

Issue 714

PS

May
2012

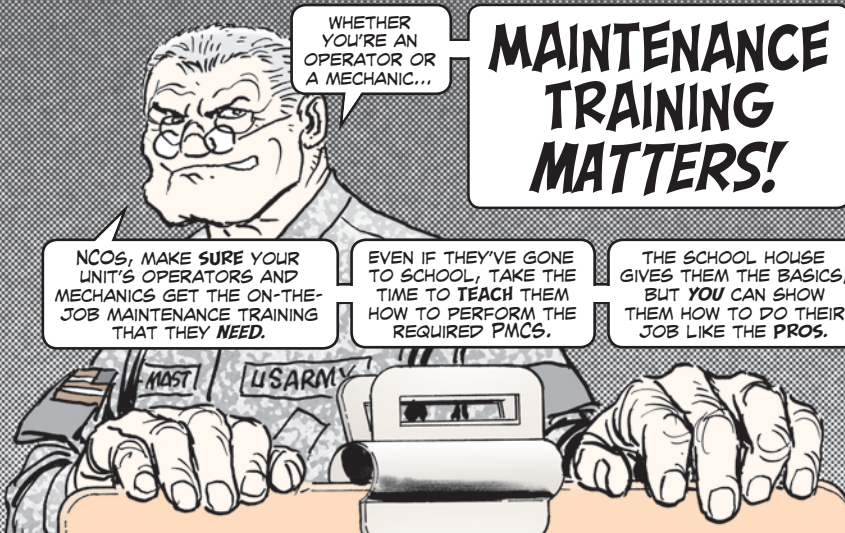
THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-714

Approved for
Public Release;
Distribution is
Unlimited

**WILL PM SAVE THEM?
FOLLOW THE 'RIVER OF
DOUBT' EXPEDITION!
SEE PAGE 27.**





WHETHER
YOU'RE AN
OPERATOR OR
A MECHANIC...

MAINTENANCE TRAINING MATTERS!

NCOS, MAKE **SURE** YOUR
UNIT'S OPERATORS AND
MECHANICS GET THE ON-THE-
JOB MAINTENANCE TRAINING
THAT THEY **NEED**.

EVEN IF THEY'VE GONE
TO SCHOOL, TAKE THE
TIME TO **TEACH** THEM
HOW TO PERFORM THE
REQUIRED PMCS.

THE SCHOOL HOUSE
GIVES THEM THE BASICS,
BUT **YOU** CAN SHOW
THEM HOW TO DO THEIR
JOB LIKE THE **PROS**.

- Check up on your maintainers from time to time. Ask your operators to perform the first check from their -10 TM's PMCS. Or get your mechanics to do the first check from their -20 or -24 TM's PMCS. They should do it right if they've pulled PMCS by the book.
- Teach Soldiers how to use the TM's troubleshooting step-by-step procedures. Show 'em where to find the needed parts in the parts manual, too.
- Keep a bulletin board where all your maintainers can see it. Update it monthly with the latest maintenance information.
- Do hip pocket training using training aids. Little reminders can bring big results.
- Use **PS** for training. Post articles that will help your maintainers on that bulletin board we mentioned.
- Make sure your maintainers complete maintenance forms correctly. Give them help with this if they need it.
- Finally, ensure Soldiers know what resources are available for solving maintenance problems above their level.

For instance, DA Form 2028, *Recommended Changes to Equipment Technical Publications and Blank Forms*, helps correct publication problems. SF 368, *Product Quality Deficiency Report*, is used for reporting quality and design problems. DA Form 1045, *Army Ideas for Excellence Program (AIEP) Proposal*, is used for any type of suggestion. So is the DA Form 5533, *SMART/TIPS Suggestion Form*.



USING THESE MAINTENANCE
TRAINING TIPS WILL SHOW
HOW MUCH YOUR EQUIPMENT
AND MAINTAINERS MATTER
TO **YOU**.



THE PREVENTIVE MAINTENANCE MONTHLY

ISSUE 714 MAY 2012

TB 43-PS-714, 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.



COMBAT VEHICLES

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M2/M3-Series Bradley Generator Choice
M88-Series Recovery Vehicle Winch Usage
New BDAR Kit Now Available
JCIMS Information Update



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FMTV Cab Mount Caution
Maintenance Service Intervals
Interlocking Drip Pans
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M1117 ASV Seat Advice



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

Just write to:

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

Or email to:

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

Internet address:

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

By order of the Secretary of the Army:

RAYMOND T. ODIERNO

General, United States Army Chief of Staff

Official:

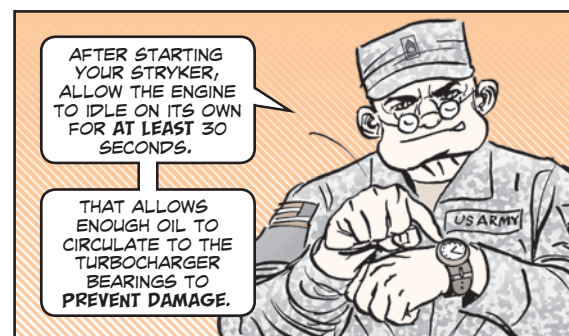
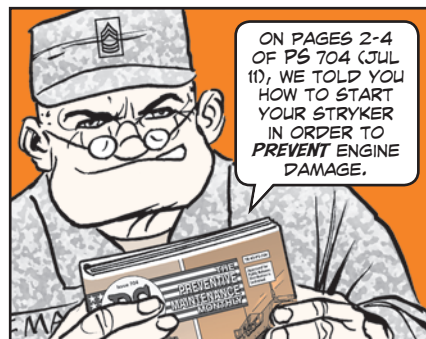
Joyce E. Morrow
JOYCE E. MORROW

Administrative Assistant to the Secretary of the Army

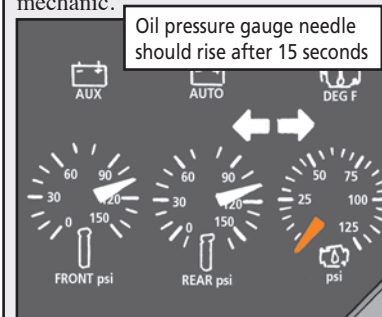
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1. Watch the oil pressure gauge. The needle should begin to rise 15 seconds after startup. If it doesn't, shut down the vehicle immediately and call your mechanic. _____



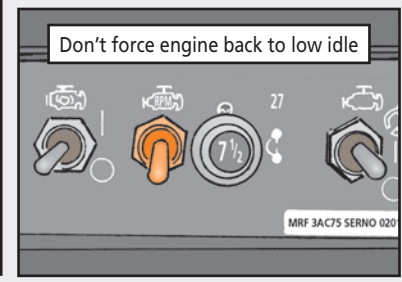
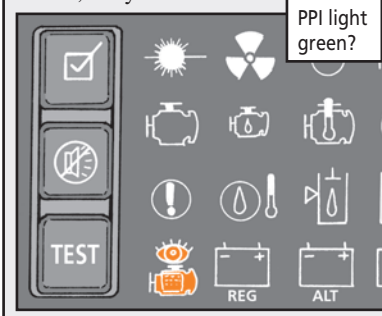
- 3. Eyeball the check engine/diagnostic indicator lamp on the driver's instrument panel. If it lights up or starts to flash, report it.**

4. Allow the oil and air pressure gauges to reach normal operating range before driving the vehicle.

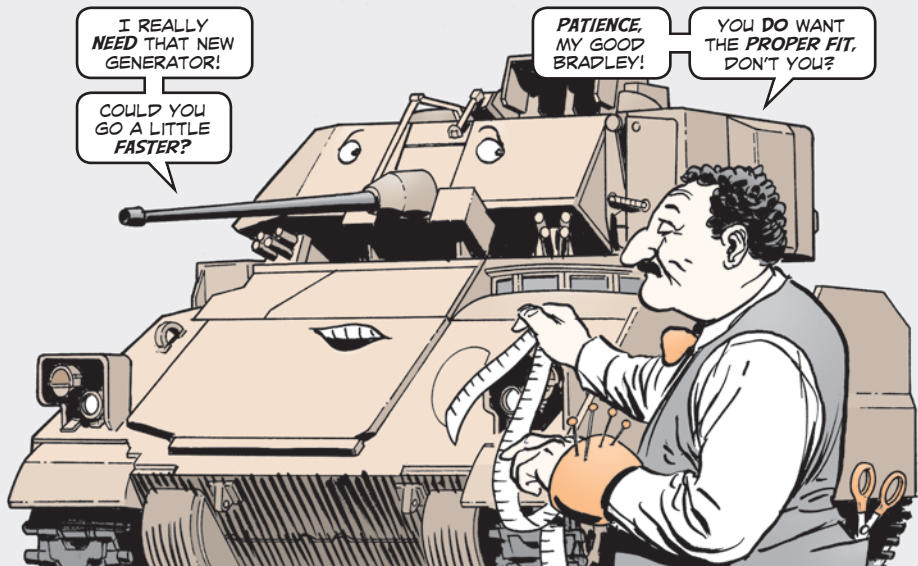
- 5.** Check the engine idle speed. It should be approximately 700 rpm for about the first 10 minutes after startup. Then, automatic high-idle begins and will boost engine speed to around 1,200 rpm.

Some drivers panic a little when the engine revs higher. They flip the engine rpm switch to bring it down to low idle. That wrong decision keeps oil and coolant from circulating fast enough to cool the engine and can result in damage.

- 2. Check the power pack interface (PPI) light. It should be green. If it's yellow or amber, tell your mechanic.**



Get the Fit You *Need*



When the time comes to replace the generator on your Bradley, fit is pretty important! If you're trying to install a Niehoff 400-AMP generator, NSN 6115-01-562-6264 (PN 12386631-1), you could run into problems. The generator's housing may come into contact with the transmission output housing oil port plugs. That keeps you from bolting it in place properly.

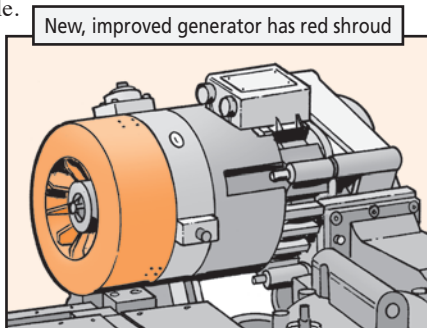
Sure, you might be able to force or massage the generator into place, but you'll only get a damaged generator for your trouble.

A new generator is available that was designed to fit much better. Problem is, it still has the same NSN and part number as the ill-fitting generator. The only way to tell the two generators apart is by the color of the fan shroud and the addition of a safety decal.

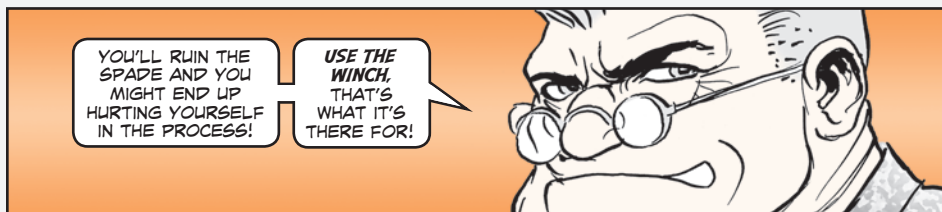
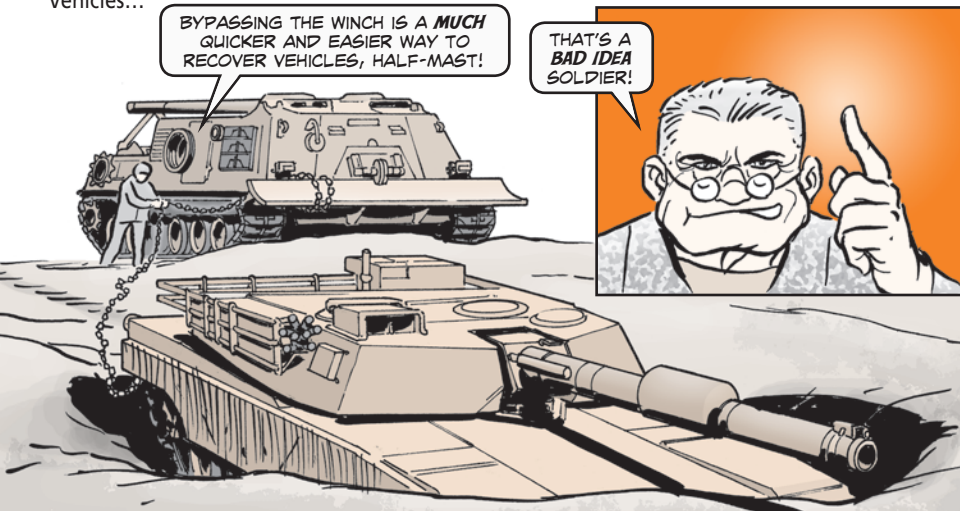
The new and improved generator has a red fan shroud. If your generator has a black shroud, replace it.

Questions? Contact TACOM's Gregory Nicholson, DSN 786-8942, 586-282-8942, or email:

gregory.r.nichelson.civ@mail.mil



Don't Bypass the Winch



During recovery operations, each part of your M88 has its specific role to play. For example, the spade is used to stabilize your M88 so the winch can pull out a stuck or disabled vehicle. It's when you start taking shortcuts that problems happen.

Some operators think it's quicker and easier to bypass the winch altogether. They wrap one end of a chain around the spade and attach the other end to the disabled vehicle. Then it seems like a simple matter of backing up their M88 to recover the disabled vehicle.

That's a really bad idea for two reasons. First, the spade's not meant for recovery. The strain can snap the spade's lock pin and damage the hydraulics. Second, you have no idea how strong that chain is. If it snaps under the pressure, it will recoil like a whip, damaging your recovery vehicle and possibly injuring or killing anyone who might be in its path.

That shortcut ends up taking longer and could be more painful than you bargained for. So stick to the winch for pulling and use the spade for its intended purpose.

BDAR...

NEW KITS HAVE ARRIVED!

CREWMEN AND
MAINTAINERS,
I'VE GOT SOME
GOOD NEWS
AND **BAD NEWS**
FOR YOU!

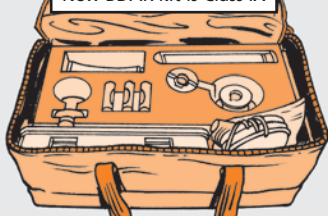
THE **BAD NEWS** IS THE
BATTLE DAMAGE AND
REPAIR (BDAR) CREW KIT,
NSN 5180-01-502-9504,
AND MAINTAINER KIT,
NSN 5180-01-502-9507,
ARE NO LONGER
AVAILABLE.

NOW, HERE'S
THE **GOOD
NEWS!**

The TRADOC Program Office (TPO) for Battlefield Recovery and Executive Agency for BDAR has developed a new and improved BDAR kit for all ground combat and tactical systems. The new kit combines all the capabilities of the previous kits with an additional emphasis on improving fluid line and electrical repairs.

The new BDAR kit, NSN 5180-01-575-1265, is a Class IX item and can be ordered through the supply system right now. Demand for the new kits is heavy, so order early enough to prepare for your deployment and sustainment needs.

New BDAR kit is Class IX



To make the new kit the best it can be, TPO needs your feedback. Let them know how well the kit components work and how the kit can be improved. Contact TPO at DSN 298-3050/4753/4115, (410) 278-3050/4753/4115, Fax 410-278-5184, or by email:

leeescoebdarfeedback@conus.army.mil

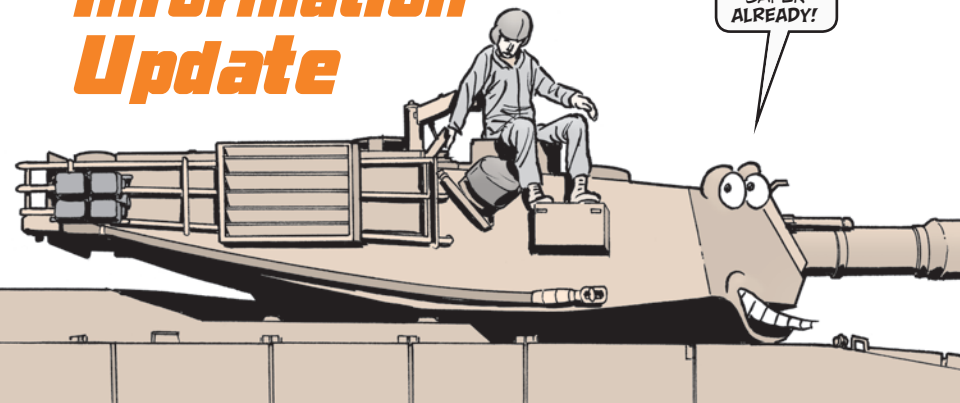
Or write to:

TRADOC Program Office for BDAR/R
Bldg. 360, Lanyard Boulevard
Aberdeen Proving Ground, MD 21005

JCIMS Information Update

WELL, *THAT* TAKES CARE OF YOUR JCIMS INSTALLATION!

