

PS**THE
PREVENTIVE
MAINTENANCE
MONTHLY****ISSUE 740 JULY 2014**

TB 43-PS-740, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all Soldiers assigned to combat and combat support units and all Soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders. The use of product or company names does not constitute endorsement of those products, services or companies by the U.S. Army. The use of non-DoD hyperlinks, along with their content, does not constitute endorsement by DoD or DA. Neither DoD nor DA exercises any editorial control over, and cannot vouch for, content on non-DoD websites.

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

Just write to:

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

Or email to:

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

Internet address:

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

By order of the Secretary of the Army:

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

Official:

GERALD B. O'KEEFE

Administrative Assistant to the Secretary of the Army

1410405

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THE
PREVENTIVE
MAINTENANCE
MONTHLY

TB 43-PS-740

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Unlimited



Do YOU Think
about PM?

CHECK OUT WHY
YOU SHOULD ON
PAGES 27-34!

What Can You Do in 15 Minutes?



This morning you hit the snooze button to get an extra 15 minutes of sleep. You saved yourself a few extra minutes by shaving and showering in 15 minutes.

Then you found a new shortcut that saved 15 minutes on the drive to work. And parking under that big billboard that says, "15 minutes could save you 15 percent" saved you from an extra 15-minute walk to the motor pool.

As you get ready to start another day, think about this: What else could you save in just 15 minutes?

- 15 minutes spent checking tire pressure could save you from a blow-out.
- 15 minutes spent checking your engine's fluid levels could save you from a burnt-out engine.
- 15 minutes spent cleaning and lubing your rifle could save your weapon from corrosion.
- 15 minutes spent wiping off dirty fire sensors could save you a burned-out tank.

Sure, a complete PMCS takes a lot longer than 15 minutes. But if you break it down into 15 minute increments, you'll be surprised how quickly it can be done. And every single minute is time well spent. After all, it might take only 15 minutes to save your life or the life of a fellow Soldier.



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



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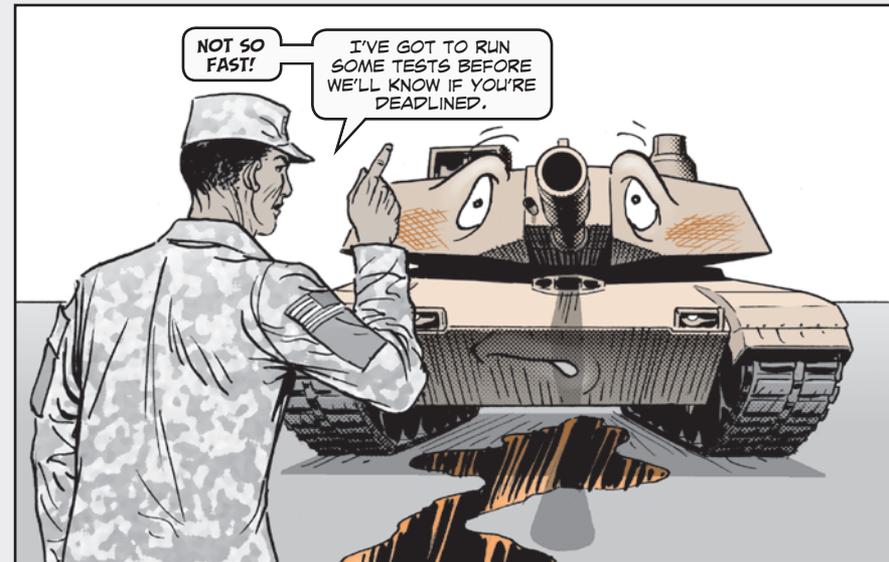
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NOT ALL OIL DRIPS ARE EQUAL



CLASS III OIL DRIPS USUALLY MEAN BAD NEWS.

BUT KEEP IN MIND THAT THEY DON'T ALWAYS MAKE YOUR VEHICLE NMC.



IF YOU HAVE AN OIL LEAK, HAVE YOUR MECHANIC PERFORM THE CHECKS BELOW TO SEE IF DEADLINING YOUR VEHICLE CAN BE AVOIDED.

Recuperator

You may see oil dripping from the drainage and weep holes on the engine's recuperator during engine start-up and shutdown, whether the engine is installed or out for ground hop operations. However, that doesn't necessarily mean your vehicle has a Class III leak that deadlines it.

Follow these steps to see whether or not you have a serious problem:

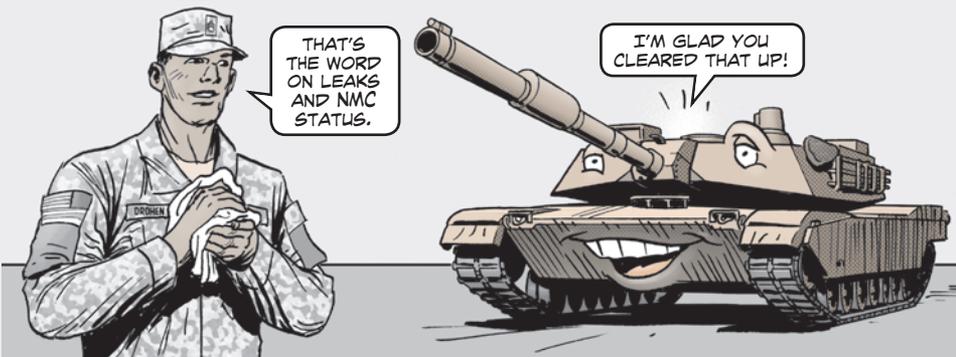
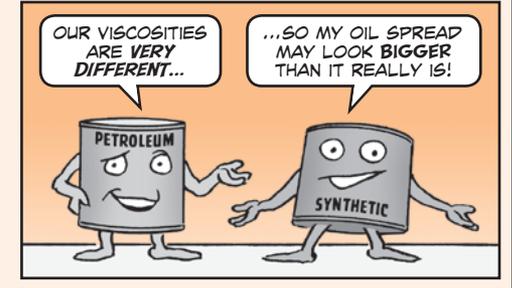
1. Make sure the oil and coolant hoses are hooked up to the engine when performing this test during ground hop.
2. Start the engine and run it at normal idle for three minutes.
3. Check the recuperator drainage and weep holes for oil leaks after the three minutes are up. If no leaks are seen, shut the engine off. Your tank is fully mission capable.
4. If you see leaks, run the engine for another 10 minutes at high idle or drive the vehicle at 30 mph for 5 minutes. Check for leakage again.
5. Any oil leakage after 15 minutes means the vehicle is NMC.

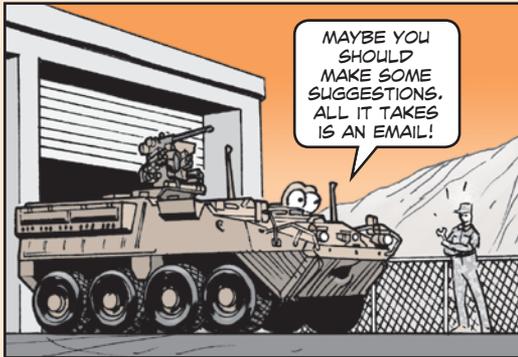
Reduction Gear Box

A continual drip from the #10 seal area of the reduction gear box (RGB) without blue exhaust smoke or measurable oil loss isn't unusual during low RPM operation.

That's because the viscosity of the RGB's synthetic oil is a lot different from petroleum-based oil. It can make any oil spread appear worse than it really is.

Your tank is fully mission capable as long as the accumulation of oil doesn't exceed one ounce per hour.





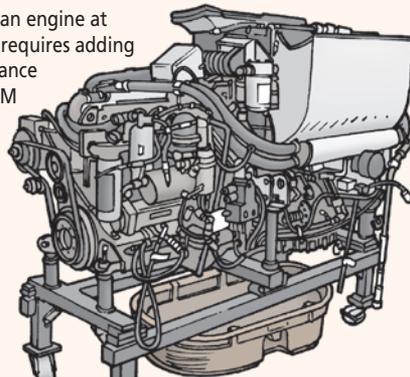
Here's Your Chance to Contribute to the Stryker IETM!

Dear Editor,

If Stryker maintainers want to perform any field-level maintenance tasks that aren't currently listed in the IETM, here's their chance. Keep in mind, any new maintenance task must be validated and verified prior to being published in the TM.

For example, perhaps field-level maintenance organizations should be able to replace the engine or transmission rather than having to replace the entire powerpack. This type of repair might save a lot of money, but would require adding a maintenance task to the TM, developing proper tools and/or test equipment, and repair parts provisioning.

Replacing an engine at field-level requires adding a maintenance task to IETM

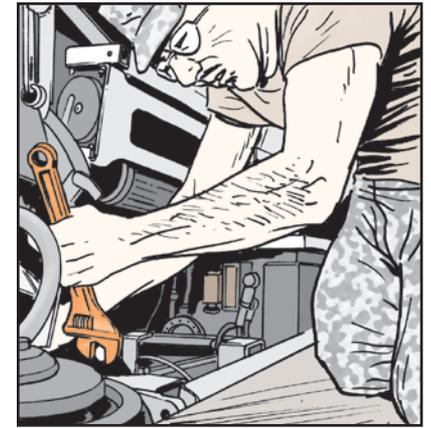


If Stryker maintainers think they have something that should be in the IETM, they can get things started by sending us an email:

danny.k.taylor.mil@mail.mil or jason.r.hutchins.mil@mail.mil

CW4 Danny Taylor
CW3 Jason Hutchins
CASCOM
Sustainment Center of Excellence
Ft Lee, VA

Editor's Note: OK, Stryker maintainers. Here's your chance to have a say in maintenance tasks.



Stryker...

LWEK Gets You Out Of Trouble *Fast*

I LOVE THIS NEW BALLISTIC WINDSHIELD!

IT PROVIDES GREAT PROTECTION AND IT LETS ME SEE BETTER.

BETTER GET AN LWEK INSTALLED, THOUGH.

THAT'LL HELP YOU AND THE CREW GET TO SAFETY IN CASE SOMETHING GOES WRONG.

CREWMEN, IF YOUR STRYKER IS EQUIPPED WITH A DRIVER'S BALLISTIC WINDSHIELD, IT'S A GOOD IDEA TO GET THE LEFT WINDOW EXTRACTION KIT (LWEK) INSTALLED, TOO.



There isn't an NSN for the kit but individual parts can be ordered per the RPSTL in TM 9-2355-432-13&P (May 13).

The LWEK allows rescuers quick access to the driver in the event of an emergency like a rollover or explosion.

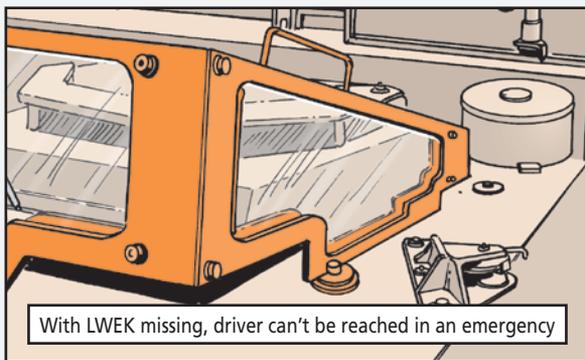
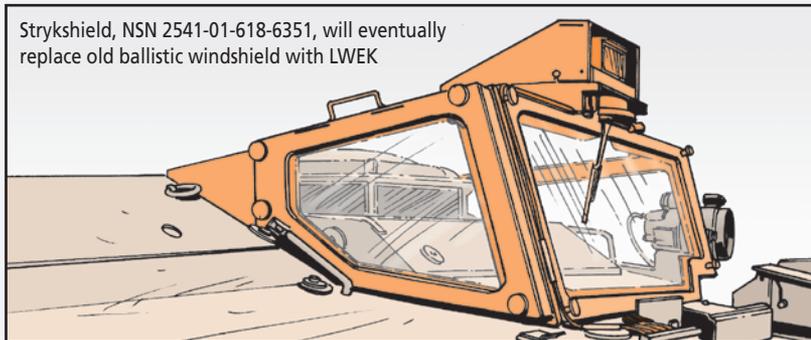
Once the LWEK's installed, here's how rescuers reach the driver:

1. Unscrew the driver's side twist-release knobs and remove the armor cover plate.
2. Pull the glass removal strap to pop out the left side transparent armor.
3. Reach through the opening to access the driver's area.

Stryker doors and hatches can't be opened with emergency egress and universal lock tools. So if your vehicle doesn't have an LWEK installed, it's a good idea to leave the combat lock on at least one hatch unlocked while driving.

The Strykeshield, a new ballistic windshield that already includes the removable left-side glass, will eventually take the place of the ballistic windshield and LWEK. If your unit's Stryker's don't already have it installed, order the Strykeshield with NSN 2541-01-618-6351.

Strykeshield, NSN 2541-01-618-6351, will eventually replace old ballistic windshield with LWEK



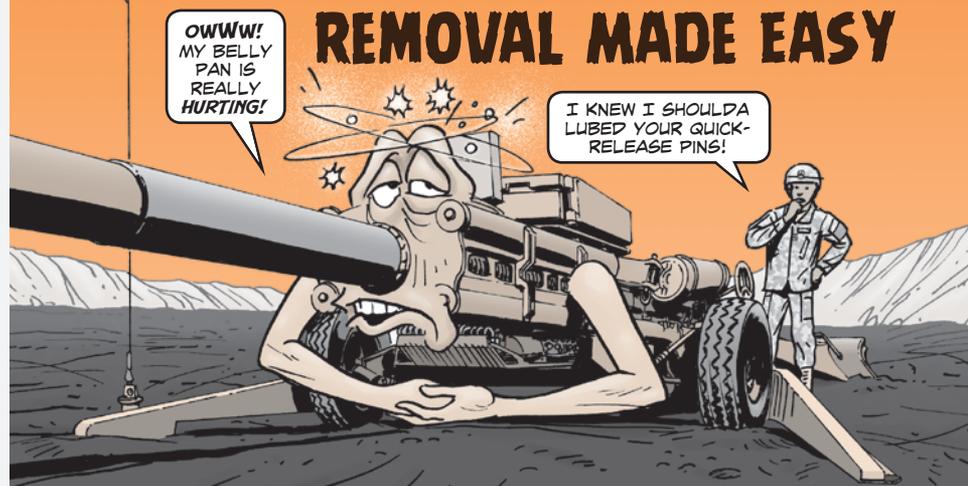
With LWEK missing, driver can't be reached in an emergency



LWEK can be removed by pulling glass removal strap

M777A2 Towed Howitzers...

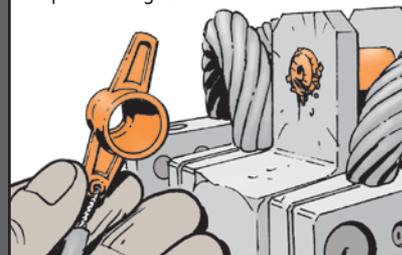
QUICK-RELEASE PIN REMOVAL MADE EASY



Crewmen, the quick-release pins, NSN 5315-01-553-3905, for accessing the M777A2's under cradle electronics assembly—or belly pan—can be very hard to remove.

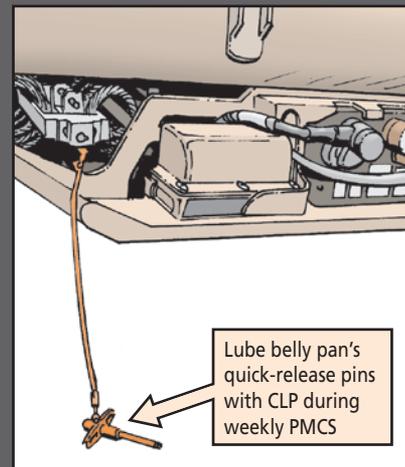
And when you really put the torque to them, the pins can snap off. Getting a broken pin out can take hours of effort.

Quick-release pins can snap off during removal

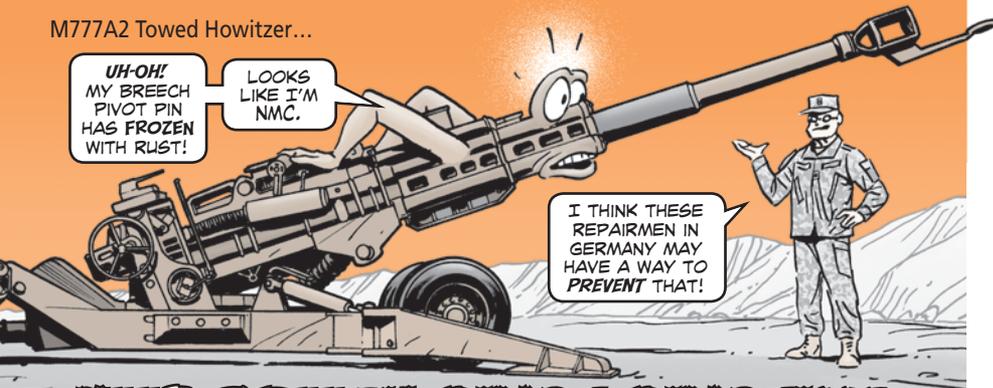


You can save yourself a lot of grief and keep the belly pan quick-release pins in good working order, though. All it takes is a quick lube with CLP during weekly PMCS checks.

If you find a pin that's hard to remove even after it's been lubed, get your mechanic to adjust the pin housing following the instructions in TM 9-1025-215-24&P in IETM EM 0274 (Aug 10).



