freely. Making sure the barrel moves back and forth while charging verifies the barrel is secure.



Engage locking pin in camming slot

# STAY ON SOLID GROUND WITH CORRECT GROUNDING SCREW

Not just any screw will do when it comes to the grounding screw for the AN/PSQ-23 and -23A small tactical optical rifle mounted (STORM) laser range finder.

If you use the wrong screw, it can pierce the exterior of the STORM. That lets in moisture and debris, which ultimately can ruin the STORM. The only fix is to replace it.

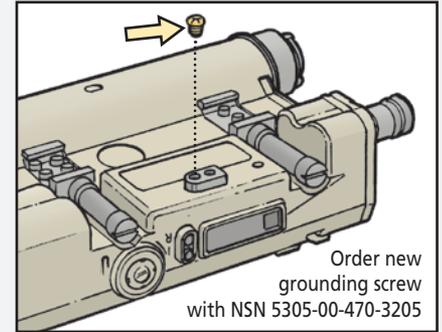
If the grounding screw is missing or damaged, order a new one with NSN 5305-00-470-3205. See TM 9-5855-1913-13&P and TM 9-5855-1920-13&P for guidance, instructions and procedures.

If you have STORM questions, contact TACOM's Dennis Timmons at DSN 786-1371, (586) 282-1371, or email:

[dennis.c.timmons.civ@mail.mil](mailto:dennis.c.timmons.civ@mail.mil)

Or Anthony Smith at DSN 786-1233, (586) 282-1233, or email:

[anthony.g.smith30.civ@mail.mil](mailto:anthony.g.smith30.civ@mail.mil)



Order new grounding screw with NSN 5305-00-470-3205

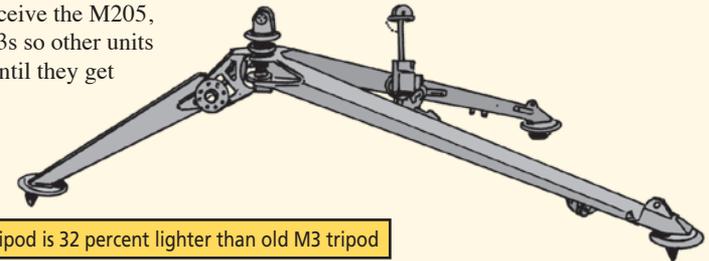
# New Tripod a Lighter Load

Good news for Soldiers who have to lug around the M3 tripod for the M2/M2A1 and MK 19 machine guns. The Army is now fielding the new M205 lightweight tripod. At 34 pounds, it's 32 percent lighter than the M3.

The M205 includes an integral traverse and elevating mechanism.

The Army began fielding the M205 in October, 2013. Fielding will continue for the next 4-5 years, so it may be a while before your unit receives the M205.

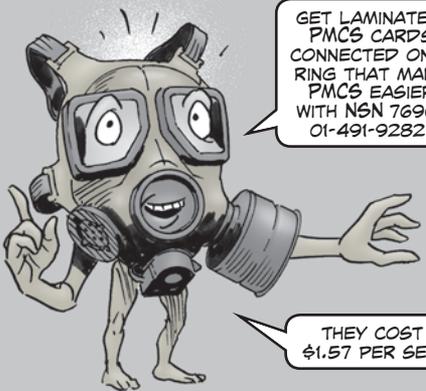
Once you receive the M205, turn in your M3s so other units can use them until they get the M205.



New M205 tripod is 32 percent lighter than old M3 tripod

# MAKE SURE YOUR M40/M42 MASK IS READY FOR ACTION WITH THESE CHECKS!

PROBLEMS?  
TELL YOUR CBRNE SPECIALIST!



GET LAMINATED PMCS CARDS CONNECTED ON A RING THAT MAKE PMCS EASIER WITH NSN 7690-01-491-9282.

THEY COST \$1.57 PER SET.

See TM 3-4240-346-10 for more information.

**Face Piece**  
 • deformed enough to prevent easy donning?

**Lens**  
 • broken?  
 • cracked?  
 • scratched?  
 • discolored?

**Side Voicemitter**  
 • loose retaining ring?  
 • missing gasket?  
 • voicemitter installed wrong (bumps should point out)?