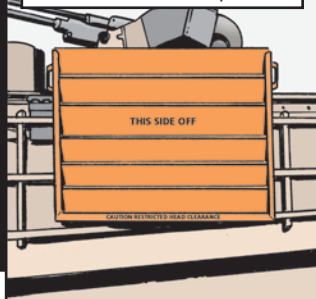
I'M FEELING SAFER ALREADY!



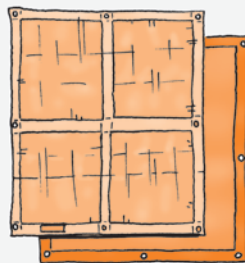
Combat is dangerous enough without having to worry about being shot by someone on your own side. That's why both you and your vehicle need the protection of the Joint Combat Identification Marking System (JCIMS).

JCIMS is composed of combat identification panels (CIPs), thermal identification panels (TIPs), and Phoenix infrared beacons. All three items have been around since the mid-90s and JCIMS remains the only platform marking capability within the US Army and our NATO Allies.

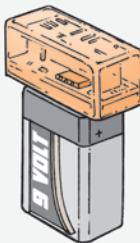
JCIMS kits include CIP panels...



...TIP panels...



...and Phoenix IR beacons



Over the years, JCIMS has evolved to cover new vehicle models and consolidate kit configurations. For example, seven separate kits were originally needed to cover the entire HMMWV family of vehicles. Today, only two types of kits are needed.

Accountability

JCIMS is a CTA 50-909, Table 60 Class II accountable item with a Reportable Item Control Code (RICC) of 2 (reportable) and an Accounting Requirement Code (ARC) of “durable.” The basis of issue narrative guidance contained in the CTA database was recently updated to require JCIMS for all maneuver brigade combat teams in the active component and National Guard.

Make sure you remove the JCIMS kit before turning your vehicle in to Reset. You’ll need that kit to use on your replacement vehicle. Remember, all components of the JCIMS kit are separate accountable items and must be maintained and accounted for, whether mounted or not.

HERE ARE THE AVAILABLE JCIMS KITS WITH THEIR NSNs AND LINE ITEM NUMBERS (LINS) TO HELP WITH PROPERTY ACCOUNTABILITY...

Vehicle	Kit NSN	LIN
M1-series tanks	2350-01-394-2534	K41354
M2A2/M3A2, M2A3/M3A3 Bradleys, M6 Linebacker, M7 BFIST	2350-01-398-5170	K41388
M270A1 MLRS	2350-01-398-5171	K41558
M113A2/A3 FOV	2350-01-398-5168	K41490
M88A1 recovery vehicle	2350-01-394-2531	K27523
M60A1 AVLB	2350-01-392-1566	K41286
M109A2-A6 SP howitzer	2350-01-398-5180	K41422
M992A2 ammo carrier	2350-01-398-5178	K27591
M1126, M1127, M1128, M1129, M1130, M1131, M1134 Stryker	2320-01-501-9527	C85240
M1132, M1133, M1135 Stryker	2320-01-507-2544	C85308
M996, M997, M1037, M1097, M1113 (w/shelter) HMMWVs	2320-01-398-7188	K93075
M998, M1038, M1113 (w/o shelter), M1097, M1114, M1025, M1026, M966, M1151, M1152, M1165 HMMWVs	2320-01-472-5884	K41694
HMMWV Avenger	2320-01-398-7197	K27455
FMTV/LMTV, HEMTT, PLS, LHS-series (unarmored)	2320-01-483-9056	K61881
SEE	2320-01-398-5163	K41184
M93A1 Fox CBRN vehicle	2350-01-398-5173	K41252

TO ORDER A CLASS II REPLACEMENT TIP-9/21 OR PHOENIX IR-14 LIGHT, USE THESE NSNs...

Item	NSN
TIP-21 thermal ID panel (2x2-ft)	2590-01-563-8452
TIP-9 thermal ID panel (4x4-ft)	2590-01-531-6337
Phoenix IR-14 light	5855-01-438-4588

Work is also underway to configure JCIMS kits for the armored versions of the FMTV/LMTV, HEMTT, PLS, and LHS, as well as the M88A2 recovery vehicle and select MRAP vehicles.

If your unit has not been contacted to schedule a New Material Information Briefing (NMIB) and New Equipment Fielding (NEF) for JCIMS, you can expect contact sometime soon.

Support

Integrated Logistics Support (ILS) and Supply Management responsibilities for JCIMS are transitioning from TACOM to CECOM. When the transfer is complete, CECOM will provide all future sustainment by means of supply chain management and planning.

Future supply initiatives may include the provisioning of kit hardware so that repair parts can be ordered instead of a new kit. The CECOM POC for supply issues is Christopher Lukeman, 443-861-2961, or email:

christopher.j.lukeman.civ@mail.mil

Maintenance

Maintenance is critical in keeping the JCIMS kits fully mission capable. To help with that, an interim User’s Manual is available pending the completion of the final TM. The manual includes Class IX component NSNs, a PMCS checklist and a sustainment training briefing that includes maintenance and security requirements and tactics, techniques and procedures to assist employment planning.

Until a final hard copy version of the TM is available, you can download the User’s Guide at the Single Interface to the Field (SIF) website:

<https://sif.kc.us.army.mil>

Questions?

FOR ADDITIONAL HELP, CONTACT THE PRODUCT MANAGER, METEOROLOGICAL AND TARGET IDENTIFICATION CAPABILITIES (PM MATIC), OFFICE...

Michael Toscan, Project Leader
(410) 306-4020
michael.r.toscan.civ@mail.mil

Sherry Venable, Logistics Leader
(410) 306-4031
sherry.l.venable.civ@mail.mil

Michael Starr, Fielding Leader/Systems Engineer
DSN 464-2426, (502) 626-2426
michael.t.starr@us.army.mil

DEFEATING OVERHEATING

IF YOU HAD ONLY TAKEN CARE OF ME LIKE YOU HAVE YOURSELVES I WOULDN'T BE **OVERHEATING!**

NOW LOOK AT ME! I'M **MELTING!!**



IF YOU'VE EVER BEEN IN THE DESERT, YOU KNOW HOW HOT IT FEELS WHEN THE TEMPERATURE SOARS ABOVE 100°F.

YOU HAVE TO TAKE **EXTRA CARE** TO KEEP YOURSELF FROM OVERHEATING.

AND YOUR FMTV NEEDS THE **SAME** PROTECTION.



A LITTLE EXTRA CARE FROM YOU CAN PREVENT YOUR TRUCK FROM OVERHEATING IN EXTREME TEMPERATURES.

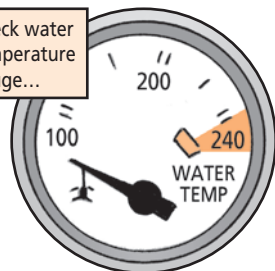
OVERHEATING STARTS WHEN THE ENGINE TEMPERATURE MOVES PAST 230°F.

HERE'S HOW TO AVOID THAT...



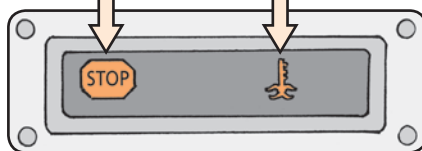
- Watch the water temperature gauge, STOP engine indicator and coolant temperature indicator closely for signs of overheating.

Check water temperature gauge...



...STOP engine indicator...

...and coolant temperature indicator



- Check oil levels often. Since the cooling and lubrication systems support each other, failure of one system can quickly lead to failure of the other.

- Never operate the vehicle unless the engine fan switch is in the ON position. That means double-check to make sure that the engine fan OFF indicator is **not** lit.

Engine fan OFF switch...



...should be ON so fan can run

But the fan switch **should** be turned OFF whenever the vehicle is fording water at unknown depths.

- Always idle the engine for about two minutes before shutdown. That cools the engine and prevents damage.

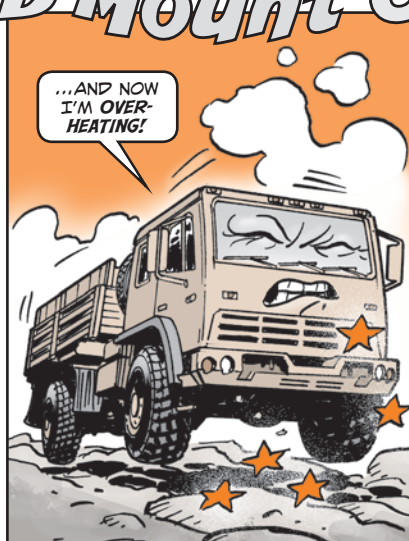
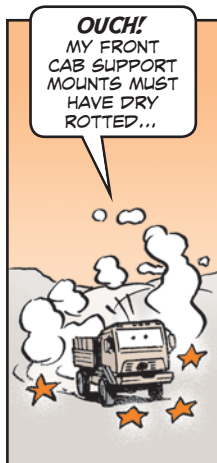
- Never operate the engine longer than 30 seconds at full throttle if the vehicle is not moving. (For example, while operating the self-recovery winch or other auxillary equipment.) This quickly raises the transmission oil temperature and can damage the transmission. Watch the service indicator light in the shift window. If it lights up, or if the water temp gauge is near 230°F, the transmission oil is overheating.

Keep eye on service indicator light



- Check the battery fluid level often in extreme heat if you have older lead-acid batteries in your truck instead of maintenance-free batteries. Batteries do not hold their charge well in extreme heat, so the specific gravity must be adjusted. See TM 9-6140-200-13, *Operator and Field Maintenance for Automotive Lead-Acid Storage Batteries*, for details.

Cab Mount Care



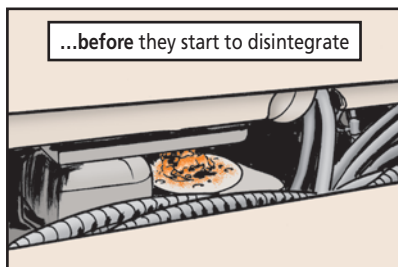
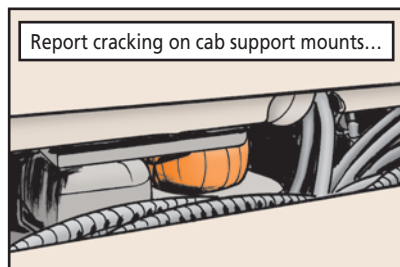
Drivers, when doing weekly PMCS on your -A0 and -A1 model FMTVs, make sure you do a thorough job with the exterior checks. And don't forget to take a look at the front cab support mounts. The upper mount, NSN 5342-01-371-7973, and the lower mount, NSN 5342-01-371-7258, can dry rot over time.

First you'll notice splits in the rubber. Soon after that they'll begin to fall apart.

Without the mounts, every bump makes the cab rock and bounce. And when you raise or lower the cab, it can tilt, putting extra stress on the hydraulic struts. For trucks with the weight of add-on armor, those stresses are even worse.

Broken cab mounts can also lead to squashed radiator hoses that can lead to overheating.

So if you notice cracks, tell your mechanic. New rubber mounts can save you a lot bigger repair bill later.



MAINTENANCE SERVICE INTERVALS

DO YOU THINK THAT WE QUALIFY FOR THE 'LOW-USAGE' SERVICE INTERVAL?

PAL...

...I THINK WE'RE PROBABLY GOING TO TAKE THE DEFINITION OF 'LOW USAGE' TO A WHOLE NEW LEVEL!

Dear Half-Mast,

Our National Guard unit has a lot of low-usage vehicles. I've heard that you're supposed to double the time on service intervals, but keep the vehicle's mileage the same. Is this cited in any regulation?

SGT S.C.

Dear Sergeant S.C.,

Service intervals for equipment that qualify as low usage can be extended in accordance with Chapter 4-2 of AR 750-1, Army Materiel Maintenance Policy. The AR is very specific on what equipment qualifies based on usage, either in miles or hours.

Some equipment is exempt and the vehicle's service interval cannot be extended. The chapter is a little lengthy and detailed, but it's been the regulatory policy for a very long time.

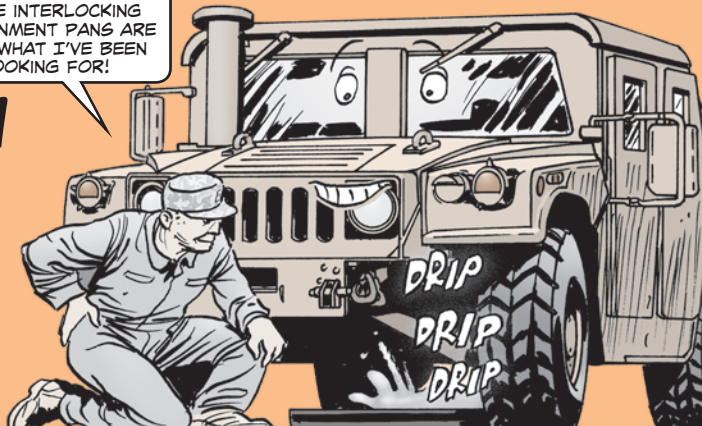
By the way, this reference used to be Chapter 3 in the Maintenance Update, DA Pam 738-750, but became a part of AR 750-1 when the maintenance updates went by the wayside.

Half-Mast

Tactical
Vehicles...

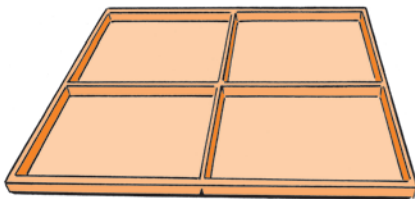
I MUST BE DREAMING!
THESE INTERLOCKING
CONTAINMENT PANS ARE
JUST WHAT I'VE BEEN
LOOKING FOR!

DREAM
DRIA
PAN'S



Drip pans that really work well come with NSN 4940-01-535-7654. That's because they are flexible and can interlock. They are so durable, they can survive being run over by a heavy vehicle! Plus, they're good for big systems.

The interlocking containment pan is made up of 36-x36-x2-in squares with interlocking sides that allow you to make the overall pan in different shapes and as large or as small as you need.



Interlock pans to make size you need

When you place your order, you'll get a pack of 10 pans.

Class IX Safety Glasses

Mechanics will probably click [Like](#) on Facebook if they see a good pair of safety glasses. They're easier to wear than safety goggles, but they can get scratched up a lot. So if you need to order more class IX safety glasses for the wrench turners in your unit, use NSN 4240-00-990-8905. However, these glasses do not substitute for ballistic eyewear.

Up-armored HMMWV VEE/IVEE Windshield Washer Nozzle

Need the NSN for the windshield washer nozzle on your up-armored ECV HMMWVs with VEE and IVEE windshields? Use NSN 2540-01-596-1571. TM 9-2320-387-24P lists NSN 2540-01-436-4236, but that nozzle only works on HMMWVs without the egress windshield.

GO EASY ON THE SEAT!

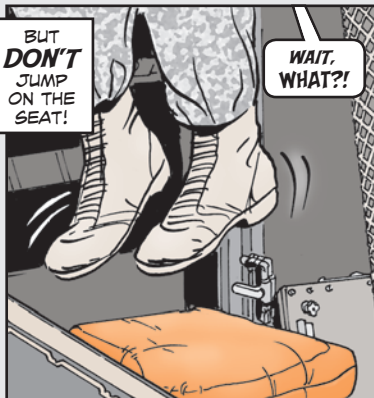
WHEN YOU HAVE ON FULL BATTLE RATTLE, IT'S EASIER TO ENTER YOUR ASV BY JUMPING ON THE SEAT.

AND HOW!



BUT **DON'T** JUMP ON THE SEAT!

WAIT, WHAT?!



IF YOU DO, THE BURST DISC MAY RUPTURE. THEN THE SEATS **WON'T** ADJUST. AND IF YOU CAN'T ADJUST THE SEATS, YOU CAN'T OPERATE THE VEHICLE!

SO WHEN ENTERING THROUGH THE HATCH, LOWER YOUR FEET **SLOWLY** TO THE SEAT, AND THEN PLACE THEM ON THE FLOOR.

DON'T JUMP!

OPENING THE SEAT ACTUATOR BYPASS VALVE ALSO HELPS PROTECT THE BURST DISC.

WHAT IF I **ALREADY** TURNED MY ENGINE OFF?

IT'S OK—YOU CAN **STILL** LOWER THE SEAT AND OPEN THE VALVE.

THAT'S WHY YOU SHOULD LOWER THE SEAT AND OPEN THE VALVE WHILE EXITING YOUR ASV.

BECAUSE THE BYPASS VALVE IS LEFT OPEN WHEN YOU EXIT THE VEHICLE, YOU'LL NEED TO **CLOSE** IT WHEN YOU RE-ENTER THE VEHICLE. THEN PUT THE SEAT WHERE YOU WANT IT.

THE SEAT ACTUATOR BYPASS VALVES ARE LOCATED ON THE LEFT AND RIGHT SIDES OF THE SEAT STANCHION.

REMEMBER TO GO **EASY** ON THE SEAT.



GUIDE ROLLERS NEED LUBE!