Lube belly pan's quick-release pins with CLP during weekly PMCS



KEEP BREECH PIVOT PIVOTING

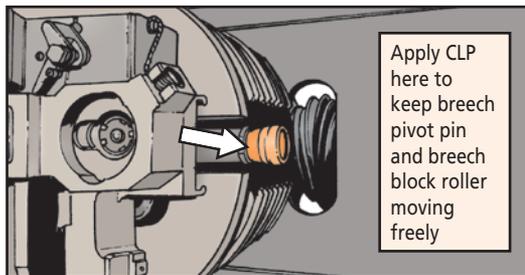
Dear Editor,

While doing scheduled services on the M777A2 howitzer, we often find the breech pivot pin, NSN 5315-00-821-2435, frozen with rust. If the pivot pin is frozen, the howitzer is NMC.

To prevent this, we suggest units check the breech block roller to make sure it's rolling freely. If it's not, it could prevent the breech from locking. Lube the pivot pin and roller with CLP, NSN 9150-01-054-6453. If the roller still won't roll freely, report it to your repairman.

Lube the pivot pin and breech block roller at least quarterly to prevent a frozen pivot pin.

Another good way to protect the breech from corrosion is to make sure the breech cover, NSN 1025-01-529-4351, is in good shape and installed when the howitzer is not in use.



Peter Kohler
Guenther Loeffelmann
Vilseck, Germany

*Editor's note: Great idea!
You guys are on your toes.*

Locking Up TMs is a **BAD** Idea



Dear Half-Mast,

Somebody noticed that the BII for our vehicles has been "wandering off." So to secure it, everything got locked up in the motor pool building. Since they're part of the BII, all of our vehicle operator's TMs were included in the lockup.

Problem is, we can't get to the TMs when it's time to do our PMCS. We often end up working from memory. That doesn't seem like a good idea to me. What do you think?

SPC T.W.C.

Dear Specialist T.W.C.,

I wholeheartedly agree. TMs are vital if Soldiers are going to pull a complete and accurate PMCS. It's never a good idea to rely on memory when it comes to keeping your equipment and vehicles up-to-snuff.

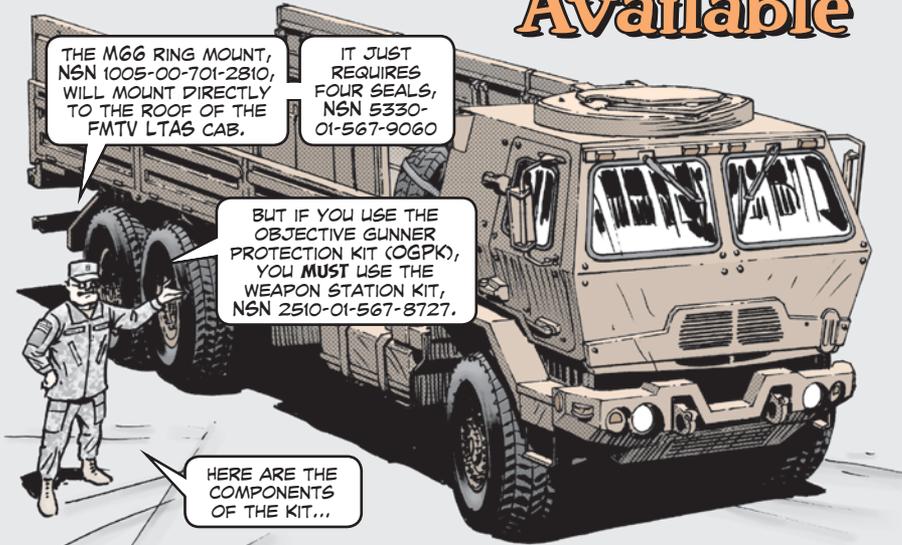
A better idea is to lock those TMs inside your vehicle. Since you'll need to get inside the vehicle to do a complete PMCS anyway, the TMs will be easily accessible while keeping them from "wandering off."

Half-Mast

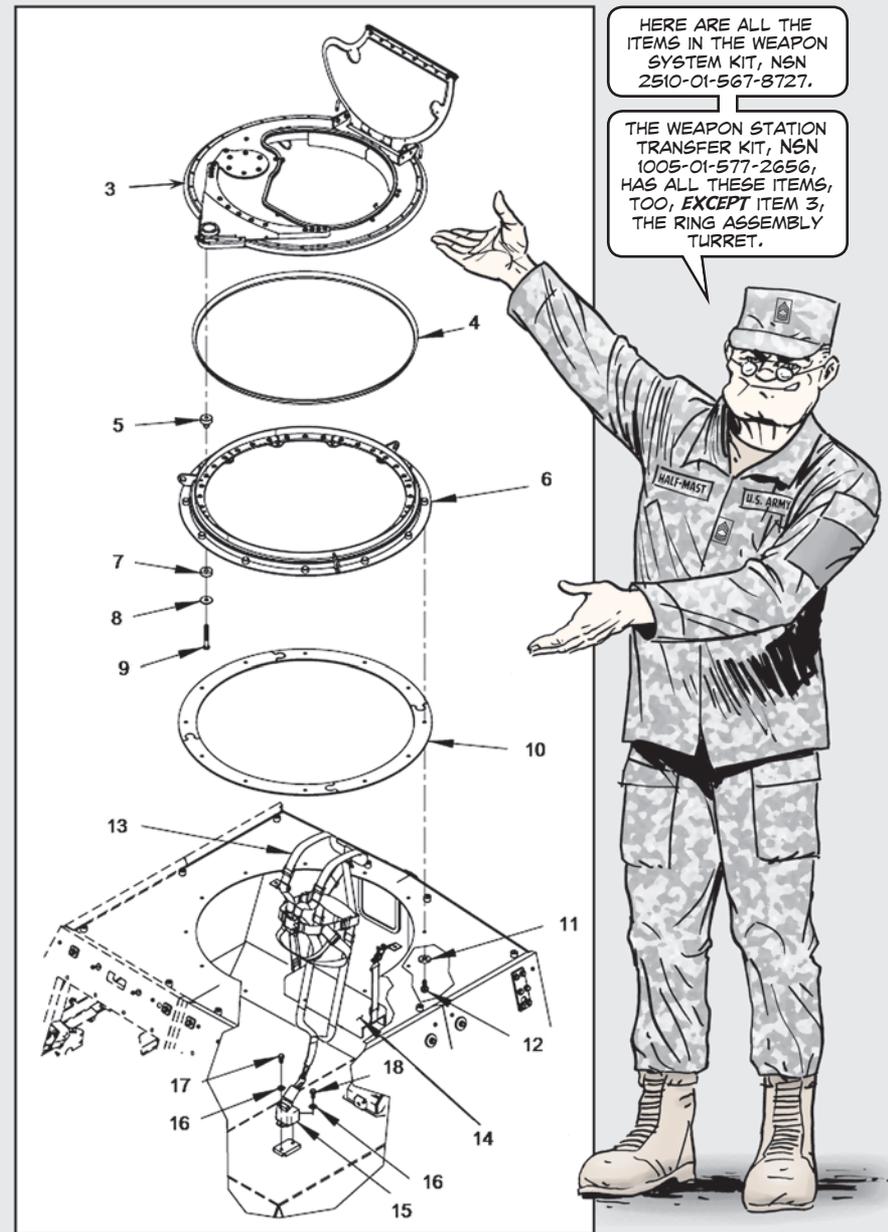
Operator's TM must be accessible for PMCS



LTAS Ring Mounts Available



Item	Name	NSN/PN
1	Weapon station kit (includes items 3-18)	2510-01-567-8727
2	Weapon station assembly (includes items 3, 4, and 6)	2510-01-583-8987
3	Ring assembly turret	2510-01-578-4322
4	Wipe seal	5330-01-573-8894
5	Upper bushing	5365-01-571-1041
6	Interface ring	1005-01-575-6054
7	Lower bushing	5365-01-570-7459
8	Snubber washer	5310-01-570-7676
9	Hexagon cap screw	AEB021375C00AW8A2
10	Non-metallic seal	5330-01-567-9060
11	Flat washer	5310-01-375-0659
12	Machine bolt	5306-01-567-6548
13	Personnel safety device	4240-01-542-8160
14	Vehicular seat	2540-01-550-7246
15	Seat belt parts kit	2540-01-543-0747
16	Flat washer	12422608-015
17	Hexagon cap screw	5305-00-709-8523
18	Hexagon cap screw	5305-00-709-8517

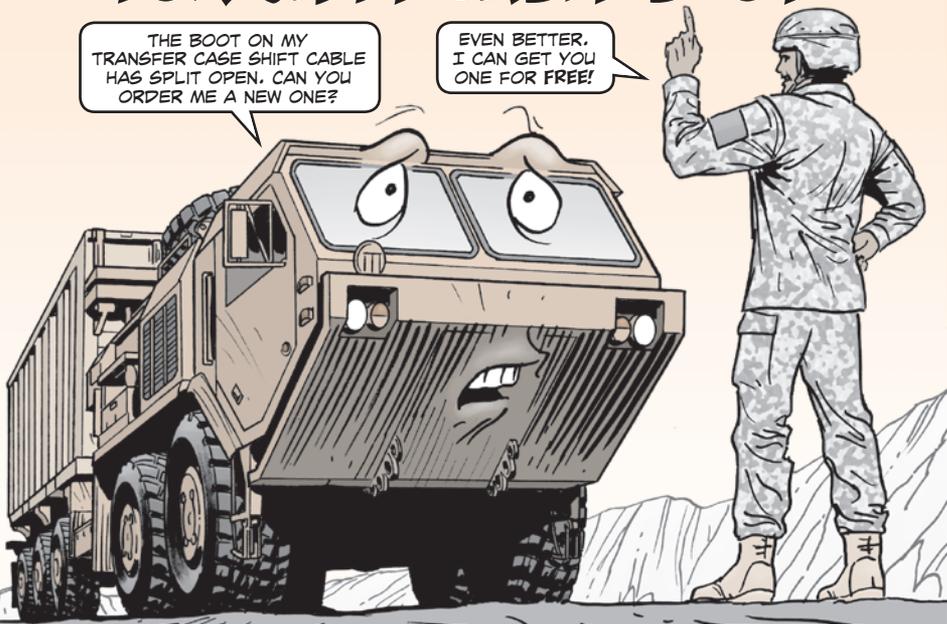


M1074A1,
M1075A1 PLS...

GET REPLACEMENT FOR SHIFT CABLE BOOT

THE BOOT ON MY
TRANSFER CASE SHIFT CABLE
HAS SPLIT OPEN. CAN YOU
ORDER ME A NEW ONE?

EVEN BETTER.
I CAN GET YOU
ONE FOR FREE!



Mechanics, the rubber boot, NSN 2530-01-192-4315, that covers the transfer case shift cable on the M1074A1 and M1075A1 PLS is deteriorating before it should.

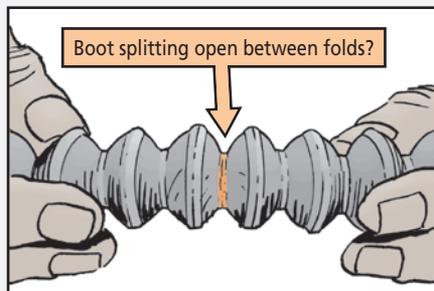
As it weakens, the boot splits open between its folds. That allows dirt, debris and water to jam and corrode the shift cable.

If your truck is under warranty, go through the warranty process to get a replacement boot.

Out of warranty? No problem. Just send an email to Oshkosh at:

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

In the email, include a good shipping address. They'll send you a free replacement boot along with installation instructions.



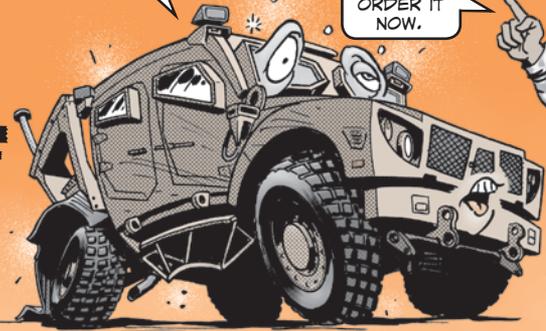
M-ATV MRAP...

TAKE THE CRIMP OUT OF VENT LINE

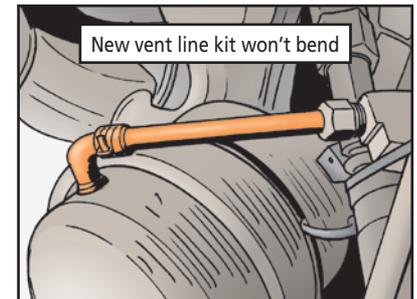
CAN'T YOU DO
ANYTHING? MY REAR
BRAKE CHAMBER
VENT LINES ARE ALL
TWISTED UP!

I JUST HEARD ABOUT A
NEW VENT LINE KIT THAT
SHOULD FIX YOU UP.

I'LL GO
ORDER IT
NOW.



Mechanics, the vent line on the M-ATV's rear brake chamber just doesn't cut the mustard. It's thin, flimsy and likely to crimp when put in place.



Now there's a more durable vent line kit, NSN 4710-01-313-2222, that can handle the job. The new kit includes a straight vent line tube and two connector elbows for both of the vehicle's rear brake chambers. You'll need to cut the tube to fit.

**A FEW
WEEKS
LATER...**

IS THAT
BETTER?

YOU
HAVE NO
IDEA!



Tires...

WHEN IT COMES TO TIRE MAINTENANCE IN THE MOTOR POOL, YOU CAN TRUST US. AFTER ALL, WE'VE BOTH GOT A LOT AT STAKE.

YOU, MAYBE. I THINK MY ROLLING DAYS ARE **FLAT DONE!**

Air Holds the Load

SO WHY IS TIRE MAINTENANCE IMPORTANT? NOT ONLY WILL IT RESULT IN BETTER PERFORMANCE AND LONGER SERVICE, BUT GOOD MAINTENANCE CAN PREVENT A TIRE FAILURE THAT COULD RESULT IN VEHICLE DAMAGE, INJURY OR EVEN DEATH!

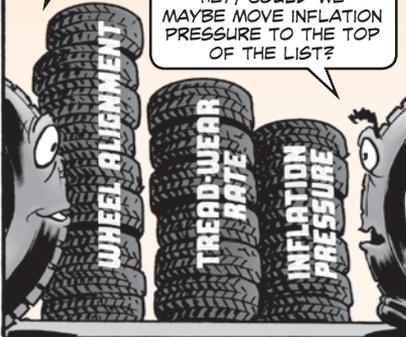
AND DON'T FORGET VEHICLE DOWNTIME, MOUNTING AND DISMOUNTING TIME, AND DRIVER DISSATISFACTION.

SPEAKING TO THE CHAIR, CHUM. I'M THE **POSTER CHILD** FOR DRIVER DISSATISFACTION!



THERE ARE SEVERAL DIFFERENT MEASUREMENTS THAT CAN BE USED TO TRACK TIRE PERFORMANCE. BUT THE MOST IMPORTANT ARE **WHEEL ALIGNMENT, TREAD-WEAR RATE AND INFLATION PRESSURE.**

HEY, COULD WE MAYBE MOVE INFLATION PRESSURE TO THE TOP OF THE LIST?



YOU GOT IT, BUDDY.

PROPER TIRE INFLATION IS ONE OF THE MOST IMPORTANT MAINTENANCE ACTIONS YOU CAN TAKE. THESE NEXT TWO TIPS ARE JUST FOR YOU.

FIRST, MAKE SURE EVERY TIRE'S VALVE STEM HAS A CAP, N5N 2640-00-255-9346. THAT REDUCES VALVE STEM LEAKAGE. A LEAKY VALVE CORE TAKES AIR OUT OF A TIRE JUST AS FAST AS A NAIL.



NAIL!? WHERE? **YIKES!** KEEP IT AWAY FROM ME!

COOL IT, PAL. THERE'S NOT MUCH A NAIL COULD DO TO YOU NOW, ANYWAY.



YOU OPERATORS SHOULD ALWAYS HAVE A **TIRE GAGE** HANDY AND USE IT REGULARLY, TOO. IT'S NO SECRET THAT **LOW AIR PRESSURE IS A BIG CAUSE OF TIRE PROBLEMS.**

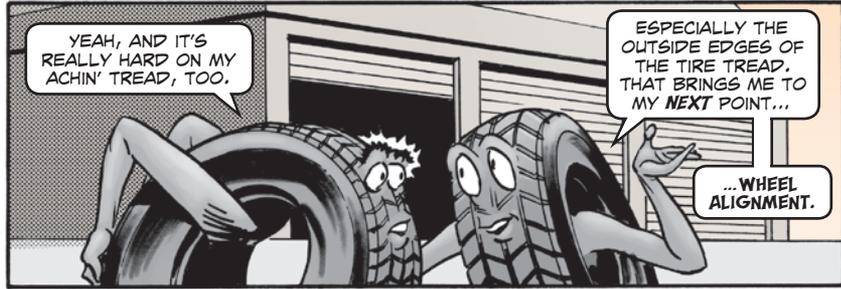
AS A GENERAL RULE OF THUMB, A TIRE THAT'S UNDERINFLATED 20 PERCENT WILL DECREASE GAS MILEAGE BY ABOUT 12 PERCENT. THE INSIDE AND OUTSIDE OF ANY TIRE THAT UNDERINFLATED SHOULD BE INSPECTED FOR DAMAGE.



YEAH, AND IT'S REALLY HARD ON MY **ACHIN' TREAD, TOO.**

ESPECIALLY THE **OUTSIDE EDGES OF THE TIRE TREAD.** THAT BRINGS ME TO MY **NEXT POINT...**

...**WHEEL ALIGNMENT.**



PROPER WHEEL ALIGNMENT WILL KEEP YOUR TIRES IN SERVICE FOR A GOOD LONG TIME. BUT IF YOU IGNORE IT, YOUR TIRES WILL PAY THE PRICE. HERE ARE SOME EXAMPLES...