**Outlet Valve Seat**  
 • damaged?  
 • dirty?  
 • corroded?

**Outlet Valve Disk**  
 • damaged?  
 • dirty?  
 • missing?

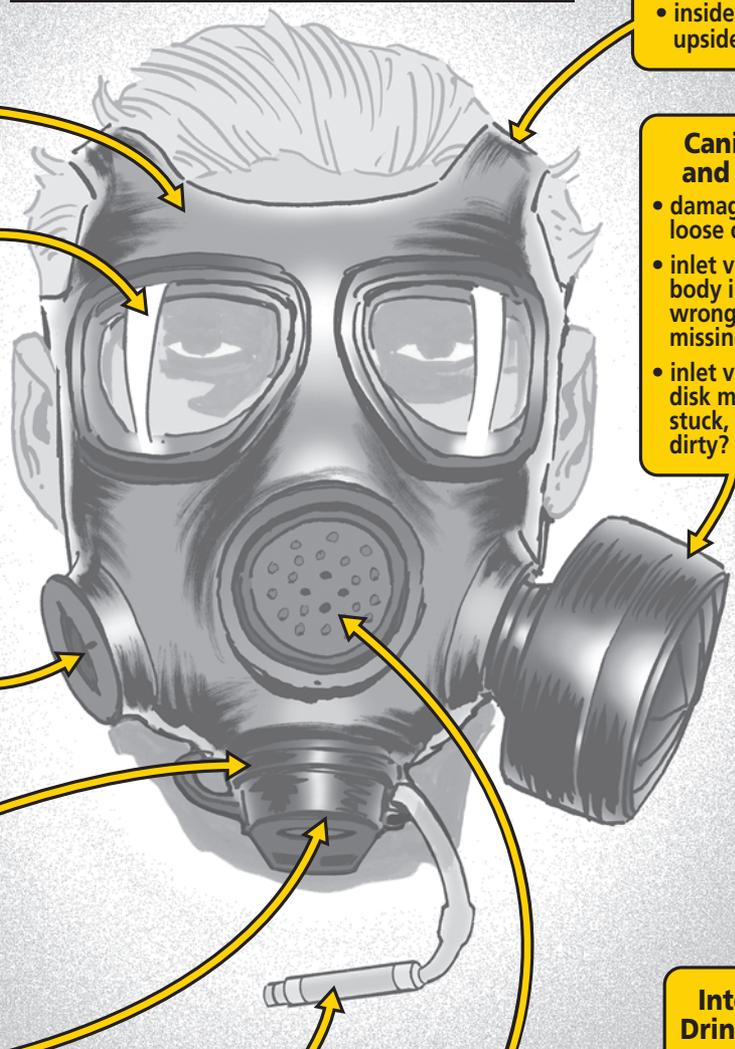
**Drink Tube Quick Disconnect**  
 • clogged? • leaking?

**Front Voicemitter**  
 • loose retainer?

**Head Harness**  
 • inside out or upside down?

**Canister and Port**  
 • damaged or loose canister?  
 • inlet valve body installed wrong or missing?  
 • inlet valve disk missing, stuck, or dirty?

**Internal Drink Tube**  
 • coupling sheared off?  
 • drink tube missing?

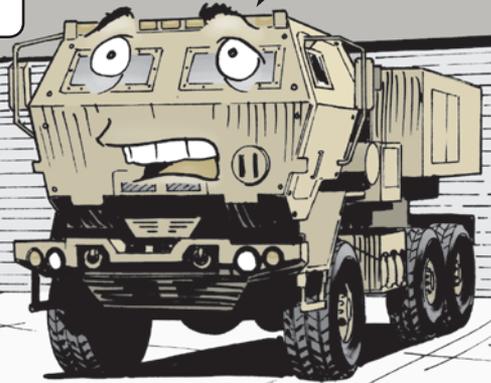


# WHAT'S BIANNUAL MEAN?

THIS SAYS YOUR SHOCK ABSORBERS SHOULD BE REPLACED DURING BIANNUAL SERVICES.

DOES THAT MEAN EVERY OTHER YEAR OR EVERY SIX MONTHS?

EVERY OTHER YEAR IS WHAT IT SHOULD MEAN.



Dear Half-Mast,  
Page 46 in PS 734 (Jan 14) said that the HIMARS shock absorbers should be replaced as part of the biannual services. "Biannual" can mean twice a year or every two years. Which is it?

CW2 D.A.



CHIEF, BECAUSE IT HAS TWO MEANINGS, "BIANNUAL" WAS A POOR CHOICE OF WORDS. THE TERM WE SHOULD HAVE USED IS "BIENNIAL." THE SHOCK ABSORBERS SHOULD BE REPLACED EVERY TWO YEARS. SORRY FOR THE CONFUSION.

# Line Up For SATS Tool Layout

Dear Half-Mast,  
When I try to use the drawer tool layout in the SATS TM, the tools don't line up with the layout. Is there a better drawer layout available that would simplify inventory?

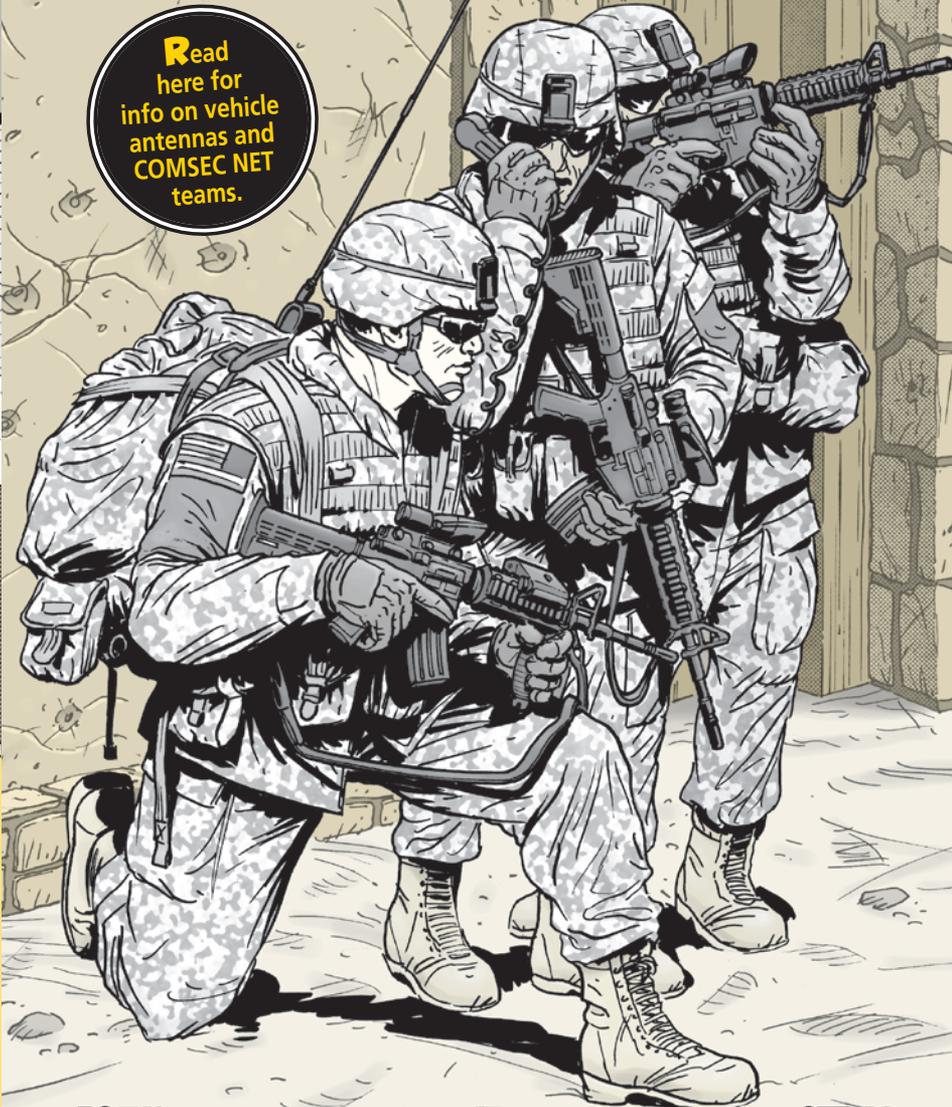
SFC R.B.