WITHOUT LUBE, I'M A REAL DRAG!

YOU'RE TELLING ME!

Smooth operation is the “name of the game” when it comes to the guide rollers behind the scraper’s bowl. Here are two areas that need your attention when you grab the grease gun.

The top and bottom guide rollers behind the scraper’s bowl are out of plain view because of their location. Each roller moves back and forth when the bowl is loaded or emptied. Without lube, a roller locks up and drags along its guide track. The end result is a lot of wear and tear to the roller, bowl and ejector.

Don’t let that happen to your scraper. Lube the grease fittings on the bottom rollers with a grease gun during scheduled services.

But there are no fittings on the top guide rollers! So, once a year, remove the access cap on the top guide roller. Use a ½-in socket wrench to remove the four cap bolts. You’ll need a pry bar to hold the guide roller in place while turning the bolts with the wrench.

Use ½-inch socket wrench to remove cap bolts

Remove cap

Pack the access cap and the guide roller’s bearing with GAA. By the way, there’s nothing that tells you to lube the top guide rollers. That’s because the info is missing from the scraper’s lube order! So hold on to this guidance.

Pack roller bearing with GAA

OH, NUTS!

NUTS IS RIGHT!

YOU MUST HAVE INSTALLED MY TRACK SHOE NUTS UPSIDE DOWN!

TRACK SHOE NUT INFO

Something as simple as an upside down nut can knock your track off.

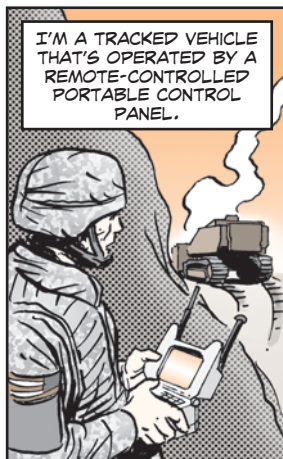
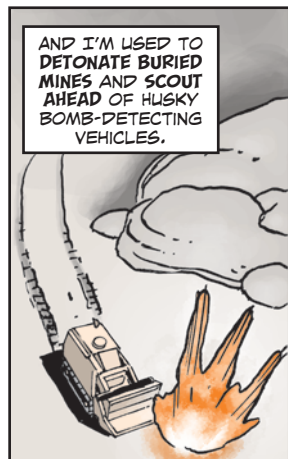
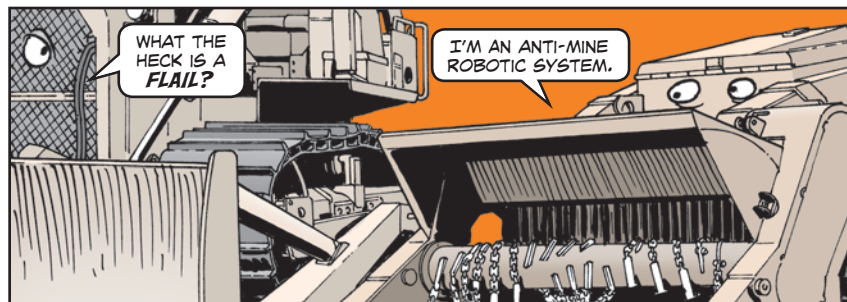
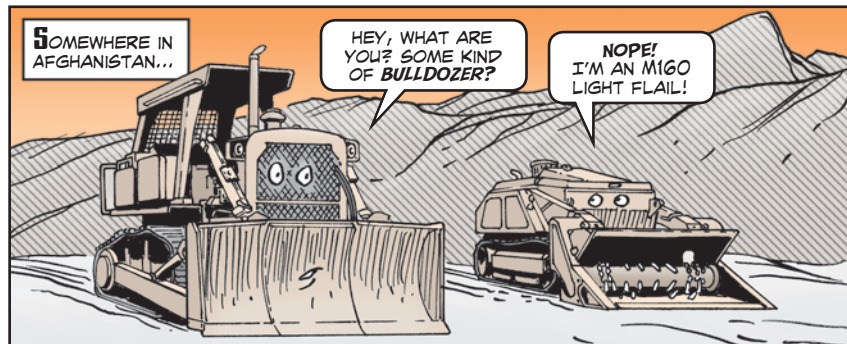
Mechanics, the dozer’s track shoe nuts have a rounded side and flat side. When a track shoe nut is installed upside down—with the rounded side against the track shoe—vibration will loosen the nut. That could lead to a thrown track.

To keep that from happening, always install the flat side toward the shoe.

Install flat side of nut toward shoe

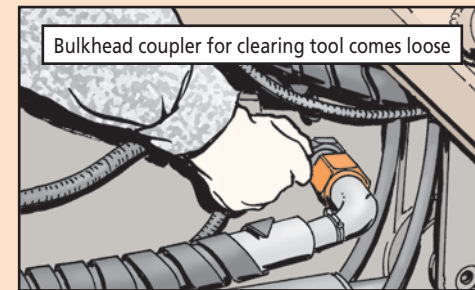
It’s not enough to get the nut on *right*. You also have to get the nut *tight* enough. For the D7-series, tighten the nuts to 220 lb-ft, then give them another one-half turn. For the D8K, tighten the bolts to 250 (+/- 50) lb-ft, then give them another one-half turn.

M160 Light Flail Robotic System PM



Bulkhead Coupler

Vehicle operation causes the bulkhead coupler for the vehicle's clearing tool to come loose. You'll know something's up if hydraulic fluid is leaking from the coupling. If so, tell your mechanic. He can squirt a few drops of high-strength sealing compound on the coupler's threads before re-tightening. NSN 8030-01-158-6070 gets a 50-ml bottle.

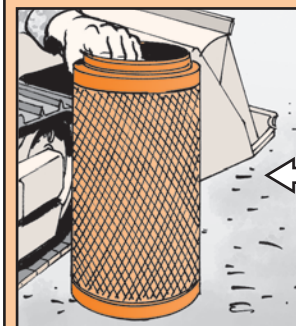
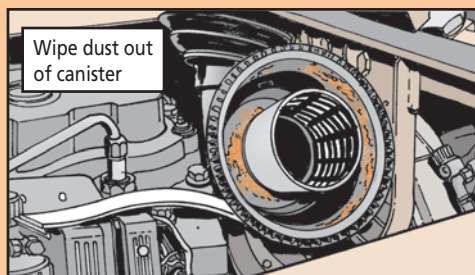
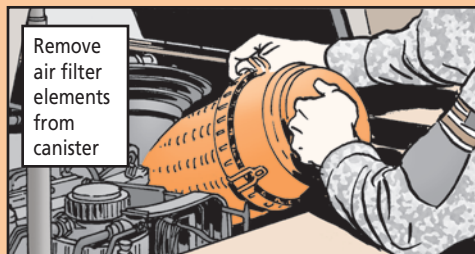


Air Filters

A clean air filter element is crucial, especially in dusty areas. Open the canister and pull out the air filters. The secondary filter is inside the primary.

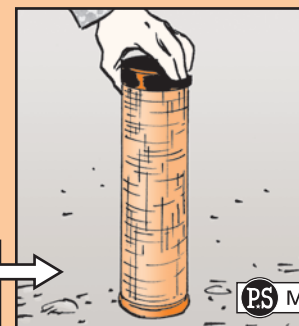
Use low-pressure air—30 psi or less—from inside to outside to loosen dirt and sand from the primary filter element. Never bang the filter on a hard surface. Replace the primary air filter element once a year, or after six cleanings. When the secondary filter gets clogged, replace it.

There's a quick way to tell if the secondary filter is clogged after installing a clean or new primary filter element. Look for excessive black exhaust while starting the vehicle.



Use low-pressure air (30 psi) from inside to outside to loosen dirt and sand from primary filter element

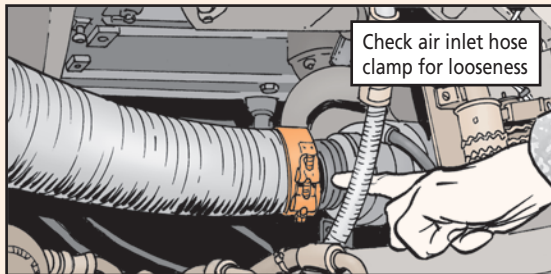
Secondary filter clogged? Replace it!



Air Inlet Hose Clamp

The clamp that attaches the air inlet hose into the turbocharger has a bad habit of coming loose. A loose clamp means a loose hose. That means dust and sand get ingested into the turbocharger, causing the engine to run rough or not at all.

Grab the clamp to see if it is loose. If it is, have your mechanic put a dab of sealing compound on the clamp's threads before re-tightening. NSN 8030-01-014-5869 gets a 50-cc bottle of medium-strength, hand-tool removable, sealing compound.



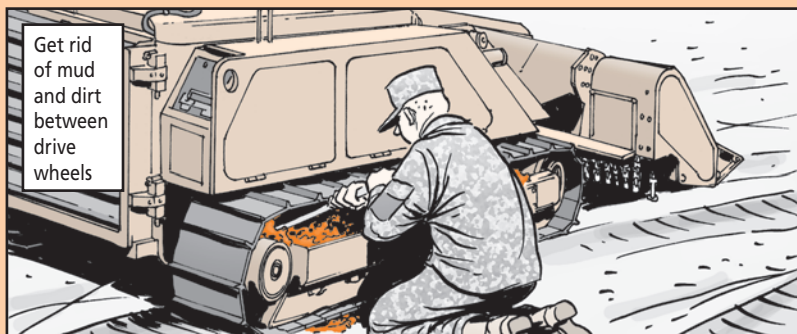
Battery Disconnect Switch

Batteries on the M160 are known to run down if not used often. So, make sure you use the vehicle's main power ON/OFF button after shutdown. The button is located in the back of the vehicle on the left side.

Wash Away Mud

Before you leave your robotic system for the day, make sure you dig out and wash off all the mud it has picked up during operation.

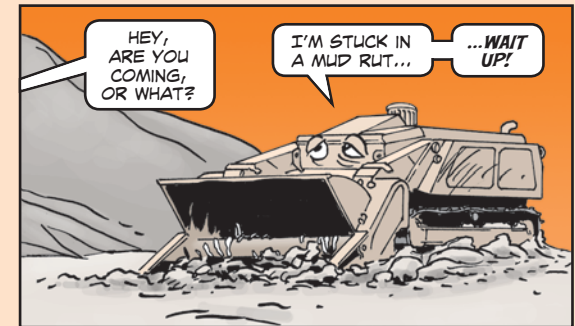
Mud will harden around the vehicle's drive wheels and mid-rollers. That keeps the mid-rollers from turning properly. Flat spots form on the rollers, causing extra wear on the track.



So get rid of the mud, and while you're at it, look for loose bolts, leaking seals, oil on the mid-rollers and uneven track wear. Report bum parts or anything that needs adjusting.

Where to Park

Park your flail on high ground if possible. Water drains downhill, so mud won't be quite as deep. Also, avoid parking in deep ruts. Some are deep enough to bottom out your flail's frame. Your vehicle can also produce ruts deep enough to bottom you out.

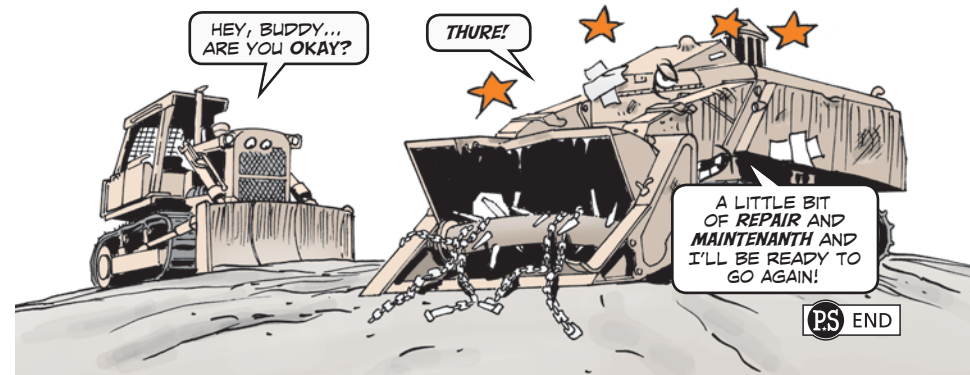
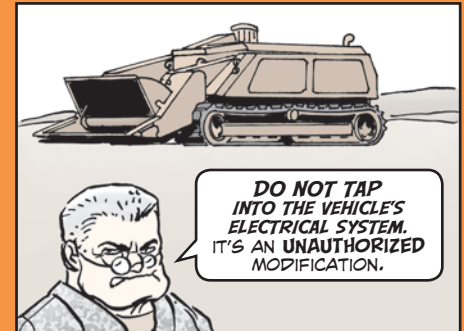
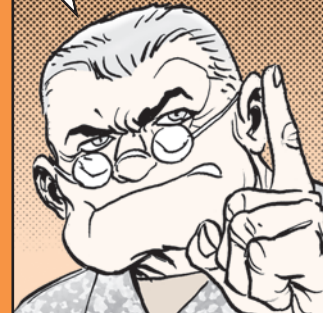


No Unauthorized Modifications

SOME WELL-MEANING MECHANICS ARE MAKING UNAUTHORIZED MODIFICATIONS TO THE LIGHT FLAIL TRACKED VEHICLE.

DO NOT... I REPEAT... DO NOT DO THIS!

IN SOME CASES, VEHICLE FIRES WERE CAUSED BY EXTRA FUSES AND LIGHTS BEING ADDED TO THE VEHICLE. THE WEIGHT OF ADDED CARGO RACKS IS A PROBLEM, TOO.



All Aircraft... Eyeballing when Towing

TOWING A BLACK HAWK, CHINOOK OR AN AH-64 AIRCRAFT IN OR OUT OF A HANGAR ISN'T THE MOST THRILLING AVIATION TASK.

BUT, TAKING YOUR EYES OFF THE HELICOPTER DURING TOWING CAN TURN INTO A **CHILLING** EXPERIENCE.

KRUNCH

WHEN TOWING AN AIRCRAFT TO OR FROM THE HANGAR, **ALL EYES- AT ALL TIMES- SHOULD BE ON THE HELICOPTER AND ANYTHING NEARBY.**

EACH GROUND GUIDE SHOULD EYEBALL THE ROTOR BLADES TO MAKE SURE THEY DON'T CLIP THE HANGAR DOORS WHEN TOWING THE HELICOPTER IN OR OUT OF THE HANGAR.

REFER TO YOUR SPECIFIC MAINTENANCE MANUAL AND UNIT SOP FOR THE PROPER NUMBER OF PERSONNEL TO MOVE THE AIRCRAFT.

IF THE NUMBER OF PERSONNEL IS NOT STATED CHECK OUT TM 1-1500-204-23, GENERAL MAINTENANCE MANUAL.

YOU MUST ALSO MAKE SURE BLADES **DON'T** CONTACT THE BLADES OF OTHER AIRCRAFT WHILE MOVING INTO PLACE INSIDE THE HANGAR.

NO TOUCHING!

THE COST OF NOT KEEPING YOUR EYES ON THE BLADES COULD RESULT IN **DAMAGED TIP CAPS, EXTENSIVE DAMAGE TO ROTOR DRIVE TRAIN COMPONENTS OR INJURY TO YOURSELF.** THAT INCLUDES NEVER STANDING IN FRONT OF THE TIRES IN THE DIRECTION YOU ARE GOING.



AS TEMPTING AS IT MAY BE, **NEVER** TOW A UH-60, AH-64 OR A CH-47 AIRCRAFT WITHOUT A PERSON IN THE COCKPIT CONTROLLING THE BRAKES TO STOP A ROLLING HELICOPTER.

IF THERE ARE PROBLEMS WITH THE BRAKES, OR TOWING IS DONE ON UNEVEN GROUND, ONE GUIDE SHOULD HAVE CHECKS IN HAND AND READY.

KEEP YOUR EYES **PEELED** WHEN TOWING!

IF YOU MAKE SURE THE BLADES CLEAR THE HANGAR DOORS AND OTHER AIRCRAFT BLADES, YOU CAN **AVOID** SOME BLADE AND TIP CAP REPLACEMENTS.

PAYING ATTENTION TO YOUR TMS, AND UNIT SOP WILL HELP YOU **STEER CLEAR** OF GROUND MISHAPS.

