

Issue 674

PS

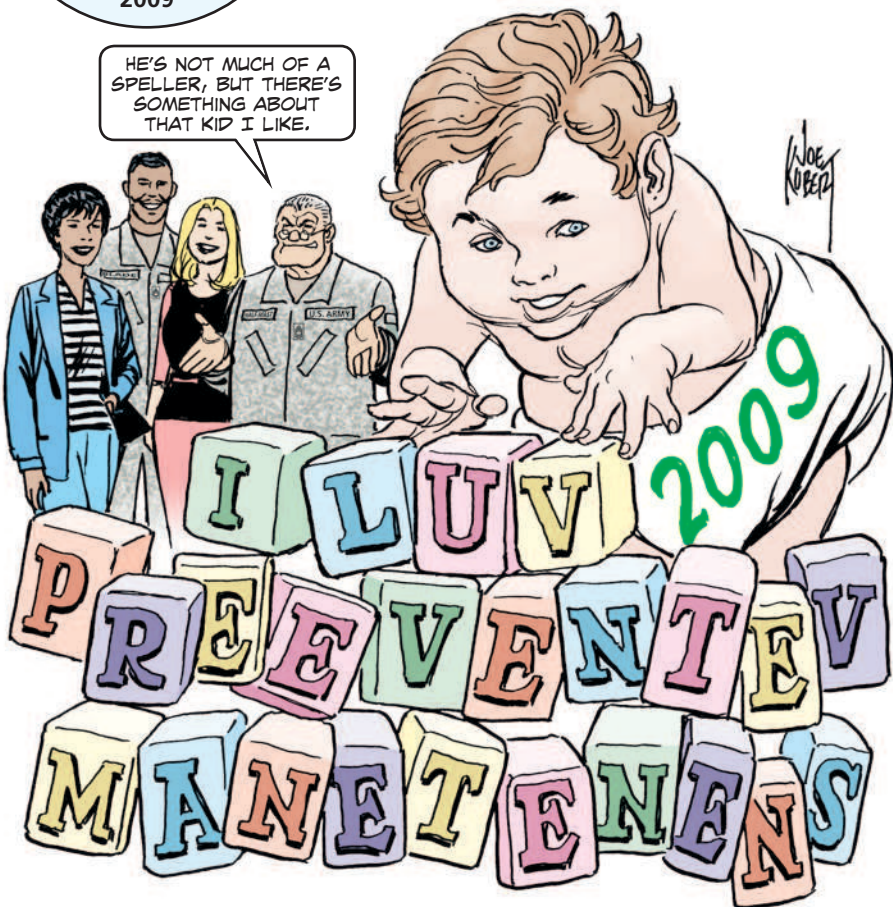
January
2009

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-674

Approved for
Public Release;
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HE'S NOT MUCH OF A
SPELLER, BUT THERE'S
SOMETHING ABOUT
THAT KID I LIKE.



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HEED TM WARNINGS, CAUTIONS AND NOTES



These days, technical manuals are available in both paper and electronic media. Special messages, known as WARNINGS, CAUTIONS and NOTES, are found all throughout paper manuals and plain electronic technical manuals (ETMs), while interactive electronic technical manuals (IETMs) have pop-up messages that you have to acknowledge before moving forward.

Avoiding danger is as simple as reading and heeding the messages that you see. Reading them is easy enough, but do you really know what they mean?

WARNINGS help prevent injury to people. They tell you about conditions which, if not avoided, could injure or kill you and the soldiers you work with.

CAUTIONS help prevent damage to equipment. They're found with operations and maintenance procedures in your tech manuals. Not following what they say could damage or even destroy your equipment.

Finally, NOTES highlight important operations and maintenance procedures. Ignoring them may cause you to miss a step, waste time and effort, or jeopardize safety.

So the next time you come to a WARNING, CAUTION or NOTE in your tech manual, **don't** skip over it! Heed what you read, 'cuz if you don't, you may regret it later.



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-674, 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.

ISSUE 674 JANUARY 2009



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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-AM)
5307 Sparkman Circle
Redstone Arsenal, AL 35898

Or email to:

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half.mast@us.army.mil

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

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PM Cools Off AFES Problems

MAN, THAT FIRE SEEMED TO COME OUT OF NOWHERE!

YEAH! IT'S A GOOD THING THAT WE DID OUR AFES PM!

CREWMEN, HOW WELL YOU TAKE CARE OF YOUR STRYKER'S AUTOMATED FIRE EXTINGUISHING SYSTEM (AFES) WILL DETERMINE HOW WELL IT TAKES CARE OF YOU IN THE EVENT OF A FIRE.

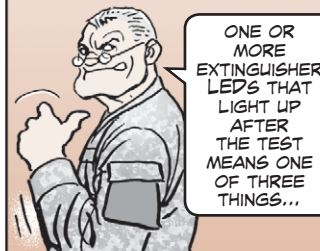
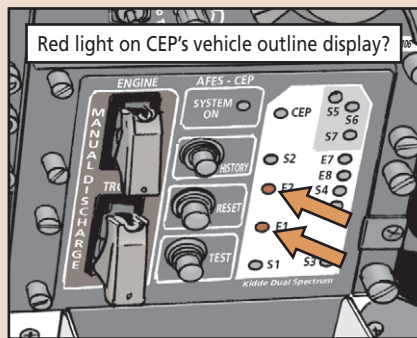
HERE'S WHAT TO LOOK FOR...

AFES CEP

During the startup sequence, when you set the AUX MASTER switch to the on position, take a look at the AFES control electronics panel (CEP). The green LED for SYSTEM ON should light up to indicate that the AFES is active.

You'll also see the sensor (S1-S7), extinguisher (E1-E3, E7, E8), and CEP LEDs on the vehicle outline display light up in a racetrack pattern. It takes about eight seconds for the CEP to go through this built-in test of the system. When finished, all of the LEDs should go out.

If one or more of the sensor LEDs is red, it indicates that the corresponding sensor in the vehicle has failed or is disconnected.



- Steady illumination of the LED is an indication that the fire extinguisher bottle is missing, disconnected, or has low pressure.
- An LED that flashes regularly means the bottle has been discharged.
- An LED that flashes irregularly means the bottle received a signal to discharge, but did not go off.

If the CEP LED lights up red, there's a problem with the panel itself.

Next, check the toggle switch covers for the troop and engine compartment manual discharge switches. Both covers should have safety seals in place to help prevent accidental discharge of the extinguishers.

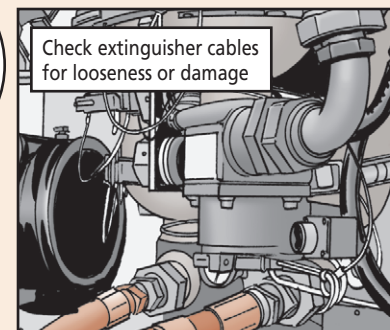
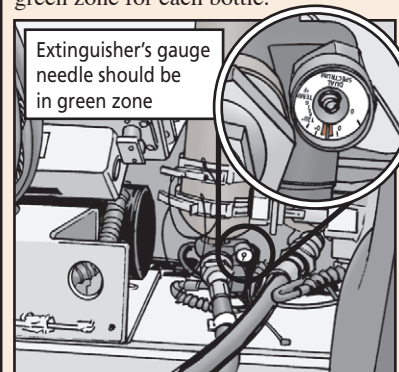


IF YOU SEE ANY OF THESE PROBLEMS, YOUR STRYKER IS NMC. CALL IN YOUR MECHANIC FOR HELP.

Extinguisher Bottles

Always check the fire extinguisher bottle gauges before operation. Make sure the gauge needle is within the green zone for each bottle.

Next, take a look at the electrical cables connected to the fire bottles. If they're loose, disconnected, or damaged, the bottle won't fire properly when needed. Tell your mechanic.



Sensors

After every operation, you should check the AFES fire sensors in the troop and engine compartments. If the sensors are dirty, wipe them with a soft, clean cloth. If the sensors are still dirty, your mechanic can give them a more thorough cleaning.

Check the wiring connected to the sensors, too. If you spot any problems—like cuts, wear or exposed wiring—tell your mechanic.

M1-Series Tanks...

**Loose
Shield
as Bad
as No
Shield**

**YOU'RE NO
PROBLEM
FOR MY
FUEL CELLS!**

**MY MECHANICS
TOOK GREAT
CARE OF MY
HEAT SHIELD!**

**HEAT
SHIELD**

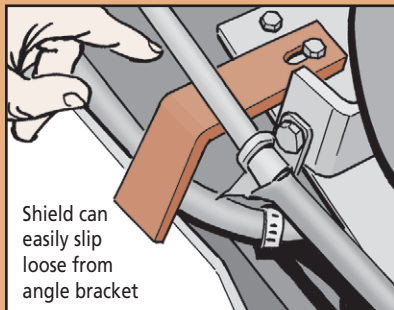
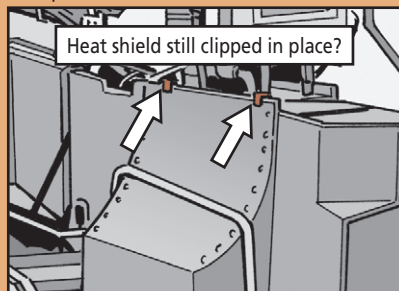


Mechanics, the heat shields in the M1-series tank's engine compartment are there to protect the fuel cells from the extreme heat of the engine.

That's why you need to treat the shields with care, especially when reinstalling the powerpack. After all, damaged shields are almost as bad as no shields at all.

Heat Shield Brackets

The shield, NSN 5640-01-083-5375, on the right side of the engine compartment is held in place with two angle brackets. These brackets are a bit short, so it's easy for the shield to slip loose from them.



When that happens, the top of the heat shield leans out and gets crushed by the powerpack as it's lowered into place. Your tank is NMC until the heat shield is replaced.

Before reinstalling the engine, check the angle brackets. Make sure they're tightened down and the heat shield is held in place by **both** brackets.

Never try to make do with just one bracket. Both are needed to properly secure the heat shield.

Replace missing brackets with NSN 5340-01-115-0628. You'll also need a new screw, NSN 5305-00-068-7837; lock washer, NSN 5310-01-374-5430; and flat washer, NSN 5310-01-379-0804, to hold each bracket in place.

Heat Shield Tape

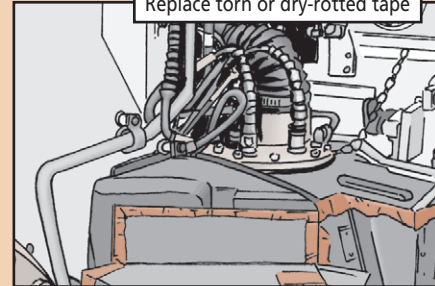
The tape on the edges of all the heat shields takes a lot of rough treatment. Fuel, oil and water lead to dry rot. Bumps and rubs during powerpack installation wear out the tape before its time.

The PMCS tables in the -20-1-1 TMs say the vehicle is NMC if the heat shields are damaged, so most units simply replace them.

If the tape is all that's damaged, you can save your unit those repair bucks by replacing it instead of the heat shield. As long as the damaged section of tape is 12 inches long or less, pull off the old tape and replace it with tape, NSN 7510-01-176-3398.

Heat shields with more extensive damage must be replaced following the TM to avoid a fire hazard or further damage to the tank.

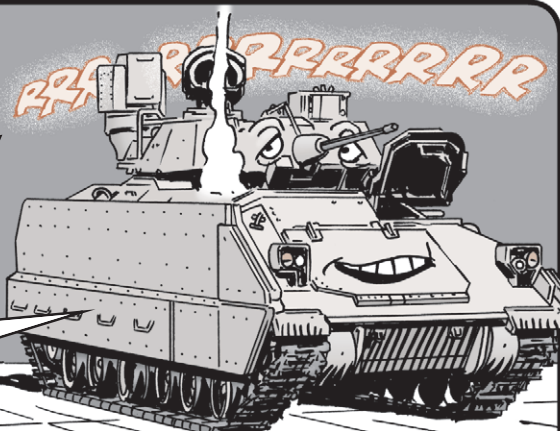
Replace torn or dry-rotted tape



M2/M3-Series Bradleys...

**KEEP
HAWKERS
CHARGED**

AAAAH!
THERE'S NOTHING LIKE
A **GOOD CHARGE** FOR
MY HAWKER BATTERIES!

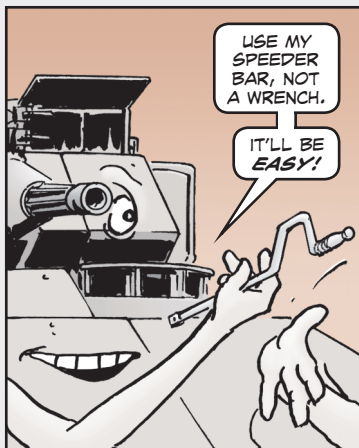
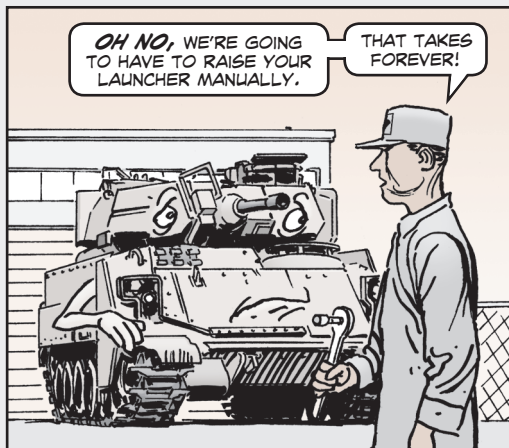


Drivers, as good as the new Hawker batteries are, they can still be drained while your Bradley sits around the motorpool, especially if you forget to turn off all electronic equipment during downtimes.

So you'll need to keep them charged up during PMCS. That means starting and running your Bradley for 30 minutes or more at high idle. Or you can save fuel by using a battery charger for a couple of hours if one is available.

Do that once a week or so and the batteries will be charged and ready to go for your next mission.

EASIER LAUNCHER RAISING

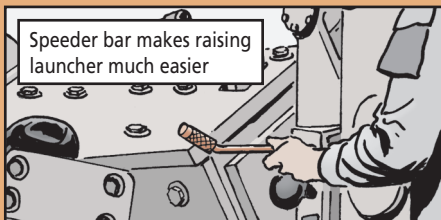


Dear Editor,

Sometimes you have to manually raise the Bradley's TOW launcher. Normally, you use a 14mm socket wrench, which requires you to crank and crank because you can make only a $1/2$ turn at a time before having to reposition the wrench.

We've found it's much easier to raise the launcher with the speeder bar from the turret mechanic's tool box. With the speeder bar, you can raise the launcher in no time because you don't have to take the speeder bar on and off repeatedly. You just crank the launcher right up.