YOU BET, SERGEANT! TACOM HAS MADE A DETAILED DRAWER LAYOUT THAT CAN MAKE TRACKING SATS TOOLS A SNAP.

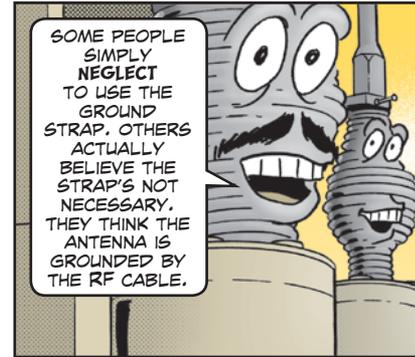
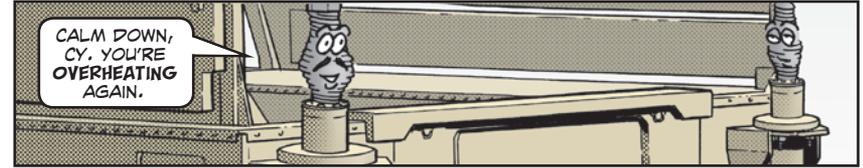
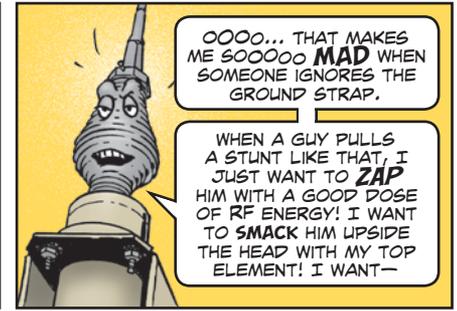
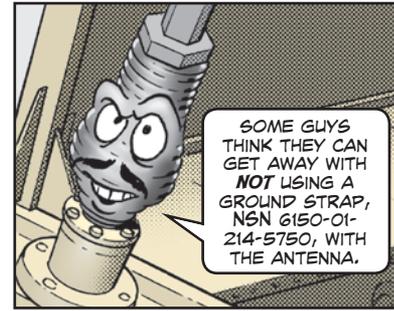
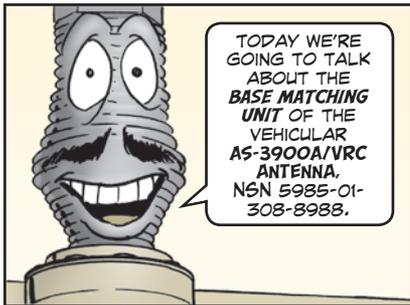
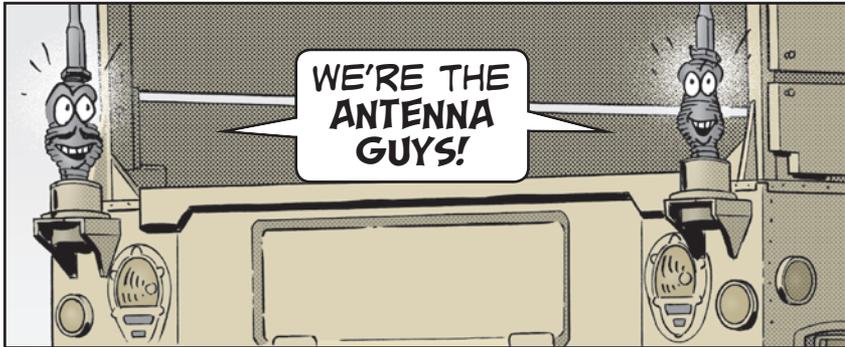
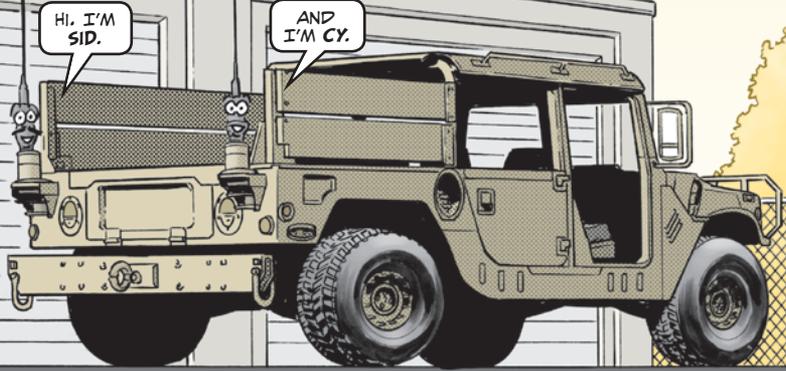
GET A COPY OF THE LAYOUT BY CONTACTING TACOM'S LAURA BETTCHER AT DSN 786-0301, (586) 282-0301, OR EMAIL: [laura.m.bettcher.civ@mail.mil](mailto:laura.m.bettcher.civ@mail.mil)