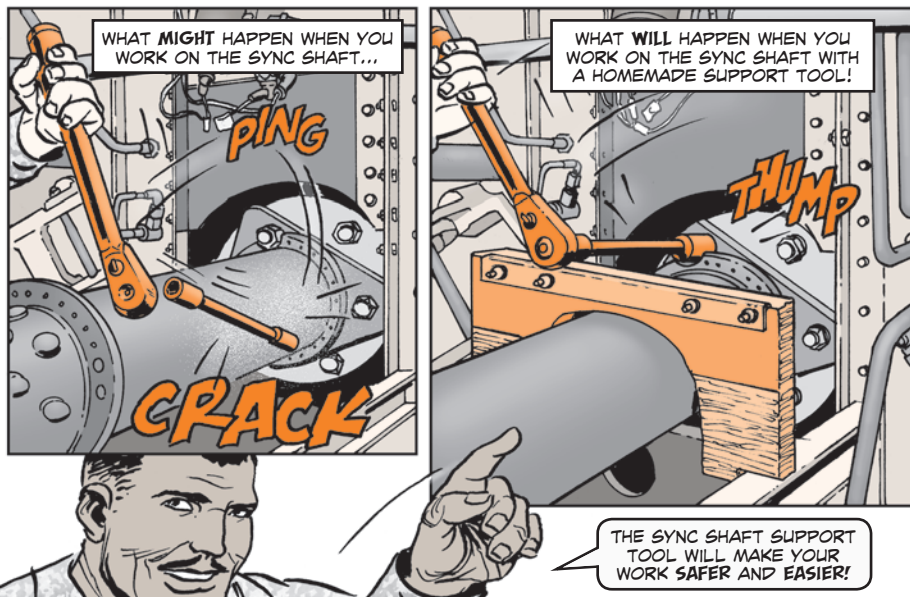
Fuel Cell Skin Repair Kit NSN

MECHANICS, IF YOU'VE ORDERED THE AIRCRAFT MAINTENANCE SKIN REPAIR KITS USED TO REPAIR FUEL CELLS, THE REQUISITIONS **WON'T** BE FILLED.

NSN 4920-01-549-1320 AND NSN 4920-01-549-1321 HAVE BEEN **DISCONTINUED** AND ARE NO LONGER SUPPORTED BY THE MANUFACTURER AS A KIT.

IN ORDER TO GET A SKIN REPAIR KIT, UNITS MUST NOW ORDER THE NEXT HIGHER ASSEMBLY, THE AIRCRAFT MAINTENANCE SKIN REPAIR KIT, NSN 4920-01-574-2133.

SHAFT TOOL PREVENTS DAMAGE!



Dear Sergeant Blade,

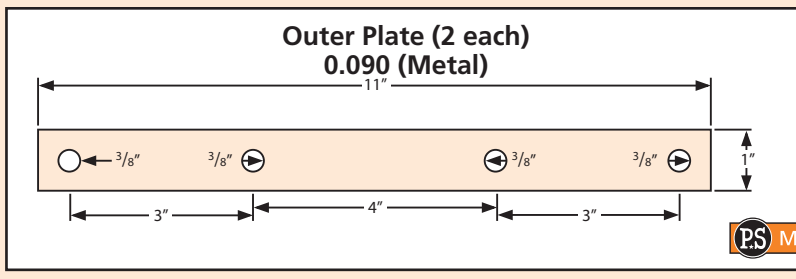
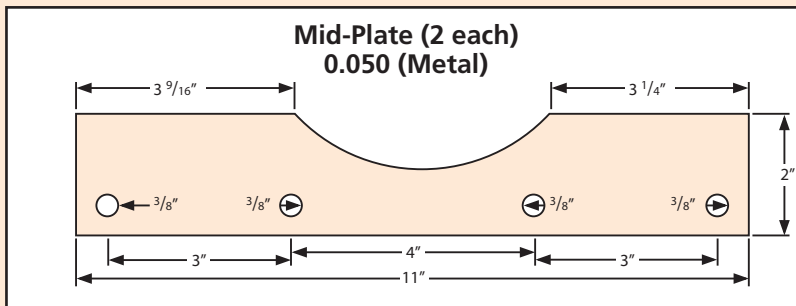
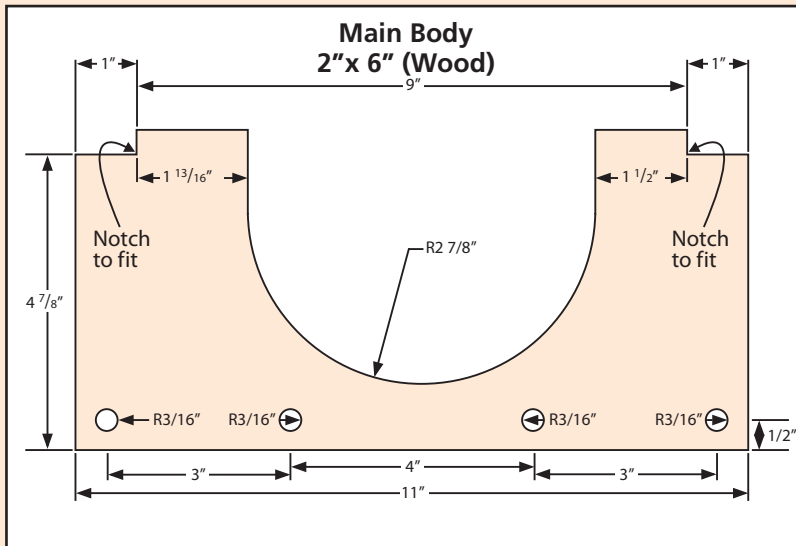
As Chinook mechanics, we often work on the No. 1 aft synchronization (sync) shaft forward end. It is located behind the combining transmission in the ramp area and it's not easy to access. We use a stepladder to get to the shaft and the workspace is real tight. The remove and install procedures are in WP MO1079 and MO1088.

The tools required to work on the shaft consist of a ratchet wrench to hold the bolt from the front, an extension and a deep well socket to turn the nut. The problem is, the ratchet with the extension is too close to the aft synchronization shaft. That is too close for comfort because if the ratchet and extension slip off the nut and hit the shaft, the result could be nicks, scratches or gouges on the aft sync shaft. Then we have to replace a damaged shaft to prevent drive shaft failure or an imbalance that can lead to excess shaft vibration.

We've come up with a sync shaft support tool that we place over the shaft. It allows us to turn the nut while the ratchet and extension rest on the support. If it slips off while we are cranking, the wooden shaft support takes the hit and not the shaft itself.

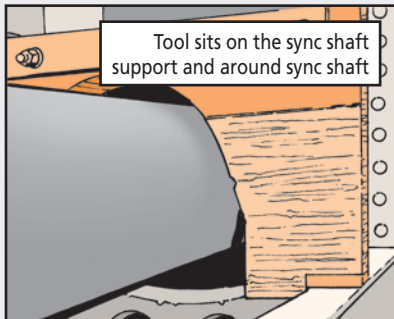
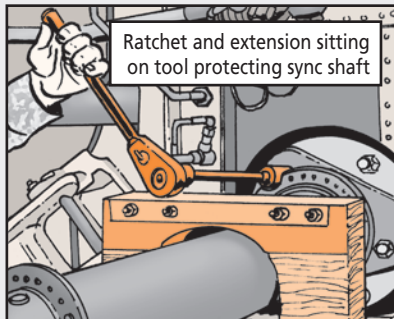
The tool is simple to make using common hand tools and hardware. The tool is made from a 2" x 6" piece of wood cut to fit over the synchronization shaft and sits on the airframe sync shaft support. We notch it so that it fits around the shaft. Then we use metal strips on each side of the top edge to prevent the wood from splitting or getting damaged while using the ratchet. The metal strips are attached using four bolts and four nuts.

To make the wooden shaft support, use the dimensions below.



PS MORE

When you're done, the tool should look like so when placed over the shaft. This tool saves us time and could prevent damage to the aft sync shaft.



SPC Kyle Miller
Joint Base Lewis-McCord, WA

Dear Specialist Miller,
Thanks for the great idea. Now you can
work on the shaft without damaging it.

"Rotor" Blade



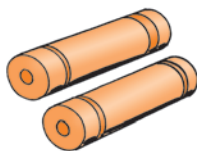
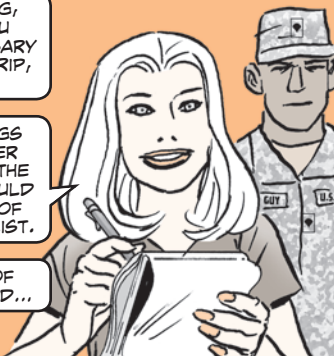
ELSE...

Food Saver Items and Sealer

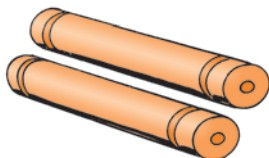
WHEN DEPLOYING,
MAKE SURE YOU
PACK ALL NECESSARY
ITEMS FOR THE TRIP,
ELSE TECHS.

IMPORTANT THINGS
LIKE FOOD SAVER
MATERIALS AND THE
BAG SEALER SHOULD
BE ON THE TOP OF
YOUR SHOPPING LIST.

HERE'S A LIST OF
NSNs YOU'LL NEED...



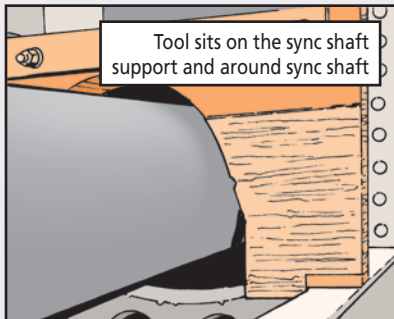
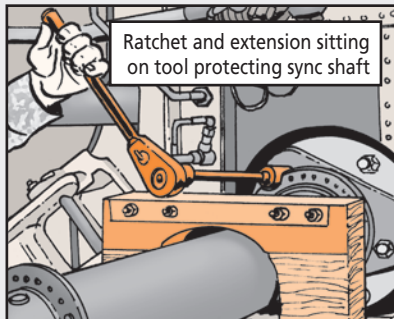
NSN 8105-01-381-6365 brings
8-in x 20-ft plastic wrap



NSN 8105-01-381-6374 brings
11-in x 20-ft plastic wrap

Item	NSN	Size
Electric sealing iron	3540-01-386-2478	NA
Plastic bag	8105-01-381-6365	8" x 20'
Plastic bag	8105-01-381-6374	11" x 20'

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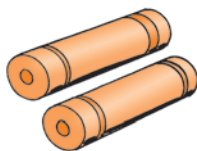
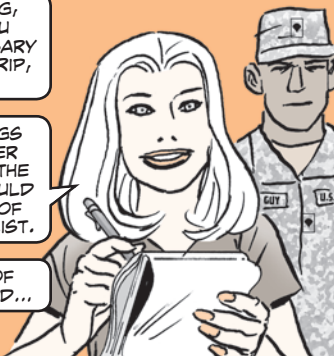
ELSE...

Food Saver Items and Sealer

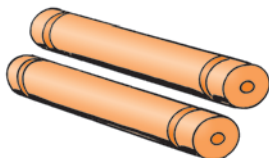
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The RIVER of DOUBT

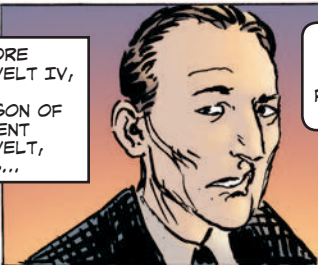
AN INTERESTING
DISCUSSION TAKES
PLACE AT THE
EXPLORER'S CLUB
IN NEW YORK CITY.

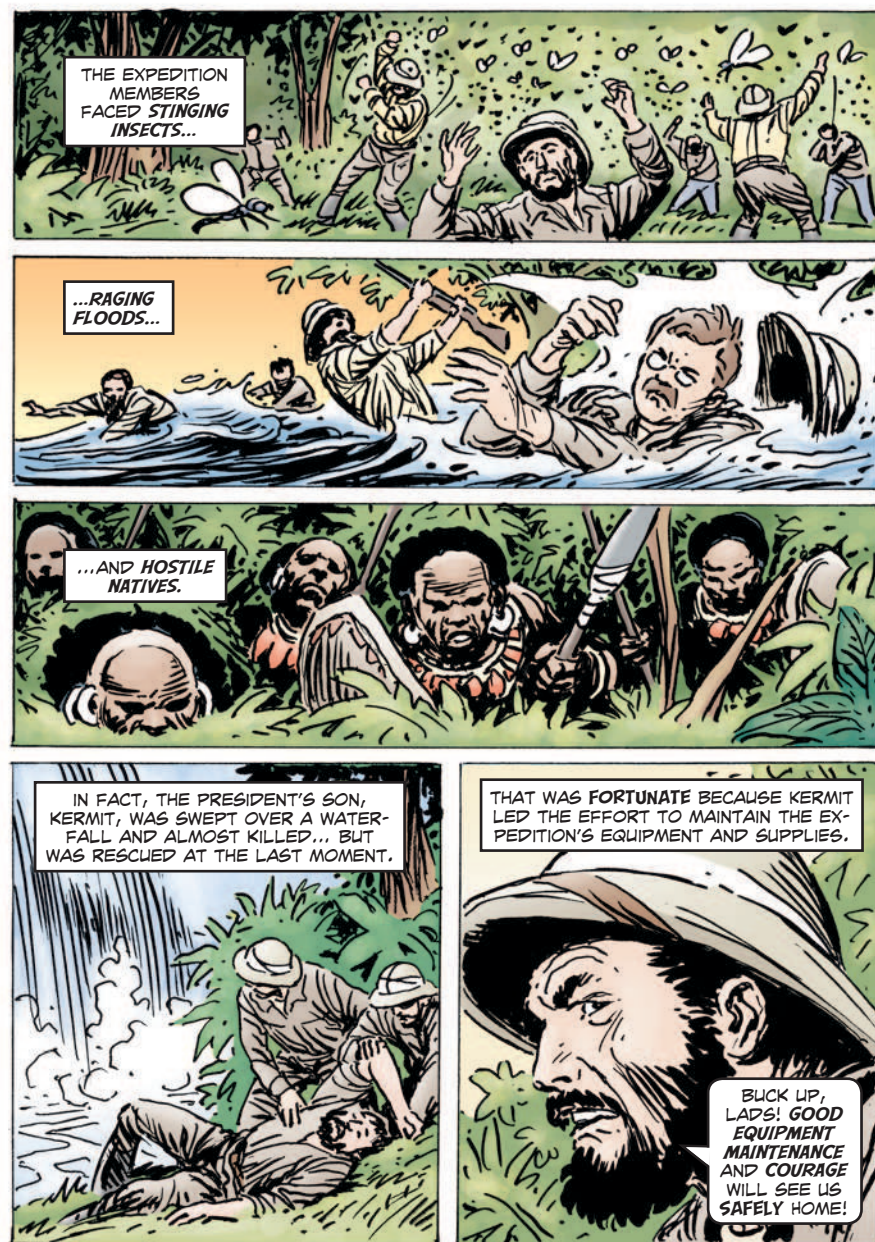
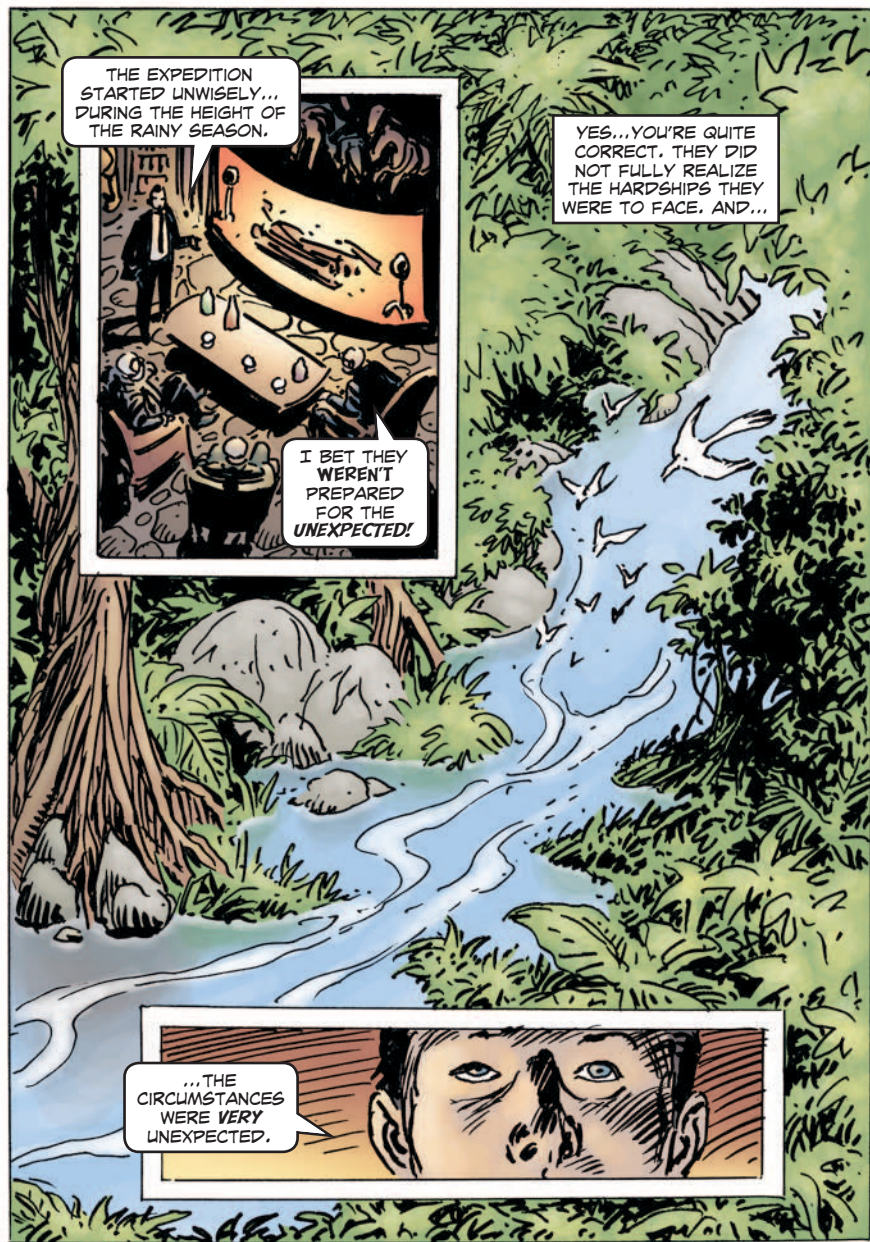
THE TOPIC IS AN
EXPEDITION TO SOUTH
AMERICA THAT TOOK
PLACE IN 1914.