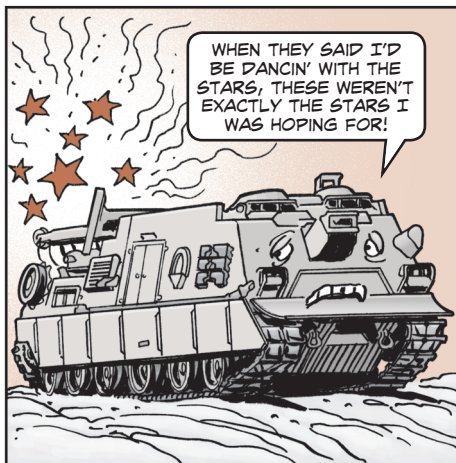
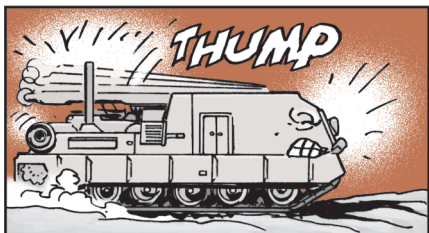
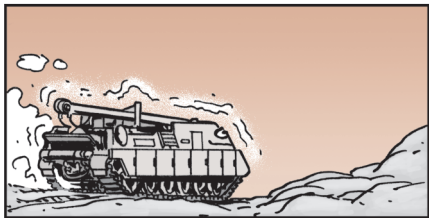
SFC Dana Ramsey
SFC Steven Bowling
B Co, 1-68
Ft Carson, CO



Editor's note: Remember that the launcher must be manually depressed to bring the launcher pin out of the saddle before manually raising the launcher.

M113-Series FOV Engine Oil Cooler Bolt

Need a new bolt to attach the oil cooler bracket to your M113-series vehicle's 6V53T diesel engine, NSN 2815-01-248-7644 or NSN 2815-01-412-2715? Don't use the one called out as Item 20 in Fig 18 of TM 9-2815-205-34P. That bolt, NSN 5306-00-282-2213, is too short. Instead, order an 8 $1/2$ -in bolt with NSN 5306-01-543-3277. The torque value has changed, too. Tighten the new bolt to 20 lb-ft. Make a note until the TM can be updated.

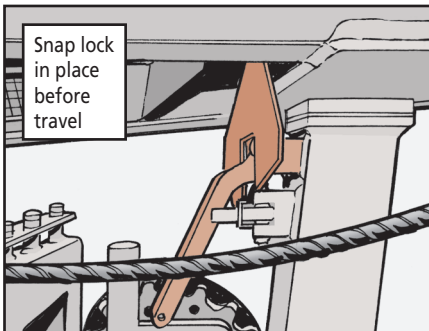


When the boom is down during operation, that lock is needed to keep the boom from doing the ol' jitterbug every time you hit a bump in the road.

Not using the lock lets the boom bounce like crazy. And that puts a lot of strain on the hydraulic cylinders. Before you know it, the seals are blown.

It only takes a few seconds, so snap the lock in place before traveling.

You'll find the procedure starting with the caution at the top of WP 0047 00-14 of TM 9-2350-292-10 (Nov 05 w/Ch 1, Jun 07). That'll keep your vehicle from taking to the dance floor.



GOT A SCREW LOOSE?

I THINK
OUR
CARRIER
HAS SOME
SCREWS
LOOSE!

YEP! AND THEY'RE
THE ONES THAT HOLD
THE REAR DOOR
LATCHES IN PLACE!

WHEN THERE'S
AN EMERGENCY—
LIKE A FIRE—
YOU'LL WANT
TO GET OUT
OF YOUR AMMO
CARRIER FAST.

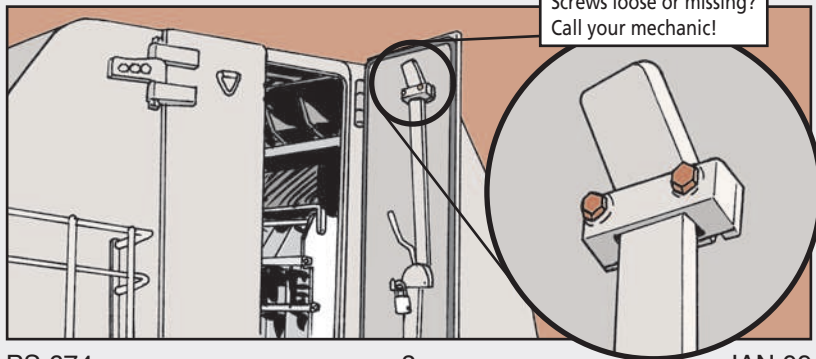
ANY DELAY
CAN MAKE THE
DIFFERENCE
BETWEEN LIFE
AND DEATH.

That's why it pays to keep a close watch on the screws that hold the rear door latch mechanism in place.

Vibration and everyday wear and tear can loosen the screws. If they work loose, the latching bar can fall across the doors. The few extra seconds it takes to move the bar can be critical.

So take a look at the screws during PMCS. If they're loose or one is missing, notify your mechanic. He'll replace missing screws, NSN 5305-00-071-2073, and re-tighten loose ones.

Screws loose or missing?
Call your mechanic!



M109-Series SP Howitzer,
M992A2 Ammo Carrier...

HOLY COW!
IS IT A FIRE?!

NO, YOU JUST
DIDN'T INSTALL
NEW PACKING
IN MY EXHAUST
DEFLECTOR!

BAD PACKING: AN EXHAUSTING PROBLEM

Crewmen, does your howitzer or ammo carrier have exhaust leaks in the engine compartment?

If so, the culprit could be a worn-out exhaust deflector packing. It's supposed to plug up the space between the deflector and the end of the engine exhaust pipe.


Once the packing is worn enough, you'll get exhaust leaks in the engine compartment. That's a dangerous problem.

Replace that packing when you start seeing leaks. A new packing comes with NSN 5330-01-382-4272. Use the whole packing to fill the gap between the deflector and the hull mount.

If the seal support is bent so the deflector won't seat right, replace it. Use NSN 2990-00-894-0075 for a new support.

Make sure the cap screws that hold the deflector snug against the packing are not stripped or cross-threaded. Replace bad screws with NSN 5305-00-269-3238. That NSN brings 100 screws.

And when it's time to pull the powerpack, make sure you take off the exhaust deflector first. Otherwise, the deflector gets ripped off when you remove the deck.



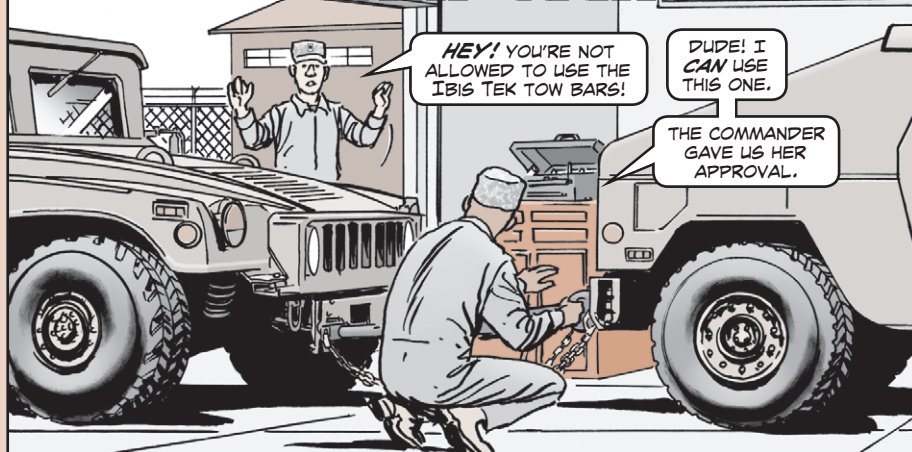
Packing missing
or damaged?
Replace it



Replace damaged or missing screws

HMMWVs...

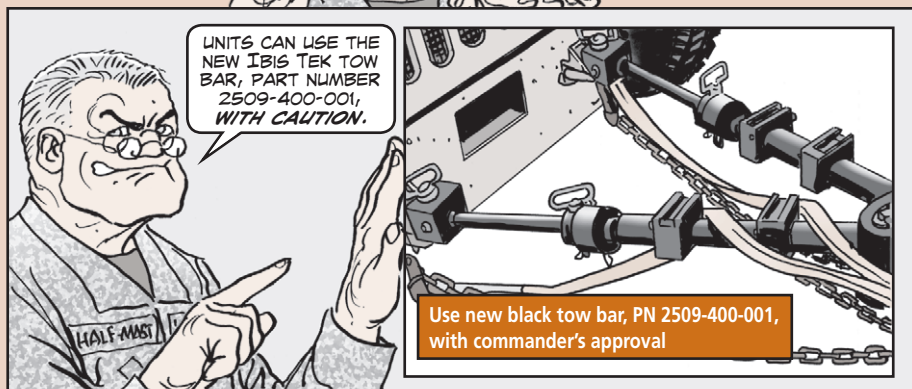
Use New Tow Bar with Caution



WE'VE TOLD YOU BEFORE **NOT** TO USE UNAUTHORIZED TOW BARS.



THAT'S STILL TRUE, BUT NOW THERE'S ANOTHER TOW BAR OPTION THAT HAS BEEN TESTED ON UP-ARMORED HMMWVS, AND IT'S **AUTHORIZED**.



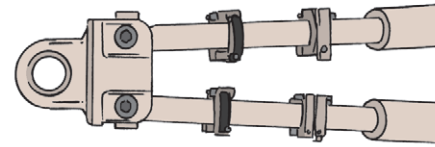
COMMANDERS WHO APPROVE THE USE OF THIS TOW BAR WILL HAVE TO FIRST DEVELOP A COMPOSITE RISK MANAGEMENT DOCUMENT THAT MEETS THE FM 5-19 STANDARD.

IF YOUR COMMANDER ACCEPTS THE HAZARD RISK GIVEN IN TACOM SQUAD 08-015, USE THESE TIPS TO STAY SAFE WHILE USING THIS NEW TOW BAR.



Basic Guidelines

Don't use old tan HMMWV Ibis Tek tow bar

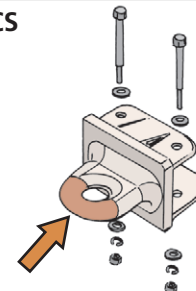


- Use of Ibis Tek tow bar, part number 2509-400-001, CAGE code 1SC69, is only for HMMWV to HMMWV applications. This tow bar is black. The older Ibis Tek tan tow bar is **not** authorized.
- Get two people to install the Ibis Tek tow bar. The tow bar weighs 60 pounds.
- When stowing the tow bar in the front vertical position, use a positive locking ratchet strap to secure the tow bar. **Don't** use the nylon straps provided. This should prevent the tow bar from coming in contact with the ground while in motion.
- Operators should wear gloves when removing the rear hitch pin on the rear bumper tow bar holder. That ought to prevent hand injuries.

Before Operation PMCS

1. Inspect the tow bar ring hitch assembly for wear. When the ring's thickness wears below 1.25 inches, replace the ring hitch assembly using part number 2509-700-001, CAGE 1SC69. Use an outside caliper micrometer, NSN 5210-00-243-2933.
2. Use safety tow chains instead of nylon straps.

Replace when thickness wears below 1.25"



During Operation PMCS

1. Limit vehicle speeds to 20 mph when towing a HMMWV.
2. Limit vehicle operation on V-ditch type obstacles when towing a like HMMWV.
3. Limit vehicle operation to grades no greater than 20 percent and side slopes no greater than 30 percent when towing a like HMMWV.
4. Increase stopping distance when towing.

After Operation PMCS

When parking your HMMWV on a grade or a slope, use wheel chocks **and** the parking brake.

By the way, units will have to pay for any requisitioned items needed to get vehicles back to the standard configurations.

Within these guideline, you can say no to the old, and yes **with caution** to the new.

M1113/M1114 HMMWVs...

POWER STEERING CHECKS

WHAT'S
WRONG WITH
THE STEERING
WHEEL?

IT'S SO HARD TO
TURN WHEN WE'RE
GOING SLOW!

SKREEEEEE

Dear Half-Mast,

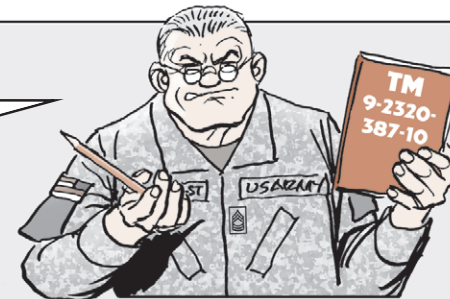
I need to know how to properly check the power steering on M1113 and M1114 up-armored HMMWVs. While sitting still in traffic, the steering wheel is hard to turn. Plus, they make noise when turned all the way left or right. But once we move forward, the steering wheel moves as smooth as silk.

I don't think there's a problem when the steering wheel doesn't easily move when sitting still. But some people disagree with me. Would you tell us the right way to check the power steering?

Mr. P.V.R.

TO PREVENT UNNECESSARY
DOWN TIME, HERE'S
TACOM'S SOLUTION UNTIL A
FINAL PROCEDURE CAN BE
DEVELOPED.

PENCIL THESE WORDS IN THE
OPERATOR'S MANUAL PMCS
TABLE AS PMCS ITEM 14.1
UNTIL THE FINAL PROCEDURE
REVISION GETS PUBLISHED...



Dear Mr. P.V.R.,

Can do. TACOM LCMC will update TM 9-2320-387-10 to include the right procedure. But until that happens, you might want to go get this TM now so you can pencil in this change.

TACOM is working to fix problems with vehicles not being able to pass the static steering check procedure shown as Item 13 in the PMCS table in your -10 TM. This procedure calls for the steering wheel to be turned from left to right, but it doesn't require the steering wheel to be turned fully from stop to stop.

A HMMWV steering wheel that turns from left to right with normal or slightly more than normal effort as the vehicle sits stationary is usually good to go. But with the addition of armor protection kits and the resulting overloaded axles, your M1113 and M1114 HMMWVs don't pass the static steering check most of the time.

Armor kitted vehicles and vehicles outfitted with Fragmentation kits, Gunner Protection kits, Mine/IED detection devices etc., that do not pass PMCS item 13, Static Steering Check, prior to reporting the vehicle to maintenance, should first perform PMCS item 14. If the vehicle successfully meets the criteria for item 14a, then recheck the steering wheel operation in the following manner:

NOTE:

Position the vehicle to an area to allow sufficient room to operate for a short distance at 5 to 10 mph, in a zig zag manner, without obstruction or imposition from surrounding environment.

With vehicle at idle, transfer in H, and transmission in D, allow vehicle to move forward at not less than 5 and not more than 10 mph. As the vehicle moves forward turn steering wheel from right to left. Steering wheel should move freely.

Half-Mast

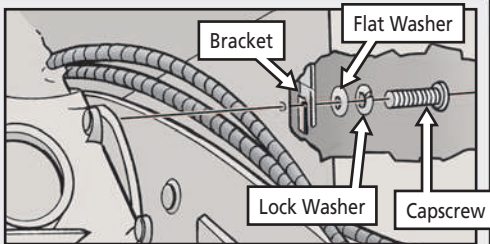
CAPSCREW TORQUE FOR SHEPPARD STEERING GEAR

IF YOUR M1151A1, M1152A1, OR M1165A1 UP-ARMORED HMMWV HAS SERIAL NUMBER 246890 OR HIGHER, **LISTEN UP!**

YOU **WON'T** FIND THE TORQUE VALUES FOR THE SHEPPARD STEERING GEAR CAPSCREWS IN TM 9-2320-387-24-2 YET.

SO KEEP READING TO GET THOSE LIMITS.

Before you torque, apply sealing compound to the threads of the three capscrews. Then install the steering gear onto the frame using the bracket, three flat washers, three lock washers, and the three capscrews that you just put sealing compound on. Next, tighten to 160-195 lb-ft.



AND IF YOU NEED TO REPLACE ANY MISSING HARDWARE, USE THIS TABLE TO ORDER THE CORRECT ITEMS AND QUANTITIES NEEDED...