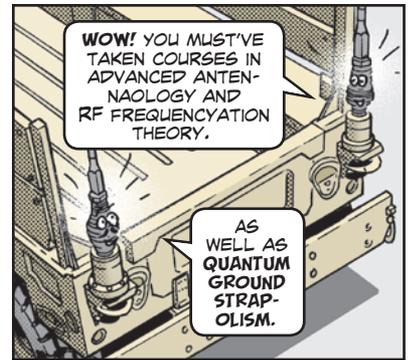
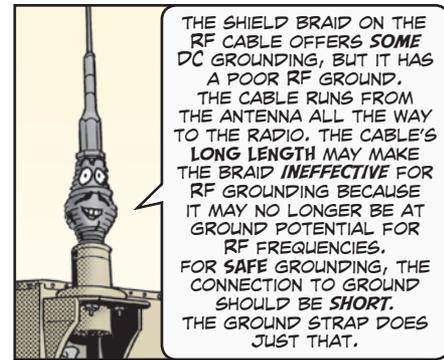
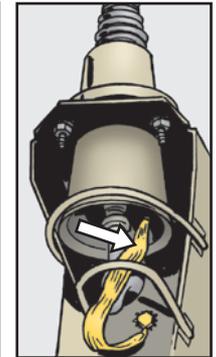
Read here for info on vehicle antennas and COMSEC NET teams.



# SID AND CY, THE ANTENNA GUYS IN "CHECK OUT MY MATCHING UNIT"



BUT HERE ARE THE **FACTS**: THE ANTENNA **MUST** HAVE A WORKING GROUND STRAP THAT RUNS FROM THE BASE MATCHING UNIT TO THE VEHICLE. WITHOUT THE GROUND STRAP, YOUR RADIO IS **NOT** FULLY MISSION CAPABLE.



THE GROUND STRAP ALSO HELPS EQUALIZE THE ELECTRICAL DIFFERENCE BETWEEN THE ANTENNA AND THE VEHICLE.

THAT'S FOR YOUR SAFETY AND THE EQUIPMENT'S SAFETY IF THE ANTENNA CONTACTS A POWER LINE, TAKES A LIGHTNING STRIKE OR IS EXPOSED TO AN ELECTRO-MAGNETIC PULSE.

SO, MAKE SURE YOU HAVE A GROUND STRAP RUNNING FROM THE AS-3900A/VRC ANTENNA BASE MATCHING UNIT TO THE VEHICLE.

AND MAKE SURE THE CONNECTIONS ARE TIGHT AND METAL TO METAL.



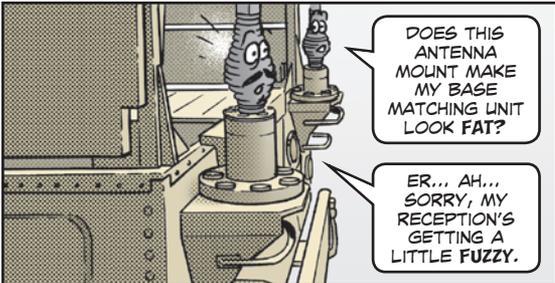
HERE'S THE HARDWARE YOU'LL NEED...

Item	Qty	NSN
Screw to hold ground strap to base	1	5305-01-225-2589
Lock washer for base connection	1	5310-01-205-9199
Bolt to hold ground strap to vehicle	1	5306-00-225-9086
Lock washer for vehicle connection	2	5310-00-889-2527



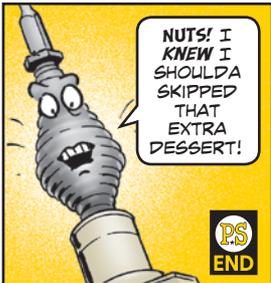
THE TWO LOCK WASHERS FOR THE VEHICLE CONNECTION HAVE **GRIPPING TEETH**. THE TEETH SCORE THE PAINT ON YOUR VEHICLE AND ENSURE GOOD METAL-TO-METAL CONTACT.

PUT ONE LOCK WASHER ON THE BOLT. NEXT, PUT THE GROUND STRAP LUG AND THE OTHER LOCK WASHER ON THE BOLT. THEN SCREW THE BOLT INTO THE VEHICLE.



DOES THIS ANTENNA MOUNT MAKE MY BASE MATCHING UNIT LOOK FAT?

ER... AH... SORRY, MY RECEPTION'S GETTING A LITTLE FUZZY.



NUTS! I **KNEW** I SHOULD'VE SKIPPED THAT EXTRA DESSERT!



Communications Security...

# NET Team on the Job

DO YOU NEED TRAINING ON COMMUNICATIONS SECURITY (COMSEC) EQUIPMENT?

THE COMSEC NEW EQUIPMENT TRAINING (NET) TEAM CAN HELP YOU GET THE KNOWLEDGE AND SKILLS YOU'RE LOOKING FOR.



COURSES ARE TAUGHT BY A **HIGHLY TRAINED** STAFF OF DEPARTMENT OF ARMY CIVILIANS WITH MANY YEARS OF COMBINED EXPERIENCE.

STUDENTS GET **HANDS-ON** TRAINING ON A WIDE VARIETY OF ARMY-APPROVED COMSEC EQUIPMENT.