FEATHERED WEAR RESULTS FROM EXCESSIVE TOE-IN OR TOE-OUT SITUATIONS. TOE-IN MEANS THAT THE FRONTS OF THE TIRES ARE CLOSER TO EACH OTHER THAN THE REARS. TOE-OUT IS JUST THE OPPOSITE. EITHER ONE WILL CAUSE UNEQUAL WEAR TO THE TIRE.



PS MORE

IF THE CAMBER IS DIFFERENT ON ONE SIDE, THE VEHICLE WILL PULL TO ONE SIDE OR THE OTHER. THAT CAUSES EXCESSIVE WEAR ON ONE SIDE OF THE TIRE.



HEY, I THINK MY VEHICLE HAD THOSE PROBLEMS, TOO!

NOW YOU'RE JUST BEING A HYPOCHONDRIAC.



ANY TYPE OF TREAD WEAR CAN TAKE A WHILE TO SHOW. TIRE ROTATION WILL HELP SOME.

JUST REMEMBER THAT FOR DIRECTIONAL TIRES, THE ARROW ON THE TIRE SHOULD BE POINTING IN THE DIRECTION OF TRAVEL.

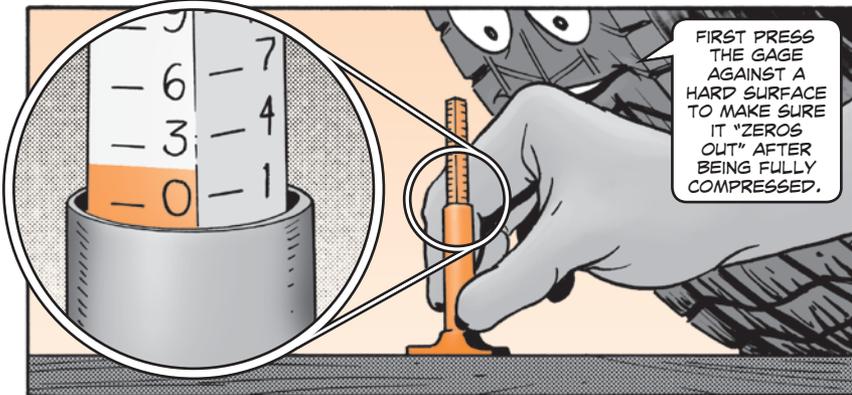


YOU CAN ALSO KEEP A CLOSE EYE ON YOUR TIRES' TREAD WEAR WITH A TREAD WEAR GAGE.



HOLD ON, BUDDY! JUST WHERE ARE YOU PLANNING ON STICKIN' THAT THING?

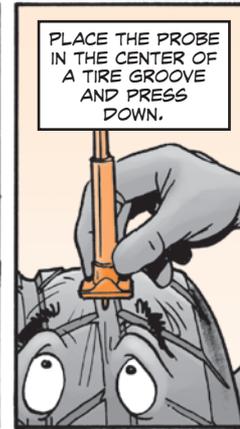
FIRST PRESS THE GAGE AGAINST A HARD SURFACE TO MAKE SURE IT "ZEROS OUT" AFTER BEING FULLY COMPRESSED.



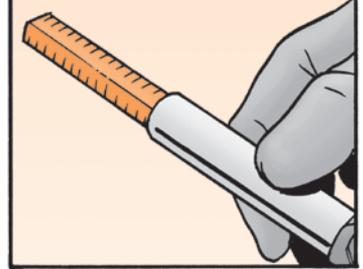
PUSH THE MEASURING SCALE BACK INTO THE GAGE AS FAR AS IT'LL GO.



PLACE THE PROBE IN THE CENTER OF A TIRE GROOVE AND PRESS DOWN.



CAREFULLY REMOVE THE GAGE AND CHECK THE TREAD DEPTH READING. TAKE MORE READINGS AT DIFFERENT LOCATIONS AROUND THE TIRE AND COMPARE YOUR FINDINGS.



THOSE READINGS WILL GIVE YOU AN INDICATION OF EARLY WEAR PROBLEMS. THEY'LL ALSO LET YOU KNOW WHEN YOUR TIRES ARE WORN OUT AND NEED TO BE REPLACED.



REPLACED?! NOW WAITAMINIT. I JUST NEED A LITTLE AIR, BUB!

C'MON, OLD BUDDY. I KNOW A CRUSTY OL' MASTER SERGEANT THAT'LL BE GLAD TO CHECK YOU FOR DAMAGE AND AIR YOU UP.



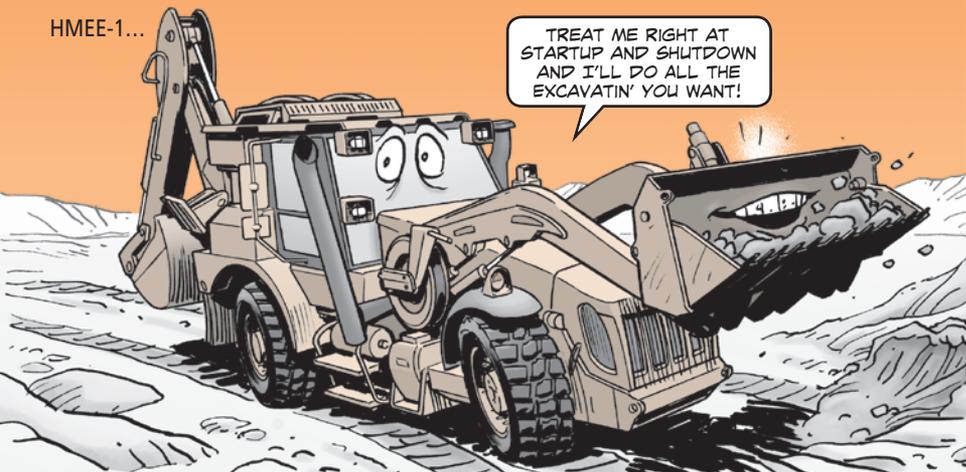
THANKS, PAL!

PS END

The moral of the story?

PM keeps the rubber on your tire, not on the road!

HMEE-1...



HERE COMES THE DAY'S RUN!

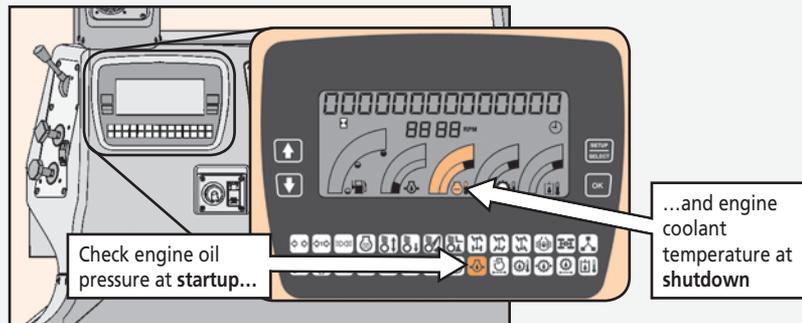
After you finish that cup of coffee, take a look at TM 5-2420-232-10. It's got all the info on how to start and shut down your high-mobility engineer excavator, type 1 (HMEE-1). Here's what you especially need to remember to keep the excavator mission ready:

Warm It Up

After startup, make sure you have engine oil pressure. Then idle the engine at 1,100 rpms for a few minutes to warm it up.

Warming up the excavator gives the oil time to lubricate the parts. It also lets the engine warm up enough to boil off condensation caused by normal engine breathing. Then you won't have to worry about condensation mixing with the oil and forming a sludge that'll clog the engine.

Once you've got the excavator warmed up and operating, check the gauges, especially those for water temperature and engine oil pressure. They should be within normal operating range.

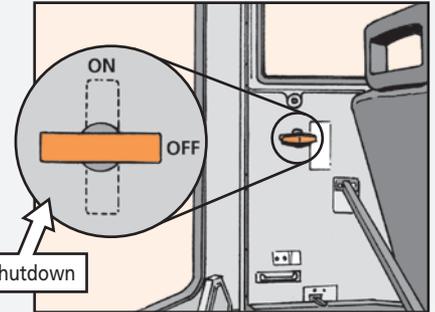


Cool It Down

After operation, let the excavator cool before shutting down. Idle the engine for five minutes. That cool down prevents excessive heat in the engine and turbocharger center housing. Overheating can crack the block, warp a head or valves, or bake the oil until it's not slick enough to lube the bearings. Cooling down also lets the turbocharger slow and reduces coking in the turbocharger bearings.

Master Disconnect Switch

Make sure the vehicle's battery disconnect switch is turned OFF after the day's run. Leave the switch on and the batteries can lose their charge in a week or two. Without juice, your excavator needs a slave start-or you won't be going anywhere!



WHATEVER YOU DO, **DON'T USE THE BATTERY DISCONNECT SWITCH TO TURN OFF THE VEHICLE.**

THAT CAN **FRY** THE VEHICLE'S ELECTRICAL CIRCUITS!

YOU'LL FIND THIS **CAUTION** ON PAGE 0004-12 OF THE OPERATOR'S MANUAL.

BY THE WAY, WHEN THE BATTERY DISCONNECT SWITCH IS TURNED OFF, YOU'LL STILL HAVE BATTERY POWER FOR ABOUT 30 SECONDS.

THAT ALLOWS THE VEHICLE'S ELECTRONICS TO SHUT DOWN PROPERLY.



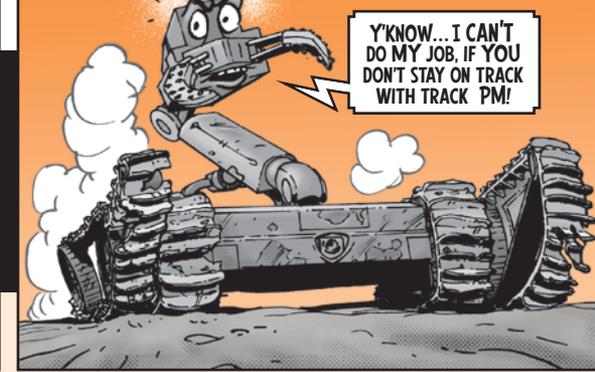
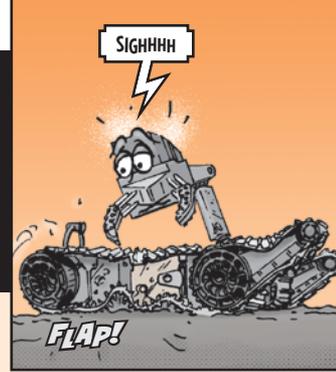
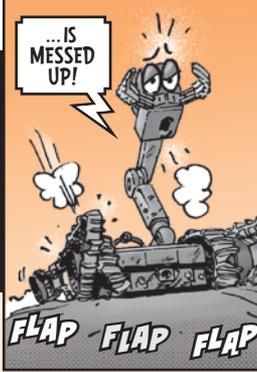
M870A1 Wood Decking Kit

Get a complete wood decking kit, minus the hardware, for your M870A1 40-ton lowbed semitrailer with NSN 5510-01-540-5724. Or you can order cut-to-fit purple heart wood by the board foot with NSN 5510-01-454-8568. That comes in handy if you only need to replace a few boards. You'll need carbide-tipped blades and drill bits to prepare it, though.

Linseed Oil Preserves Trailer Decks

Constant exposure to the elements leads to dry, cracked and splintered wood decking on semitrailers. Prevent that damage by applying a coat of linseed oil to the decking as needed. NSN 8010-00-152-3245 brings a gallon of linseed oil and NSN 8010-00-684-8789 gets five gallons. A 55-gal drum comes with NSN 8010-00-242-6114.

Stay on Track with Robot PM



Keeping your 310 small unmanned ground vehicle (SUGV) mini-EOD robot on track for ordnance disposal, surveillance and reconnaissance operations takes a little work on your part. So let's get down to some PM basics.

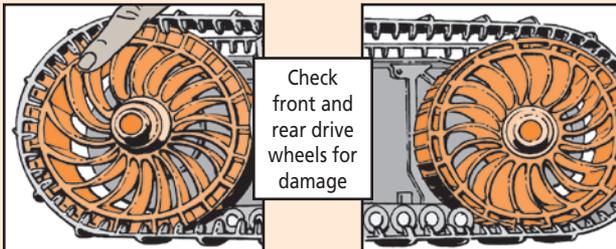
Watch Your Back

Easy does it when lifting or carrying the 310 SUGV. It's heavy! So save your back and get a buddy to help when taking it out of its case or putting it back in. An extra set of hands will also help you avoid dropping or damaging the robot.

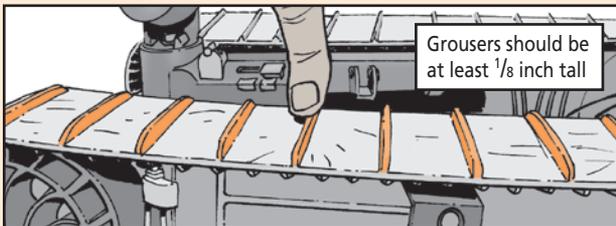
Track Inspection

TAKE CARE OF THE TRACK AND YOUR ROBOT WILL KEEP ON ROLLIN'...

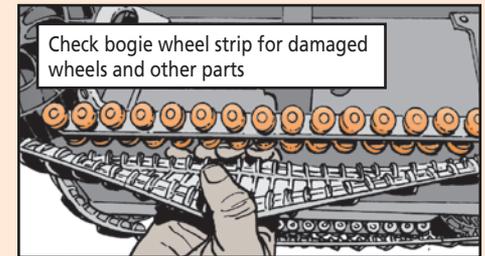
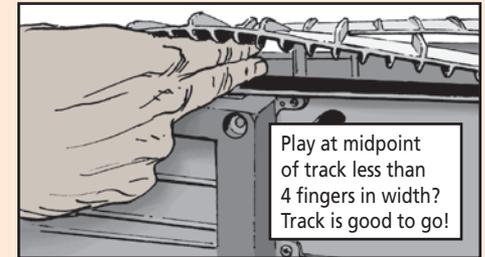
- Eyeball the chassis assembly for cracks or other obvious damage.
- Inspect the front and rear drive wheels for damage or missing hardware. While you're at it, make sure the main tracks are properly positioned on the wheels.



- Track grousers should be at least 1/8 inch tall. That gives the robot good traction on both sand and hard-surfaced roads.

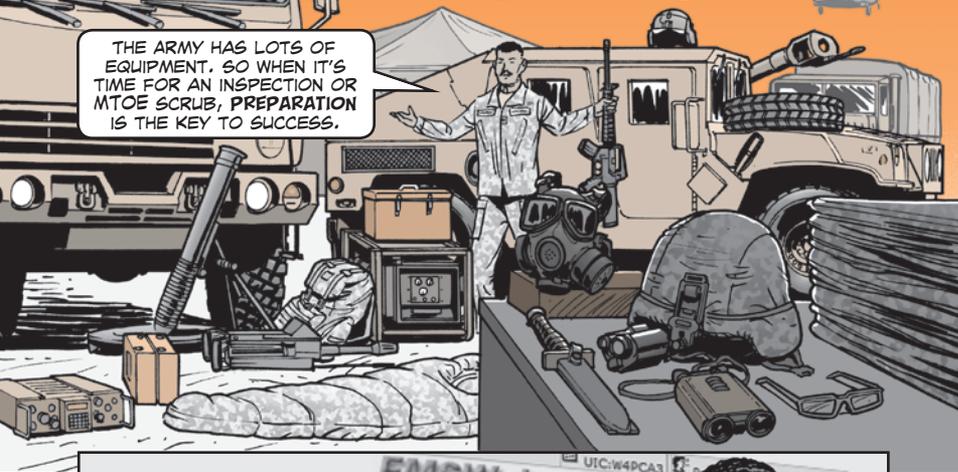


- Check track tension by pulling upward from the midpoint of the track. Track play should not exceed the width of 4 fingers, approximately 3 inches. This check is vital! Loose or stretched track can slip over the wheels. That makes it hard for the robot to turn and climb over obstacles.
- Take a close look at the bogie wheel strip along the inside bottom of each track for broken, damaged or missing parts. These wheels are needed to keep the track in line and reduce the chance of a thrown track. If two bogie wheels next to each other or six or more wheels total are missing or damaged, have the robot checked out by the next higher level of maintenance.
- Clean the robot's track using low-pressure air (30 psi or less) and a scrub brush, NSN 7920-00-061-0037.



WEBSITE FOR ARMY EQUIPMENT AUTHORIZATIONS

THE ARMY HAS LOTS OF EQUIPMENT. SO WHEN IT'S TIME FOR AN INSPECTION OR MTOE SCRUB, PREPARATION IS THE KEY TO SUCCESS.



THE PLACE TO GO FOR VIEWING THE ARMY'S AUTHORITATIVE FORCE STRUCTURE DATA IS FMSWEB.

IT'S DEVELOPED AND MAINTAINED BY THE US ARMY FORCE MANAGEMENT SUPPORT AGENCY (USAFMSA).



The website is a great place to view reports, access research tools, and view requirements and authorization documents. Examples include Basis of Issue Plans (BOIPs), Tables of Organization and Equipment (TOE), Modification Tables of Organization and Equipment (MTOE), Tables of Distribution and Allowance (TDA), Common Tables of Allowance (CTA), and Joint Tables of Allowance (JTA). You can view past, present and future versions of all these documents on FMSWeb.

FMSWeb can also help you with equipment Line Item Number (LIN) files and Unit Identification Code (UIC) files.

The tools on FMSWeb allow you to do research and analysis using various reports. For example, you can compare a current document to a past or proposed document. You can even compare multiple documents at the same time. For example, you might want to compare all the battalions within a Brigade Combat Team (BCT) or even multiple BCTs at the same time. You can also search for a LIN or group of LINs by command or for the entire Army.