Item	CAGE	NSN	QTY
Sealing compound	05972	8030-00-148-9833	1
Screw, cap, hexhead	80204	5305-00-726-2567	3
Washer, flat	24617	5310-01-151-7347	3
Washer, lock	80205	5310-00-937-0453	3

USE *NEW*
FRS TMS!



Dear Editor,

The M7 forward repair system (FRS) tech manuals, TM 9-4940-568-10 (Jun 08), -10HR (Jun 08) and -24P (Jan 08) have been posted on LOGSA's ETM website and are ready for Soldiers to use in the field. Please tell all Soldiers to use these current versions and throw away all previous versions of these TMs.

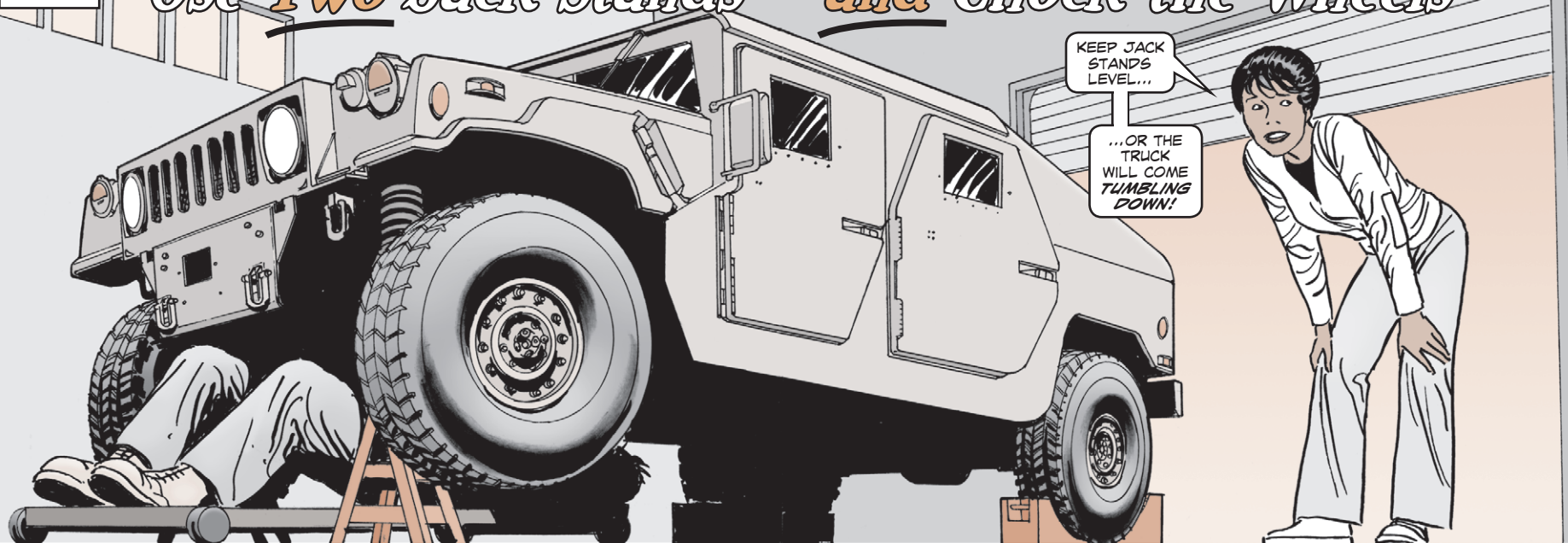
The -23 maintenance manual should be ready and posted this month. And if you have questions or comments, notify TACOM's FRS equipment specialist, Larry Rigsby: larry.rigsby@us.army.mil

Michael Krakowiak
TACOM LAR-Auto/Combat
Fort Hood, Texas

Editor's note: Thanks for being forward with that tip for readers.

Hydraulic
Jacks...

Use *Two* Jack Stands *and* Chock the Wheels

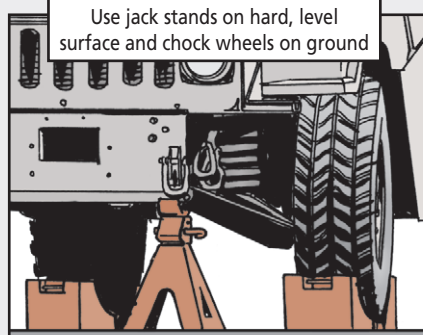


Dear Bonnie,

A Soldier was recently killed in a maintenance-related accident in Afghanistan. The mechanic was performing maintenance on the front brake calipers of an up-armored M1114 HMMWV sitting on two "bottle-jacks" and one jack stand when the vehicle shifted and fell on him. The Soldier was taken to a local medical facility where he died.

There is a right way to support a vehicle. Use two jack stands and chock the wheels. The warning summary in TM 9-2320-387-24-1 spells out safe procedures very clearly. It says:

Hydraulic jacks are used for raising and lowering, and are not used to support vehicle. Never work under vehicle unless wheels are blocked and it is properly supported. Injury or damage to equipment may result if vehicle suddenly shifts or moves.



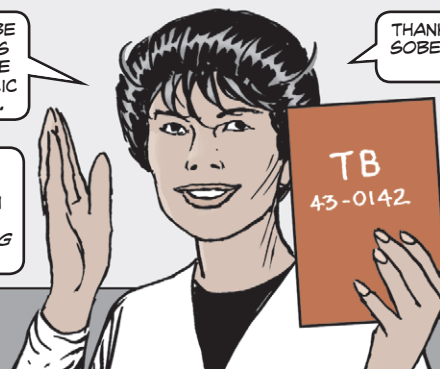
Warnings and cautions in the technical manuals are there to protect users from injury or death. When the standard is ignored, Soldiers are at risk. Please remind your readers to go by the book. Army safe is Army strong!

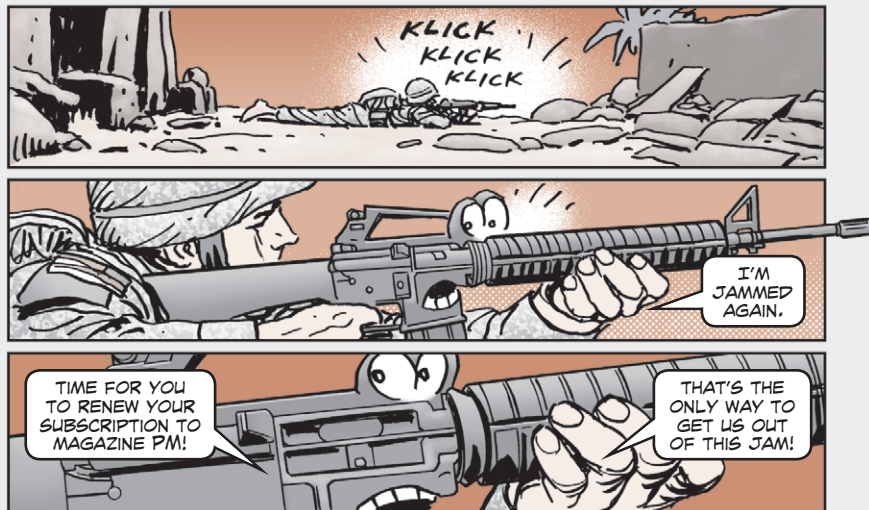
CW4 David W. Muehleisen
Senior Maintenance/Logistics Officer
US Army Combat Readiness/Safety Center
Fort Rucker, AL

READERS, *YOU* CAN'T BE REPAIRED AS EASILY AS YOUR VEHICLE, SO MAKE SURE YOU USE HYDRAULIC JACKS THE RIGHT WAY.

AND REMEMBER TO INSPECT THE JACKS USING THE GUIDANCE IN TB 43-0142, SAFETY INSPECTION AND TESTING OF LIFTING DEVICES.

THANKS FOR THAT SOBER REMINDER, CHIEF.



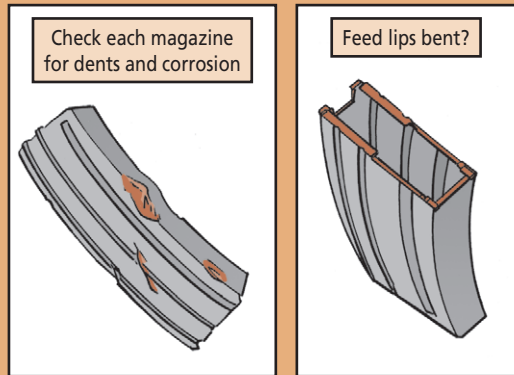


Magazine Jam? Renew PM Subscription

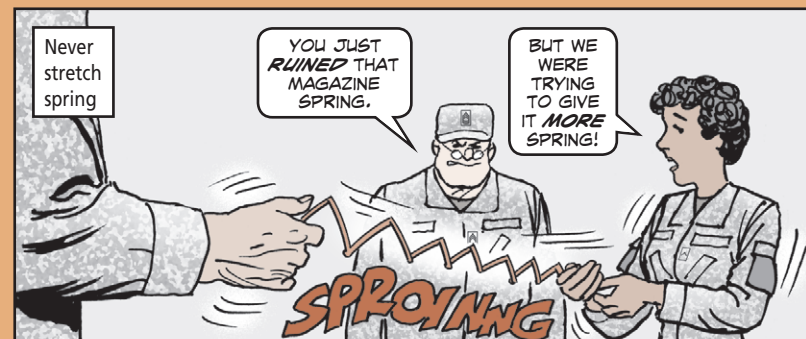
Soldiers are complaining about magazines jamming in Southwest Asia with their M16 rifles, M4/M4A1 carbines and M9 pistols. That desert's very fine sand causes some of those magazine problems, but much of that jamming results from plain ol' poor PM. You can prevent many magazine jams just by renewing your PM subscription.

Begin by checking all magazines for dents and corrosion. If a magazine has more than minor dents or corrosion, get a new one. No use taking chances.

Eyeball the magazine's feed lips. If they're bent, get a new magazine. If the magazine's spring and follower have come apart, don't try to reattach them. Get a new magazine.



Never stretch the spring to try to make it work better. That just ruins the spring.



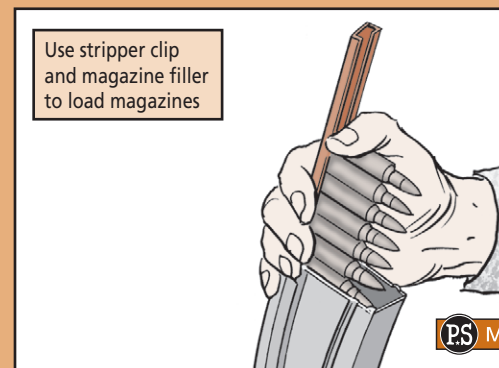
Never use a speed loader or jam the feed lips against a table edge or anything hard while loading a magazine. That bends the feed lips and ruins the magazine. Bent feed lips can cause double feeds.



Load a magazine like it shows on Page 0008 00-23 in TM 9-1005-319-10:

Use the 10-round stripper clip and magazine filler found in each bandoleer to load 30 rounds in the magazine.

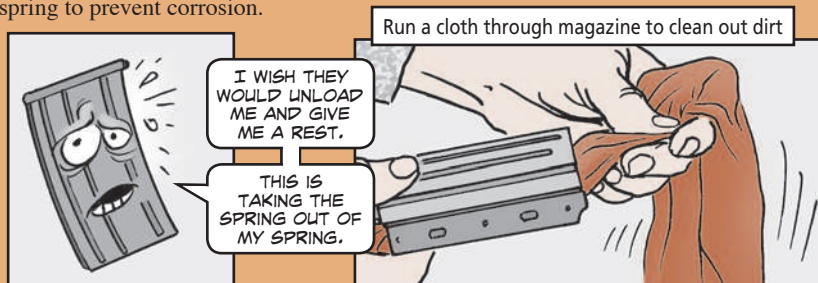
With the magazine filler in place, push with your thumb on the rear of the top cartridge until all 10 rounds are below the feed lips. Remove the empty stripper clip while holding the magazine filler in place. Repeat until three 10-round clips are loaded.



PS MORE

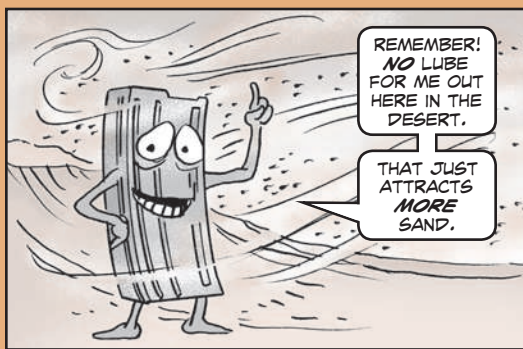
Whenever possible, don't leave magazines fully loaded all the time. Over time, that pressure could cause the magazine spring to lose its spring and then you have feeding problems.

A dirty magazine will be more likely to jam, especially if sand is coating moving parts. So when you clean your rifle, clean the magazines. It doesn't take much longer. Take each magazine apart and run a clean cloth through each tube until all dirt is gone. Wipe off dirt from the follower and spring. If you're not in the desert, lightly lube the spring to prevent corrosion.



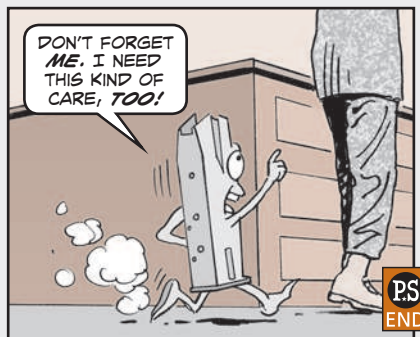
But in the desert **don't lube** any part of the magazine. Lube will just attract sand, which leads to jamming.

In the desert especially, do everything you can to keep sand and dirt out of magazines. Keep magazines in their sealed bags as much as possible. NSN 1005-00-193-8306 brings 500 plastic magazine bags.

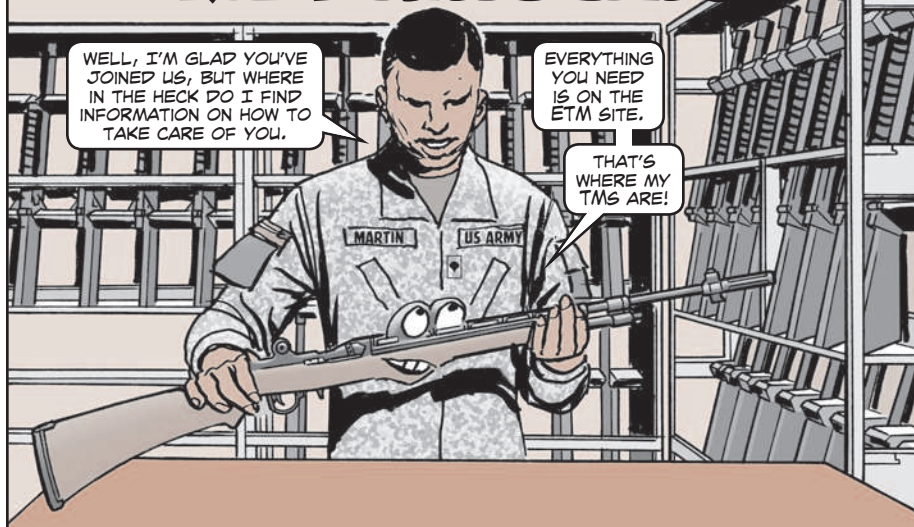


M9 Pistol

Most of this PM also applies to the M9 pistol magazines. Load M9 magazines by hand. Don't stretch their springs. Don't leave M9 magazines loaded all the time. Keep them clean. Don't lube them in the desert. Disassemble and clean them after every mission. Keep magazines in their sealed plastic bags or the ammo pouch, NSN 8465-01-207-5573, as much as possible. See Page 3-26 in TM 9-1005-317-10 for care of the magazine.