- STUDENTS LEARN ABOUT...
- doctrine.
  - policy.
  - operations.
  - field-level maintenance.
  - troubleshooting.
  - preventive maintenance checks and services.
  - warranties.



THE NET TEAM CAN TRAVEL TO YOUR UNIT'S LOCATION TO TRAIN YOU.

OR YOU CAN ATTEND THE TRAINING FACILITY AT THE CECOM COMMUNICATIONS SECURITY LOGISTICS ACTIVITY (CSLA) NET BRANCH AT FT HUACHUCA, AZ.



FOR INFORMATION, CONTACT CSLA'S ENRIQUE HERNANDEZ AT DSN 879-2122, (520)538-2122, OR EMAIL: [enrique.r.hernandez.civ@mail.mil](mailto:enrique.r.hernandez.civ@mail.mil)

LOGISTICS IS MORE THAN JUST COMPUTERS! IT'S ALL THE THINGS THAT MAKE MAINTENANCE AND SUPPLY ACTIONS POSSIBLE.



Read about EMS NG viewers, manufactured tools, the revised AR 750-43, and nonexpendable COEI on property books.

SURE, SERGEANT! WE CAN PRINT ANYTHING ON ANYTHING! T-SHIRTS, COFFEE MUGS, MOUSE PADS-



HOW 'BOUT THE EMS NG VIEWER ON MY MSD? CAN YOU MAKE THAT PRINT ANYTHING AT ALL?



IT'S NOT MY FAULT! CALL CLOE INSTEAD! SHE CAN HELP!



WE MAY LIVE IN THE DIGITAL ERA, BUT THERE ARE STILL TIMES WHEN A PRINTED COPY COMES IN HANDY.

FORTUNATELY, THE ELECTRONIC MAINTENANCE SYSTEM-NEXT GENERATION (EMS NG) VIEWER ALLOWS YOU TO PRINT OUT INFORMATION FROM INTERACTIVE ELECTRONIC TECHNICAL MANUALS (IETMS).



HEY WHAT GIVES?! THIS PRINTOUT DOESN'T LOOK LIKE THE TM!

BE AWARE THAT AN IETM PRINTOUT WILL LOOK MORE LIKE A PRINTED WEB PAGE THAN A PAGE FROM A TRADITIONAL PAPER TM. IT INCLUDES THE SAME TECHNICAL CONTENT AS THE PAPER TM, BUT MAY NOT SHOW PAGE NUMBERS, HEADERS OR FOOTERS.



OH, THAT'S OK THEN.



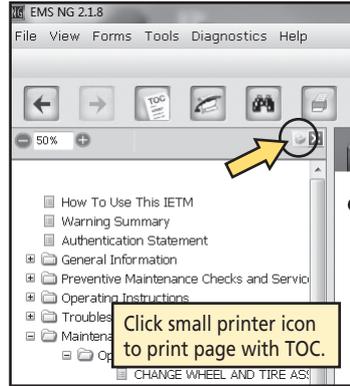
## Printing the Table of Contents

TO PRINT THE ENTIRE WINDOW, INCLUDING THE LEFT-HAND TOGGLE TABLE OF CONTENTS (TOC), DO THE FOLLOWING...

IT'S JUST TO THE LEFT OF THE RED "X" (CLOSE) ICON AT THE TOP RIGHT SIDE OF THE TOC WINDOW.

WHEN THE TABLE OF CONTENTS IS OPEN, CLICK THE SMALL PRINTER ICON.

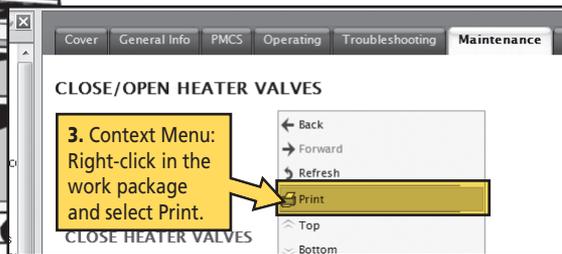
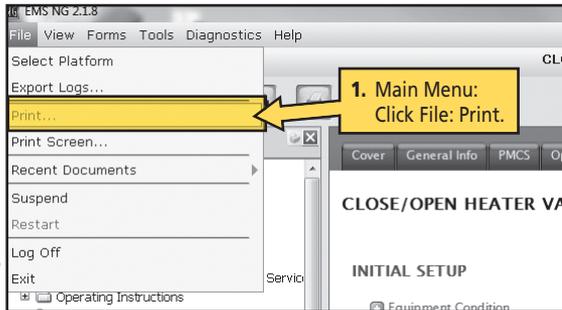
THE FOLDERS CURRENTLY EXPANDED OR COLLAPSED WILL PRINT.



Click small printer icon to print page with TOC.

## Printing an Entire Work Package

TO PRINT AN ENTIRE WORK PACKAGE (EXCLUDING TROUBLESHOOTING PROCEDURES), USE ONE OF THESE THREE METHODS...



## Printing Troubleshooting Procedures

BECAUSE TROUBLESHOOTING PROCEDURES ARE INDIVIDUAL TRACKS RATHER THAN COMPLETE WORK PACKAGES, PRINTING ONE OF THESE PROCEDURES IS SLIGHTLY DIFFERENT THAN PRINTING OTHER PARTS OF AN IETM.

OPEN THE PRINT WINDOW USING ONE OF THE THREE METHODS ON THE PREVIOUS PAGE.

BUT BEFORE THE PRINT BOX DIALOG OPENS, SELECT THE OPTION TO PRINT THE ENTIRE TROUBLESHOOTING WORK PACKAGE OR THE CURRENTLY SELECTED TRACK.