FMSWeb offers many options in one place. If you need to view your MTOE or TDA back to 2002 or want to see what other units have authorized, check out FMSWeb at: <https://fmsweb.army.mil>

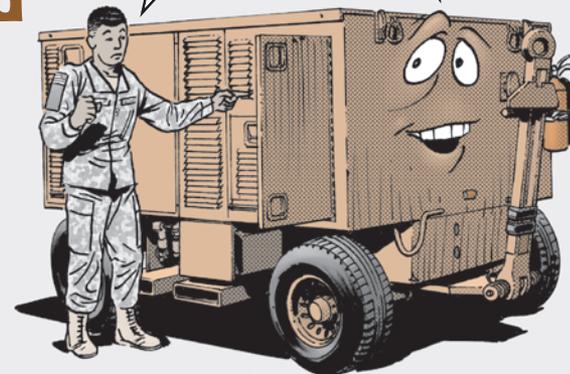
When you get to the site, click on **Login to FMSWeb**. Then register if you haven't already. Fill in your security officer's information. If you are a contractor, you must provide your contracting office technical representative (COTR) or government sponsor information. When all the information is provided, the system will send you an email after your account has been approved. Log in, read the User Acceptance Policy, and then click on the **I Accept** button and you're ready to begin your search on FMSWeb.

AGSE...

NSNs Updated For D and E Model AGPUs

I ORDERED THE GENERATOR AND GENERATOR CONTROL UNIT LISTED IN THE TM... BUT THEY'RE THE WRONG ONES!

THAT'S 'CAUSE I'M AN E MODEL AGPU! THE NSNs LISTED IN THE TM ARE FOR THE A MODEL!

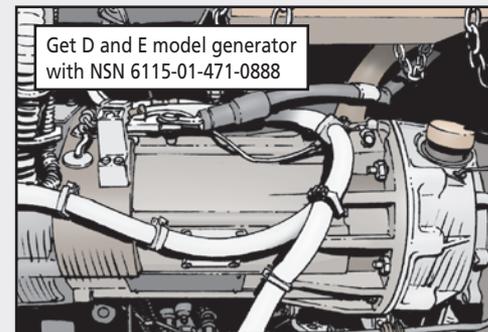


Mechanics, if you have a D model aviation ground power unit (AGPU), NSN 1730-01-466-9731, or E model AGPU, NSN 1730-01-552-2313, listen up.

The NSNs and part numbers listed for the generator and generator control unit (GCU) in WPs 0042 and 0051 of TM 1-1730-229-24P (Jul 09) are for the A model AGPU.

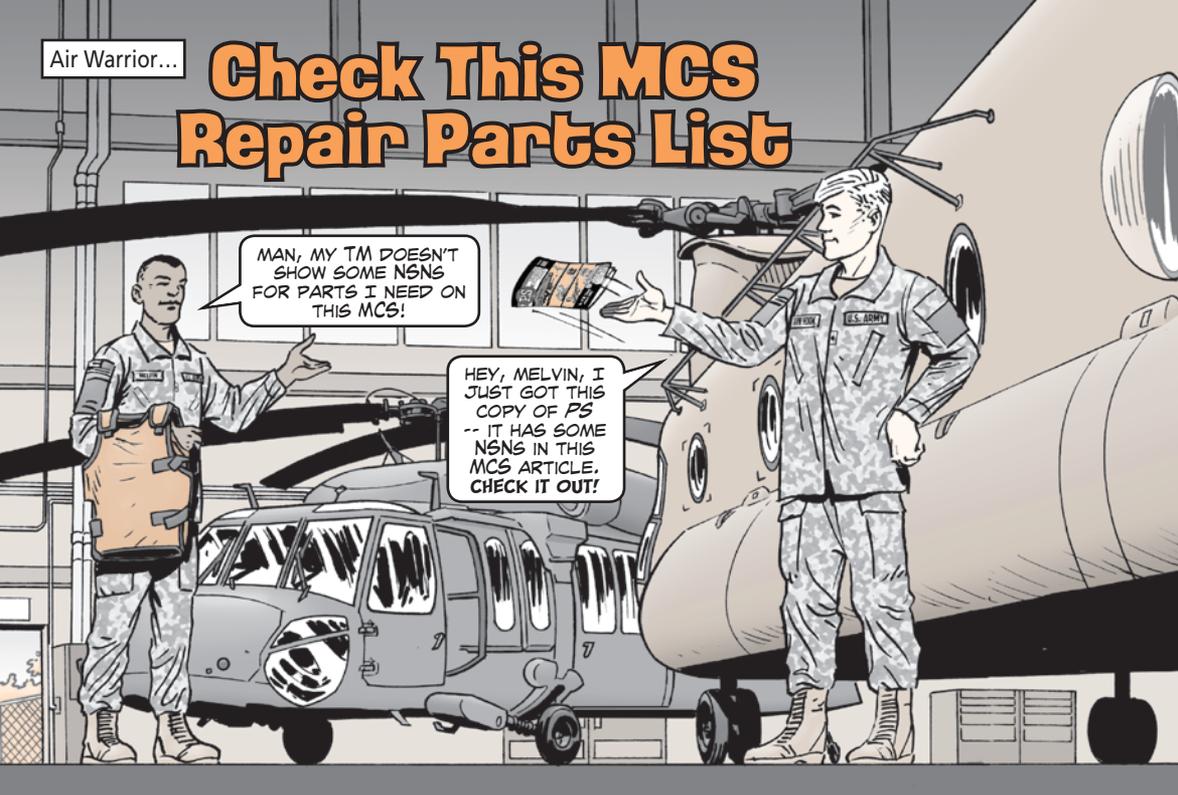
The D and E model generator comes with NSN 6115-01-471-0888 (PN AGH828-3). The NSN for the D and E model GCU is 2920-01-571-0887 (PN CSV3370-3).

Get D and E model generator with NSN 6115-01-471-0888



Make a note until the NSNs are added at the next TM update.

Check This MCS Repair Parts List



MAN, MY TM DOESN'T SHOW SOME NSNS FOR PARTS I NEED ON THIS MCS!

HEY, MELVIN, I JUST GOT THIS COPY OF PS -- IT HAS SOME NSNS IN THIS MCS ARTICLE. CHECK IT OUT!



HEY, THANKS, MAN!

MECHANICS, WHEN IT'S TIME TO ORDER PARTS TO REPAIR A COMPONENT ON YOUR CHINOOK OR BLACK HAWK, SOMETIMES IT'S DONE BY PART NUMBER RATHER THAN BY NSN.

FOR INSTANCE, WHEN YOU CHECK THE TM FOR PARTS TO REPAIR THE CHINOOK OR BLACK HAWK UMBILICAL CORD ON THE MICRO-CLIMATE COOLING SYSTEM (MCS), SOME PARTS WILL HAVE NSNS AND SOME ONLY PART NUMBERS.

IF A PART IN THE TM DOESN'T HAVE AN NSN LISTED, CHECK THIS CHART. MAYBE IT HAS AN NSN AFTER ALL.

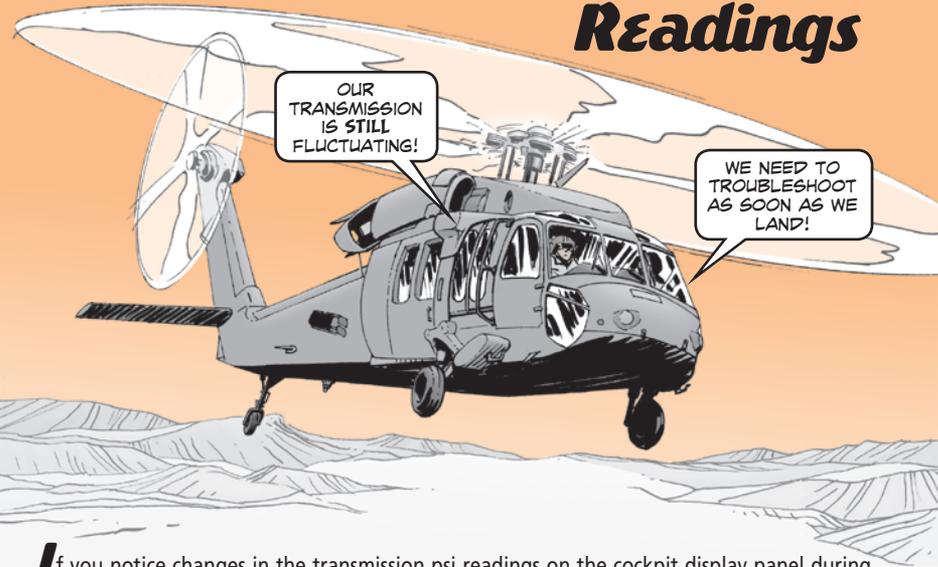
IF YOU FIND AN NSN HERE THAT'S NOT IN YOUR TM, MAKE A NOTE UNTIL THE TM IS UPDATED.

THESE PARTS ARE THE SAME FOR BOTH AIRCRAFT EXCEPT WHERE NOTED.



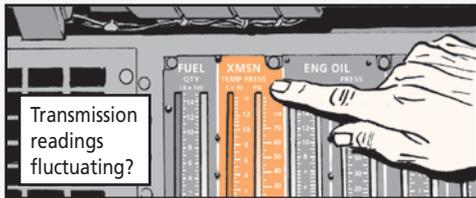
Item	NSN	Part Number
Pilot hose assembly (CH-47)	4730-01-561-9298	LSF00979-005
Copilot hose assembly (CH-47)	4720-01-561-0939	LSF00978-009
TS1 hose assembly (CH-47)	4720-01-517-2190	LSF00978-019
TS3/TS32 hose assembly (CH-47)	4720-01-514-6977	LSF00359-003
Pilot hose assembly (UH-60)	Pending	LSF00975-037
Copilot hose assembly (UH-60)	Pending	LSF00975-039
Crew 1 hose assembly (UH-60)	Pending	LSF00975-041
Crew 2 hose assembly (UH-60)	4720-01-548-9966	LSF00975-043
Half quick coupling (elbow)	4730-01-522-8284	LCD23004
Half quick coupling (metal)	4730-01-407-0764	LCD22004
Tubing	4720-01-515-3780	5553K47
Tubing	4720-01-515-3779	5114K18
Reinforced braided tubing	4720-01-515-1312	55425K31
Reinforced braided tubing	4720-01-549-6469	52375K31
Hose clamp	5730-01-514-8513	52545K51
Hose clamp	4730-01-522-5521	52545K45
Hose clamp	4730-01-550-4878	52545K42
Hose clamp	4730-01-557-8141	52545K27
Shrinkable insulation sleeving	5970-01-519-8719	9196K17
Shrinkable sleeve	5970-00-944-1328	M23053/5-112-0
Shrinkable sleeve	5970-00-914-3117	M23053/5-109-2
Shrinkable sleeve	5970-00-914-3118	M23053/5-109-0
Shrinkable sleeve	5970-00-812-2967	M23053/5-108-0
Crimping tool	5120-01-563-5311	6541K67
CBA knob (ALT)	5355-00-959-3161	MS91528-OK1B
By-pass control assembly	1680-01-513-5918	BB44307-3
Rack jaw fitting extension kit (UH-60)	1680-01-564-6801	LSF002254-002
MCU electrical harness (UH-60)	6150-01-558-8743	LSF00457-001
MCU electrical harness (UH-60)	6150-01-558-8372	LSF00457-003
Microclimate cooling unit	1680-01-508-6626	B43020-1
Coolant filter	4610-01-548-6000	B43081-1
Coolant filter clamp	4730-01-550-8340	B44306-1
MCG charge kit	1680-01-509-4762	4700
Glycol propylene	6810-01-181-7121	MIL-P-83800
Golden solution II	6840-01-546-5323	00245
12 ml syringe	6520-01-173-2081	194-1135
Plastic coupling fill bottle	4730-01-446-3512	PLC22004
Metal fitting O-ring	Pending	9452K19
Umbilical flo-lok coupling half	Pending	ZFL-0300-36
Garment flo-lok coupling half	4820-01-586-8687	ZFL-0400-35
Umbilical insulation	Pending	NLB99259-1
CBA shield	Pending	B47192-1

Aircraft Transmission Readings



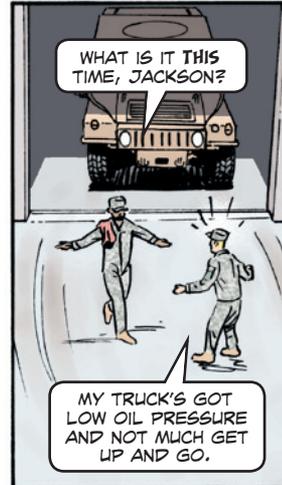
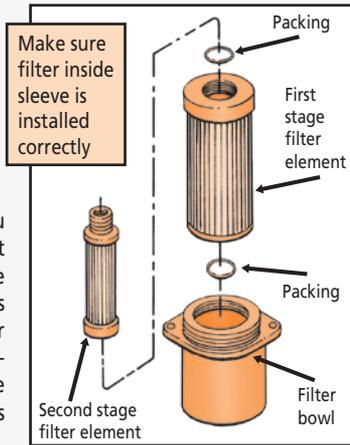
If you notice changes in the transmission psi readings on the cockpit display panel during Black Hawk startups or flights, you'll need to troubleshoot the changes using the TM.

Following the troubleshooting steps to figure out fluctuating transmission psi readings could mean draining the entire system or adjusting or replacing pressure regulators.



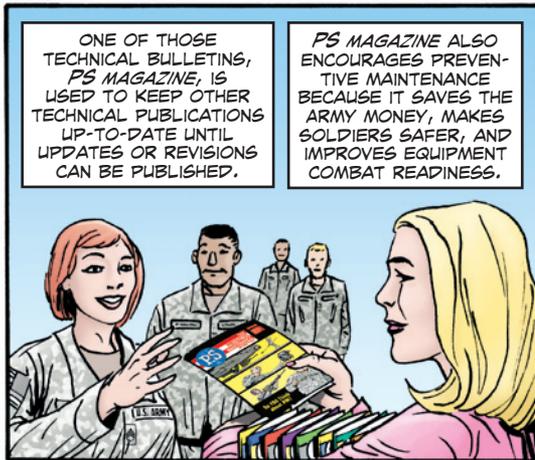
Here's a little maintenance tip that could save you a lot of work. Before you break out the tools and start taking off parts to drain and flush fluid, check the filter inside the transmission oil filter sleeve like it says in WP 0614 of TM 1-1520-280-23 for the M-model. For the A/L model aircraft, use WP 0657 of TM 1-1520-237-23. Make sure the filter is installed as shown in the TMs. If turned wrong, the filter can cause fluctuations in the psi readings for the main transmission.

If the filter is installed correctly, you're good to go as long as fluctuations cease. But if fluctuations continue, follow through with troubleshooting.





TECHNICAL MANUALS, BULLETINS, AND LUBE ORDERS ARE LOADED WITH INFORMATION TO HELP BOTH OPERATORS AND MECHANICS KEEP THEIR EQUIPMENT FULLY MISSION CAPABLE.

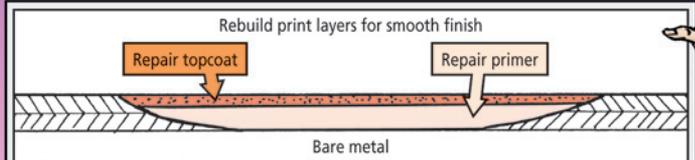


ONE OF THOSE TECHNICAL BULLETINS, *PS MAGAZINE*, IS USED TO KEEP OTHER TECHNICAL PUBLICATIONS UP-TO-DATE UNTIL UPDATES OR REVISIONS CAN BE PUBLISHED.

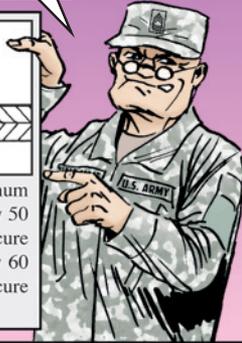
PS MAGAZINE ALSO ENCOURAGES PREVENTIVE MAINTENANCE BECAUSE IT SAVES THE ARMY MONEY, MAKES SOLDIERS SAFER, AND IMPROVES EQUIPMENT COMBAT READINESS.

AS CARC PAINT HAS CHANGED OVER THE YEARS WE HAVE WRITTEN ABOUT THOSE CHANGES. IN 2008 WE WROTE ABOUT WD (WATER-DISPERSIBLE) CARC.

PART OF THE ARTICLE ILLUSTRATED HOW TO REBUILD LAYERS OF PRIMER AND PAINT TOPCOAT.



Topcoat cure time will depend on temperature and humidity, but at an optimum temperature of 70°F, Type I WD CARC will dry to the touch in approximately 50 minutes, dry hard in four hours, dry through in five hours, and completely cure within seven days. Type II WD CARC will dry to the touch in approximately 60 minutes, dry hard in six hours, dry through in eight hours, and completely cure within seven days.

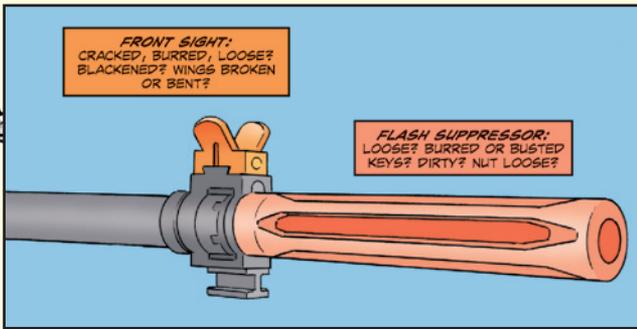


SO JUST WHAT DOES *PS MAGAZINE* OFFER?