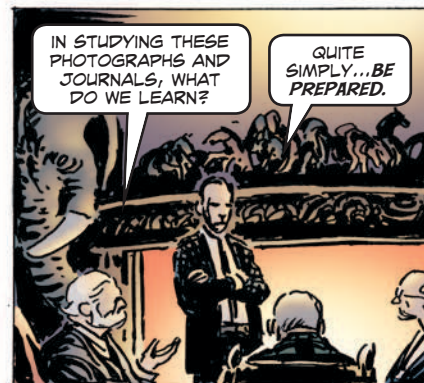
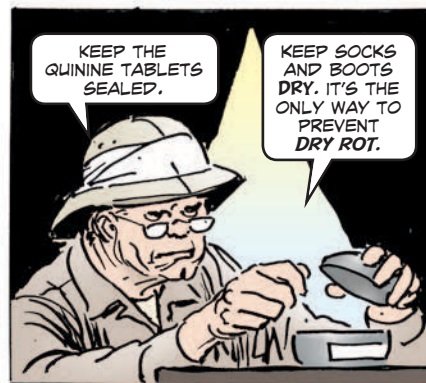
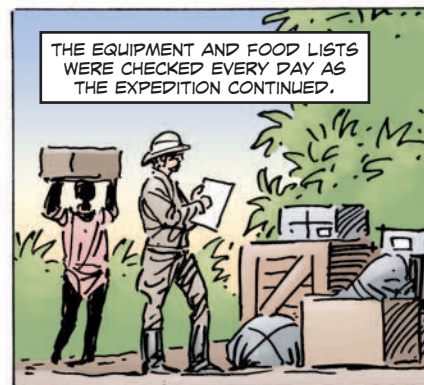
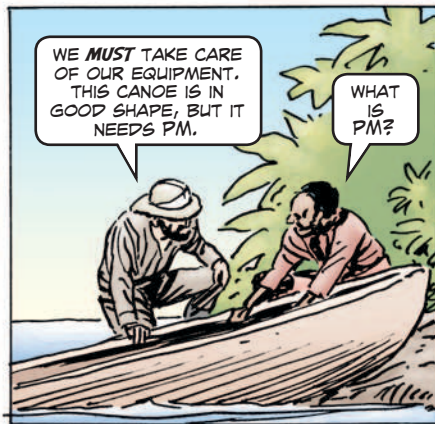


THEODORE
ROOSEVELT IV,
GREAT-
GRANDSON OF
PRESIDENT
ROOSEVELT,
SPEAKS...

THE JOURNEY'S GOAL WAS
TO FIND THE HEAD-WATERS
OF THE RIO DA DUVIDA, (THE
RIVER OF DOUBT) AND TRACE
IT TO THE AMAZON RIVER.

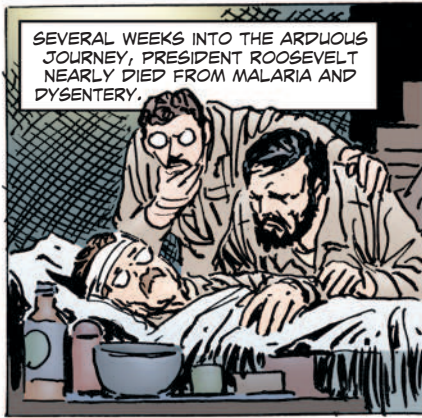




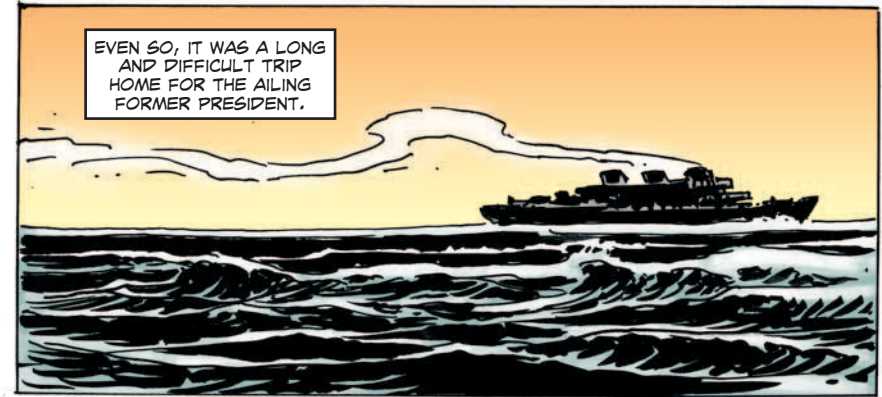




NONETHELESS, THE EXPEDITION CAME AT A HEAVY COST.



SEVERAL WEEKS INTO THE ARDUOUS JOURNEY, PRESIDENT ROOSEVELT NEARLY DIED FROM MALARIA AND DYSENTERY.



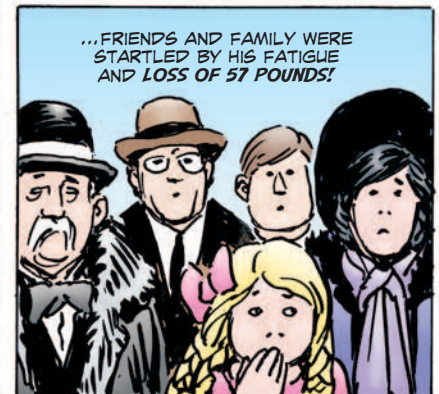
EVEN SO, IT WAS A LONG AND DIFFICULT TRIP HOME FOR THE AILING FORMER PRESIDENT.



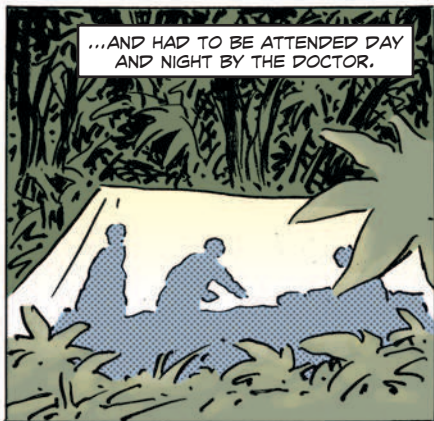
HE WAS UNABLE TO WALK FOR MOST OF THE EXPEDITION...



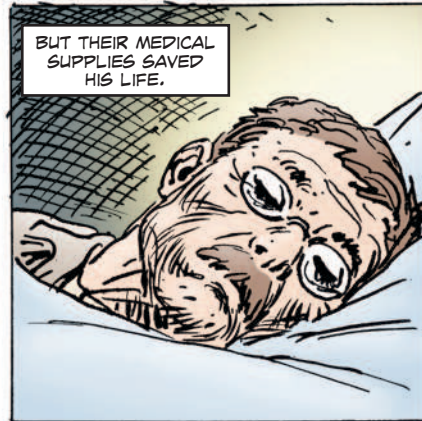
ALTHOUGH HE WAS GREETED WARMLY ON HIS ARRIVAL BACK TO AMERICA...



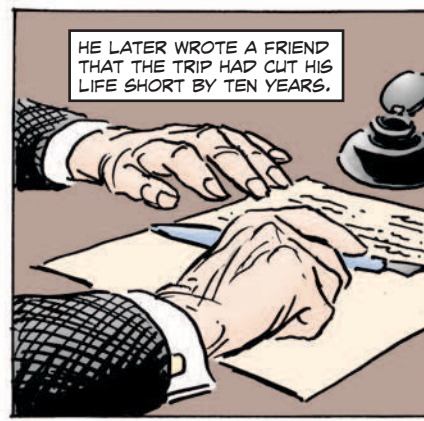
...FRIENDS AND FAMILY WERE STARTLED BY HIS FATIGUE AND LOSS OF 57 POUNDS!



...AND HAD TO BE ATTENDED DAY AND NIGHT BY THE DOCTOR.



BUT THEIR MEDICAL SUPPLIES SAVED HIS LIFE.



HE LATER WROTE A FRIEND THAT THE TRIP HAD CUT HIS LIFE SHORT BY TEN YEARS.



IT WAS A HARD LESSON, BUT ONE THAT CAN TEACH US ALL THE IMPORTANCE OF PREPARATION!



IN 1914, AT THE INVITATION OF BRAZILIAN EXPLORER CANDIDO RONDON, PRESIDENT THEODORE ROOSEVELT AND HIS SON, KERMIT, DID INDEED LEAD AN EXPLORATION OF THE UNCHARTED "RIVER OF DOUBT". TO FIND OUT MORE ABOUT IT, SEE ROOSEVELT'S NARRATIVE, "THROUGH THE BRAZILIAN WILDERNESS", AS WELL AS OTHER RELATED BOOKS, AVAILABLE AT YOUR LOCAL LIBRARY OR BOOK SELLER.

CROWS...

PM TO CROW ABOUT

IF YOU FIRE WITH CROWS,
YOU DEFINITELY NEED TO
CHECK OUT WHAT THESE
CROWS EXPERTS SUGGEST!

EVERMORE,
EVERMORE
WITH PM!



Dear Editor,

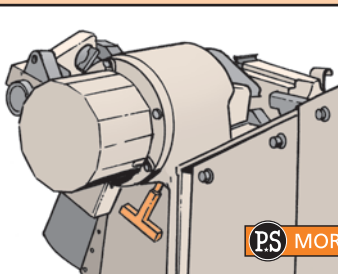
From our experience teaching Soldiers how to use CROWS (common remotely operated weapons station), we offer these tips on how to best make it work:

Lock when turned off, unlock for firing

If the azimuth and transport elevations locks aren't both locked and the sight servo assembly (SSA) clamp properly secured when the CROWS is turned off, it will bounce around during travel. That damages the SSA, which is an expensive repair. Plus it throws off the CROWS' alignment. That hurts accuracy.

But when you are ready to fire, you must be very sure those two locks are unlocked and the SSA clamp is removed. Otherwise, the azimuth release mechanism breaks, which is an expensive repair. So, **lock CROWS** when it's turned off and **unlock** it when you turn it on to fire.

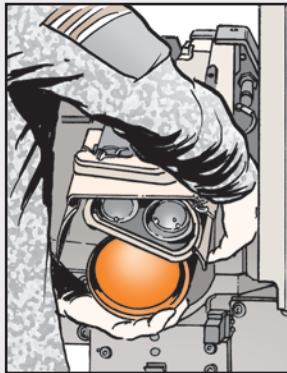
Azimuth and transport locks and SSA clamp must be locked when CROWS is off and must be unlocked before firing.



PS MORE

Eliminate all play when securing the SSA

It may seem like you've got the SSA secured, but it still may have enough play to be damaged bouncing around during travel. To tighten the SSA, hold it by the thermal imaging module (TIM). Tighten the SSA lower clamp bolt as you gently wiggle the TIM. Once you feel no more movement in the SSA, then tighten the SSA's top bolt while wiggling the TIM. Double-check by trying to move the TIM when you're finished.



Wiggle thermal imaging module as you tighten SSA clamp until all play is gone

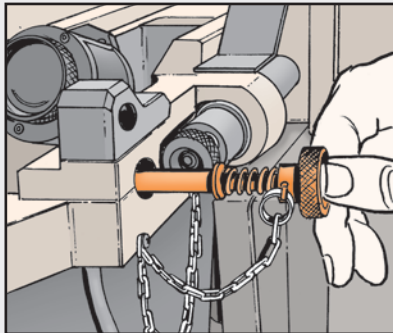
Lock the SSA pointing down towards the ground for travel

If it's facing up, its lenses are vulnerable to wires, limbs and the elements. After the transport lock is engaged, the SSA should click as it locks in place when it is moved all the way to the downward position.

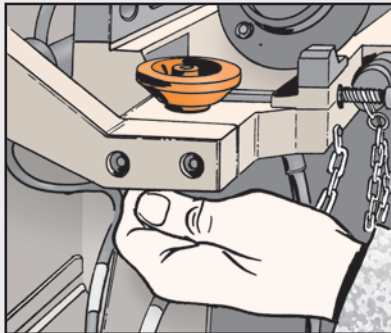
Protect mounting pins

Don't leave them dangling. The pins will get caught in the mount and be damaged. One broken mounting pin makes CROWS NMC. And they're not cheap to replace.

To fully seat a mounting pin, you must rotate it as you push it in. Once both mounting pins are seated, tug on them to ensure they're secure. Then tighten the straining screw for the soft mount. But when it's time to remove the mounting pins, you must first loosen the straining screw, except for the MK19. Otherwise, you can't remove the pins.



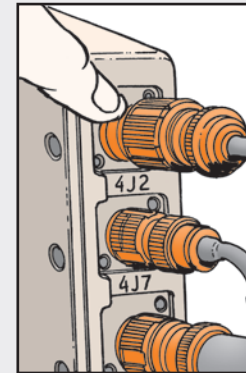
Rotate mounting pins as you push them in



Once mounting pins are secure, tighten straining screw. Before removing mounting pins, you must loosen straining screw

Check all cables for looseness

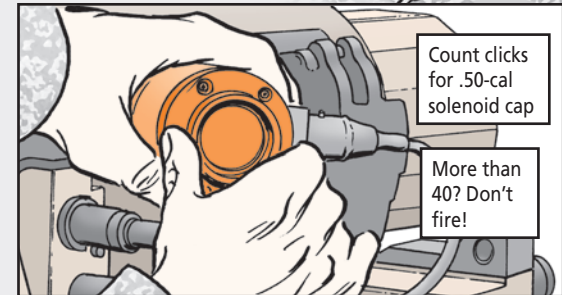
If just one cable is loose, you'll get faults. Don't use just your eyes to check. Some Soldiers think if they can't see the cable connector's red line, the cable is tight. That's not always true. Feel to make sure each cable is hand-tight.



JUST BECAUSE THE RED LINE ISN'T VISIBLE DOESN'T MEAN THE CABLE IS TIGHT. FEEL THE CABLE FOR LOOSENESS.

Count clicks for .50-cal solenoid

Before you connect the solenoid, count the clicks while you screw the adjustment cap all the way in until it stops. If there are more than 40 clicks, tell your repairman because something is wrong. Don't fire until the problem is fixed or you could have a runaway gun.



Count clicks for .50-cal solenoid cap

More than 40? Don't fire!

Keep the ammo box and ammo insert cassette clean

If you let dirt and sand collect in them, rain turns the dirt and sand into mud and a real mess. Simply wiping the ammo box and cassette clean daily with a dry cloth is usually enough. If there's a lot of accumulation, blow them clean with low-pressure air.

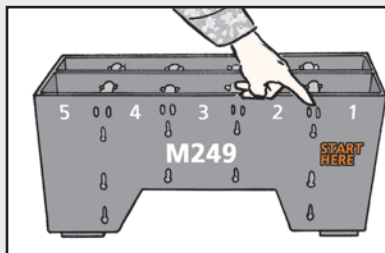


KEEP THE AMMO BOX AND AMMO INSERT CASSETTE CLEAN.



Load the ammo box like the TM says

Load M2 and MK 19 ammo back and forth until all rounds are in place. For M240 and M249 rounds, fill in each compartment of the box before moving to the next section.



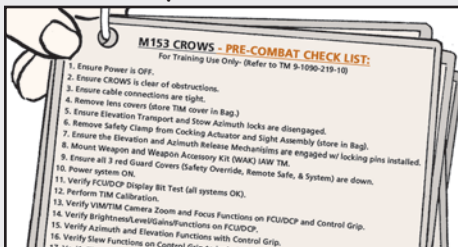
Fill in each section before loading next section for M240 and M249

Remember ammo limits

For the M249, the maximum number of rounds you can load is 1,600. For the M240, it's 1,000; for the M2, 400; for the MK 19, 96. If you cram in more rounds, you will have firing problems.

Get PMCS quick reference cards

The cards make it easier to PMCS and operate your CROWS. CROWS training teams can provide the cards, as can your TACOM LAR.