CLICK **OK** TO PRINT THE COMPLETE TROUBLESHOOTING PACKAGE, OR **CANCEL** TO PRINT ONLY THE CURRENT TRACK.

You have the option of printing the entire Work Package, which includes all tests with state in the order in which they were authored, or you can print only the currently displayed test with state.

Click OK if you wish to print the entire Work Package. Click Cancel if you wish to print only the currently displayed test with state.

OK Cancel

## Print Screen

THE PRINT SCREEN COMMAND, ACTIVATED FROM THE FILE MENU, TAKES A COMPLETE SNAPSHOT OF THE CURRENT VIEW, INCLUDING THE TOC AND ALL MENUS.

USE THE PRINT SCREEN FUNCTION TO DOCUMENT ANY ISSUE THAT YOU NEED TO INCLUDE IN AN EMS SUPPORT REQUEST.

Service Brake(s) Fails to Release Properly

INITIAL SETUP

Item Name	NSN	Part No.	Reference
Tool Kit, General Mechanics	5180-01-483-0249	5180-95-847	nbsp;
Classes, Safety	5180-01-483-0249	5180-95-847	nbsp;

Personnel Required

Personnel	Quantity
nbsp;	Two

Equipment Condition

Condition

Engine OFF.

Parking brake applied.

PROBLEMS OR QUESTIONS? SUBMIT A TICKET TO THE EMS NG HELP DESK AT:  
<http://www.ems-helpdesk.com>  
 CALL THE HELP DESK AT 1-877-445-1780 OR EMAIL:  
[support@ems-helpdesk.com](mailto:support@ems-helpdesk.com)



# ANY LIMITS ON MANUFACTURED TOOLS?



WONDERING ABOUT MANUFACTURED OR SPECIAL TOOLS?

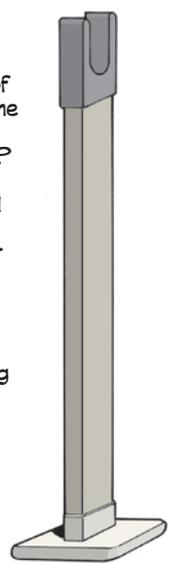
A READER'S QUESTION LED ME TO EXPLORE THIS TOPIC.

Dear Half-Mast,  
Is there any guidance or a formula for determining quantities of manufactured tools in the "List of Manufactured Items" sections in TMs?

Without guidance, it seems a command could order one manufactured tool made or bought per vehicle. In this time of tight resources, units can hardly afford to make or purchase items just to have them sitting in a shop.

Mr. R.B.

Cab support tool was covered on [Page 5 of PS 735 \(Feb 14\)](#)



THANKS FOR YOUR QUESTION AND CONCERNS, SIR.

JUST TO MAKE THE TOPIC CLEAR FOR READERS, MANUFACTURED OR "MAKE-FROM TOOLS" ARE FABRICATED BY UNITS TO TM SPECIFICATIONS.

THEY ARE MADE OUT OF PRESCRIBED BULK MATERIALS.



THIS MATERIAL IS CONSIDERED CONSUMABLE EXPENDABLE, TYPICALLY CLASS IV OR IX, AND HAS NO SUPPLY ACCOUNTABILITY BEYOND WHAT'S COVERED IN AR 710-2, SUPPLY POLICY BELOW THE NATIONAL LEVEL.

THE BASIC RULE OF THUMB IS DON'T WASTE CONSUMABLE ITEMS.



THERE'S NO QUANTITY LIMIT ON MANUFACTURED TOOLS. UNITS CAN MAKE AS MANY "MAKE FROM" TOOLS AS NEEDED TO SUPPORT THEIR EQUIPMENT.

WILL THAT LEAD TO RAMPANT WASTE OF RESOURCES? NOT LIKELY NOW, AND EVEN LESS LIKELY IN THE FUTURE. THAT'S BECAUSE NEW TMS GENERALLY NO LONGER INCLUDE "MAKE FROM" TOOLS.

ANY OR ALL TOOLS NEEDED TO SUPPORT A SYSTEM MUST NOW BE ACQUIRED, PROVISIONED AND FIELDIED WITH THAT SYSTEM BY THE SYSTEM'S PROJECT MANAGER. THESE FORMERLY "MAKE FROM" TOOLS ARE THEN INCLUDED IN THE TM'S SPECIAL TOOLS LIST.

THE QUANTITY OF SPECIAL TOOLS IS SPECIFIED IN THE REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL) PORTION OF TMS.

THE QUANTITY REQUIRED IS THEN FIELDIED TO THE MAINTENANCE ACTIVITY THAT SUPPORTS THE FIELDIED SYSTEM.

## AR 750-43 Revised

A MAJOR REVISION TO AR 750-43, ARMY TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (MAINTENANCE OF SUPPLIES AND EQUIPMENT), WENT INTO EFFECT IN JANUARY 2014. UPDATES INCLUDE...

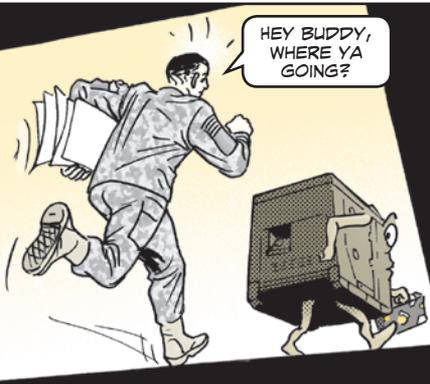
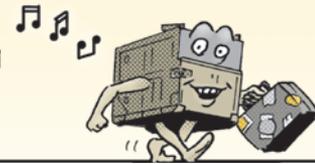
- Army test, measurement and diagnostic equipment (TMDE) administration and policy.
- test program set policy and management.
- embedded diagnostics, embedded prognostics, interactive electronic technical manuals and related data considerations and policy.
- adding commanders with a calibration and repair support mission.
- the Army TMDE Calibration and Repair Support program.
- TMDE acquisition.
- disposition instructions.
- internal control evaluation.
- terminology changes.