GOOD QUESTION. CONSIDER THE FOLLOWING EXAMPLES...

IN 2006, WHEN THE ARMY BROUGHT BACK THE M14 RIFLE FOR USE IN THE SANDBOX...

... WE REACHED BACK INTO OUR ARCHIVES AND REPUBLISHED PRACTICAL TIPS FOR KEEPING THE RIFLE IN ACTION.



WHEN THE ARMY BEGAN FIELDING THE M50 PROTECTIVE MASK IN 2013, *PS MAGAZINE* ANNOUNCED THE DECISION AND EXPLAINED THE BENEFITS OF THE NEW MASK.

WE EVEN PROVIDED INFORMATION ON HOW TO FIND TRAINING ON THE JACKS WEBSITE.

Training Help

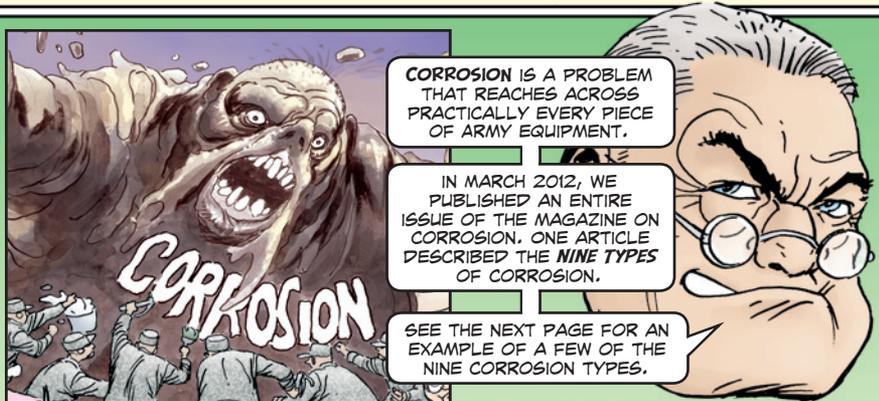
YOUR UNIT CAN FIND TRAINING HELP FOR THEIR NEW M50 MASK AT THE JOINT ACQUISITION CBRN KNOWLEDGE SYSTEM (JACKS) WEBSITE: <https://jacks.jpeocbd.army.mil>

FROM THE TRAINING DROP-DOWN MENU LOCATED BELOW THE JACKS BANNER, SELECT **NEW EQUIPMENT TRAINING**.

SCROLL DOWN TO THE PROTECTION SECTION IN THE LEFT-HAND COLUMN AND CLICK **M50/M51 JOINT SERVICE GENERAL PURPOSE MASK**.

SCROLL BACK UP AND YOU'LL SEE THE TRAINING FILES IN A NEW BOX.

ALSO, OF COURSE, CHECK OUT THE M50'S TM 3-4240-542-13&P. EVERY SOLDIER IN YOUR UNIT SHOULD HAVE A COPY OF IT. IT'S ALSO ON THE ETM SITE: <https://www.logsa.army.mil/etms/>



CORROSION IS A PROBLEM THAT REACHES ACROSS PRACTICALLY EVERY PIECE OF ARMY EQUIPMENT.

IN MARCH 2012, WE PUBLISHED AN ENTIRE ISSUE OF THE MAGAZINE ON CORROSION. ONE ARTICLE DESCRIBED THE **NINE TYPES** OF CORROSION.

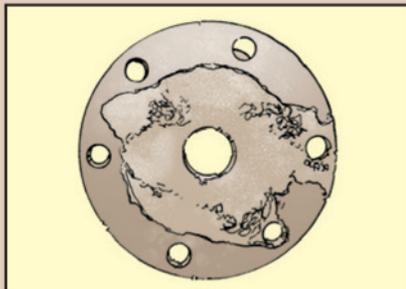
SEE THE NEXT PAGE FOR AN EXAMPLE OF A FEW OF THE NINE CORROSION TYPES.



9 Types of Corrosion

UNIFORM (or general attack):

Affects a large area of exposed metal surface, like rust on steel or tarnish on silver. It gradually reduces the thickness of the metal until it fails.

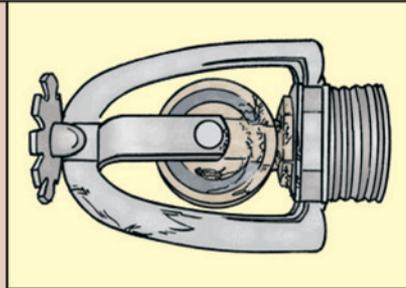


CREVICE:

Occurs in crevices created by rubber seals, gaskets, bolt heads, lap joints, dirt or other surface deposits. It will develop anywhere moisture or other corrosive agents are trapped and unable to drain or evaporate.

SELECTIVE LEACHING:

One element, usually the anodic element of an alloy, corrodes away, leaving the cathodic element. This can create holes in metal.



INTERGRANULAR:

Metal deterioration caused by corrosion of the bonds between or across the grain boundaries of a metal. The metal will appear to be peeling off in sheets, flaking, or being pushed apart by layers. A particular type of intergranular corrosion is exfoliation.



WHEN OPERATING IN THE SANDBOX, YOU HAVE TO CONSIDER THE EFFECTS OF HEAT ON SOLDIERS AND EQUIPMENT.

IN 2012, WE TALKED ABOUT TACTICAL WHEELED VEHICLES AND PROVIDED TIPS ABOUT HOW TO ADD COOLANT WHEN NEEDED AND HOW TO MIX ANTIFREEZE AND WATER.



ADD COOLANT ONLY WHILE THE ENGINE IS COOL. ADDING COOLANT TO A HOT ENGINE CAN CRACK THE ENGINE BLOCK OR BURST A SEAM IN THE RADIATOR.

DUDE! WAIT FOR ME TO COOL DOWN!



A 60-40 MIX OF ANTIFREEZE AND WATER IS BEST, BUT KEEP AT LEAST A 50-50 MIX TO RAISE THE BOILING POINT OF THE COOLANT SO IT WON'T BOIL AWAY LIKE PLAIN WATER.

Plain water...



BOILING POINT 212°

50% antifreeze
50% water



BOILING POINT 226°

60% antifreeze
40% water

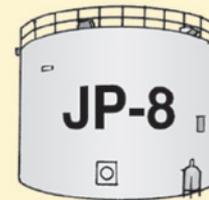


BOILING POINT 230°

LAST YEAR, WHEN THE ARMY SWITCHED FUELS FROM JP-8 TO JET-A/F-24, PS RAN AN ARTICLE THAT ANSWERED A LOT OF THE QUESTIONS THAT SOLDIERS WERE ASKING ABOUT THE NEW FUEL.



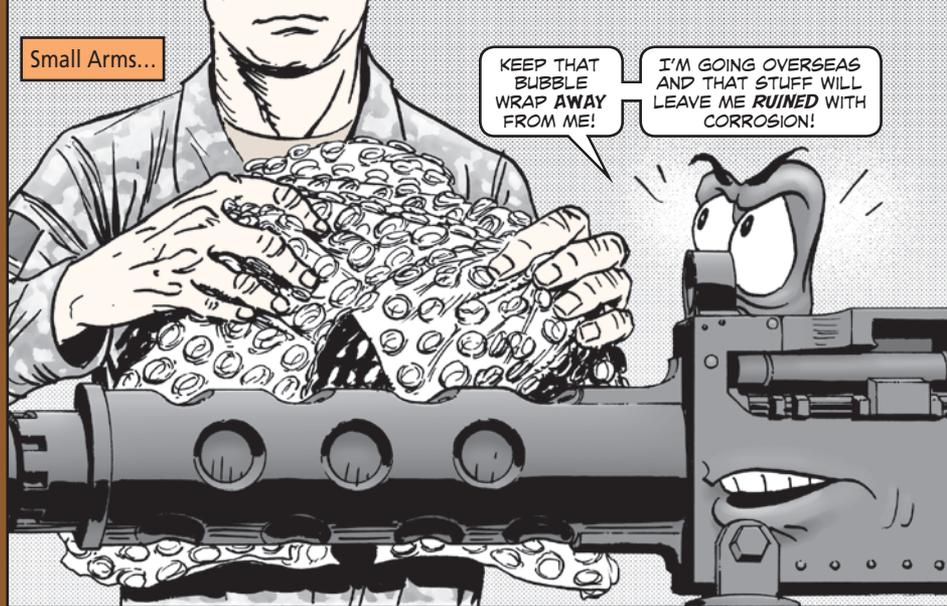
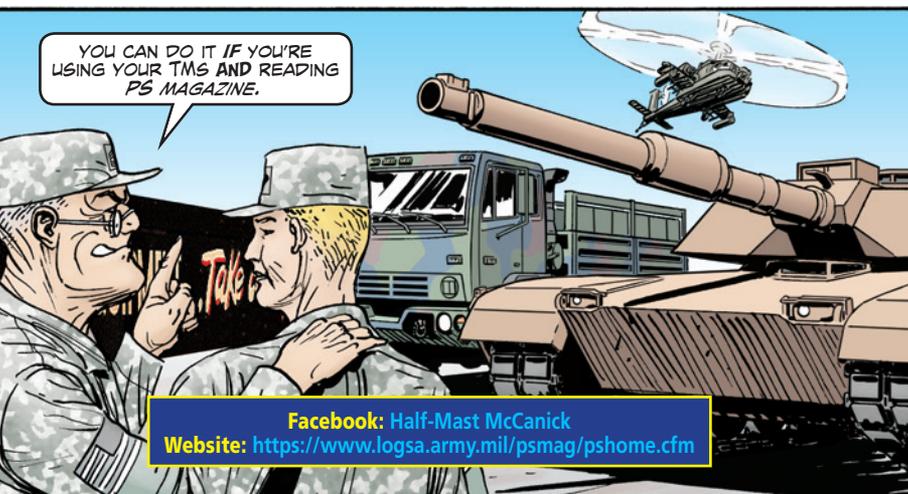
Q: What's the difference between JP-8 and F-24?



=



A: The main difference is cost. JP-8 and F-24 are completely interchangeable fuels for all CONUS operations. TARDEC (ground), AMRDEC (aviation) and AMCOM have all approved the conversion to F-24. For more information on aviation use of F-24, check out AMCOM GEN-MIM-13-001, at: <https://asmprd.redstone.army.mil/splashpage.asp>



NO BUBBLE WRAP FOR LONG TRIPS

Dear Editor,

Your article, "Pack for Safe Travel" on Page 36 in PS 734 (Jan 14), made a good point about the importance of padding and securing weapons for trips to the field or repair.

But one of the cushioning materials mentioned was bubble wrap. It should definitely *not* be used directly on a weapon that is going on a long trip for deployment or to depot for repair. Bubble wrap traps moisture, which causes corrosion. Your weapon could arrive riddled with corrosion.

For long distance shipping, weapons should be first lubed and then wrapped in volatile corrosion inhibitor (VCI) barrier paper. Secure the barrier paper with tape. NSN 8135-00-664-0015 brings a 3x600-ft roll of VCI barrier paper. Then, if you need padding for the weapon, you can wrap it in foam cushioning material. NSN 8135-00-300-4905 brings a roll that measures 225 feet x 30 inches.

Robert Owens
COMET
Ft Drum, NY

Editor's note: Excellent travel tips, Robert. Page 46 in PS 712 (Mar 12) had lots of information on shipping weapons. You can find it at:

<https://www.logsa.army.mil/psmag/archives/PS2012/712/712-46.pdf>

Thanks for the help.

WHAT'S IN IMPROVED CLEANING KIT?

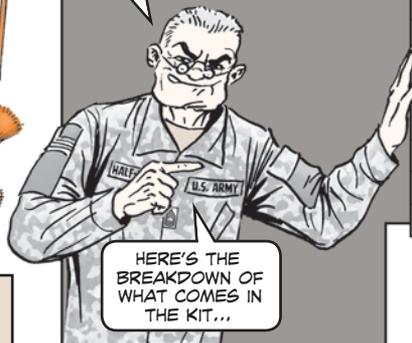


AS PS 733 (DEC 13) POINTED OUT, THERE IS ONLY ONE ARMY-APPROVED CLEANING KIT FOR THE M16 RIFLE/M4 CARBINE: THE **IMPROVED CLEANING KIT**.
NSN 1005-01-562-7393.



THAT ARTICLE SHOWED THAT ORDERING THE **INDIVIDUAL** CLEANING TOOLS LISTED IN TM 9-1005-319-10 WAS MUCH **CHEAPER** THAN ORDERING THE IMPROVED CLEANING KIT.

BUT WHAT THE ARTICLE DID **NOT** SAY IS THAT THE IMPROVED CLEANING KIT INCLUDES **SEVERAL MORE** ITEMS THAN THOSE LISTED IN THE -10.



HERE'S THE BREAKDOWN OF WHAT COMES IN THE KIT...

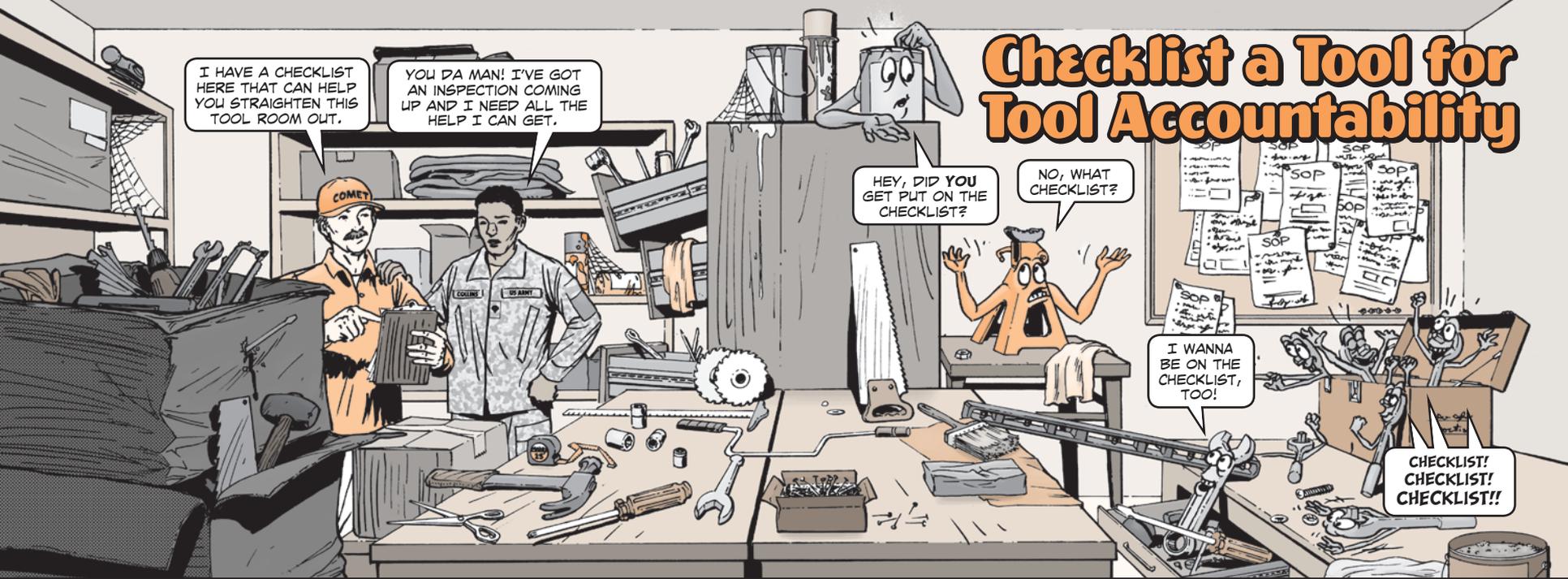
Item	NSN
Carrying case	none
Alice clips	none
Cotton swabs	6515-01-234-6838
Lens cleaner (½ ounce)	1005-01-523-9988
Lens brush	1005-01-445-6798
Lens cloth	none
NATO adapter	1005-01-449-9674
.22-cal obstruction remover (2)	1005-01-449-9672
.22-cal slotted tip	1005-01-449-9315
.30-cal slotted tip	1005-01-449-9254
Blackened brass scraper	1005-01-452-6373
Straight locking lug pick	1005-01-449-9943
Black locking lug scraper	none
5.56mm bore brush	1005-01-449-8980
7.62mm bore brush	1005-01-449-8999
9mm bore brush	1005-01-449-9159
.45-cal bore brush	1005-01-449-9282
5.56mm chamber brush	1005-01-544-7698
8-in flexible cable with .30-cal slotted tip	none
Curved locking lug pick	1005-01-581-8143
T-handle bar	1005-01-581-8146
2-in cleaning patches	1005-01-449-9257
Panoply cleaning patches	1005-01-445-6728
Multi-tool	5110-01-394-6252
Refillable bottle	1005-01-487-0045
Shoot-through dust cap	5340-00-880-7666
30-in flexible cable (2)	1005-01-449-8934
M16 solid rod obstruction remover with T-handle	none
Small arms cleaning brush	1005-01-578-9925
Dust brush	none
Pipe cleaners	9920-00-292-9946

The cost of the improved cleaning kit is now \$512.28.