Where to Find M14 Rifle Info



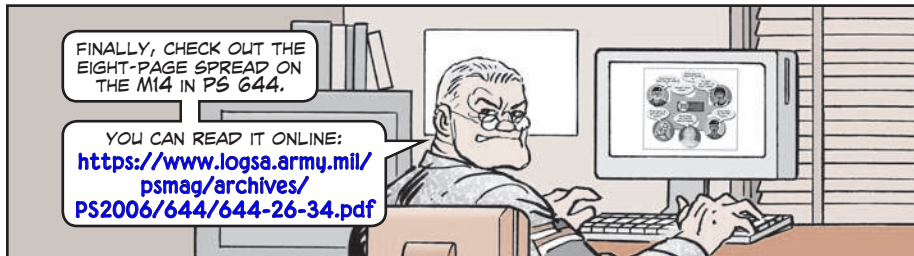
Many units in SWA are being issued M14 rifles for their marksmen. But since the M14 has been used rarely by the Army in the last 30 years, finding info on topics like parts, PMCS, and gaging can be a puzzle.

Be puzzled no more. The M14 has four TMs: TM 9-1005-223-10, -12P, -20, and -34. They should answer almost all your questions. All four TMs are on the ETM website:

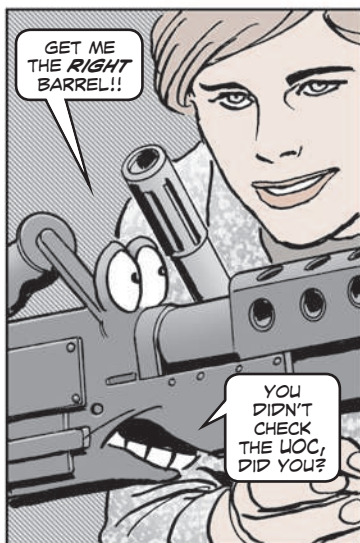
<https://www.logsa.army.mil/etms/online.htm>

If you need magazines for the M14, order them with NSN 1005-00-628-9048. If you need a mount for your scopes, order one with NSN 5855-01-506-5750. Order the mount on a DD Form 1348-6 and put "NSN not on AMDF" in the REMARKS block.

Store M14s in the old M11 rack, which comes with NSN 1095-00-897-8755.



UOC Makes All the Difference



M249
Machine
Gun...

OOPS, THEY'VE CHANGED
THE PROCEDURE FOR YOUR
SLING SWIVEL ADAPTERS.

BETTER
MAKE NOTE
OF THIS.

YEAH, WE
DON'T WANT
ANY MISTAKES.



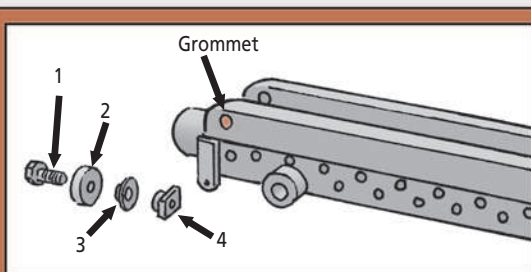
Sling Swivel Adapters Part II

Pages 20-21 in PS 661 (Dec 07) told you about the new sling swivel adapters for the M249 machine gun that don't crack the upper receiver hole for the snap hooks.

Well, since then there have been some corrections and changes.

First, the corrections: The NSNs for the front and rear sling mounting kits were reversed. The front kit comes with NSN 1005-01-529-8406 and rear kit comes with 1005-01-529-8408. The quick-release swivel still comes with NSN 1005-01-529-9309 and you need two of them.

NOW THE CHANGE:
THE PROCEDURE FOR
INSTALLING THE SLING
WHEN THE RECEIVER IS
MISSING THE GROMMET
ASSEMBLY HAS BEEN
REVISED...



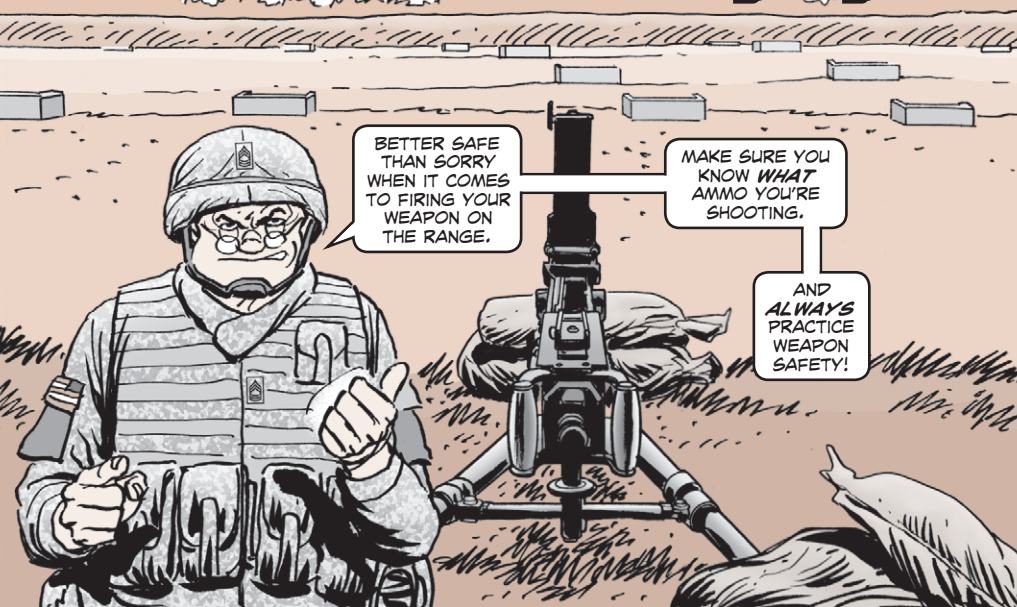
1. Place the lug (1) into the thick spacer (2).
2. Use the spacer (3), along with the thick spacer (2), to replace a missing grommet.
3. Place and hold the stud (4), lip end first, in the inside of the receiver and into the spacer (3). The spacer can be on either the inside or outside of the receiver.
4. Add one drop of Locktite, NSN 8030-01-499-3589, to the threads of the lug (1). Screw the lug with spacer (3) into the stud (4) and snug down the lug.

The procedures for installing the front and rear mounting sling assemblies and attaching the quick-release swivel to the stud lugs remain the same.

If you don't have a copy of PS 661, you can view it online:

<https://www.logsa.army.mil/psmag/archives/PS2007/661/661-20-21.pdf>

Rules to Prevent Tragedy

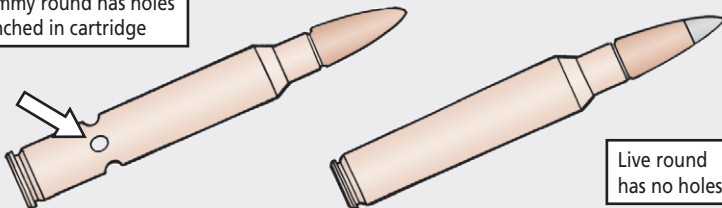


Dear Editor,

Someone was accidentally shot on a firing range last year because a unit had gotten a live round mixed in with dummy rounds. Remembering a few rules could have prevented that:

1. If you ever spot a live round on the ground at the range, stop everything and tell everyone. A dummy round has holes punched in the cartridge. A live round has no holes.

Dummy round has holes punched in cartridge



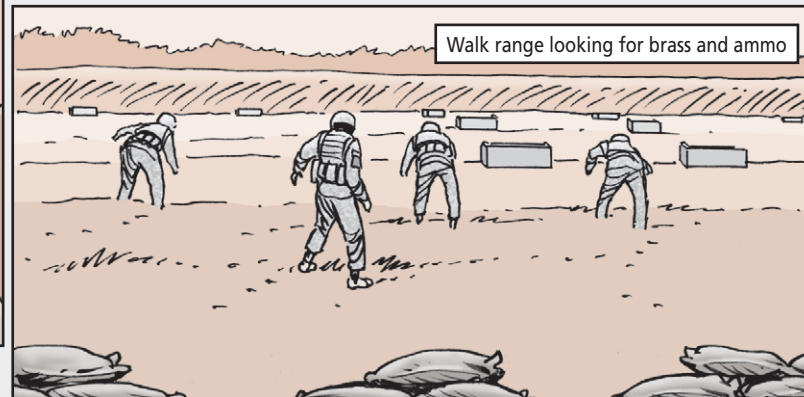
Live round has no holes

2. Report the live round to Range Control and your chain of command.
3. Assume there could be live rounds where they shouldn't be.

4. Immediately lay out all dummy or SRTA (short range training ammunition) belts and ammunition and inspect them for live rounds.



5. Form a line and walk the range picking up all brass and ammo.



Anytime you are shooting, regardless of whether it's live or dummy rounds, remember these safety rules:

1. Treat the weapon as if it's loaded at all times.
2. Never aim a weapon at another person or lay down a weapon so it's pointing at a person.
3. Even for demonstrations, set up a weapon as if you were going to fire it. Remember what the field of fire is for that particular weapon and keep people out of that area.
4. Inspect a weapon each time it is cocked and loaded, no matter what kind of ammo—live, dummy, or training—you're firing. Make sure it's on SAFE and pointed down range.
5. Make absolutely sure no one walks in front of the weapon.
6. Clear the weapon before leaving the range and again before turning it in to the arms room.

Kingston Winget
Safety Office,
Transportation School
Ft Eustis, VA

Editor's note: Excellent tips, Mr. Winget. When it comes to ammunition, you want to be absolutely sure you know what you're shooting and what you're shooting with.

NOT AS BAD AS IT LOOKS



HEY, WAIT A
DADGUMMED
MINUTE!

MY EROSION'S
NOT *THAT* BAD!

I'VE GOT REAL
SHOOTIN'
LEFT IN ME!

Dear Editor,

Sometimes 60mm and 81mm mortars are being condemned too soon because erosion looks worse than it really is.

TM 9-1000-202-14, *Evaluation of Cannon Tubes*, tells you to check for erosion by borescoping around the firing pin protrusion area. The borescope's magnification can make erosion look worse than it is.

For the tube to be condemned, the erosion must be more than .010 inch in depth regardless of length. To make the measurement, follow the procedure in the "Difficult Inspection" section for the particular tube.

If you're still not sure if the tube should be condemned, contact your local TACOM logistics assistance representative or TACOM's _____, DSN 793-3369/(309) 782-3369. But make sure the tube has a real erosion problem before you condemn it. The tubes aren't cheap and you need to use them as long as possible.

Bob Foley
TACOM Logistics Assistance Representative
Vilseck, Germany

Editor's note: You can find TM 9-1000-202-14 on EM 0069 and on the LOGSA ETM site: <https://www.logsa.army.mil/etms/online.htm>
Thanks for the tip, Bob.

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All Aircraft...

ARE YOU STOCKPILING?



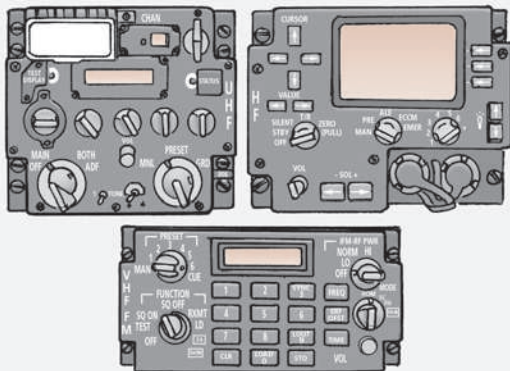
Mechanics, your AVIM shop would love nothing more than for you to turn in unserviceable components ASAP. But that's not happening!



IF YOU'RE PREPARING YOUR BIRD FOR THE NEXT DEPLOYMENT, ALWAYS TURN IN AVIONIC COMPONENTS TO THE AVIM SHOP **PRONTO!**

DON'T LET THEM SIT AROUND UNTIL THE LAST MINUTE!

Don't let components like these sit around

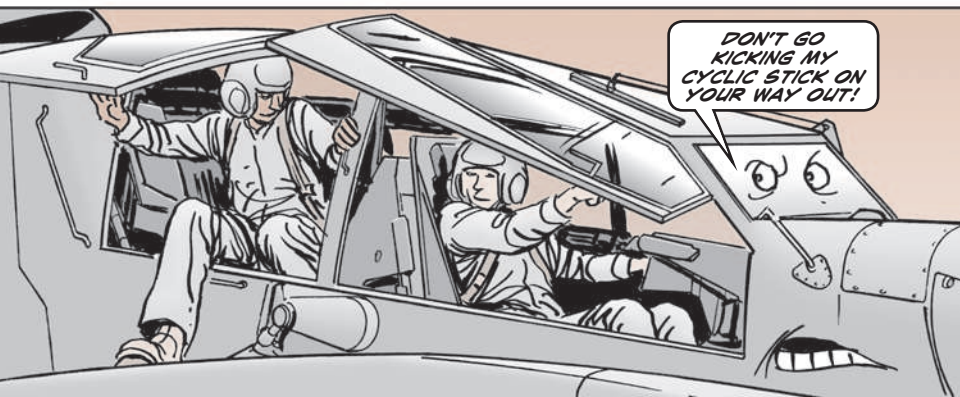
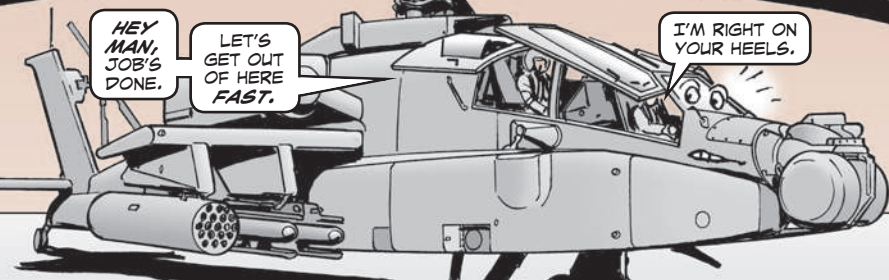


If you're not turning in parts like night vision goggles, the UHF and VHF radios, and the ICS boxes, then your bird is at risk of not being fully mission capable.

Handing in stockpiles of components to the AVIM shop expecting a quick turnaround at the last minute is like asking for a pot of gold bars. Ain't gonna' happen.

Don't let bad parts sit around until you have a load to go to supply. As soon as a part goes bad or has problems, remove it and fill out the proper tags and head for the AVIM shop.

DON'T KICK THE STICK

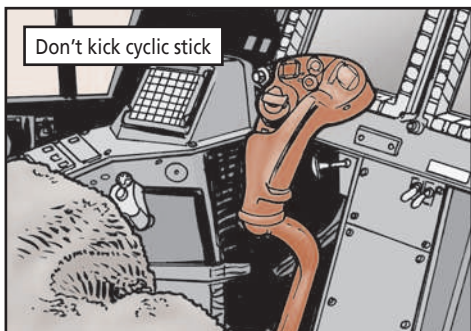


Pilots and copilots, are you in a hurry to enter or exit your AH-64? Did you know your feet are a dangerous weapon to your aircraft controls?