Get PMCS cards

Get training

Only Soldiers who have been fully trained and certified on the CROWS by an officially trained and certified CROWS instructor should be allowed to use the system. Training teams are available if your unit needs instruction. For more information, contact Nicholas Sultzbach, (973) 724-7515, DSN 880-7515, or email:

picacrows@conus.army.mil

or Jay Ruark at (573) 563-6245, or email:

jay.ruark@us.army.mil

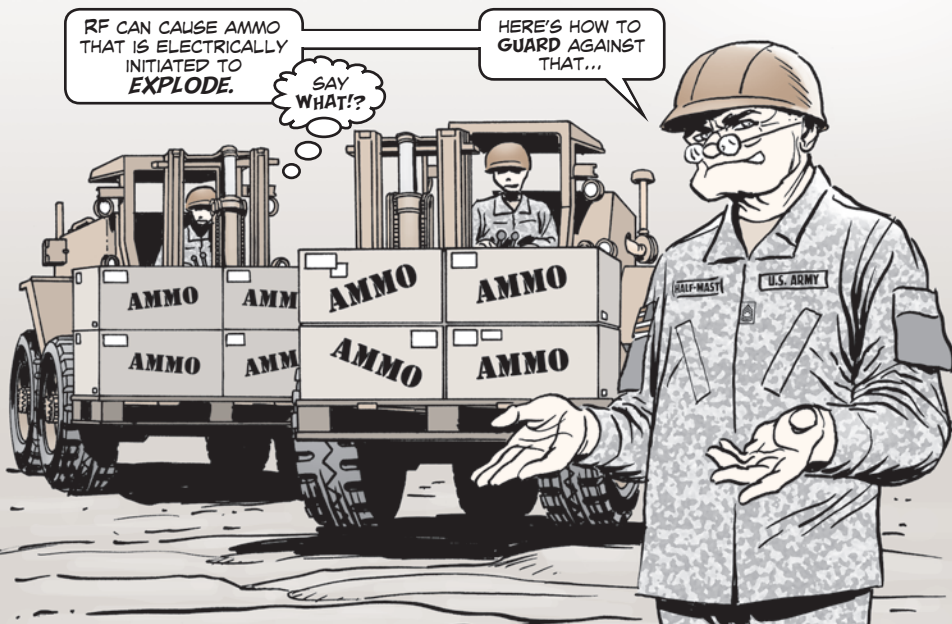
Jay Ruark
Paul Swinton
Ft Leonard Wood, MO

PS END

YOU GUYS ARE
INDEED THE VOICES
OF EXPERIENCE.
THANKS FOR THE
EXCELLENT TIPS.



Ammunition... **GUARDING AGAINST RF DANGERS**



Because more and more devices on vehicles and in support base areas are producing radio frequencies (RFs), extra care is needed with the hazards of electromagnetic radiation to ordnance (HERO).

Typical munitions vulnerable to HERO include electrically-primed cartridges, electrically-fired rockets, and electrically-initiated detonators.

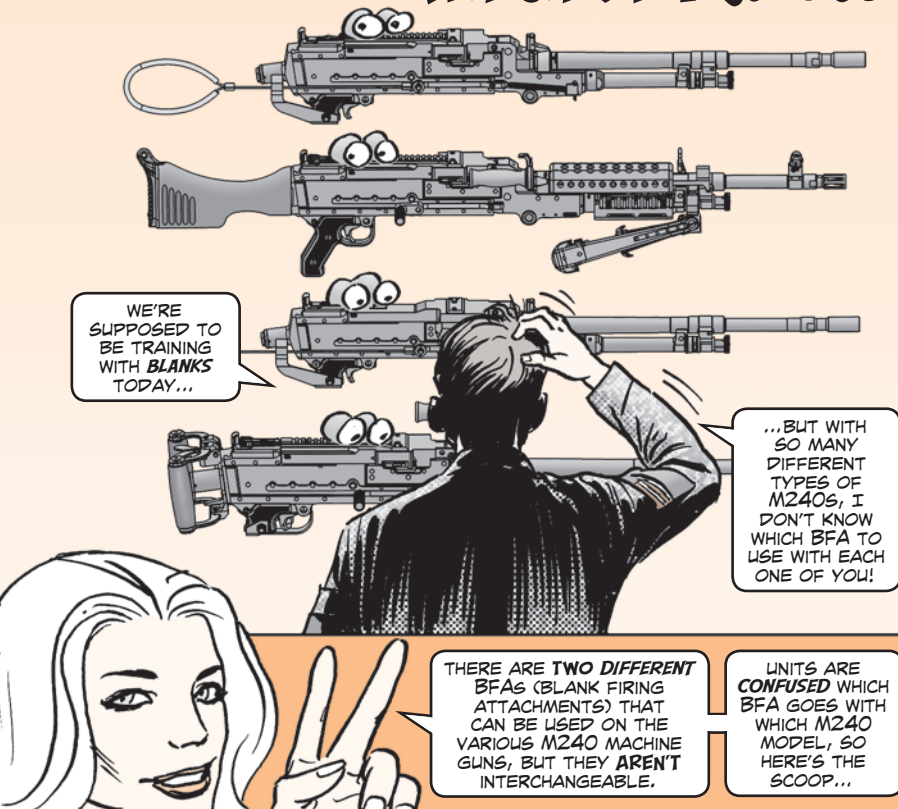
If you don't take care to shield HERO, electromagnetic RF radiation could detonate them—a disaster of the first order.

The best safety measure is to turn off all RF emitters when uploading unpackaged ammo. Also, shield uploaded unpackaged ammo from possible RF emissions. Putting ammo in closed metal boxes or vehicle ammo stowage areas usually provides adequate RF shielding.

Constantly monitor the distance of RF sources to ammo storage to ensure there is safe separation. Determine what's a safe distance by checking out Table 17-3 in DA Pam 385-64, *Ammunition and Explosives Safety Standards*. You can also use JSC Ordnance E3 Risk Assessment Database (JOERAD) software to make the calculation. Request JOERAD software at <https://acc.dau.mil/joerad>

If you have questions about JOERAD, contact Matthew Grenis at (410) 293-9264 or email: matthew.grenis@disa.mil

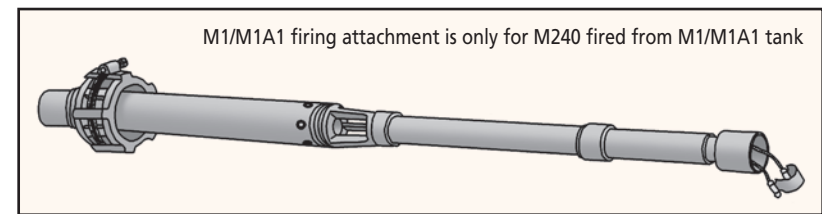
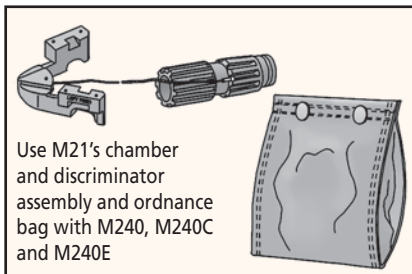
Which BFA to Use



M21 BFA—The M21 doesn't have an overall NSN, but instead has three separate components: chamber and discriminator assembly, NSN 1005-01-142-2841; weapon spare parts ordnance bag, NSN 8105-01-147-9841; and M1/M1A1 tank firing attachment adapter, NSN 1005-01-218-0693.

These items cannot be ordered with one NSN—they must be ordered individually.

The chamber and discriminator assembly and the ordnance bag should be used on the M240, M240C and M240E. But the M1/M1A1 firing attachment adapter should be used only on the M240 when it's being fired from an M1/M1A1 tank.

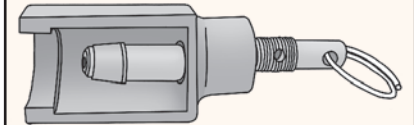


M24 BFA—The M24, NSN 1005-01-480-0289, is the only authorized BFA for the M240B, M240D, M240H, M240L, and M240N. The M24 does not need a discriminator—it's a stand-alone item.

The M24 BFA has two repair parts: the shaft, NSN 5340-01-481-8127, and pull ring, NSN 5325-01-480-6849.

If you're ever in doubt, check TM 9-1005-313-10 and the -23&P for the correct NSNs and configurations.

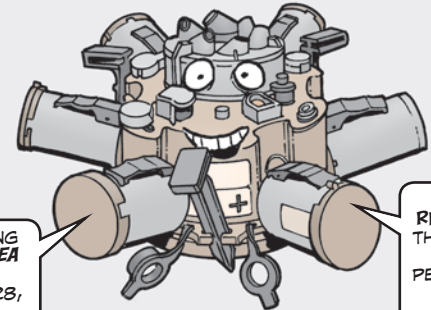
M24 goes with M240B, M240D, M240H, M240L and M240N



XM7 Spider Area Denial System...

BATTERIES TO POWER YOUR SPIDER!

THE ARMY IS FIELDING ME, THE **SPIDER AREA DENIAL SYSTEM**.
NSN 1230-01536-0128,
LIN M92387.



I'M REPLACING THE ARMY'S ANTI-PERSONNEL LAND MINES.

The Spider consists of a control station and field elements, all of which require batteries. Here are the required non-rechargeable batteries:

Component	Battery	NSN 6135-01-	Batteries Required	Batteries in PKG
RCUT	BA-5360/U	517-4955	2	8
MCU, MCUT, Repeater	LSH-20	463-7077	4 each per MCU, MCUT and Repeater	one
MCU, MCUT	SAFT Ultra-life U10026	566-1034	4 each per MCU and MCUT	one

NSNs for New Bipod Parts

The new bipod for the M249 machine gun has been around for a couple of years, and it might be time for some new parts.

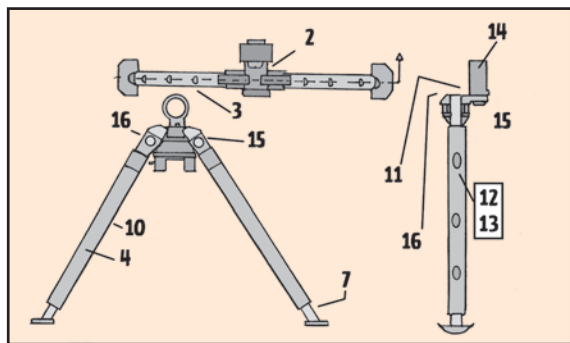
The bipods are installed on M249s by SARET personnel during Preset/Reset. If you don't want to wait, order the bipod with NSN 1005-01-521-7962. Your support installs it.

Support can order parts for the bipod. The parts have not yet been added to TM 9-1005-201-23&P, so keep these NSNs on hand for replacements.

	Item	PN	NSN	SMR	DEMIL
1	Bipod assembly	13002190	1005-01-521-7962	PAOFF	C
2	Pivot rod	13002195	1005-01-527-1696	PAFZZ	B
3	Leg assembly	13002196	1005-01-525-7971	PAFZZ	C
4	Outer leg assembly	13002197	1005-01-525-7972	XAFZZ	D
5	Outer support leg	13002199	no NSN, order #4	XAFZZ	D
6	Outer bipod leg	13002198	no NSN, order #4	XAFZZ	D
7	Inner leg assembly	13002200	1005-01-525-7970	PAFZZ	C
8	Inner bipod leg sole	12002202	no NSN, order #7	XAFZZ	D
9	Inner bipod leg	13002201	no NSN, order #7	XAFZZ	D
10	Tubular spring pin	MS16562-128	5315-00-846-1791	PAFZZ	C
11	Headless straight pin	13002206	1005-01-526-4779	PAFZZ	B
12	Compression helical spring	13002207	5360-01-525-7968	PAFZZ	B
13	Leg bipod latch	13002205	1005-01-525-9320	PAFZZ	B
14	Head and collar assembly	13019970	1005-01-557-2543	PAFZZ	D
15	Tubular spring pin	13002203	5315-01-525-7969	PAFZZ	B
16	Helical spring	13002204	5360-01-525-7018	PAFZZ	B

FOR THOSE PARTS WITH A SOURCE CODE OF XA (SUCH AS COMPONENT PARTS OF THE OUTER OR INNER LEG ASSEMBLIES), YOU WILL NEED TO ORDER THE NEXT HIGHER ASSEMBLY.

THAT WILL BE EITHER THE OUTER OR INNER LEG ASSEMBLY.



ARMS ROOMS GO DIGITAL



Arms rooms are catching up with the computer age. The Army has authorized digital arms room systems for receipt, storage, issue and accountability of arms room equipment.

Units can use digital technology to track weapons maintenance and to check weapons in and out. The digital arms room system also allows armorers to use digital signatures or public key infrastructure (PKI) on arms room forms instead of physical "ink" signatures only. The digital systems will also aid in tracking small arms repair parts, with bar codes assigned by NSNs and serial numbers, which makes inventory much easier.

The digital system eliminates the need for forms such as DA Form 3749, *Equipment Receipt Card*, and for hard copies of forms that can be stored electronically with digital or PKI signatures. That eliminates paper waste.

AR 735-5, *Policies and Procedures for Property Accountability*; AR 190-11, *Physical Security of Arms, Ammunition and Explosives*; and DA Pam 710-2-1, *Using Unit Supply System*, are being updated to reflect these changes in arms room policy.

For more information on automating your arms room, contact the Joint Automatic Identification Technology (PM J-AIT) folks.

PM J-AIT POCs are Chad Sims at (703) 325-3324, email:

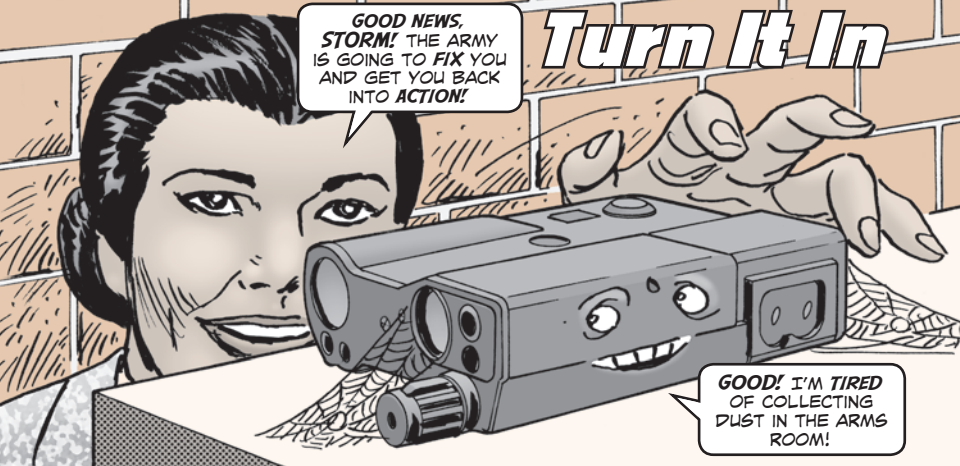
chad.g.sims.civ@mail.mil

or Tom Rigsbee, (703) 325-2578, email:

thomas.e.rigsbee.civ@mail.mil

STORM Doesn't Work?

Turn It In



If you have unserviceable AN/PSQ-23 small tactical optical rifle-mounted micro-laser range finders (STORMs) lying around, turn them in pronto. The Army needs to repair them and return them to duty.

To determine if your STORM is still under warranty, send the STORM's nomenclature, serial number and a description of the malfunction or damage to:

fieldreturns.insight@l3com.com

You can also call (877) 744-4803.

Black STORMs are NSN 5855-01-535-1905 and tan ones are NSN 5855-01-577-5946.

Once you've determined your STORM is still under warranty, you will need to provide the manufacturer, Insight-Tek, with your contact info and a return address. When Insight-Tek finishes processing the information, you will receive an authorization number by email for shipping. You must ship the STORM by a service that tracks the package. The STORM normally should be repaired and returned to you within 30 days.

If you have unserviceable STORMS that are no longer covered by warranty, contact your local property book officer (PBO). He will report the STORMs to the National Inventory Control Point (NICP) B14 using an FTE (report of excess), following the instructions in Chapter 7 of AR 725-50, *Requisition and Issue of Supplies and Equipment*.

The NICP will respond with final disposition instructions through an FTR (reply to report of excess), directing you to ship the STORM to a depot for repair. A replacement can be ordered from the NICP once the unserviceable STORM has been turned in.

If you have questions, contact TACOM's Mary Ashley at DSN 786-1384, (586) 282-1384, or email:

mary.e.ashley.civ@mail.mil

Or contact Jeffrey York DSN 786-1358, (586) 282-1358, or email:

jeffrey.l.york2.civ@mail.mil

One other note: Get the data cable for uploading software to STORM with NSN 5995-01-581-4050. Information on using the cable will be included in the update to TM 9-5855-1913-13&P. The only Soldiers authorized to do the uploading are 2nd-level maintainers who have gone through the TACOM CROWS maintenance course. If you need information on using the data cable, contact Anthony Smith at DSN 786-1350, (586) 282-1350, or email:

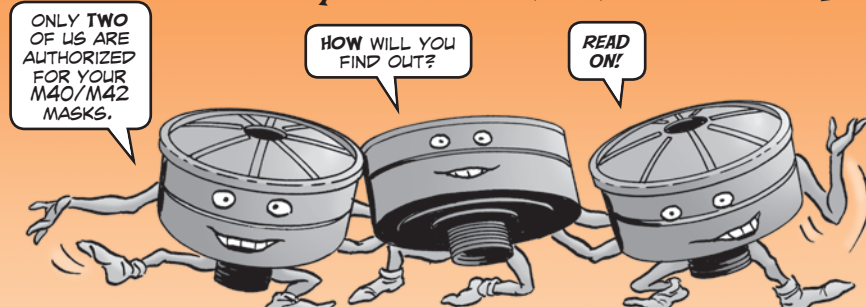
anthony.g.smith30.civ@mail.mil

or Dennis Timmons at DSN 786-1348, (586) 282-1348, or email:

dennis.c.timmons.civ@mail.mil

M40/M42-Series Masks...