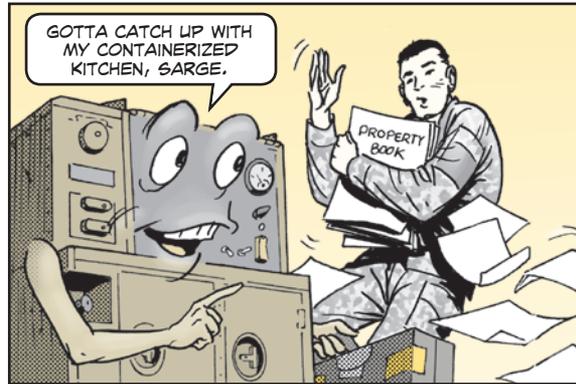
Download the regulation at [http://www.apd.army.mil/pdf/files/r750\\_43.pdf](http://www.apd.army.mil/pdf/files/r750_43.pdf)

Be sure to also download the revised, related DA Pam 750-43 from the APD website at <http://www.apd.army.mil/>

# PROPERTY BOOK PUZZLER

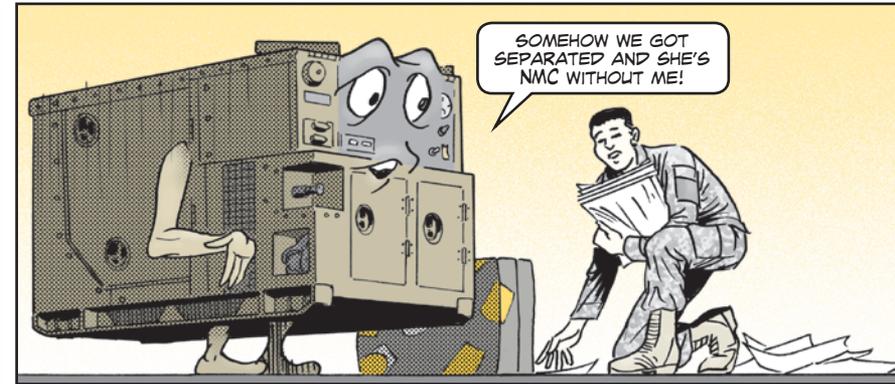


HEY BUDDY, WHERE YA GOING?



GOTTA CATCH UP WITH MY CONTAINERIZED KITCHEN, SARGE.

PROPERTY BOOK

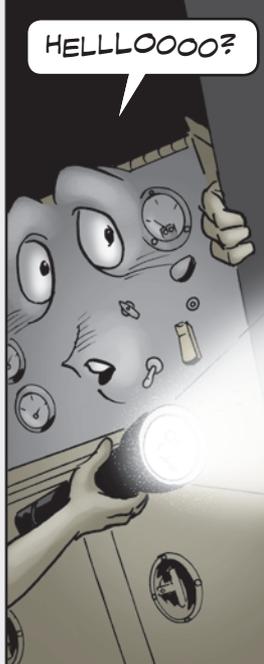


SOMEHOW WE GOT SEPARATED AND SHE'S NMC WITHOUT ME!

Dear Half-Mast,  
What's the right way to account for Class 7, nonexpendable items that are components of end items (COEIs)? My unit has items like generators listed separately on the property book from the containerized kitchens they're used with.

It seems that this either causes the components to be laterally transferred or turned in. That makes the end item non-mission capable or results in the end item being transferred while its components are left listed on the property book. What's the solution?

SGT T.J.A.



HELLLOOOO?

Dear Sergeant,

Take heart. You're not the first supply sergeant to suffer a headache from finding multiple miscellaneous pieces floating around on the property book. If a component has authorization from the MTOE or TDA, it will always be listed separately on the property book. Fortunately, the Army's got a solution for this now.

A recent PBUSE update lets users enter nonexpendable COEI in the system number (SYSNO), while still having the reporting and traceability required by AR 710-3, Inventory Management Asset and Transaction Reporting System (Sep 09).

This means that generators that are COEI to containerized kitchens, as in your example, can now be annotated in the SYSNO, without listing them on the primary hand receipt.

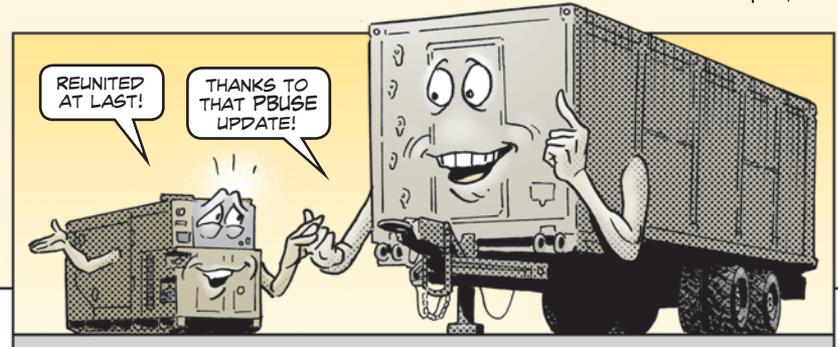
Be patient with your property book officer as he adjusts primary hand receipts to conform to this new procedure. This change should also help get the property book more orderly in time for the Wave 2 GCSS-Army transition.