Avoid causing extra work by steering your feet clear of the cyclic stick.

The cyclic is a delicate control that maneuvers the bird's flight path. One swift kick to the stick, and you can roll the automatic roller detent decoupler (ARDD) on the D model or break a shear pin on the A model.

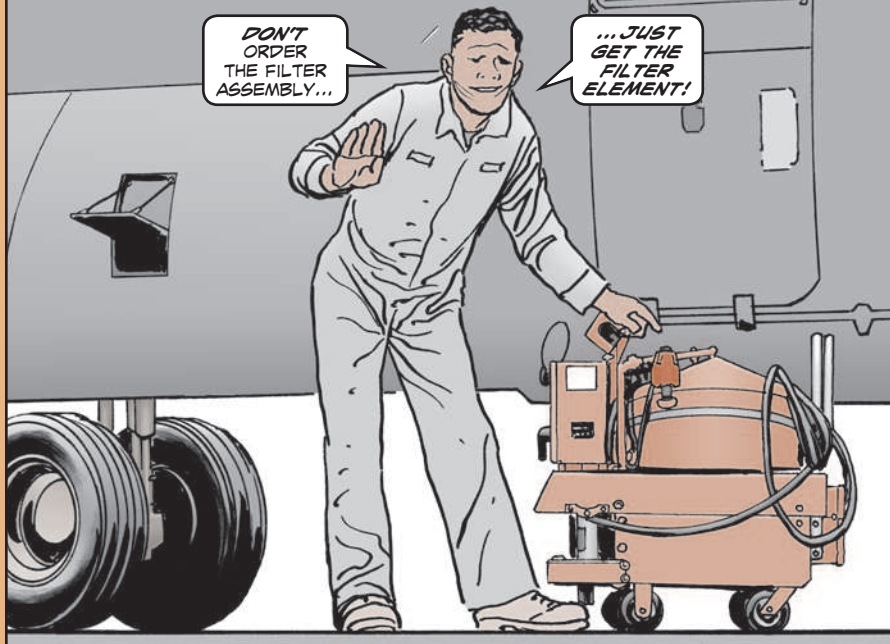
If you plan on flying your bird, your best bet is to keep those feet from kicking the stick. Because a broken cyclic is nothing to shake a stick at.



Save Yourself Some Money

*DON'T
ORDER
THE FILTER
ASSEMBLY...*

*...JUST
GET THE
FILTER
ELEMENT!*



Mechanics, the Pall purifier, NSN 4330-01-522-2007, does a great job in purifying and purging your Chinook's hydraulic systems.

You'll be glad to hear you can save money when ordering parts. The commercial parts manual lists the coalescing filter assembly, NSN 4330-01-529-1901, as a filter. But it should be broken down to show there's a filter element available. That's good news.

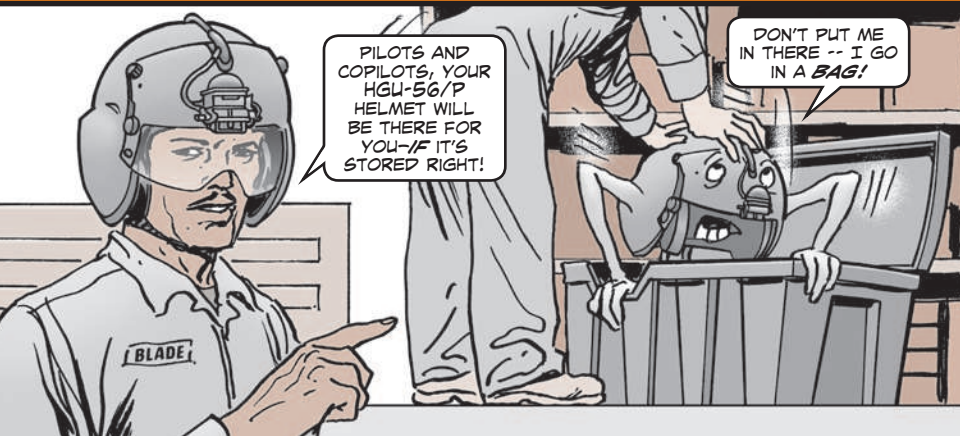
Make a note that the coalescing filter assembly contains a filter element, NSN 4330-00-300-7749, that can be ordered.

If you've been ordering the complete assembly to replace the filter element, **STOP**. Just order the filter element. Stocks are on hand.

In fact, the coalescing filter assembly is not readily available in the supply system. Replacing the assembly costs a whopping \$639.00 while the filter element only cost \$127.00. That's a big saving to your unit's bottom line.

Pencil in the filter element NSN in your commercial manual until it is updated.

JUST ANYWHERE WILL NOT DO



After the ALSE shop issues you a helmet, don't stick it just anywhere for security while you're in the field.

Protecting your helmet is simple. Tag it and place it in its original container or a suitable box like it says in EM 0250, IETM, TM 1-1680-377-13&P.

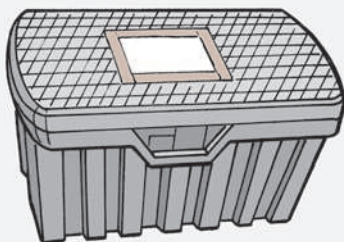
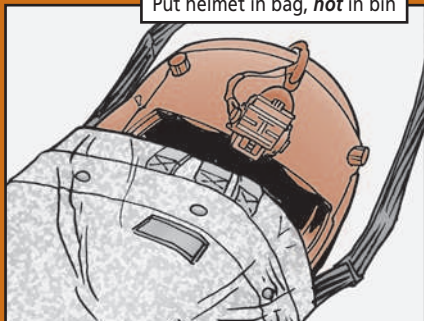
Yes, it's easy to shove your unprotected helmet into a storage bin. But those bins were not made for helmets. They're designed for other aviation life support equipment.

Packing three or four helmets in a storage bin with flight gear is a recipe for broken visors, crushed helmets, damage to the helmet shells and the energy absorbing liner.

Your noggin is important and putting your helmet under lock and key in just any ol' storage bin is a big mistake. Damaged helmets can't provide protection for your head when you really need it.

So if you're looking for a secure place to store your helmet, ask your ALSE tech for advice first.

Put helmet in bag, *not* in bin



This bin is *not* for shipping or storing helmets

Ground
Support...

AIRCRAFT JACK STAND MAINTENANCE

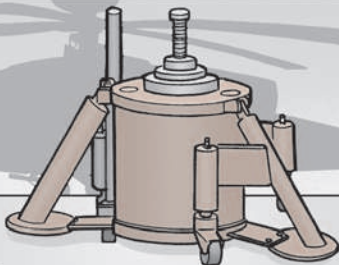
BEFORE YOU PUT A BIRD
ON AN AIRCRAFT JACK, MAKE
SURE YOU'VE GIVEN THE JACK
A THOROUGH ONCE-OVER.

HERE ARE SOME THINGS YOU
SHOULD EYEBALL: THE HYDRAULIC
PUMP CYLINDER AND RAM, THE
SUPPORT STRUCTURE AND BASE,
AND LOCKNUTS.

CHECK FOR LEAKS, CRACKS,
MISSING OR DAMAGED HARD-
WARE AND BAD HOSES.

AND DON'T FORGET THE
BASE BECAUSE IT'S OFTEN
NEGLECTED.

IF THE STAND BASE HAS
CASTERS, THEY SHOULD
MOVE FREELY AND HAVE
GOOD TREAD.



MAKE SURE THE
JACK IS CLEAN AND
FREE OF DIRT.

DIRT CAN ACT LIKE
AN ABRASIVE AND
GRIND INTO PARTS,
WHICH LEAVES ROOM
FOR CORROSION TO
EAT YOUR STAND.



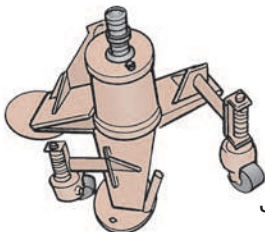
AS ALWAYS
FOLLOW THE
PROCEDURES IN
TM 55-1730-
218-12 FOR THE
12-TON JACK
TO KEEP YOUR
STAND LIFTING
AIRCRAFT.

FOR OTHER
STANDS, USE
TM 55-1730-
222-20&P.

MAKE A NOTE THAT THE
3-TON JACK, NSN 1730-00-
734-9382 IS CURRENTLY
NOT AVAILABLE.

USE 3-TON
JACK, NSN
1730-01-541-
3186, INSTEAD.

FOR MAINTENANCE ON THE JACK, CONTACT
SILAS MARTIN, DSN 897-1321, 256-239-
1874, OR EMAIL: silas.martin@us.army.mil



THAT'S ONE RUGGED TELEPHONE SET!



DON'T
USE
WIMPY
PHONES!

I'M *RUGGEDIZED*
AND *READY* TO BE
ISSUED TO YOU!

A RUGGEDIZED TACTICAL
ANALOG TELEPHONE SET
LIKE MYSELF, TA-1058A/U,
NSN 5805-01-485-1920,
FOR USE WITH THE BRIGADE
SUBSCRIBER NODE IS IN
SUPPLY AND WAITING TO BE
ISSUED TO YOU.

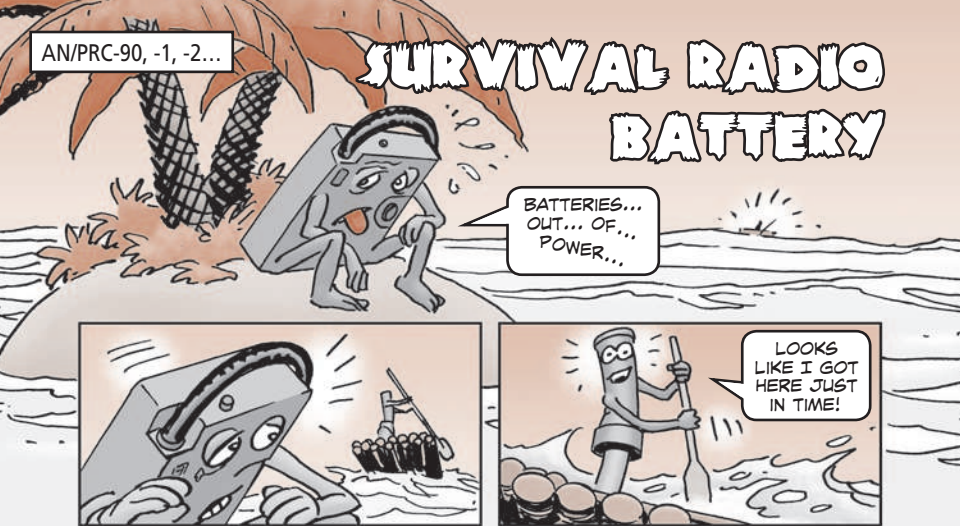
HERE ARE SOME
OF THE FEATURES
I HAVE...

- an RJ-11 connector and parallel binding posts so you can connect to standard telephone lines or field lines.
- a dual-tone, multifrequency key pad with programmable memory keys and a redial key.
- a pressure relief valve that prevents distortion of the keypad with changes in altitude and temperature.
- D-rings for pole mounting.

THE SET
INCLUDES
THE H-350/U
HANDSET, BUT
WILL ALSO
WORK WITH
THE H-250/U.

A RUGGEDIZED
TELEPHONE LIKE
ME SHOULD CUT
DOWN ON WATER,
SAND AND DUST
INTRUSION!

SURVIVAL RADIO BATTERY



The BA-5368/U lithium battery, NSN 6135-01-455-7947, has been the battery of choice to power the AN/PRC-90 survival radio since the BA-1568 mercury battery, NSN 6135-00-838-0706, went away.

Now, the BA-5368/U is in short supply. Fortunately, there's an alternative that is less expensive and will give you a longer run time.

The alternative is the 3-volt, lithium photo cell, NSN 6135-01-351-1131. The cells are about \$25 for a package of 12. A package of 10 of the BA-5368/U costs more than \$300.

There's a catch, though. You'll need battery adapter, NSN 5940-01-484-6261. The adapter is \$30, so it's still a great deal!

In addition, the photo cell with adapter has one and a half times the capacity of the BA-5368/U.

You can get the photo cell batteries commercially, too. Look for CR123A, K123LA, or DL123A. All three will work with the adapter.

If you have further questions about the adapter or AN/PRC-90 batteries, contact the CECOM LCMC POC at DSN 992-2270 or com 732-532-2270. Or email:

peter.j.rathemacher@us.army.mil

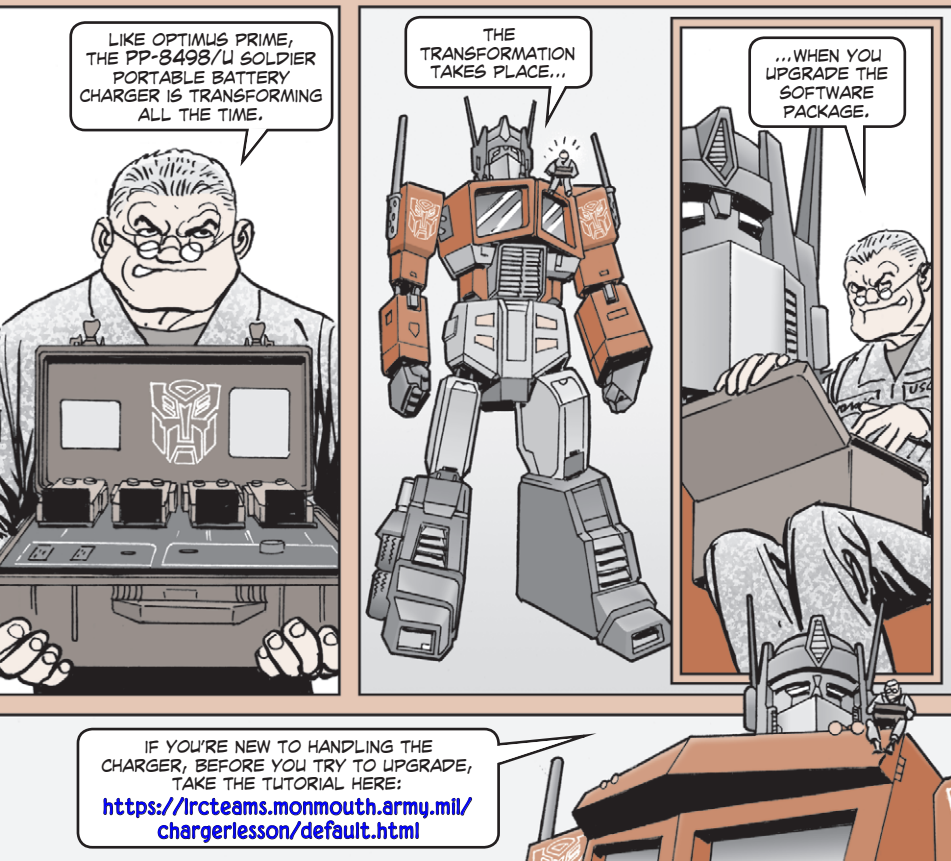
Battery adapter, NSN 5940-01-484-6261



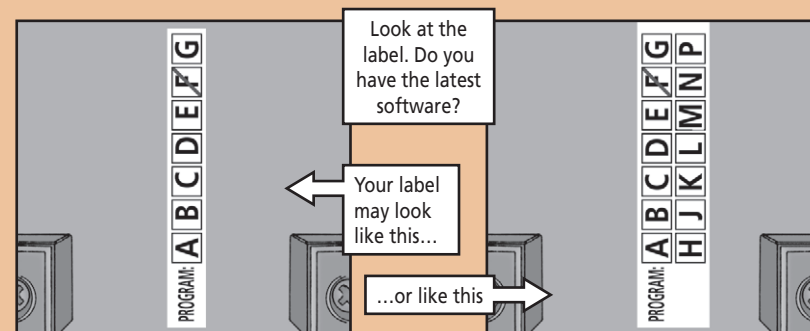
Four CR123s are an alternative



TRANSFORM THE CHARGER



Now that you're up to speed on the charger, check to see if you have the latest software installed. Take a look at the PROGRAM label just above the RS 232 software upgrade port. If you have the latest software, the F on the label should be lined out. If the last lined-out letter is lower than F, like D or E, then you need to upgrade! Program F is a full upgrade and will replace the existing software on the charger.