Only Two Canisters Authorized



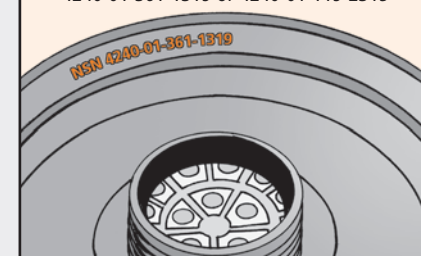
There are only two authorized canisters for the M40/M42-series mask: the C2A1 canister, NSN 4240-01-361-1319, and the C2 canister, NSN 4240-01-119-2315.

There are other canisters kicking around, such as the FR-C2A1, that fit the M40/M42, but they're not intended for military use. Unfortunately, the canisters pretty much look alike so it's easy to use the wrong one.

Every CBRN specialist should immediately check that all his unit's M40/M42 canisters are either marked NSN 4240-01-361-1319 or NSN 4240-01-119-2315. If any of your masks have the wrong canisters, replace them immediately.

The C2 canisters are no longer manufactured and their shelf life has expired. If you find any C2s, they should be replaced with the C2A1 as soon as possible.

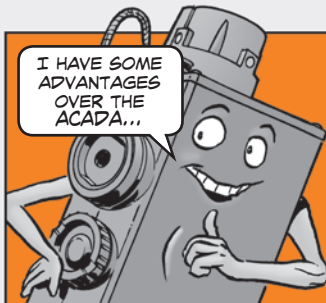
Canister's NSN should be either 4240-01-361-1319 or 4240-01-119-2315



JCAD Is Coming



I HAVE SOME ADVANTAGES OVER THE ACADA...



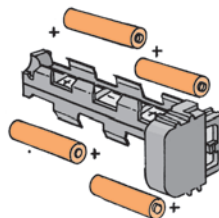
- JCAD detects not only nerve and blister agents, but also blood agents, which the ACADA couldn't do.
- JCAD has no radiation source, so you won't have to worry about wipe tests or special disposal.
- JCAD is a fraction of the size of the ACADA and can actually be attached to your uniform.

HELP YOUR NEW JCAD DO ITS DETECTING BY FOCUSING ON THESE TIPS...



- Make sure the batteries are strong and inserted like it shows on the battery tray. Weak batteries will cause JCAD to not operate properly.

If the detector takes longer than 20 minutes to become operational, replace the batteries. If the JCAD is still not working after another 20 minutes, then put in a new sieve pack.

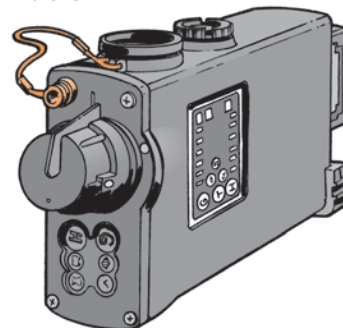


- Do not open new sieve packs until you're ready to use them.

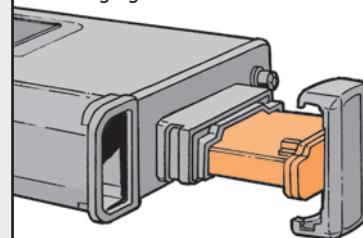


- Ensure the detector has a new operational sieve pack (white) and not the yellow factory sieve pack containing charcoal.
- Store the confidence sample in the confidence sample pot after use. This helps the confidence sample last longer.

- Be gentle with the lanyard and protective cap. Do not use the lanyard to pull the protective cap away from the earpiece socket. The lanyard and protective cap are easily broken.



- Store the JCAD with the sieve pack in it. Failure to do so may result in contamination of the JCAD. Remove the batteries for storage and store them separately. This keeps the batteries from leaking and damaging the JCAD.



Need CBRN Help? Call CBRN-IRC!

HELLO, CBRN-IRC, I'VE GOT A FILTER PROBLEM...

...AND I HEARD YOU'RE THE GUYS TO GO TO.



If you have a question about any CBRN item or program, your first call should be to the CBRN-Information Resource Center (IRC).

CBRN-IRC has been designated the single point of entry for all CBRN questions by the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD). Its staff is on-call 24/7.

To contact CBRN-IRC, email:

cbn.irc@us.army.mil

This is a new email address for them. You can also call (309) 782-7349, DSN 793-7349, or toll-free (800) 831-4408. In Germany, call 0130810280 and in South Korea, call 0078-14-800-0335.

Food Sanitation Center...

HOW TO DRAIN

WITHOUT PAIN

I KNOW WHY THE GREASE SEPARATOR ISN'T DRAINING...

...THE DRAIN HOSE IS GOING UPHILL!

WHEN YOU SET UP YOUR FOOD SANITATION CENTER (FSC), MAKE SURE THE 50-FT DRAIN HOSE RUNS DOWNHILL OR, AT THE VERY LEAST, ACROSS LEVEL GROUND. HERE'S WHY...

The FSC's grease separator has a pump that pushes gray water through the drain hose. But you should still harness gravity as much as you can. Running the hose downhill or level relieves strain on the pump. It also speeds the flow of water to the soakage pit or gray water tank.

Before you release gray water, ask your environmental officer or NCO about your unit's gray water policy.

Pump pushes gray water through hose

To keep people from tripping over the hose, bury it in a shallow ditch. Or run it alongside logs or stones. At the very least, you should mark it with flags.

Keep people from tripping: run hose alongside logs...

...or in a shallow ditch

Remember, you have a 50-ft drain hose that's meant to stretch from the FSC's grease separator to the soakage pit or gray water tank. That means you need to set up the grease separator within 50 feet of the pit or tank.

Hose must stretch from grease separator to soakage pit

Definitions

Gray water—waste water from kitchens, showers, handwash stands, laundries and vehicle washracks

Soakage pit—a hole dug in porous soil, filled with small rocks and pebbles, and covered with straw (or grass) and dirt. A drain pipe or hose empties gray water into the pit. The water filters through the rocks and into the surrounding soil.

Also make sure the hose runs straight. Kinks, knots or loops allow debris to build up, blocking the flow and overworking the pump. For the same reason, never put heavy objects on the hose.

Check That Hose

Make sure you check the drain hose like it says in the PMCS table of the -13&P TM. Look for leaks, tears and dry rot. Also look for damaged or missing gaskets. Make sure the fittings are firmly connected. And when the temperature dips below freezing, disconnect the hose from the grease separator. Clean out any ice that's built up inside the hose or grease separator outlet before you reconnect the hose. Need a replacement hose? Use NSN 4720-01-541-0370.

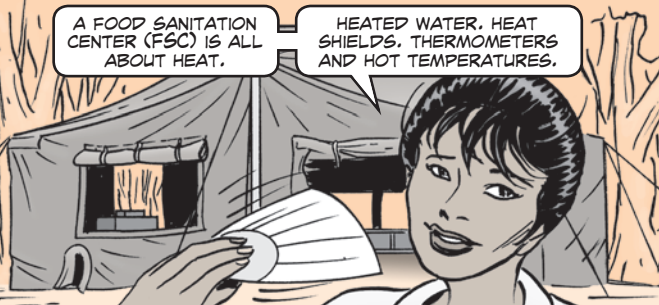
For more information on the food sanitation center, see TM 10-7360-211-13&P (Aug 06, w/Ch 2, Sep 10). You'll find it on the USAMC LOGSA's Electronic Technical Manuals Online website: <https://www.logsa.army.mil/etms/online.cfm>

For more information on disposing gray water, see FM 4-25.12, *Unit Field Sanitation Team*, and TB MED 593, *Guidelines for Field Waste Management*. You'll find them both on the Army Publishing Directorate website: <http://www.apd.army.mil/>

YOU CAN TAKE THE HEAT!

A FOOD SANITATION CENTER (FSC) IS ALL ABOUT HEAT.

HEATED WATER. HEAT SHIELDS. THERMOMETERS AND HOT TEMPERATURES.

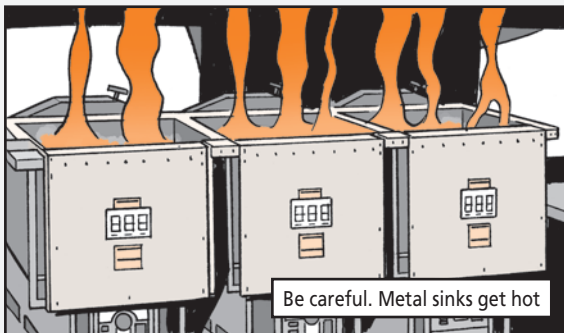


HERE ARE A FEW TIPS FOR USING YOUR FSC CORRECTLY WHILE AVOIDING BURNS...

Heat Shields

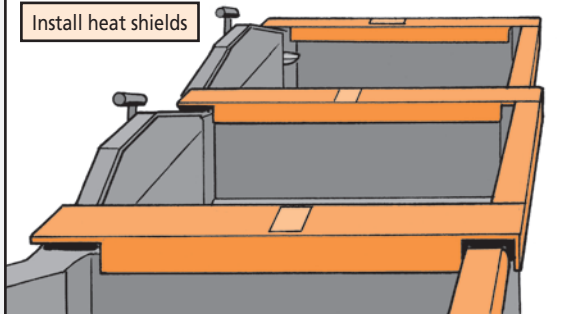
You'll be using **very hot water** to wash, rinse and sanitize pots, pans and utensils. That means the metal sinks will get hot. Before you do anything else, install heat shields on the sinks so you won't burn yourself.

Heat shield	NSN 5340-01-541-
Front	4996
Coupler	4998
Edge	1917



You need three front shields, two couplers and an edge.

Install heat shields

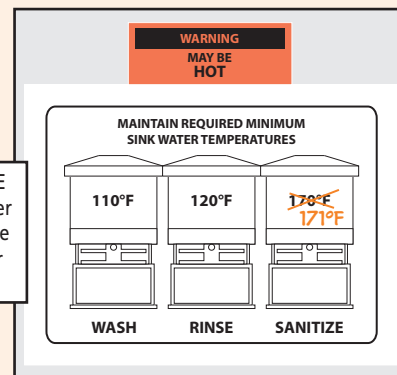


How Hot?

The FSC comes with three sinks: one to wash, one to rinse and one to sanitize. The water temperature in each sink is different.

Sink	Temperature
Wash	110 to 120°F
Rinse	120 to 140°F
Sanitize	171°F or above (not 170°F as listed on the front shield)

SANITIZE sink water should be 171°F or above



WP 0006-00 of TM 10-7360-211-13&P (Aug 06, w/Ch 2, Sep 10) spells out the temperatures. You'll find the TM on USAMC LOGSA's Electronic Technical Manuals Online website:

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

Para 4-43 of TB MED 530, *Occupational and Environmental Health Food Sanitation*, also lists the temperatures. You'll find the TB on the Army Publishing Directorate website:

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

Adjusting the Temperature

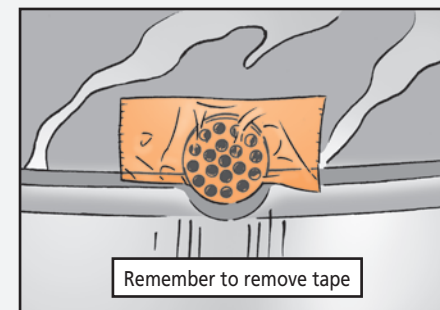
Fill each sink with water to the **—FULL—** mark. That's about 7 1/2 inches deep. Then push the metal stems of the thermometers, NSN 6685-00-444-6500, all the way down through the brackets, NSN 5340-01-333-8483. Make sure the tips are submerged about 2 inches under water.

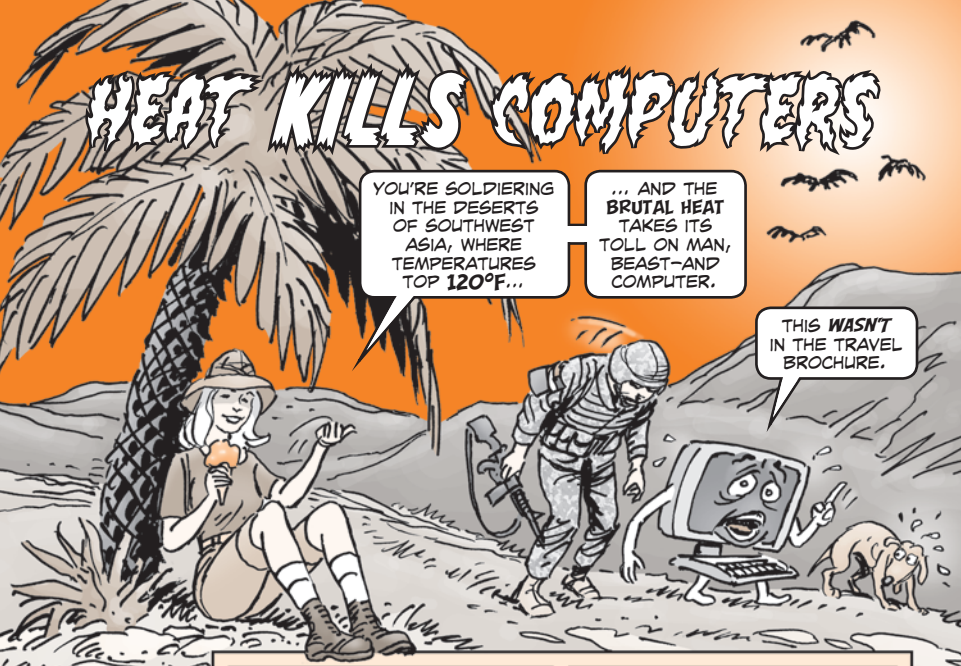
Never start a modern burner unit (MBU) under a sink that's not filled with water. You'll just heat the metal until it becomes burning hot.

Next, fire up the MBUs. Turn the burner controls for more or less heat. Adjust them to reach and hold the required water temperatures. Keep an eye on the thermometers.

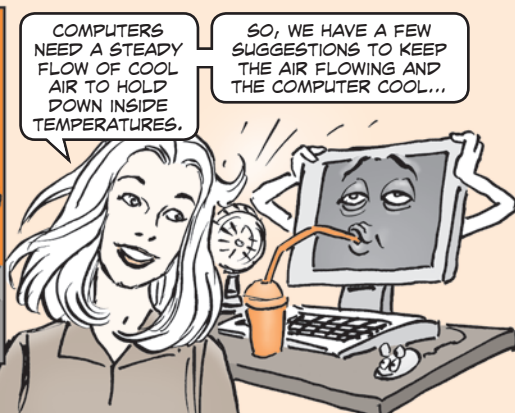
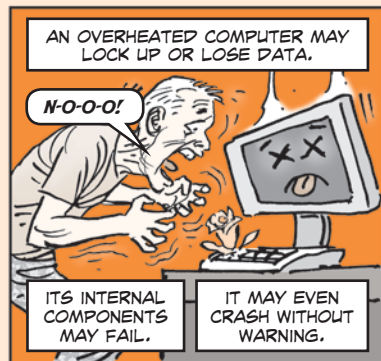
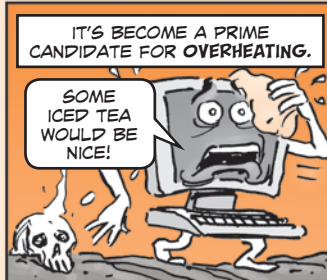
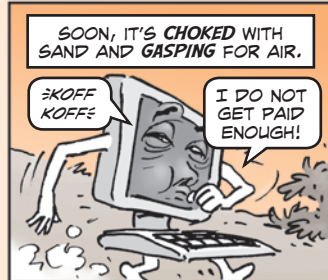
One more thing about the sinks: They arrive with clear tape over the drains. Remove the tape before using the sinks.

For the full story on the FSC, read your -13&P TM.





COMBINE THOSE HIGH TEMPS WITH POWDERY DESERT SAND THAT SNEAKS INTO EVERY NOOK AND CRANNY OF YOUR COMPUTER.



- Always locate computers in the shade. Better yet, keep them in air conditioned shelters or tents. Don't have air conditioning? Then circulate cooling air over and around computers with a fan.
- Never pile stuff around an operating computer. That means no coats, tarps, body armor, camo, maps or manuals. They'll block the vents and cut off air.
- Keep computers at least six inches from the wall. That provides space for air movement.
- Once a week, wipe down the outside of all components with a soft lint-free cloth dampened with water or anti-static cleaner, NSN 6850-01-463-5809*.
- The last thing you want is a clogged vent or air hole and the climbing temperatures it creates. Inspect vents and air holes for dirt, sand, lint and dust bunnies. Thoroughly clean them with the cloth.