Item	NSN
Maintenance equipment case	8465-00-781-9564
Cleaning rod handle section	1005-01-113-0321
Cleaning rod section (25 per box, 3 required)	1005-00-050-6357
Swab holder	1005-00-937-2250
Bore brush	1005-00-903-1296
Chamber brush	1005-00-999-1435
Toothbrush	1005-00-494-6602
Cleaning brush	7920-00-205-2401
CLP (½-oz bottle)	9150-01-102-1473
Pipe cleaners	9920-00-292-9946
Small arms swab	1005-00-912-4248

Editor's note: There are other cleaning kits for the M16/M4 that have NSNs assigned. But, as PS has said before, the assignment of an NSN does not automatically mean it is approved for use. Only the cleaning parts listed in the TM and the kit listed in this article are approved by TACOM for use with the M16/M4.



Checklist a Tool for Tool Accountability

I HAVE A CHECKLIST HERE THAT CAN HELP YOU STRAIGHTEN THIS TOOL ROOM OUT.

YOU DA MAN! I'VE GOT AN INSPECTION COMING UP AND I NEED ALL THE HELP I CAN GET.

HEY, DID YOU GET PUT ON THE CHECKLIST?

NO, WHAT CHECKLIST?

I WANNA BE ON THE CHECKLIST, TOO!

CHECKLIST! CHECKLIST! CHECKLIST!!

Dear Editor,
Part of our job with the Ft Stewart command maintenance training team (COMET) is to inspect tool rooms. We've developed this checklist to help units keep their tools organized, maintained, and accounted for:

A. Responsibilities

1. Has the responsible officer provided:
 - a. Tool room custodian appointment orders?
 - b. List of personnel authorized to draw tools?
 - c. Current supply catalog for each tool SKO?
 - d. User copy of hand receipts?
2. Are the following publications on hand?
 - AR 190-51
 - AR 710-2
 - AR 735-5
 - AR 750-1
 - AR 750-43
 - DA PAM 710-2-1
 - DA PAM 750-3
 - TB 43-0142
 - TB 43-0156
 - TB 43-180 (online)
 - TB 750-25
 - TM 9-243
 - TM 9-4910-783-13&P (SATS only)
 - TM 9-4940-568-23-1, -2, and -24P (FRS only)

B. Standard Operating Procedures

1. Is the unit maintenance SOP:
 - a. Published?
 - b. Followed?
 - c. Updated and signed by the commander annually?
2. Do the tool room procedures contain the following requirements at a minimum?
 - a. Procedures for tools issued for one day or less, for more than one day but less than 30 days, and for 31 days or longer.
 - b. Requirements for inventories and inspections.
 - c. Key control.
 - d. Procedure for lost, damaged or destroyed tools.
 - e. Lifting and holding device servicing.

C. Accountability

1. Are tools and SKOs:
 - a. Hand-receipted to the tool room custodian?
 - b. Inspected, inventoried and documented semiannually?
 - c. Secured with keys properly controlled?
2. Are tools that are lost, damaged or destroyed accounted for?
3. Are temporary hand receipts (DA Form 3161) used for tools issued for fewer than 31 days? Are permanent hand receipts (DA Form 2062) used for tools issued longer than that? Is tool sign out log (DA Form 5519) used?

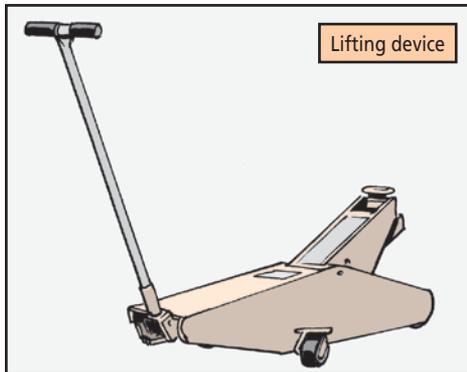
D. Maintenance/Serviceability

1. Are all tools:

- Cleaned, protected and serviceable?
- Stored within their own SKO?
- Authorized by MTOE and TMs on hand or on a valid request?

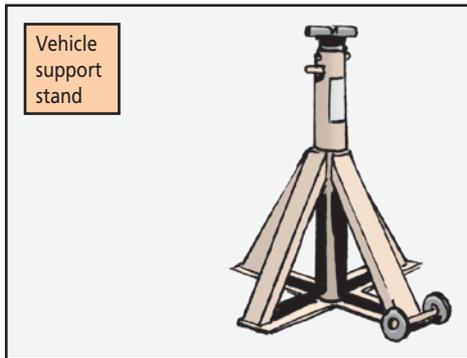
2. Are lifting devices:

- Scheduled for inspection in logistics information systems according to TB 43-0142?
- Stenciled or marked with load rating and next inspection date?
- Numbered and marked for identification?



3. Vehicle support stands:

- Does the unit maintain a copy of the certificate of conformance (COC) with load testing requirements for locally-purchased stands or a proof of load test if no certificate is available?
- Are support stands numbered and marked for identification?
- Are support stands entered into SAMS with a semiannual service schedule?
- Is there an Army data plate affixed to the vehicle support stand with rated capacity, original manufacturer and date of manufacture stamped on a securely attached data plate?
- Are there any signs of bends, separated welds, cracks, corrosion, or loose or missing parts and teeth?



We think this checklist will keep tool problems in check.

Ricky Sammons
Bobby Hawes
COMET
Ft Stewart, GA

Editor's note: A great checklist for a tool room checkup! This is a condensed version of the COMET checklist. If you would like the complete checklist, which includes AR and DA PAM references, write PS at:

half.mast@us.army.mil

Remember, this is a suggested checklist. You are welcome to come up with your own.



M41 PATS...

Only Purest Alcohol Will Do

I CAN HARDLY SEE! THAT ROTGUT ALCOHOL YOU PUT IN ME RUINED MY OPTICS!



The M41 protection assessment test system (PATS) is a very sensitive testing device. It has to be to ensure masks can truly protect Soldiers.

It is also very sensitive about the kind of alcohol you put in it. The **only** alcohol to use with PATS is reagent grade isopropyl alcohol, which is 99.5 percent pure.

What happens if you don't use reagent grade alcohol? The PATS optics will need to be cleaned or even replaced at one of the major TMDE centers. Clogged tubing will need to be removed. And the PATS will need to be recalibrated. All of this can cost up to \$650.

That's not all. A PATS with dirty optics can produce artificially low fit factors and fail perfectly good masks. CBRNE specialists end up wasting time troubleshooting good masks and PATS.

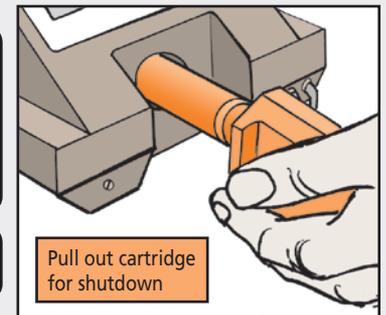
Save yourself all that cost and trouble by using only reagent grade isopropyl alcohol, which comes with NSN 6810-01-541-3650.

Note: The NSN listed in the PATS TM, NSN 6810-01-382-2904, should no longer be used. It's being replaced by the NSN above.



REMEMBER THAT WHEN YOU'RE THROUGH TESTING WITH PATS, YOU NEED TO REMOVE THE ALCOHOL CARTRIDGE AND LET PATS RUN FOR 3-5 MINUTES TO GET RID OF ANY EXCESS ALCOHOL.

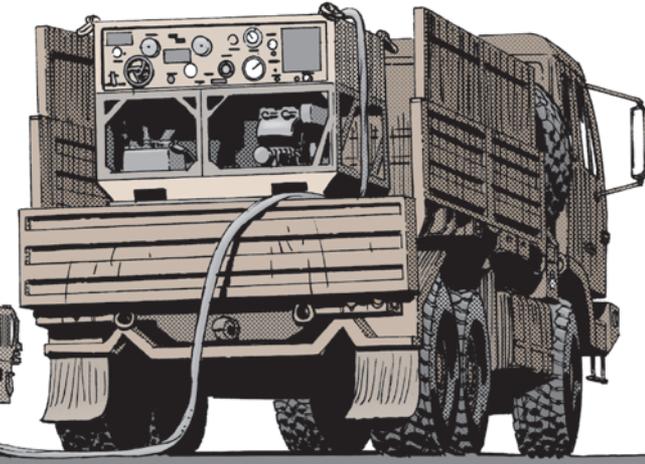
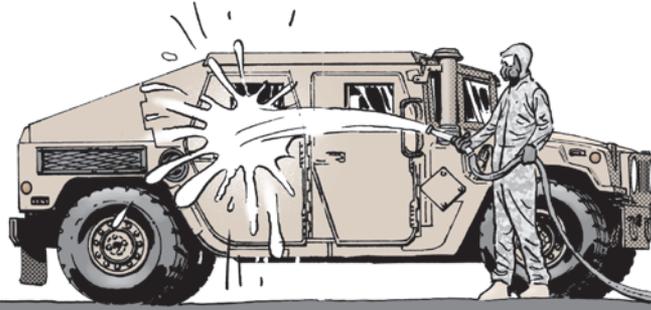
OTHERWISE, ALCOHOL SATURATES THE COUNTING MECHANISM.



Let Ft Stewart Assist You



LISTEN UP TO THESE SUGGESTIONS FROM FT STEWART. THESE GUYS HAVE SOME GREAT IDEAS!



Dear Editor,

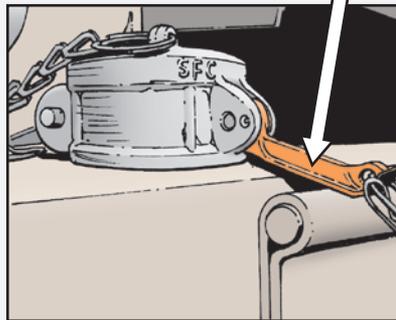
While maintaining the M12 decons at Ft Stewart, we've come up with a few suggestions to make decon units' jobs easier:

Corrosion. In a high humidity area like Ft Stewart, corrosion is a huge problem, particularly with the shower assembly and hose end caps. Rust forms on the threads of the shower pipes and you either can't screw them together or they leak if you do. Corrosion freezes the locks for the hose end caps, which prevents you from locking them on.

We've found keeping the shower pipes' threads sealed with plastic bags or foil will seal out corrosion. Screwing PVC caps on the pipes when they're not in use also stops corrosion. The fix for the hose end cover locks is to lube them at least monthly with CLP and work the locks up and down until they move smoothly.



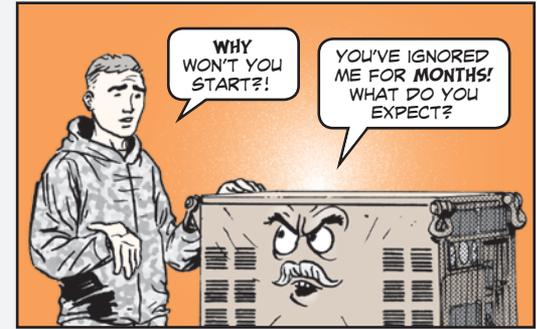
Wrapping shower pipe threads in plastic or foil helps prevent corrosion



Lube hose end caps monthly to prevent locks from seizing

Heater. As hot as it is in Georgia, the heater isn't needed that much. So it often sits for months without being run. But then when you do need hot water, it's almost impossible to start the heater. The solution is simple: Start the heater during weekly PMCS and let it run. Then when you actually need it, the heater will fire right up.

Communications. If a decon crew is doing a moving mission, it's difficult for the Soldier with the M12 to communicate with the driver. The driver can't hear anything while the M12 is running. We put a second Soldier in the cab to watch the operator for hand signals. Then the driver can be quickly alerted if something is wrong.



SGT Keith Oliver
SGT Michael Malone
92nd Chemical Co
Ft Stewart, GA

Editor's note: Good ideas, Sergeants. Thanks for the assistance.

IF YOU'RE NOT CAREFUL WHEN YOU PUT ON THE M52 MASK, THE INSIDE FLAP OF THE NOSE CUP CAN STICK TO ITSELF.

THAT LETS CARBON DIOXIDE BUILD UP INSIDE THE MASK AND YOU GET VERY *DIZZY*.

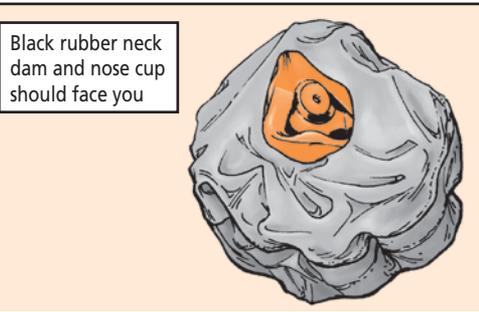
NOSE CUP FLAP FLAP



HERE'S THE CORRECT WAY TO PUT ON THE MASK AND AVOID THE FLAP FLAP...

- Remove all necklaces and chains. Unbutton your shirt collar if it interferes with the hood sealing around your neck.
- Remove the M52 from its pouch and remove its outer bag by tearing at the notch.
- Open the inner vacuum bag at its tear notch and remove the M52. If the protective padding sticks to the front of the filter housing, pull it off and throw it away.

- Unfold the hood so that the black rubber neck dam and nose cup are facing you. The nose cup should slip into the hood. If it doesn't, push it into the hood. If the nose cup remains folded, unfold it to its correct position.



- Turn the visor toward you, placing the rubber neck dam under your chin. Then pull the neck dam up and over your head in a single fluid motion.

- Push long hair under the neck dam and away from the sealing surface. Hold the front of the filter with one hand and position the bottom of the nose cup as low as possible under your chin. Make sure the top of the nose cup is positioned on the bridge of your nose. If you wear glasses, position the nose cup just below them.



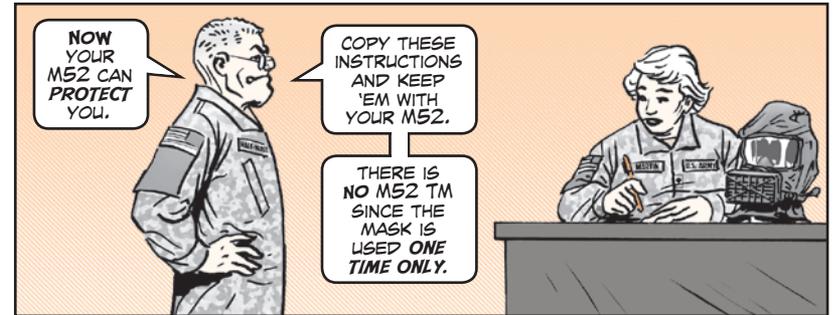
- Hold the filter and smooth the top of the hood across the top of your head. Position the visor close to your eyes to give the best possible view.
- Squeeze the hood with both hands so that the nose cup is moved slightly away from your face. This removes excess air trapped inside the hood. You may need to do this several times to get rid of as much of the air as possible.

- Adjust the strap tension so the nose cup is snug on your face. Hold the filter with your left hand while pulling the right-hand strap straight back to tighten the strap. Do the opposite to tighten the left-hand strap.



If you need to loosen the straps, pull forward on the backside of the buckles. If the nose cup is uncomfortable or collapses on your face, the straps are too tight.

- Shake your head gently side-to-side. If the nose cup moves out of place, tighten the straps. If the hood inflates and deflates when you breathe, you need to reposition the nose cup and tighten the straps.



Here are a few simple guidelines to follow when servicing the image intensifier tube...

Warranty

Read the warranty information in your TMs to find out what's covered. The warranty **does not** cover a product that's been misused, neglected or damaged in an accident. It also doesn't cover a product that hasn't been installed or maintained using the instructions in the TMs. Contact the vendor if you have warranty questions.

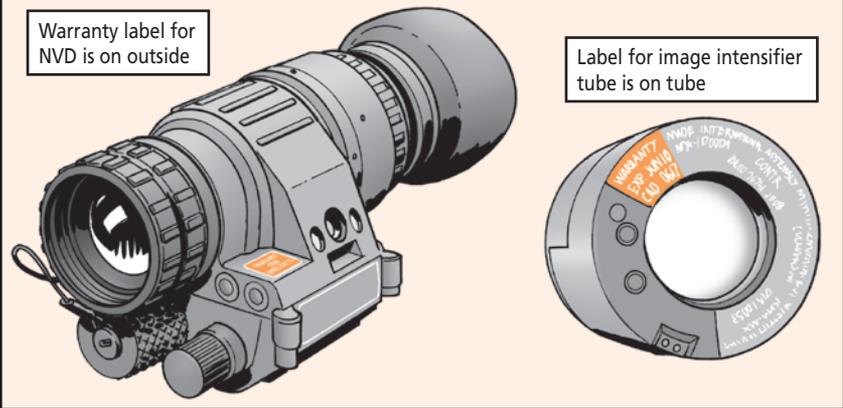
PQDRs and Warranty Claims

Before you submit a product quality deficiency report (PQDR) or warranty claim, carefully inspect and test the image intensifier tube. Make sure the tube has an actual defect.

Also check the warranty labels to make sure the warranties haven't expired. There are two warranty labels. The label for the NVD is on its outside. The label for the image intensifier tube is on the tube itself. You have to remove the eyepiece to get to the tube.

Warranty label for NVD is on outside

Label for image intensifier tube is on tube



Unnecessary Fees

The vendor may charge you a testing fee of \$100 or more per image intensifier tube or \$150 per NVD if you return these items under a PQDR or warranty claim and the vendor finds no defects. The vendor can also charge you if you return these items and the vendor finds proof of misuse or neglect. Of course, if the vendor finds that your returned item has defects, the vendor will waive the testing fee.

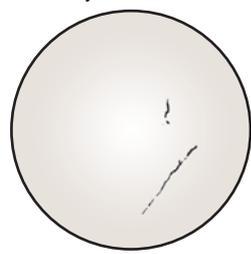
The Topic Is Optics



THE FOLLOWING EXAMPLES MAY HELP YOU UNDERSTAND WHAT YOU'RE SEEING WHEN YOU LOOK THROUGH THE EYEPIECE OF YOUR NVD...