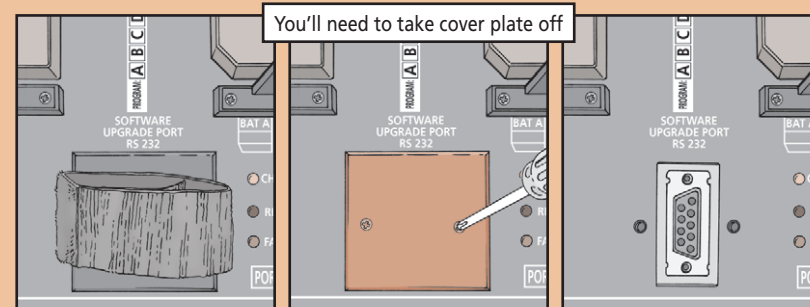


Now go to the rechargeable website:

<https://www.monmouth.army.mil/ccom/lrc/lrchq/power/rechargebat.html>

Right below the opening photo is the direct link to the software and installation procedures. An alternative to this site is to search in AKO for PP-8498/U, NSN 6130-01-495-2839. The search will lead you to a file called, "CSELdownloadsJuly08." This file will give you a direct link to the software and instructions.

You'll need a Phillips screwdriver to take the cover plate off the software upgrade port and a serial cable to transfer the data from your PC to the charger.



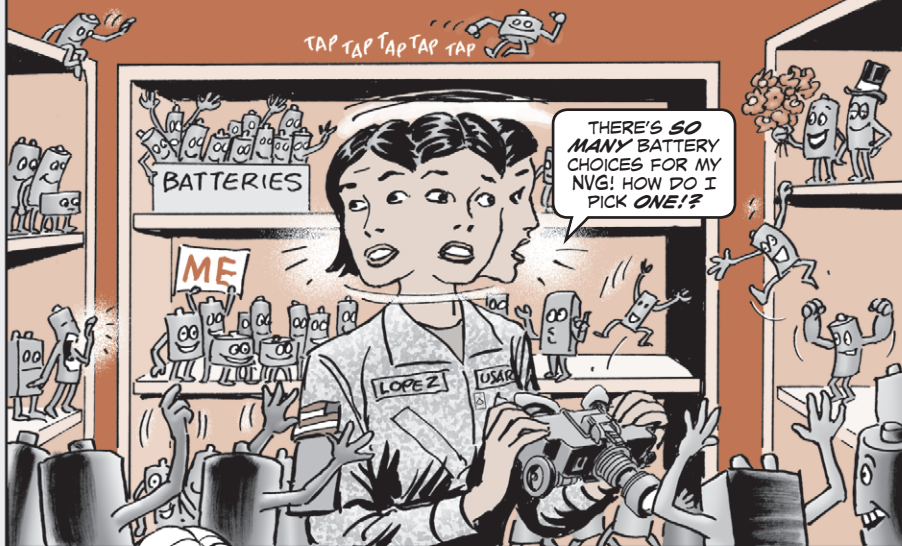
When you're finished upgrading, make sure you draw a line through the F on the PROGRAM label.

Among other things, this upgrade will let you charge batteries for the AN/PRC-152 and AN/PRC-153 radios. Also, the good battery validation feature of the combat survival evader locator (CSEL) battery, BB-2001A/U, has been enhanced to better screen for imbalanced cell packs.

IF YOU REQUIRE FURTHER ASSISTANCE CALL DON BROCKEL AT DSN 992-4948 OR 732-532-4948 OR EMAIL: donald.brockel@us.army.mil

ALL ABOUT THE BATTERIES

TAP TAP TAP TAP TAP



THERE'S SO MANY BATTERY CHOICES FOR MY NVG! HOW DO I PICK ONE!?

WHEN IT COMES TO POWERING THE AN/PVS-7 FAMILY OF NIGHT VISION DEVICES, YOU HAVE A BATTERY CHOICE.

YOU CAN PICK FROM FIVE ALTERNATIVES.

One possibility, and it's a good one, is the non-rechargeable lithium-manganese dioxide battery, BA-5367/U, NSN 6135-01-507-1135. It comes in a package of 12. You need just one to power your night vision goggles and it has a run time of around 30 hours unless temperatures are extreme.



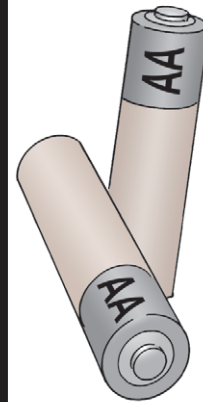
Another possibility, and it's slowly going away, is the non-rechargeable lithium-sulfur dioxide battery, BA-5567/U, NSN 6135-01-447-5082 and NSN 6135-01-090-5365. This battery is a terminal item. Once the supply is gone, they're gone! It comes in a package of 12 and each battery has a run time of around 20 hours.



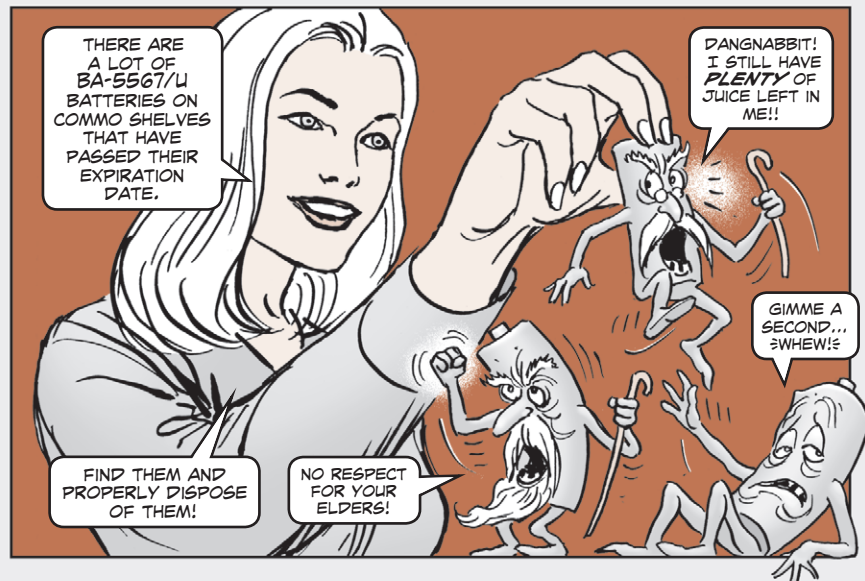
A third possibility is the non-rechargeable lithium ion-disulfide AA battery, L91, NSN 6135-01-333-6101. It comes one per order and you'll need two to power your goggles. The two batteries should give you about 60 hours of run time.



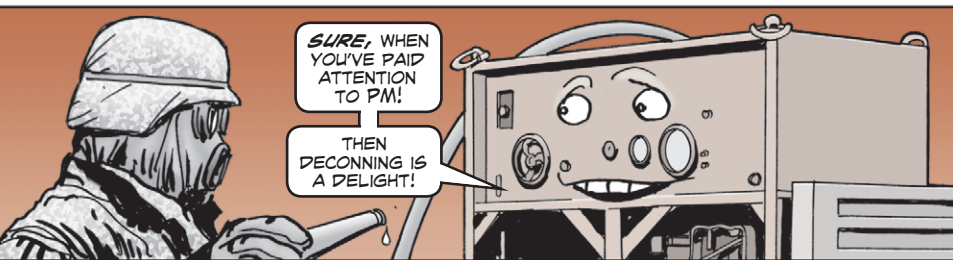
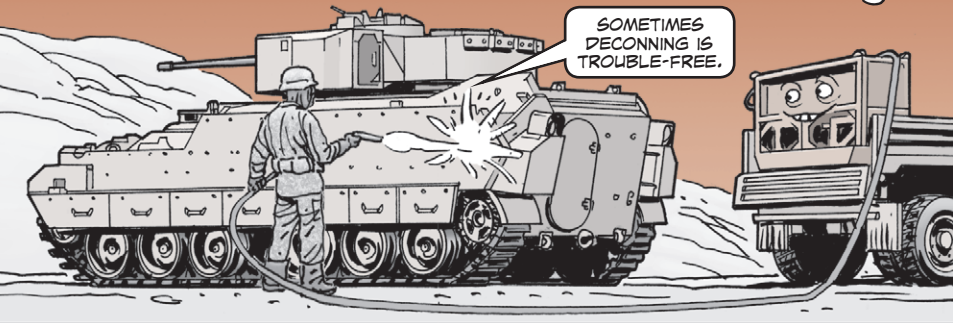
Your fourth possibility is the non-rechargeable alkaline AA battery, BA-3058/U, NSN 6135-00-985-7845. It comes in a package of 24 and you'll need two to power your goggles. The two batteries will give you about 50 hours of run time. If you're deployed in a desert environment, skip the alkaline batteries. The L91s are your best bet.



Your fifth and final possibility includes all AA commercial rechargeable batteries. We recommend you not pick this possibility. Although rechargeables are usually the way to go, in this case, they have been found to be unreliable.



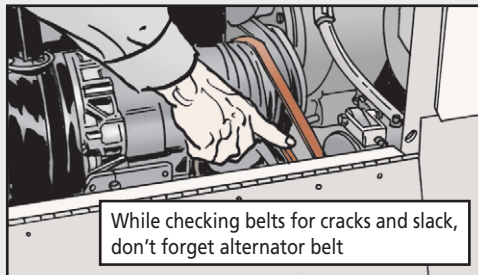
PM for Trouble-Free Deconning



DECONNING CAN BE PRACTICALLY TROUBLE-FREE WITH YOUR M12 IF YOU REMEMBER THESE BITS OF PM...



Belts: Especially in the desert, the five belts dry out and crack. If a belt breaks in the field, your deconning is done. At least monthly, check the belts for cracks and proper tension. One belt that is usually forgotten is the alternator belt. To check it, you need to take off the back panel.

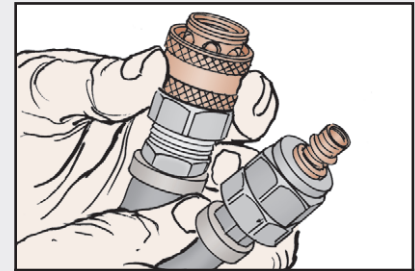


If you're operating in extreme heat, keep replacement belts on hand and increase your PLL for all rubber parts. If you decon often, keep a close eye on all belts and replace them when you spot cracks.

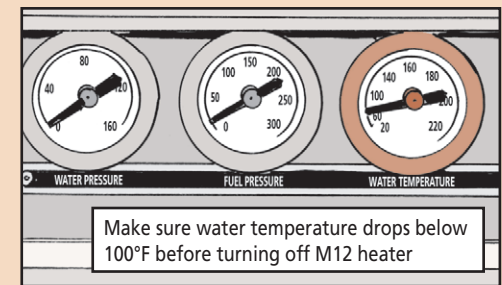
Hoses: The M12's rubber hoses also deteriorate quickly in extreme heat and should be checked weekly for cracks and wear.

The quick disconnects on the fuel supply and return hoses have a bad habit of sticking. Before you go to the field, make sure the quick disconnects are working. If they're not, tell your repairman.

To help protect the M2 heater's fuel lines from damage, you can now order caps. NSN 5340-01-145-9361 brings a 3/8-in diameter cap and NSN 5340-01-089-9028 brings a 1/4-in diameter cap.



Let it cool off: If you shut off the M12's heater without letting it cool down, the water's heat can crack the tank. Turn off the thermostat and wait two minutes and then turn off the heater switch and wait until the water temperature drops below 100°F before shutting down the M12.

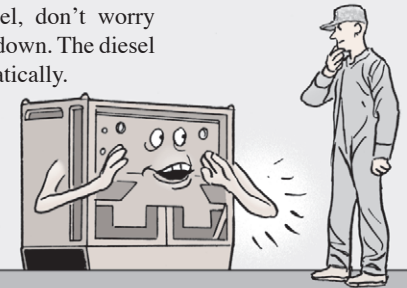


Battery: With the new M12 diesel, don't worry about disconnecting the battery at shutdown. The diesel version disconnects the battery automatically.

I'M THE NEW DIESEL.

YOU *DON'T* NEED TO DISCONNECT MY BATTERY.

IT'S AUTO-MATIC!

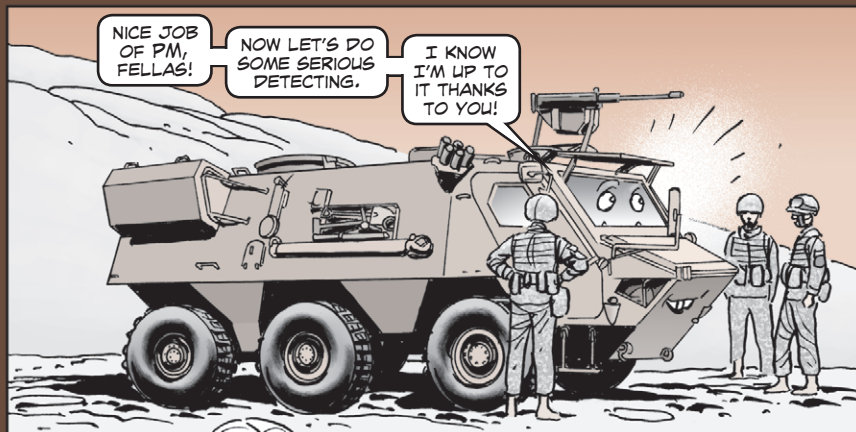


Lubrication vs. sand: Change the oil more frequently, but keep lube to a minimum on exposed and semi-exposed moving parts.

Keep the cover panels and dust covers in place as much as possible to seal out sand. Try to position the pumps so that they're protected from wind and sand.

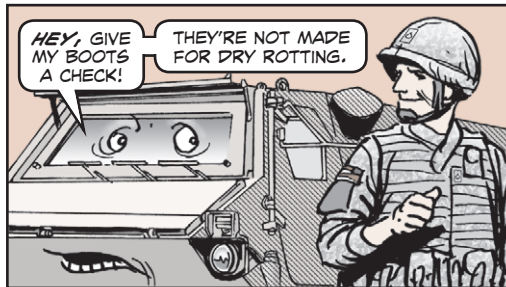
Put nylon stockings over air cleaners to give them extra help.

ON THE HUNT WITH PM

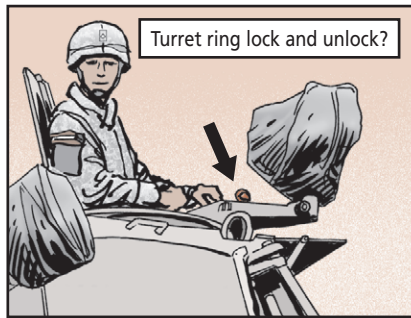


HELP YOUR FOX CBRN VEHICLE STAY ON THE HUNT FOR THREATS WITH THESE PM POINTS...