For more guidance in supply, be sure to visit the CSDP and Property Accountability Knowledge Center at: <https://www.us.army.mil/suite/page/670916>

Questions or supply problems? Click the "Ask the Expert" resource button in the CSDP center or email:

[usarmy.lee.tradoc.mbx.pa-csdp-helpdesk@mail.mil](mailto:usarmy.lee.tradoc.mbx.pa-csdp-helpdesk@mail.mil)

Half-Mast



REUNITED AT LAST!

THANKS TO THAT PBUSE UPDATE!

# Connie's POST SCRIPTS

## Training for Legacy Equipment

Need some help running older equipment? TACOM's Unit Training Assistance Program (UTAP) newsletter can help. Each issue now features a "Throwback Section" that covers training for those older pieces of equipment still in use. Look under the newsletters/posters tab at:

<https://utap.army.mil>

For training info on old and current equipment, contact UTAP's customer assistance team at DSN 786-4276, (586) 282-4276, or e-mail: [usarmy.detroit.tacom.mbx.ilsc-utap@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-utap@mail.mil)

## TEST SET NEEDS CALIBRATION?

Do you have a TS-3920C/ASM computer test set (CTS), NSN 6625-01-529-3346, for your Black Hawk? If it needs calibration, send it directly to the manufacturer, Ultrax Aerospace Inc., at the address below:

Ultrax Aerospace Inc.  
4200 NE Sun Court  
Lee's Summit, MO 64064

For more information, contact the CECOM item manager, Eugene Lloyd, at DSN 648-1258, (443) 395-1258 or email:

[eugene.m.lloyd.civ@mail.mil](mailto:eugene.m.lloyd.civ@mail.mil)

or Jay Horting at 816-594-4451 or email:

[j.horting@ultraxinc.com](mailto:j.horting@ultraxinc.com)

## STE-M1/FVS Not Needed With Some Bradleys

If your unit now has Bradley A3 or ODS-SA variants, you'll no longer need STE-M1/FVS test equipment. These vehicles come equipped with embedded diagnostics. Excess STE-M1/FVS sets can be turned in by contacting TACOM LCMC's Angela Zender at DSN 786-7431, (586) 282-7431, or by e-mail at:

[angela.m.zender.civ@mail.mil](mailto:angela.m.zender.civ@mail.mil)

The STE-M1/FVS should be complete and include all critical test sets. Do not remove any items prior to turn-in.

## BHL Maintenance Video

A backhoe loader (BHL) maintenance video is available through the Unit Training Assistance Program (UTAP) at TACOM LCMC. The video covers engine components, how to find top dead center (timing chain and valve train system) and timing of the injector pump. Check it out before you replace or service BHL components. To view or download the video, go to: <https://utap.army.mil>

Once you've logged in, click the button on the Home Page titled BHL Finding Top Dead Center & Injector Pump Timing. Then download the .wmv file on that page.

## BHL Secondary Air Filter

Get a new secondary air filter for your backhoe loader (BHL) with NSN 2940-01-566-5009. It replaces NSN 2940-01-546-4655, which is shown as Item 2 in Fig 5 of TM 5-2420-231-24P (Jun 13). That NSN is a terminal item.

## LEAK TEST FIXTURE PART NSN INCORRECT

Get a new push-type air hose fitting for the one-man life raft with NSN 4730-00-516-3826. NSN 4730-00-416-3826, which is listed as Item 33 on WP 0392 00-2 in TM 1-1680-377-13&P-4 (Mar 12, w/Ch 1, May 13), is the wrong NSN.

## 6K FORKLIFT BATTERY STRAP

Get the rubber retaining strap for the battery box on your 6K variable reach rough terrain forklift with NSN 2540-01-152-7764. NSN 5340-01-156-6776, which is shown as Item 2 in Fig 68 of TM 10-3930-660-24P (Aug 12), brings the wrong strap.

## HYEX Fuel Filter Interval

Item 9 in WP 0310-6 of TM 5-3805-294-23-2 (May 12) says the HYEX's lubricity filter should be replaced every 500 hours. That's wrong. Replace the filter every 250 hours like it says on the side of the filter. Make a note until the TM is updated.

## Hooking Up ESSS Wings To UH-60A

When you hook up the extended stores support system (ESSS) wings to your Black Hawk A-model and find you don't have the small electrical lead that attaches to the airframe, order NSN 6150-00-811-4540. Use NSN 6150-01-167-9104 as an alternative in a pinch.

## GCSS-Army Reminder

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

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

Or sign up to get automatic notifications at: <https://gcss.army.mil/Support/register.aspx>

## STROLL DOWN NOSTALGIA LANE

Comic collectors and history buffs rejoice! Some PS Magazine super fans set up a website that makes it easier than ever to find PS info and view art over our 63-year span, including our earliest days. You can search indexes by cover art, year and month, or even by classic "Joe Dope Sheets." Special PS issues and series are extra bonuses for diehard fans. Check it out: <http://psmag.radionerds.com/>

## CHECK ARMY FORM OR PUB AVAILABILITY

Need to know if specific Army publications or forms are still available or valid? Then check out DA Pam 25-30, *Consolidated Index of Army Publications and Blank Forms*. The Army Publishing Directorate (APD) updates this online pub daily. Visit:

<http://armypubs.army.mil/2530.html>

You can also download a desktop application version from this URL.

## GCSS-Army Glossary

Wanna learn the new language or brush up on the GCSS-Army lingo? Get ahead of your peers and check out the terminology changes in logistics business areas, finance, maintenance, human resources, property book, supply management and unit supply. Visit:

<http://gcss.army.mil/About/Glossary.aspx>

DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 345239, requirements for the TB 43-PS-Series.

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**THE JOB ISN'T  
FINISHED...**

**...UNTIL THE  
CLEAN UP  
IS DONE!**

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