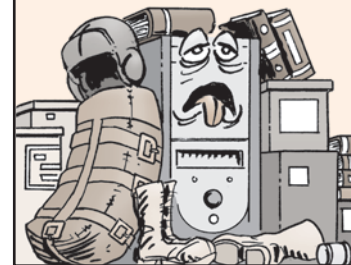
Or you can run a vacuum cleaner, NSN 7910-01-423-9525, over them. NSN 7045-01-417-3206* brings a package of five replacement vacuum bags.

Just **don't** use this vacuum to clean **inside** your computer. It could generate too much static electricity that can damage internal components and circuit boards. If you need to clean inside your computer, use a compressed gas duster. NSN 7930-01-398-2473 brings a box of six 10-oz cans.

- One other place you might want to clean: the CD-ROM drive. Get a CD-ROM drive lens cleaner with NSN 7045-01-450-4369*. Follow the instructions that come with the kit.
- Use dust covers when your computer is shut down. But don't put a cover on the computer when it's running. You'll block the cooling airflow and cause overheating. You'll find dust covers at the DoD Email and GSA Advantage websites:

<https://dod-email.dla.mil/acct/>
and
https://www.gsaadvantage.gov/advantage/main/start_page.do

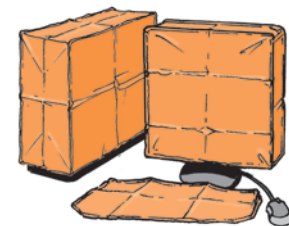
Don't block CPU vents with gear



Wipe down the outside, especially vents



After shut down, put on dust covers



*These NSNs are not on the AMDF. Order them on DD Form 1348-6 and put "NSN not on AMDF" in the REMARKS block.

How to **EXTEND** Shelf Life for Type II Items



SHELF-LIFE CODES FOR BOTH ITEM TYPES ARE FOUND IN THE SHELF-LIFE EXTENSION SYSTEM (SLES).

TO FIND OUT IF YOUR ITEM'S SHELF LIFE IS EXTENDIBLE, YOU NEED TO CHECK THE SLES ONLINE DATABASE, ACCESSIBLE THROUGH THE DOD SHELF-LIFE PORTAL:
<https://www.shelflife.hq.dla.mil/>



- Choose the SLES tab. Then click on SLES Search. Select the "MQCSS" (Materiel Quality Control Storage Standards) radio button, unless you only want the QSL (Quality Status List) test results. The MQCSS selection will give you both.
- Submit a query by 13-digit NSN or 9-digit NIIN (with or without hyphens), or item name. Click on the listed NSN.
- In the MQCSS data field, check the "Shelf Life Code" (SLC) and the "Shelf Life Item Type." If the one-position SLC is numeric (1-9) or an "X", the item is Type II (extendible). If the SLC is alpha (A-Z, except X), the item is Type I (non-extendible) and must be processed for disposition after its expiration date. (There are exceptions for pharmaceuticals.) If the item's SLC is zero, the item doesn't go bad and no shelf-life period applies. (These items are not currently in SLES; however, you can check FLIS/FED LOG and look at the shelf-life column in the management data view.)
- For Type II items, note any "QSL" data. If QSL data is available, match up your materiel's contract and lot/batch numbers with the QSL listing, and check to see if the materiel with your lot/batch has already been tested and passed. A successful test is shown by a future date listing in the "Test Due" column. If there is a future date listing, and your materiel was stored using proper storage standards, then the QSL test results are your authority to extend the materiel's shelf life.

Note: Some of the entries in the QSL, especially for paints and adhesives, will show "AF" in the "Issued to" column and "RTL" in the "Source of Supply" (SOS) column. This means the item was tested by Air Force laboratories; however, the extension results may be used by all DOD customers.

- If no QSL data is available for the lot/batch of your NSN, note the "Inspection Type" code, "Characteristic Codes", and the "Source of Supply Code."

Note: If any information is missing, unclear or seems wrong, submit a query via the "Feedback" button on the website. Request any information you need, which may include visual inspection or laboratory test criteria, test sample submission procedures for laboratory testing, or shelf life extension time periods.

YOU CAN ALSO CONTACT THE APPROPRIATE MILITARY SERVICE/AGENCY ADMINISTRATOR OR THE INVENTORY CONTROL POINT SHELF-LIFE ADMINISTRATOR MATCHING YOUR SOS.

CONTACT INFORMATION IS ON THE WEBSITE UNDER THE POCs TAB.

IF THE INSPECTION TYPE CODES CONTAIN AN "L", THIS MEANS THAT YOUR NSN REQUIRES **CERTIFIED LABORATORY TESTING** FOR EXTENSION.

IF THERE IS **NO** CORRESPONDING QSL DATA, YOUR NSN'S LOT/BATCH HAS **NOT** BEEN TESTED BY A CERTIFIED LABORATORY TO DATE, BUT IT **CAN** BE TESTED.

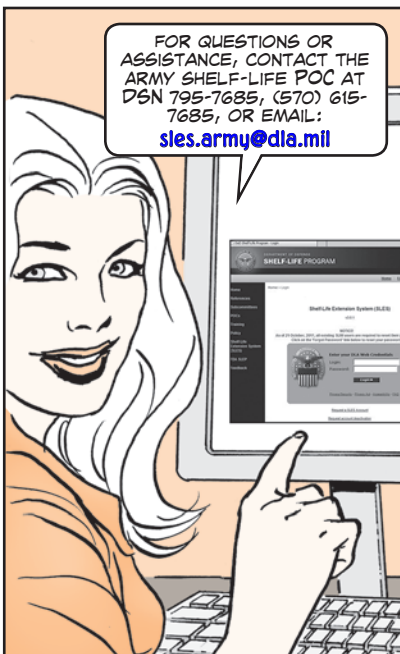
PERFORM AN ANALYSIS TO DECIDE IF IT WOULD BE COST-EFFECTIVE TO HAVE A SAMPLE OF YOUR ON-HAND STOCK TESTED.

THE DECISION TO TEST IS BASED ON AMOUNT OF INVENTORY, PRICE OF THE MATERIEL, TESTING AND SAMPLE TRANSPORTATION COSTS, DISPOSAL COSTS, AVAILABILITY OF RESUPPLY, AND ANY OTHER FACTORS YOU IDENTIFY.

IN SOME CASES, LABORATORY TESTING IS PERFORMED FREE OF CHARGE ONCE TEST SAMPLES ARE SHIPPED AT THE **OWNER'S EXPENSE** TO THE TEST FACILITY.

TEST LABORATORY CONTACT INFORMATION IS AVAILABLE ON THE WEBSITE PAGE UNDER THE SLES TAB. CLICK ON TEST LABS.

FOR QUESTIONS OR ASSISTANCE, CONTACT THE ARMY SHELF-LIFE POC AT DSN 795-7685, (570) 615-7685, OR EMAIL: sles.army@dla.mil



Shelf-Life Training

Training is available through the Defense Acquisition University's continuous learning modules. The course is:

CLL 120—*Introduction to the DOD Shelf-Life Program*

The Logistics Support Activity's Packaging, Storage, and Containerization Center also offers a one-day classroom workshop, *Principles of Shelf-Life Operations*. For more information, call DSN 795-9176/6408, (570) 615-9176/6408, or email:

toby.pt@us.army.mil

TO REGISTER FOR THE COURSE, VISIT...
<http://www.dau.mil/clc/default.aspx>



ASSIST Quick Search Gives Handy Details

I ALWAYS KNOW AT A GLANCE WHAT YOU MEAN... AND I LIKE THAT STRAIGHT-FORWARD STYLE!

DLA'S ASSIST USES YOUR STYLE TO MAKE CHOOSING PRODUCTS JUST AS EASY!

WOW! NOW I'M SETTING STYLE TRENDS. WHEN DO I GET MY OWN REALITY SHOW?



Red means product does not meet military specs. Do not buy.

Yellow means caution. Evaluate product carefully.

Green means product meets military specs. Buy with confidence.

You can quickly find all the references you need to correctly package military items right at your fingertips.

DLA's ASSIST is the official source for DOD's current standards and performance specifications. The website offers an easy-to-use "quick search" function that lets users find results by document identification or number, keywords, or federal supply class. Visit:

<https://assist.daps.dla.mil/quicksearch/>

You can also check the qualified product list (QPL) there and find out if the packing materials that you want to use have passed tough military spec testing. Plus, you'll find lists of approved companies for purchasing materials, as well as warnings about companies whose products do not meet military specs.

The ASSIST program has more handy components, like a shopping wizard. To access all ASSIST functions, register for an account at:

<https://assist.daps.dla.mil/online/start/index.cfm>

To reach the ASSIST help desk, call DSN 442-6396, (215) 697-6396, or email:

webmaster@astmail.daps.dla.mil

Safety...

One-Stop Accident Reporting Tool

THE ARMY HAS LAUNCHED A NEW WEB-BASED TOOL CALLED **REPORTIT** TO HELP ITS PERSONNEL MEET MANDATORY ACCIDENT REPORTING REQUIREMENTS.



THE US ARMY COMBAT READINESS/SAFETY CENTER (USACRC) IS IN THE PROCESS OF MERGING SEVERAL SEPARATE, OLDER APPLICATIONS INTO **REPORTIT**.



Reportit is the Army-wide accident reporting system

REPORTIT'S USER-FRIENDLY NAVIGATION GUIDES FIRST-TIME USERS THROUGH THE ENTIRE REPORTING PROCESS, AND THE NEW ACCIDENT REPORT FORMAT IS SIMPLER.

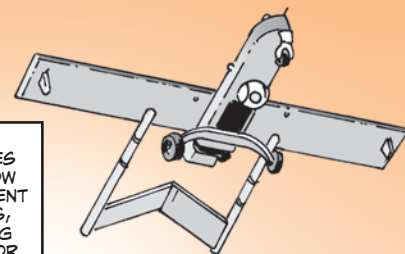


ARMY REGULATION (AR) 385-10, **THE ARMY SAFETY PROGRAM**, REQUIRES ALL ARMY ACCIDENTS TO BE FORMALLY REPORTED. AR 385-10 DEFINES AN ARMY ACCIDENT AS AN UNPLANNED EVENT, OR SERIES OF EVENTS, WHICH RESULTS IN ONE OR MORE OF THE FOLLOWING...

- Occupational illness to Army military or Army civilian personnel
- Injury to on-duty Army military personnel
- Injury to Army military (on-duty or off-duty)
- Damage to Army property
- Damage to public or private property, and/or injury or illness to non-Army personnel as a result of Army operations (the Army had a causal or contributing role in the accident).

CURRENTLY, **REPORTIT** COVERS BOTH ON- AND OFF-DUTY GROUND AND MANNED AVIATION ACCIDENTS FOR MILITARY MEMBERS, CIVILIANS AND CONTRACTORS THAT CAN BE REPORTED ON DA FORM 285-AB, **US ARMY ABBREVIATED GROUND ACCIDENT REPORT**, AND DA FORM 2397-AB, **ABBREVIATED AVIATION ACCIDENT REPORT**.

FUTURE UPGRADES WILL SHOW **ALL** ACCIDENT REPORTS, INCLUDING THOSE FOR UNMANNED AERIAL SYSTEMS.



SEVERAL GUIDES AND WORKSHEETS ARE AVAILABLE FOR DOWNLOAD FOR BOTH GROUND AND AVIATION ACCIDENT REPORTS AT THE WEBSITE.

TO CHECK OUT OR USE THE TOOL, VISIT THE WEBSITE AT:
<https://reportit.safety.army.mil>

Stryker Synthetic Gear Oil NSN

Crewmen, you can now get synthetic gear oil (SAE 75W-90) for the transfer case, differential gear box, wheel drive and winch in your Stryker vehicles in a larger quantity. A 55-gal drum comes with NSN 9150-01-591-0826. Previously, you could only get the gear oil in 1-qt bottles, NSN 9150-01-363-1192.

WORDS, ACRONYMS AND ABBREVIATIONS

Military words and acronyms are abundant in government speak. So how do you figure out what they mean? Since acronyms have multiple meanings depending on context, go to:

<http://www.dtic.mil/doctrine/dod-dictionary> or
<http://www.wood.army.mil/acronym/default.htm>

There you'll find meanings to defense terms, military words, government acronyms and abbreviations.

VACUUM CLEANER FOR ELECTRONICS

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

HEMTT A2/A4 TIRE/WHEEL ASSEMBLY

A2 and A4 HEMTTs now share the same tire/wheel assembly that comes with NSN 2530-01-477-1660. This assembly can be used on all axles with dish-in and dish-out applications because of the new dual-port air valve, NSN 2530-01-474-5539, that's included with the assembly.

DEFENSE LOGISTICS AGENCY CUSTOMER ASSISTANCE HANDBOOK URL UPDATE

The DLA Customer Assistance Handbook provides useful information on how to do business with DLA and answers many of DLA's frequently asked questions. The handbook is available online and DLA customers may also order a hard copy. The URL has changed. To register for access to the online version of the handbook or to order a hard copy, visit:

<http://www.dla.mil/logisticsoperations/pages/communications.aspx>

For more information, email: handbook@dla.mil

PACKAGING GUIDE GOES DIGITAL

The Logistics Support Activity (LOGSA) Packaging, Storage, and Containerization Center published a helpful guide to military packaging, packing and preservation. The electronic version of LOGSAP 746-1, *Packaging—the Basics*, is now available from LOGSA's website at:

https://www.logsa.army.mil/documents/LOGSAP_746-1.pdf

To request hard copies of the guide, call DSN 795-7105, (570) 615-7105, or email:

toby.pt@us.army.mil

M1068 SICPS Radio Frequency Cable

Get a new radio frequency cable for the single point LAN ground box assembly on your M1068 SICPS (standardization integrated command post system) with NSN 6145-00-823-2544 (PN M17/60-RG142). NSN 6145-01-101-4726, which is listed as Item 10 in Fig 381, Item 29 in Fig 391, and Item 12 in Fig 401 of TM 9-2350-261-24P (Aug 05), is a terminal item. You'll also need to jot down the replacement NSN and PN for Item 1 on Page BULK-1 of the TM.

M915A2/M916A1 Tachometer Sensors

Need the sensors that come with the electronic tachometer kit, NSN 6680-01-540-3074, for your M915A2 and M916A1 tractor trucks? Get the speed sensor using NSN 6680-01-505-3054. It mounts on the transmission. The RPM sensor that mounts on the front engine cover comes with NSN 6695-01-510-1490. Make a note until the TM is updated.

MHE 237 Forklift Fuel Gage

Get a new fuel gage for your MHE 237 4K forklift with NSN 6680-01-391-1900. That NSN replaces PN 6432376 which is shown as Item 3 in Fig 36 of TM 10-3930-638-24P (Jul 08).

USACRC DL Courses Go Wide

The United States Army Combat Readiness/Safety Center (USACRC) has added distance learning (DL) courses to the Army Training Support Center's Army Learning Management System website. Check out a wide range of courses, ranging from accident investigation to risk management. Visit: <https://safety.army.mil/training/>

Choose Online Training and follow the prompts to register. Questions? Call DSN 558-0208/0232, (334) 255-0208/0232, or email: safe.dlcoordinator@conus.army.mil

DSB DOZER, 130G GRADER O-RING NSN

Get a new O-ring for the DSB's winch case cover and 130G's transmission with NSN 5331-00-166-8404. The old O-ring, NSN 5331-00-245-6767, is a terminal item.

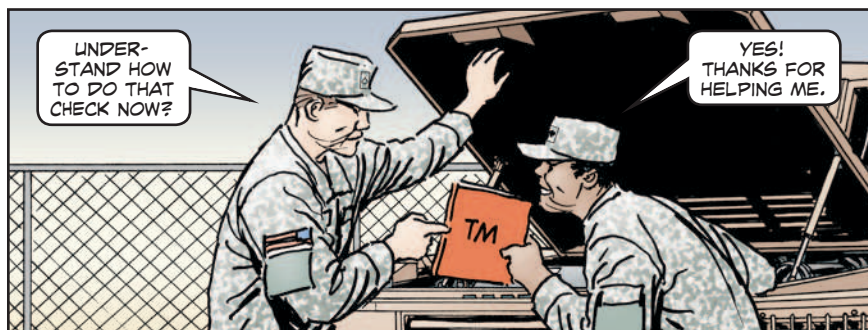
SEE ELECTRICAL CHART

To get an easy-to-read laminated wall chart that details the SEE's electrical system, use NSN 7610-01-475-7996. The chart is a simpler way to troubleshoot or track down an electrical short on your excavator.

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

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

SHARE YOUR MAINTENANCE KNOWLEDGE!



**SOMEONE HELPED YOU BECOME
A MAINTENANCE EXPERT.**



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