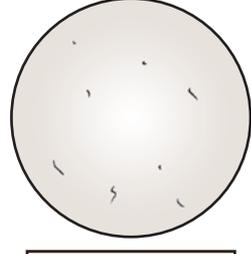
Emission point: This is a steady or fluctuating pinpoint of bright light in the image area that does not go away when all light is blocked from the objective lens of that monocular. The position of an emission point does not move within the image area.

Laser damage: The image shows black spots and lines caused by a laser.



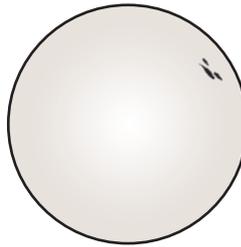
Damage caused by laser

Dirty optics: The odd shaped marks scattered throughout the image are sometimes mistaken for black spots and lines. They're actually bits of debris. To clear up the image, clean the lenses, the light interference filter (LIF) and the image intensifier tube's curved output fiber-optic faceplate.

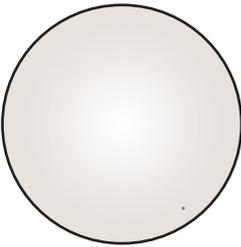


Don't mistake bits of debris for black spots

Black spots: These are cosmetic blemishes in the tube. The image on the left shows an internal tube blemish near 3 o'clock. It was caused by the user dropping the NVD. The image on the right shows a faint black spot at 5 o'clock. This is a more typical kind of spot. Black spots are acceptable as long as they don't interfere with viewing the image. They're also acceptable if they pass the black spot check in your TM.

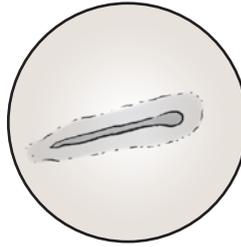


Black spot caused by dropping NVD

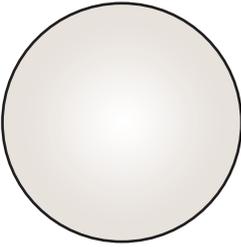


Typical black spot

Sun exposure: The left side of the image shows sun damage to the NVD's image intensifier tube caused by not using a lens cap. The right side of the image shows an undamaged image intensifier tube. A lens cap protected the tube when the NVD was not in use.



Sun-damaged image intensifier tube. No lens cap used



Undamaged image intensifies tube. Lens cap used

If you have questions about NVDs or tube inspection and testing, contact Program Executive Office (PEO) Soldier's Greg Patrick at DSN 654-0139, (703) 704-0139, or email: gregory.s.patrick6.civ@mail.mil



Safety...

HEAT KILLS, PART I

PHYSICAL LABOR COMBINED WITH HOT WEATHER IS A SUREFIRE RECIPE FOR HEAT ILLNESS AND INJURY.

HEAT INJURIES POSE A DANGER IN TRAINING AND COMBAT, DISABLING OR KILLING SOLDIERS EVERY YEAR.



What Causes Heat Injury?

High air temperatures, high humidity and hard physical work create heat stress in the body. If the body can't get rid of the heat efficiently, body temperature can rise to dangerous levels. Other factors (fatigue, dehydration, wearing body armor) increase the risk of heat illness and injury.

Best defense against heat injury?
Drink plenty of water

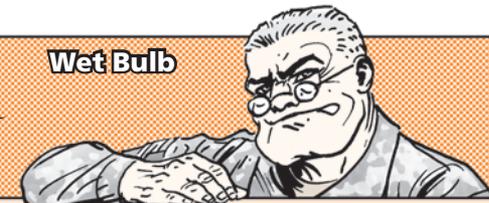


Risks to Look For

- Not used to heat (non-acclimatized). After 10-14 days of heat and exercise, a Soldier's response to heat stress usually improves.
- Poor fitness
- Overweight
- Sick (cold, flu, sore throat, fever, etc.)
- Taking medications such as antihistamines, decongestants, high blood pressure medications or antidepressants
- Use of alcohol in the last 24 hours
- Earlier heat injuries
- Donating blood
- Sunburn and heat rash (prevent effective sweating)

Unit leaders, pay attention to these risks for heat injury in Soldiers...

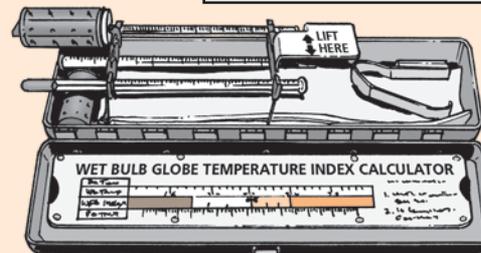
Wet Bulb



UNIT LEADERS SHOULD ALSO PAY ATTENTION TO...

- The heat category of the past few days as measured by the wet bulb globe temperature index calculator. Once you've found out the heat category, follow the guidelines in the work/rest and water consumption table.
For each heat category and work intensity level, the table tells you how long a Soldier can work, how much rest he needs, and how much water he should drink.

Use wet bulb globe to determine heat category



Item	NSN 6665-
Wet bulb globe temperature kit (without tripod)	00-159-2218
Wet bulb globe temperature kit (with tripod)	01-381-3023

- The level of hard work during the past few days. How long and hard has the work or training been? Has your unit had several cases of heat injury in the past few days? If so, you may have to reduce the amount or hours of work.

Work/Rest and Water Table

Order the Work/Rest and Water Consumption Table at the U.S. Army Public Health Command website: <https://usaphcapps.amedd.army.mil/hioshoppingcart>

Type *work/rest* in the search block.

You can also order other instructional materials at this website, including the handy *Heat Injury Prevention (HIP) Pocket Guide*.

Here are just a few must-reads to understand, prevent and treat heat injuries: TRADOC Regulation 350-29, *Prevention of Heat and Cold Casualties (Jul 12)*. You'll find it online at the U.S. Army Training and Doctrine Command:

<http://www.tradoc.army.mil/tpubs/regs/tr350-29.pdf>

TB Med 507, *Heat Stress Control and Heat Casualty Management (Mar 03)*. You'll find it online at the Army Publishing Directorate:

http://armypubs.army.mil/med/DR_pubs/dr_a/pdf/tbmed507.pdf

The Heat Illness Prevention web page on the U. S. Army Public Health Command website: <http://phc.amedd.army.mil/topics/discond/hipss/Pages/HeatinjuryPrevention.aspx>

Next month, we'll discuss types of heat injuries and their symptoms and treatment.

Supply Management...

HEY RUSTY, YOU DON'T LOOK SO GOOD!

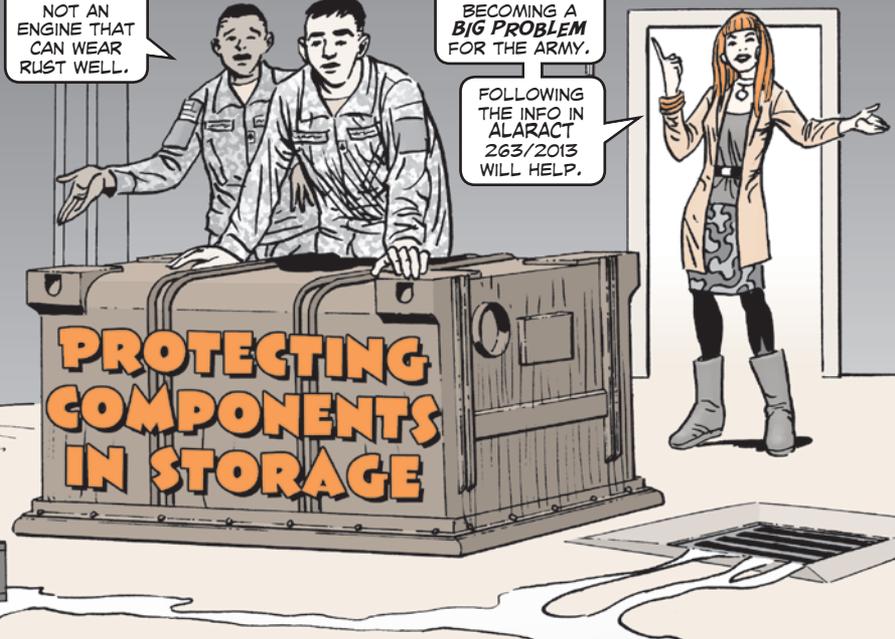
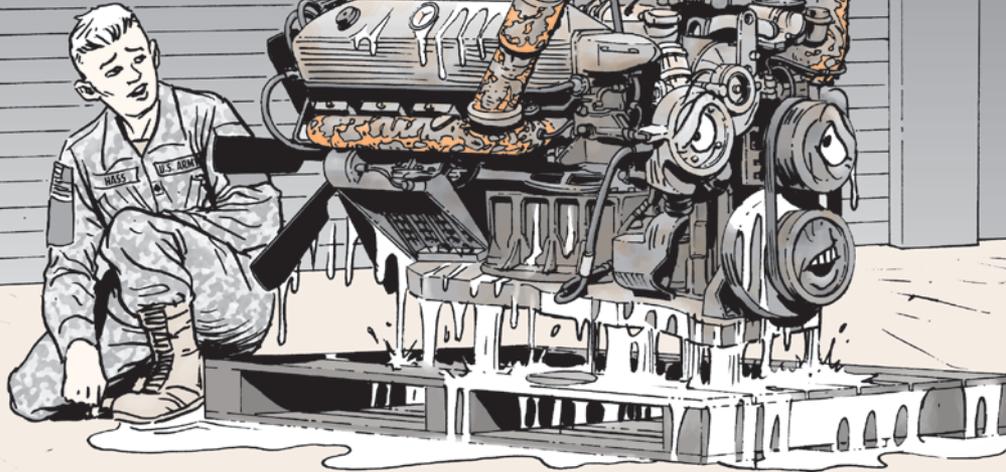
THAT'S BECAUSE I'M NOT A NATURAL REDHEAD!

THERE'S NOT AN ENGINE THAT CAN WEAR RUST WELL.

THIS IS BECOMING A **BIG PROBLEM** FOR THE ARMY.

FOLLOWING THE INFO IN ALARACT 263/2013 WILL HELP.

PROTECTING COMPONENTS IN STORAGE



IMAGINE THAT YOU'RE ABOUT TO REPLACE THE ENGINE ON A TACTICAL VEHICLE.

THE REPLACEMENT ENGINE IS STORED IN A LONG LIFE REUSABLE CONTAINER (LLRC).

OH, NO!

AFTER OPENING THE LLRC, YOU DISCOVER THE REPLACEMENT ENGINE IS SEVERELY CORRODED AND SITTING IN A POOL OF WATER.

AN ISOLATED INCIDENT? IT *SHOULD* BE.

UNFORTUNATELY, IT OCCURS FAR TOO OFTEN.

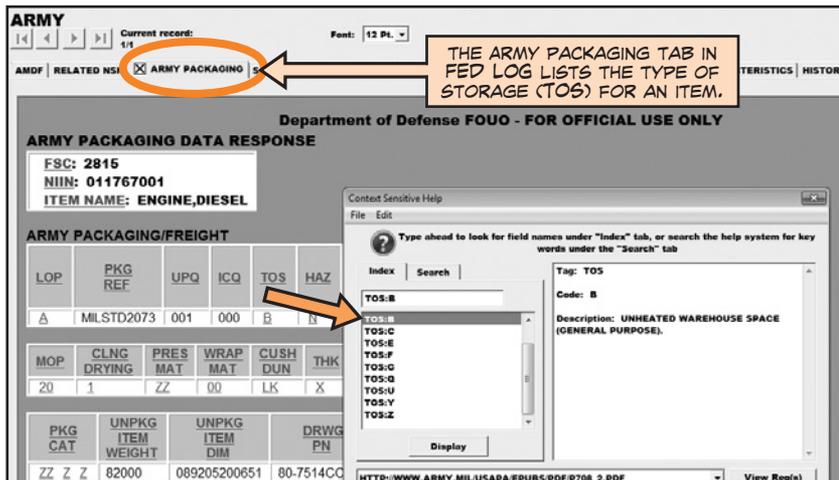
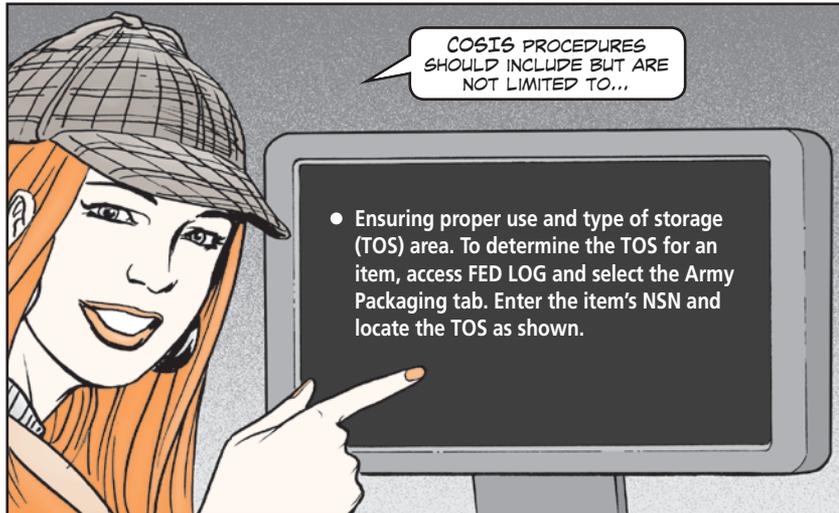
A recent HQDA study found multiple Class IX components that were unserviceable due to corrosion. About 10 percent of engines, transmissions, gearboxes, rotor heads and hubs had some degree of corrosion that made them unusable and in need of depot-level maintenance. Besides the high costs incurred, unit readiness suffered. The bottom line is materiel that's not ready for issue (RFI) equals reduced support to the Soldier, often at critical times.

To address these ongoing and correctable corrosion problems, the Army issued ALARACT 263/2013, *Care of Supplies in Storage (COSIS) for Class IX Components*. The instructions apply to all supply, storage and maintenance activities. If you need a copy, download the ALARACT from the Army's online database in AKO. Folders are filed by year, going back to 1990. Number 263 is in the 2013 folder. Grab your CAC and go to:

<https://www.us.army.mil/suite/page/550282>

Care of Supplies in Storage

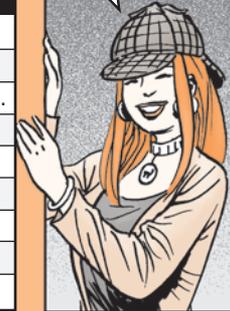
ALARACT 263/2013 covers the steps all units should take to preserve components. Proper COSIS means that any materiel in storage is kept in RFI condition. COSIS includes visual inspections, preservation and packing using MIL-STD-2073, and all required movement within an installation. COSIS and stock readiness **must** be a regular part of storage practices and procedures in supply, maintenance and shop SOPs.



Most military supplies and equipment deteriorate rapidly when exposed to the elements. To prevent deterioration and extend shelf life, keep items in covered storage when possible. AR 740-1 is your guide.

HERE ARE SOME EXAMPLES OF ITEM TYPE STORAGE CODES...

Examples of Item Type Storage Codes	
Code	Where
A	Heated general purpose warehouse: Heated >40° F.
B	Unheated general purpose warehouse.
C	Controlled humidity: 40% to 50% relative humidity (RH).
D	Controlled room temperature: 60° F to 80° F.
H	Hazardous materials (HAZMAT).
N	HAZMAT/refrigerated: 36° to 46° F (2° to 8° C).
S	Shed: Structure without complete sides or end walls.
U	Uncovered space (open storage).
X	None assigned by ICP (any type space acceptable).



If an item is not being stored properly, corrective action should be taken. Here are some additional tips:

- Conduct periodic inspections of storage areas for insect/rodent infestation and evidence of pilferage, sabotage, condensation, leakage or seepage. Follow the guidance in AR 740-1, *Storage and Supply Activity Operations* (Aug 08). Download the pub at: http://www.apd.army.mil/pdffiles/r740_1.pdf

Increased inspection of containers awaiting shipment is especially important, because most metals suffer little or no corrosion when desiccant keeps the relative humidity below 50 percent.

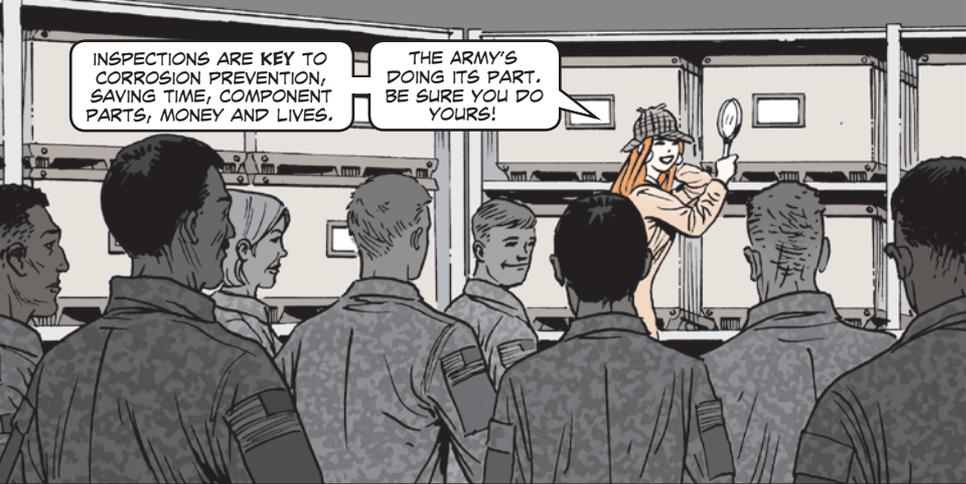
Inspection Frequencies Defined in AR 740-1 (see Table 5-1)		
	Type Storage	Interval (months)
	Controlled humidity or equivalent when such rating has been approved by higher authority.	60
	Controlled temperature warehouse	30
	Non-controlled temperature warehouse	24
	Shed	12
	Open	6

Notes:

1 Frequencies cited here may be varied as follows: Variances may be made for Type II shelf-life items, items containing radioactive material, items having inspection frequencies which are based on safety considerations such as aircraft. Includes items normally packaged in hermetically sealed containers, items normally stored in metal reusable containers and items, by reason of their composition, requiring less frequent inspection than cited here. Proposed variances exceeding 25 percent of the prescribed frequency require written approval by the item manager, prior to implementation by submitting activity.