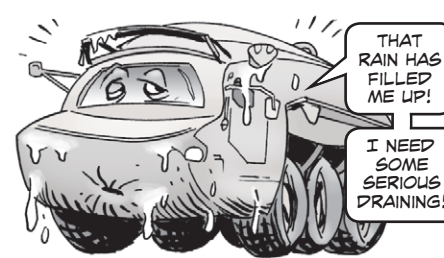
Check the boots. The shocks, struts, A-arm bars for the axles, and the tie rods all have boots. If these boots are torn or suffering dry rot, their grease leaks out and soon you've got major damage. At least monthly, check all the boots for dry rot, tears or lack of grease.



Make sure the machine gun turret ring locks and unlocks. You don't want to find out after you're in the field that you can't lock or unlock the turret. So do both during your monthly PMCS. Unlock the turret ring and make sure it rotates like it's supposed to. If it turns hard, give the ring some lubrication. Then lock the ring and try to rotate it. If it moves, tell your repairman. He needs to check it out.

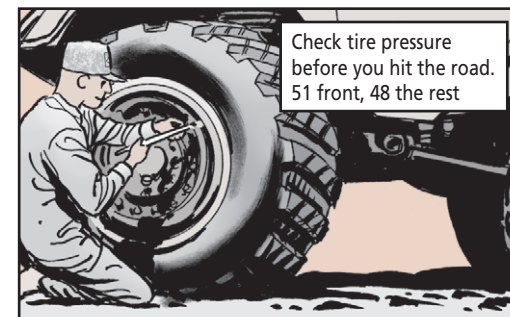


If it rains, drain. An amazing amount of water collects inside the Fox after a good rain. If that water isn't drained out, it can contaminate the oil in the transfer case and cause corrosion. Just open all three drains and leave them open until all the water drains out.



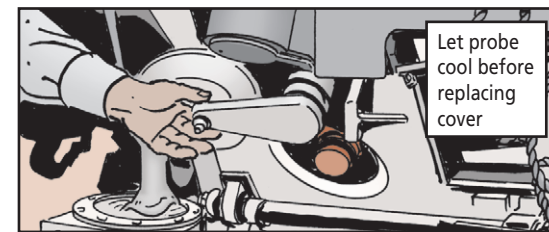
Drain air tanks, too. Drain them after operations. Water collects in the tanks. If they're not drained, the air lines and fittings are ruined by corrosion.

Tires have enough air? Some Fox units are letting the tire pressure get too low. That causes uneven tire wear, plus vibration during travel, which hurts the tie rods. The front tires normally should have 51 psi and the rest of the tires 48. Check the psi on all the tires before you hit the road.



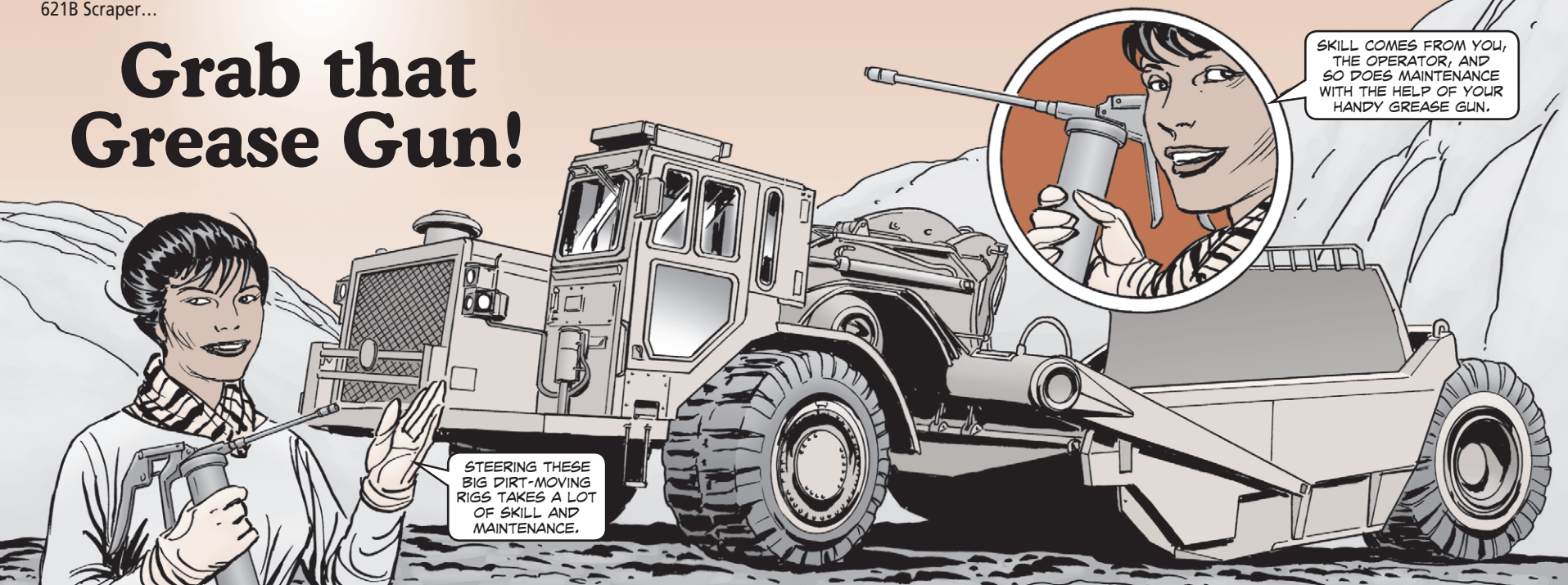
Close engine grill doors before you turn on AC. If you forget, no air can go through the AC condenser and the AC shuts off. You have to reset the AC before you can turn it back on.

Let probe cool off 15 minutes before putting cover back on. The probe can reach 500°F during operations. If the cover is slid in place while the probe's that hot, things start melting.



Tow with drive shafts connected. If you disconnect the drive shafts to tow the Fox, the shafts beat a hole in the transmission. So keep the shafts connected during towing. Your Fox will thank you!

Grab that Grease Gun!



HERE ARE SOME LUBE POINTS THAT ARE EASILY OVERLOOKED.

GIVE 'EM THE RIGHT AMOUNT OF LUBE TO KEEP OPERATIONS IN STEERING ORDER.

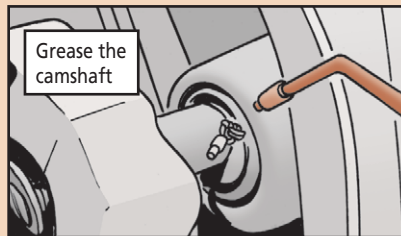


Brake Camshafts

Lube the brake camshafts during the 500-hr/3-month service.

If you neglect 'em, the shafts will bind—usually with the brakes on. Then the brakes drag, the linings glaze, and the heat generated leads to a tire fire!

Grease the camshaft

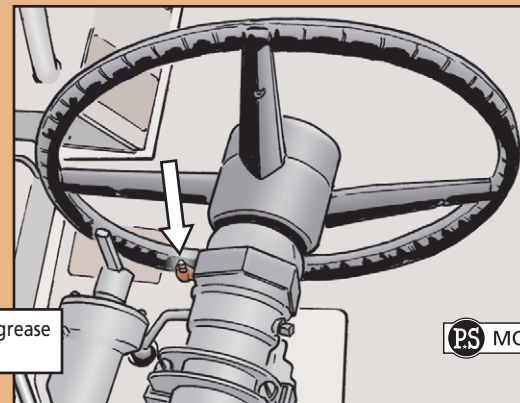


Steering Column

A grease fitting below the steering wheel lubes the vehicle's upper steering column shaft bearing.

That fitting is there so you don't have to put up with a binding shaft. Make sure you give this fitting four or five shots of lube during scheduled services.

Give fitting 4 or 5 pumps of grease during scheduled services

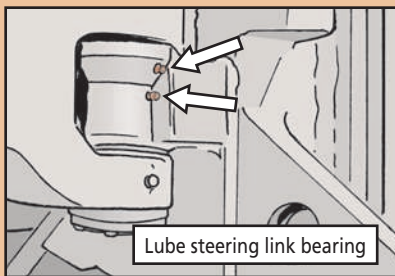
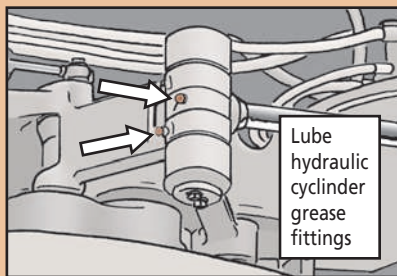


PS MORE

Steering Link

While standing at the articulation joint, look up and you'll see several lube points for the scraper's hydraulic cylinder and steering link bearing. You'll have to climb up the vehicle to get at these fittings.

Five shots of lube for each fitting provides the bearing and cylinder enough "slide and glide" to help steer these vehicles. Wipe any gunk off the fitting before you start the lube job. That way you won't pump any sand or dirt into the cylinder or bearing.



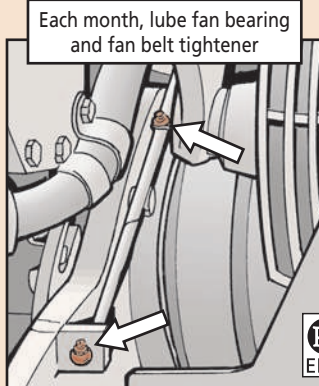
Fan Bearing

Grease fittings that lube the fan bearing and fan belt tightener are hard to find. They're located up front, behind the fan blades.

Without lube, the fan clutch pulley's bearing can seize up. Then the blades stop turning freely, causing the engine and transmission to overheat.

The fan belt tightener puts the right amount of tension on your scraper's fan belt. Without lube, its bearing will also seize up. That means the fan belts come loose. They'll slide or get ripped off the pulley, causing the transmission to overheat. Your construction operations come to a screeching halt.

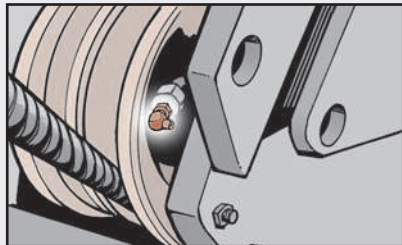
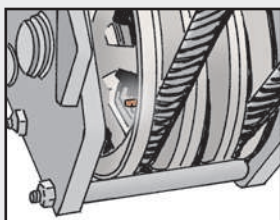
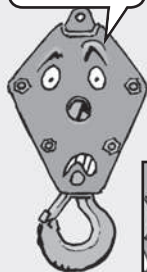
The two fittings are next to each other. Lube each fitting every month or 250 service hours.



HOOK BLOCK NEWS

OPERATORS,
HERE'S SOME
PM NEWS WORTH
READING WHEN IT
COMES TO THE
CRANE'S HOIST
BLOCK.

FOUR
GREASE
FITTINGS ON
THE CRANE
GET OVER-
LOOKED
BECAUSE
THEY'RE ON
*ME-THE
HOOK
BLOCK!*



Some Lube Will Do

Without lube, the block's sheaves, trunnion and thrust bearings can seize up. That causes excessive wear and tear on the crane hoist cables and hook block sheaves.

For smooth crane operation, lube the hook block with GAA monthly or every 100 hours of use like it says on Page 1-4-9 of TM 5-3810-307-24-1-1.

Grease Fitting Caps

Once you finish lubing, how 'bout using protective caps on the hook block's grease fittings?

These caps keep the fittings clean and unclogged. It's easier to take a cap off when it's time to lube the fitting than it is to replace the fittings when they won't take grease.

Caps will keep the fittings clean and help keep sand and grit out when you lube the block.

You can order protective caps with NSN 4730-00-289-8148.

Hoist Block Wire Rope

You'll look at least once, probably twice, trying to find the wire rope (cable) for the crane's hoist. The cable is shown as Item 89 on Page 340 of TM 5-3810-307-24P. The NSN is not in the technical manual, so order NSN 4010-01-477-3812 to get the cable.

LEARN TO LIGHTEN UP

IF YOU'RE
HEADING TO THE
FIELD, PACK
PLENTY OF
CHEMLIGHTS.
THEY'RE
PORTABLE AND
LIGHTWEIGHT.



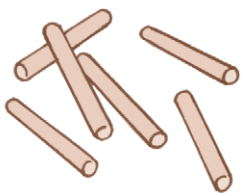
YOU ACTIVATE THEM WITH
A SIMPLE BEND, SNAP AND
SHAKE. HERE ARE SOME OF
THEIR FEATURES...

- no heat, sparks or flames
- no batteries needed
- safe, non-toxic
- waterproof and windproof
- non-electric
- non-incendiary

INFRARED CHEMLIGHTS
ARE USED ALONG WITH NIGHT
VISION EQUIPMENT.

USE THESE TABLES TO
SELECT THE TYPE, SIZE AND
COLOR YOU NEED.

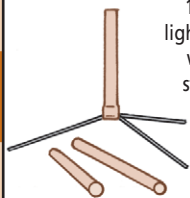
Mini lightsticks



NSN 6260-01-	Type	Color	Duration	Qty
209-4434	1½-in mini lightstick	Green	4 hours	50
209-4435	1½-in mini lightstick	Yellow	4 hours	50
209-4436	1½-in mini lightstick	Blue	4 hours	50
230-8600	1½-in mini lightstick	Red	4 hours	50
247-0364	1½-in mini lightstick	Infrared	3 hours	50
335-2871*	2-in mini lightstick	Green	4 hours	50
335-2869*	2-in mini lightstick	Yellow	4 hours	50
335-2870*	3-in mini lightstick	Yellow	4 hours	25

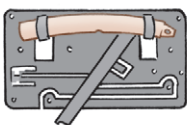
*These NSNs are not on the AMDF. Order on DD Form 1348-6.
Put "NSN not on the AMDF" in the REMARKS block.