2 Variances in inspection frequencies cited above, if required, will be made on an item-by-item basis and will be noted as being an exception in the storage serviceability standard concerned.





INSPECTIONS ARE KEY TO CORROSION PREVENTION, SAVING TIME, COMPONENT PARTS, MONEY AND LIVES.

THE ARMY'S DOING ITS PART. BE SURE YOU DO YOURS!

- Position LLRCs to allow easy inspection and access of external humidity indicators or pressure relief valves. The storage area should be well-lit so the humidity indicator's color can be easily viewed.
- Make periodic inspections of container conditions, humidity and other external indicators for:
 - condensation, leakage or seepage.
 - functional damage to suspension.
 - cracks, holes and/or hull deformities that impact closing or sealing the container.
 - dents that interfere with the container envelope.
 - missing or damaged hardware.
 - open or unsecured containers.
 - wood rubbing strips that are not ISPM 15 compliant.
 - condition of seals and packaging material.
 - presence and condition of desiccant.
 - presence of corrosion prevention compounds.
 - condition of the component/component pack.
- If the humidity indicator shows that humidity exceeds the allowed tolerance of the contained component (pink or white in color), follow the procedures listed below, depending on container type.
- **Containers with no desiccant port.**
 - Open the container.
 - Take corrective maintenance steps per the TM.
 - Replace indicator assemblies and desiccants.
- **Containers with a desiccant port.**
 - Replace desiccant.
 - Reinspect the container after 24 hours (up to two times). If the indicator stays pink or white, corrective maintenance must be done. Follow the applicable TM and procedures for containers requiring pressurization using dry air or nitrogen. When the indicator is blue, follow normal inspection guidelines.

Additional Guidelines

WHEN REPLACING CONTAINER COMPONENTS, CHECK ALL SEALS AND HUMIDITY INDICATOR ASSEMBLIES AND PLACE THE PRESCRIBED QUANTITY OF DESICCANT INSIDE (CHECK THE TM OR LLRC DATA PLATE).

CLOSE OR RESEAL THE CONTAINER USING ALL BOLTS TO SECURE THE LID TO THE CONTAINER BASE WHEN APPLICABLE.



Supply support activities (SSAs) and tech supply activities should keep an on-hand supply of humidity indicator cards, humidity indicator plugs and color-change humidity indicator disks for use in replacing expired cards or discs. Use the following information to order humidity indicator cards and desiccants:

- Indicator, humidity, card (large), NSN 6685-01-591-2831
- Indicator, humidity, card (small), NSN 6685-00-052-1865
- Humidity indicator plugs. There are many options here, so search FED LOG with the following keywords: INDICATOR, HUMIDITY, PLUG
- Color-change humidity indicator discs meeting requirements of SAE AS26860 and MIL-I-8835. Search FED LOG with the following keywords: INDICATOR, HUMIDITY, CARD or search using the part number MIL-I-8835.
- Desiccant, activated, MIL-D-3464. Again, there are a variety of desiccant types, so search FED LOG using the part number MIL-D-3464.

WHEN SHIPMENTS ARE DELAYED, DESICCANT CAN BECOME SATURATED. CHECK CONTAINERS FOR INCREASING HUMIDITY.

IF IT RISES ABOVE 50 PERCENT, OR THE HUMIDITY INDICATOR CHANGES COLOR, IT'S TIME TO REPLACE THE DESICCANT.



Desiccant Examples

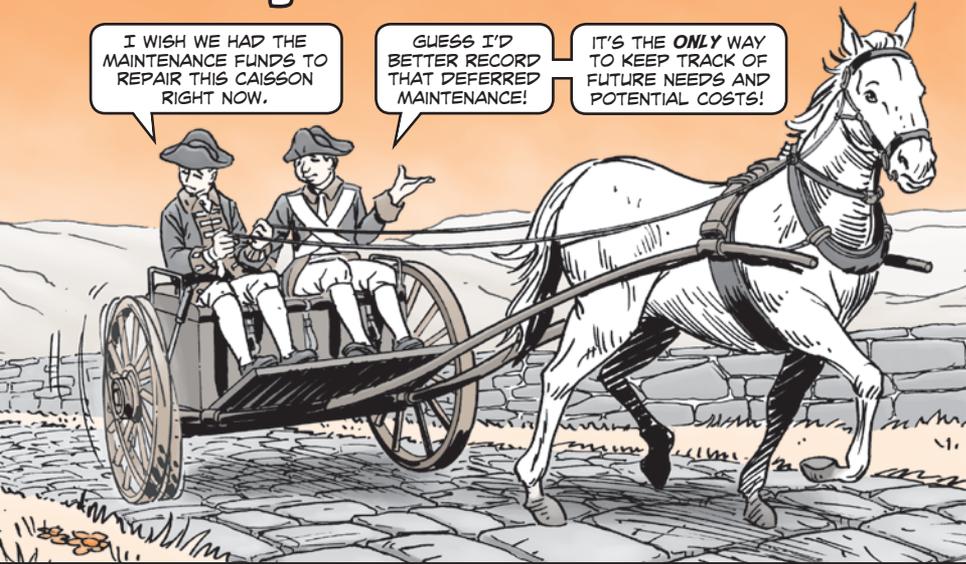
Unit Size	NSN	Bag Dimensions Width x Length x Thickness
1	6850-00-264-6035	5 x 3 1/2 x 1/4
2	6850-00-264-6573	5 x 4 3/4 x 3/8
4	6850-00-264-6574	5 x 6 x 1/2
8	6850-00-264-6571	5 x 8 x 1 1/8
16	6850-00-264-6572	5 3/4 x 10 x 1 1/2

THE LOGISTICS SUPPORT ACTIVITY'S PACKAGING, STORAGE AND CONTAINERIZATION CENTER (PSCC) CAN HELP UNITS KEEP COSTS STANDARDS AND MAINTAIN PROPER STORAGE FOR CLASS IX COMPONENTS.

CALL DSN 795-6038,
(570) 615-6038, OR EMAIL:
logsapsc.sr.tyad@us.army.mil



Tracking Deferred Maintenance



I WISH WE HAD THE MAINTENANCE FUNDS TO REPAIR THIS CAISSON RIGHT NOW.

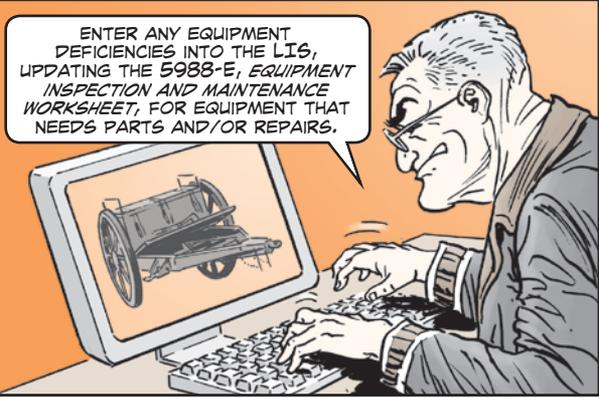
GUESS I'D BETTER RECORD THAT DEFERRED MAINTENANCE!

IT'S THE **ONLY** WAY TO KEEP TRACK OF FUTURE NEEDS AND POTENTIAL COSTS!

THE CAISSONS ARE STILL ROLLING ALONG. BUT BUDGET CONSTRAINTS MAY HAVE LEFT THE WHEELS **WOBBLING** A BIT.

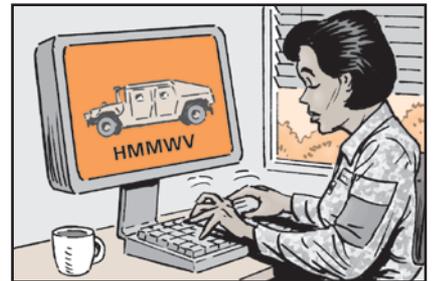
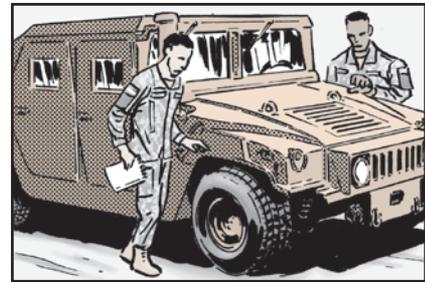
AS CUTBACKS CONTINUE, MAINTENANCE NEEDS WILL GROW AND WHAT CAN'T BE DONE NOW NEEDS TO BE **CAREFULLY TRACKED**.

TO DO THIS, UNITS SHOULD RECORD ANY DEFERRED MAINTENANCE USING THEIR SAMS AND PBUSE LOGISTICS INFORMATION SYSTEMS (LIS).



ENTER ANY EQUIPMENT DEFICIENCIES INTO THE LIS, UPDATING THE 5988-E, EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET, FOR EQUIPMENT THAT NEEDS PARTS AND/OR REPAIRS.

Equipment operators should write down any additional faults that show up whenever PMCS is performed. The unit maintenance clerk can then add this info to the 5988-Es. Using PBUSE ensures missing Components of End Item (COEI) and Basic Issue Items (BII) are recorded through the unit supply room at both the equipment and property book levels.



Then, even if funding is unavailable or the unit chooses not to requisition parts at that time, needs and potential costs are still captured in the LIS.

That also allows headquarters staff to do a data pull and roll up a unit's deferred maintenance costs at any time. Cost estimates will stay in the LIS as long as the unit doesn't order parts.

When funds are again available, the unit can order missing parts and other items as they're approved.

REMEMBER, IT'S **CRITICAL** THAT YOU CAPTURE DEFERRED MAINTENANCE COSTS.

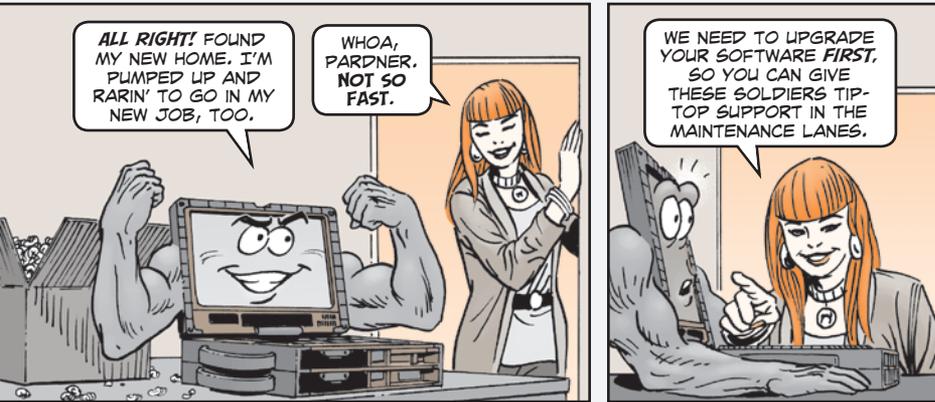
DOING SO HELPS YOUR UNIT, COMMAND AND ULTIMATELY THE ENTIRE ARMY BETTER SUPPORT READINESS AND MAINTENANCE STANDARDS.

YOU'LL BENEFIT, TOO. KEEPING ELECTRONIC DEFERRED MAINTENANCE RECORDS MEANS YOU **DON'T** HAVE TO SUBMIT REPEATED MANUAL REPORTS.



MOST IMPORTANTLY, THE DATA SHOWS AND TELLS YOU WHAT'S NEEDED TO MAINTAIN YOUR EQUIPMENT IN 10/20 STATUS.

New MSD V3? Upgrade Software ASAP



Units, did you know that the Electronic Maintenance System-Next Generation (EMS NG) software comes pre-installed on your Maintenance Support Device (MSD) Version 3?

When you get a new MSD V3, you'll likely see that the EMS NG Viewer and Autonomous Diagnostic Manager (ADM) Version 2.1.7 is already on your machine's hard drive. This makes it look like it's ready to go straight out-of-the-box.

While it may make MSD prep easier for maintenance shops, in this case pre-installed software can cause problems. Software update v. 2.1.8, released in December 2013, fixed any glitches or bugs in the older version. Remember, it's always best to use the latest software version with your MSD.

For optimal MSD V3 performance, remove the older version of the software and replace it with the latest version. You can find and download the EMS NG Viewer/ADM software at:

<https://oneil.service-now.com/ems/main.do>

or from AKO at:

<https://www.us.army.mil/suite/files/26121198>

Note: Pre-installed software is **not** included on the supplied MSD V3 recovery disc. Also, if an MSD V3 hard drive is reformatted in the field, the EMS NG software is **not** included as part of the installation package.

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

Connie's POST SCRIPTS

Zipper Lube NSN

If the zipper on your tent or soft-top HMMWV is hard to zip, a little zipper lube, NSN 9150-00-999-7548, will get it moving again. Just rub the lubricant on each side of the track and then slide the zipper up-and-down a few times. That NSN brings a box of 24 zipper lube sticks.

Got SAMS-E? Join milSuite Group

There's now a milSuite group that links you to CASCOM's SAMS-E developer. You can share SAMS-E tips, lessons learned or get answers from others. CASCOM is interested in SAMS-E suggestions, workarounds and feedback. Remember, however, your assigned SASMO and the S4IF help desk are your first stops for resolving technical issues with your SAMS-E system. Visit: <https://www.milsuite.mil/book/groups/cascom-sams-e>

RETURN UNSERVICEABLE BLACK HAWK SIGNAL CONVERTERS

Mechanics, maintenance and overhaul programs work only if you turn in unserviceable assets for repair. That's why the Black Hawk headshed needs you to turn in unserviceable signal converters, NSN 5895-01-534-8070, right now. The need for these assets is critical so the repair program can keep turn-around time consistent. Do your part so the supply system works and you have the assets you need.

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>

New nPB Limit

Attention, units! There's a new Threshold Limit Value (TLV) for n-Propyl Bromide (1-bromopropane), a chemical commonly referred to as nPB. The American Conference of Governmental Industrial Hygienists (ACGIH) recently lowered the TLV of nPB from 10.0 to 0.1 parts per million (ppm). nPB is used as a vapor degreasing solvent, a carrier solvent in adhesives and in industrial aerosol products like degreasers. If you know or suspect a product contains nPB, first consult your local industrial hygienist and make sure that you have the proper personal protective equipment (PPE). Then contact the AMCOM Environmental Hotline for guidance and recommendations for alternative products at DSN 897-1711, (256) 313-1711, or email:

usarmy.amcom-environmental@mail.mil

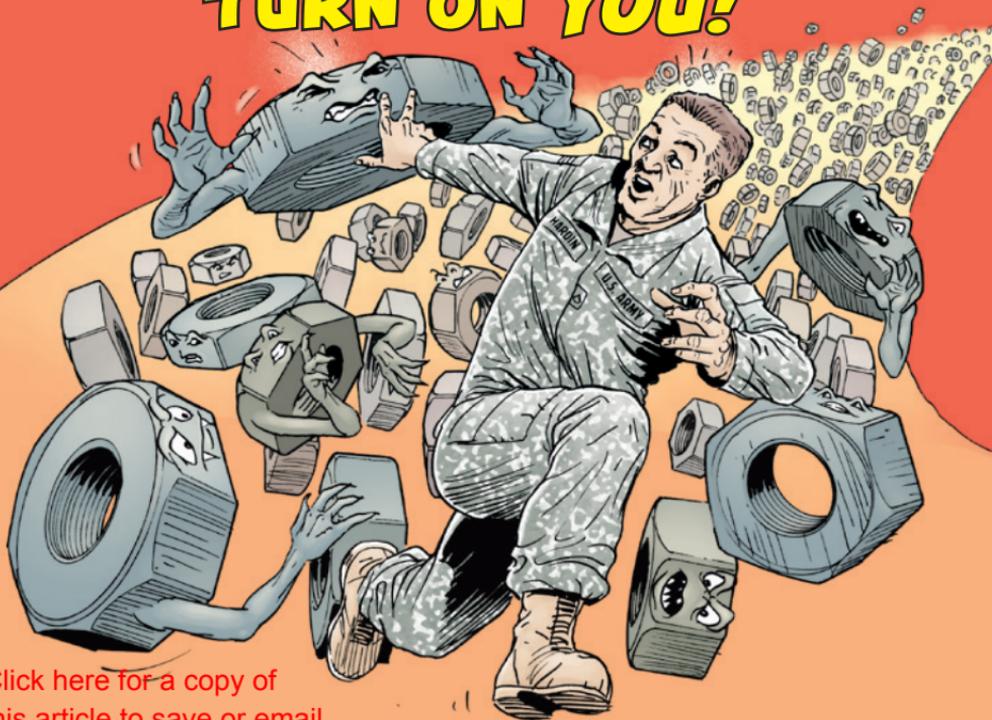
DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 345239, requirements for the TB 43-PS-Series.

Would You Stake Your Life ^{right now} on the Condition of Your Equipment?

**TAKE TIME
TO CHECK FOR
LOOSE NUTS
AND TIGHTEN
THEM!**



**OR THEY JUST MIGHT
TURN ON YOU!**



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