10-in
lightsticks
with
stand



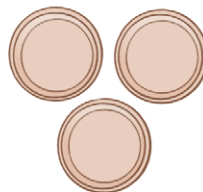
NSN 6260-01-445-	Type	Color	Duration	Qty
3937	10-in lightstick w/stand	Orange	2 hours	6
3938	10-in lightstick w/o stand	Yellow	2 hours	6

Tripflare mechanism



NSN	Type	Color	Duration	Qty
6260-01-247-2937	Tripflare mechanism	Orange	5 minutes	1

3-in disks



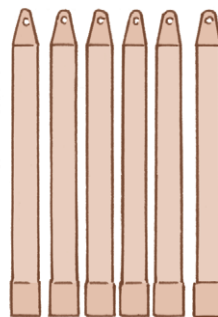
NSN 6260-01-	Type	Color	Duration	Qty
311-5086	3-in adhesive disk	Green	4 hours	10
334-4272	3-in adhesive disk	Red	4 hours	10
334-4270	3-in adhesive disk	Blue	4 hours	10
334-4271	3-in adhesive disk	Yellow	4 hours	10
334-4273	3-in adhesive disk	Orange	4 hours	10
311-5085	3-in adhesive disk	Infrared	3 hours	10
396-1705	3-in adhesive disk	Infrared	8 hours	10

4-in
light-
sticks



NSN 6260-	Type	Color	Duration	Qty
00-106-7478	4-in lightstick	Green	6 hours	100
01-282-7630	4-in lightstick	Orange	6 hours	100
01-396-1710	4-in lightstick	Infrared	8 hours	100

6-in lightsticks



NSN 6260-01-	Type	Color	Duration	Qty
178-5560	6-in lightstick	Blue	8 hours	10
195-9753	6-in lightstick	Orange	12 hours	10
196-0136	6-in lightstick	Yellow	12 hours	10
178-5559	6-in lightstick	Red	12 hours	10
074-4229	6-in lightstick	Green	12 hours	10
218-5146	6-in lightstick	White	8 hours	10
195-9752	6-in lightstick	Infrared	3 hours	10
396-1704	6-in lightstick	Infrared	8 hours	10
074-4230	6-in hi-intensity lightstick	Yellow	30 minutes	10
247-0368	6-in hi-intensity lightstick	White	30 minutes	10
247-0363	6-in super hi-intensity lightstick	Orange	5 minutes	10

7 ½-in
flexible
bands



NSN 6260-01-	Type	Color	Duration	Qty
230-8598	7½-in flexible band	Blue	4-6 hours	12
230-8596	7½-in flexible band	Red	4-6 hours	12
247-0365	7½-in flexible band	Infrared	3 hours	12

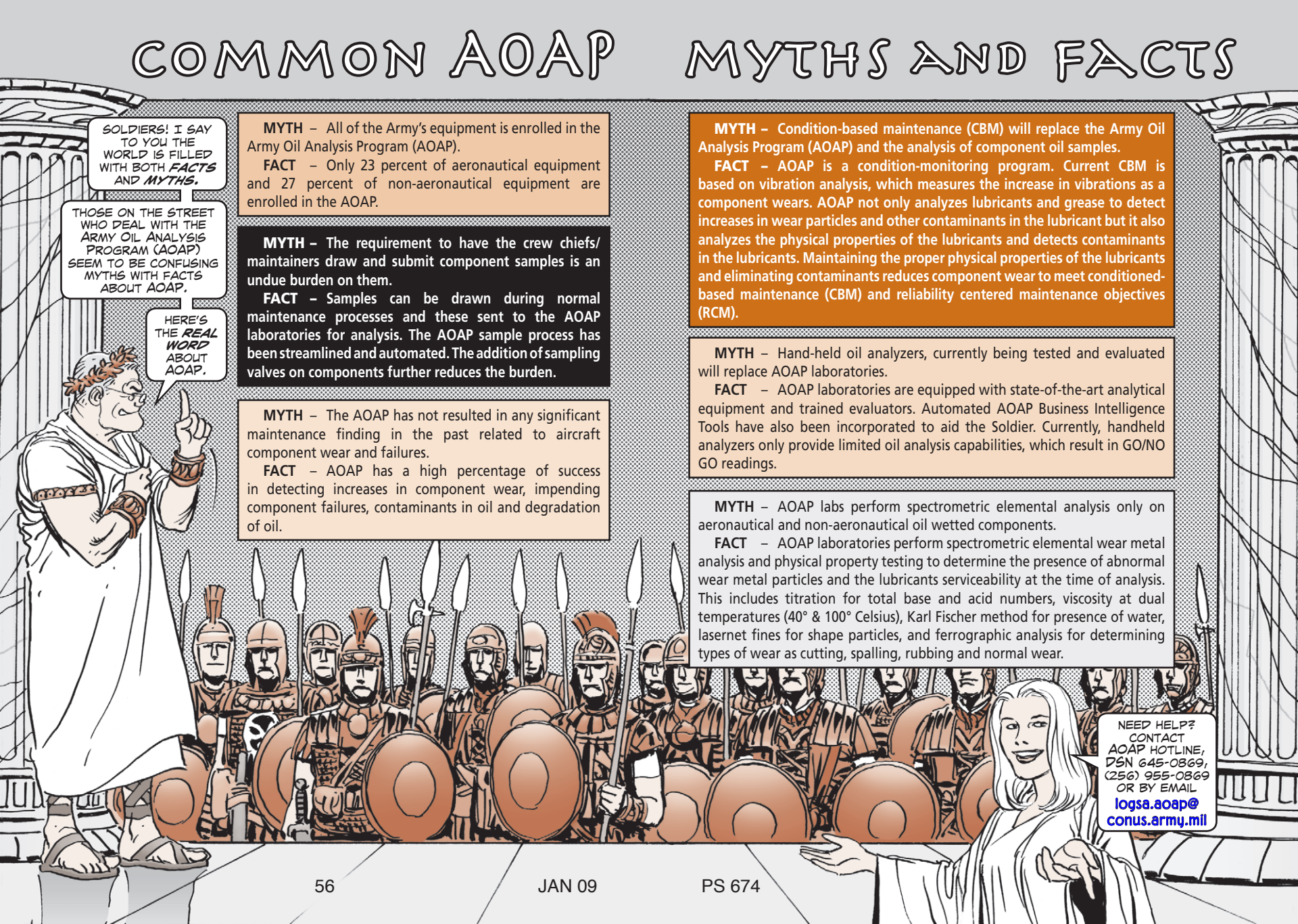
15-in impact
lightsticks



NSN 6260-01-	Type	Color	Duration	Qty
247-0362	15-in impact lightstick	Green	12 hours	5
265-0612	15-in impact lightstick	Red	12 hours	5
265-0613	15-in impact lightstick	Yellow	12 hours	5
265-0614	15-in impact lightstick	Blue	8 hours	5
247-0367	15-in impact lightstick	White	8 hours	5
247-0366	15-in impact lightstick	Infrared	3 hours	5
396-1708	15-in impact lightstick	Infrared	8 hours	5

COMMON AOAP

MYTHS AND FACTS



SOLDIERS! I SAY
TO YOU THE
WORLD IS FILLED
WITH BOTH **FACTS**
AND **MYTHS**.

THOSE ON THE STREET
WHO DEAL WITH THE
ARMY OIL ANALYSIS
PROGRAM (AOAP)
SEEM TO BE CONFUSING
MYTHS WITH FACTS
ABOUT AOAP.

HERE'S
THE **REAL**
WORD
ABOUT
AOAP.

MYTH – All of the Army's equipment is enrolled in the Army Oil Analysis Program (AOAP).

FACT – Only 23 percent of aeronautical equipment and 27 percent of non-aeronautical equipment are enrolled in the AOAP.

MYTH – The requirement to have the crew chiefs/maintainers draw and submit component samples is an undue burden on them.

FACT – Samples can be drawn during normal maintenance processes and these sent to the AOAP laboratories for analysis. The AOAP sample process has been streamlined and automated. The addition of sampling valves on components further reduces the burden.

MYTH – The AOAP has not resulted in any significant maintenance finding in the past related to aircraft component wear and failures.

FACT – AOAP has a high percentage of success in detecting increases in component wear, impending component failures, contaminants in oil and degradation of oil.

MYTH – Condition-based maintenance (CBM) will replace the Army Oil Analysis Program (AOAP) and the analysis of component oil samples.

FACT – AOAP is a condition-monitoring program. Current CBM is based on vibration analysis, which measures the increase in vibrations as a component wears. AOAP not only analyzes lubricants and grease to detect increases in wear particles and other contaminants in the lubricant but it also analyzes the physical properties of the lubricants and detects contaminants in the lubricants. Maintaining the proper physical properties of the lubricants and eliminating contaminants reduces component wear to meet condition-based maintenance (CBM) and reliability centered maintenance objectives (RCM).

MYTH – Hand-held oil analyzers, currently being tested and evaluated will replace AOAP laboratories.

FACT – AOAP laboratories are equipped with state-of-the-art analytical equipment and trained evaluators. Automated AOAP Business Intelligence Tools have also been incorporated to aid the Soldier. Currently, handheld analyzers only provide limited oil analysis capabilities, which result in GO/NO GO readings.

MYTH – AOAP labs perform spectrometric elemental analysis only on aeronautical and non-aeronautical oil wetted components.

FACT – AOAP laboratories perform spectrometric elemental wear metal analysis and physical property testing to determine the presence of abnormal wear metal particles and the lubricants serviceability at the time of analysis. This includes titration for total base and acid numbers, viscosity at dual temperatures (40° & 100° Celsius), Karl Fischer method for presence of water, laser net fines for shape particles, and ferrographic analysis for determining types of wear as cutting, spalling, rubbing and normal wear.

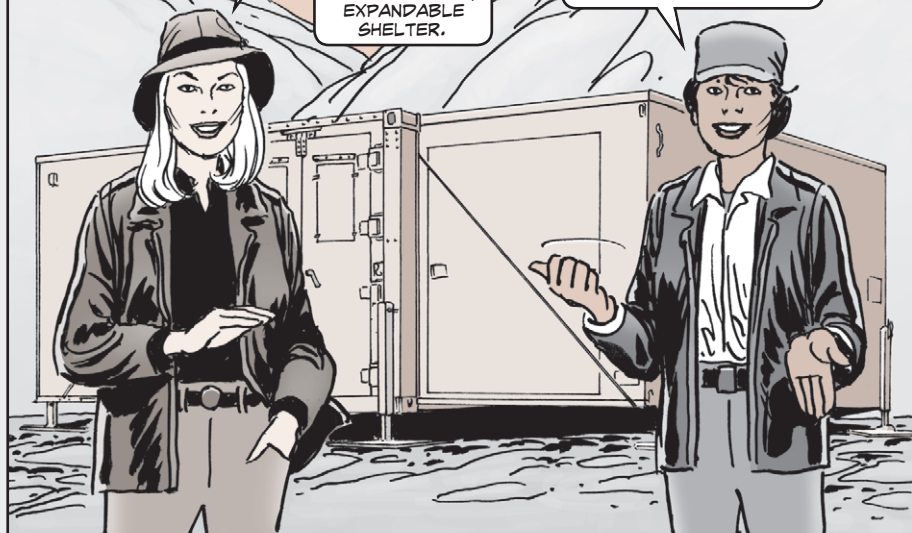
NEED HELP?
CONTACT
AOAP HOTLINE,
DSN 645-0869,
(256) 955-0869
OR BY EMAIL
logsa.aoap@conus.army.mil

Do Your Level Best

MAKE IT LEVEL.

THAT'S ONE OF THE KEYS TO SETTING UP YOUR TACTICAL, EXPANDABLE SHELTER.

WHEN THE SHELTER'S LEVEL, THE HINGED ENDWALLS, SIDEWALLS, FLOORS AND ROOFS FIT TOGETHER TIGHTLY.



A TIGHT FIT CREATES A SEAL THAT KEEPS OUT MOISTURE, DUST AND INSECTS.

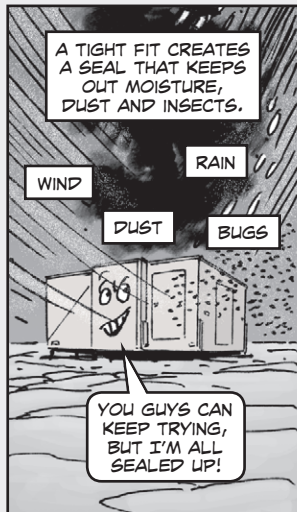
WIND

RAIN

DUST

BUGS

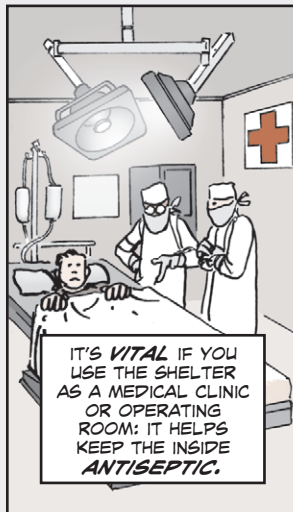
YOU GUYS CAN KEEP TRYING, BUT I'M ALL SEALED UP!



THAT SEAL IS IMPORTANT IF YOU STORE GEAR INSIDE.



IT'S *VITAL* IF YOU USE THE SHELTER AS A MEDICAL CLINIC OR OPERATING ROOM: IT HELPS KEEP THE INSIDE *ANTISEPTIC*.



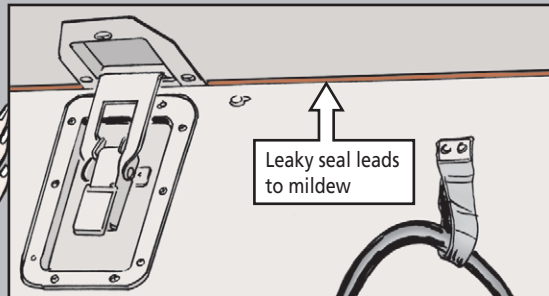
IF THE SHELTER'S **NOT** LEVEL, ITS PARTS FIT LOOSELY AND YOU GET A LEAKY SEAL.

SOON, MILDEW GROWS WHERE THE CEILING AND WALL MEET.

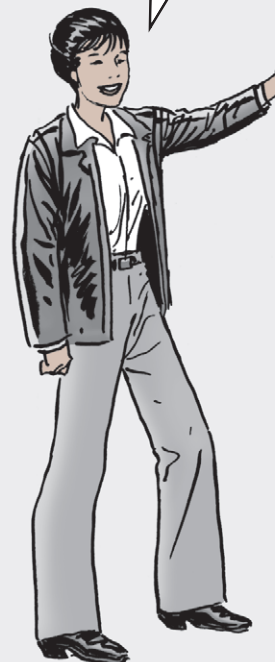
WHAT'S WORSE, YOU MIGHT GET DRIPPING WATER, WHICH DEADLINES THE SHELTER.



Leaky seal leads to mildew



HERE'S HOW TO LEVEL THE SHELTER AND CREATE A TIGHT SEAL...

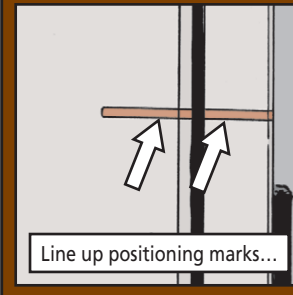


- Assign a soldier to each leveling jack. Raise all four corners of the shelter at the same time. That helps to evenly spread out the weight and makes it easier to turn the jack handles. Raise the shelter about 3 inches off the ground.

The bull's eye levels will tell you when the shelter is level. If the bull's eye level is broken, use a 2-ft carpenter's level on the corner post.

- When you expand the shelter, line up the positioning marks on the walls and roofs. To line up the marks, raise or lower the leveling jacks under the floors and sidewalls. You must line up the marks or you won't be able to close the latches inside the shelter. It's also a good idea to post a soldier inside the shelter to let you know when the latches line up. Be sure the roof latches line up in the middle of the latch boxes on the ceiling.

Line up positioning marks...

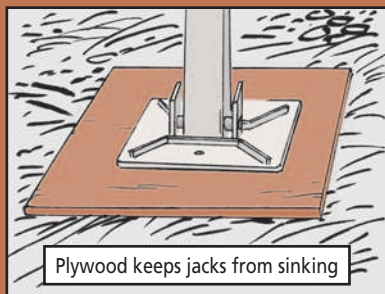


...and latches

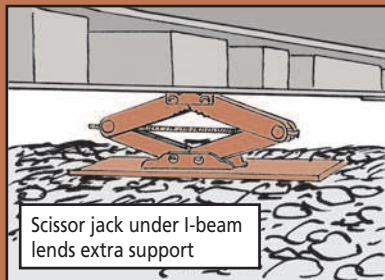


PS MORE

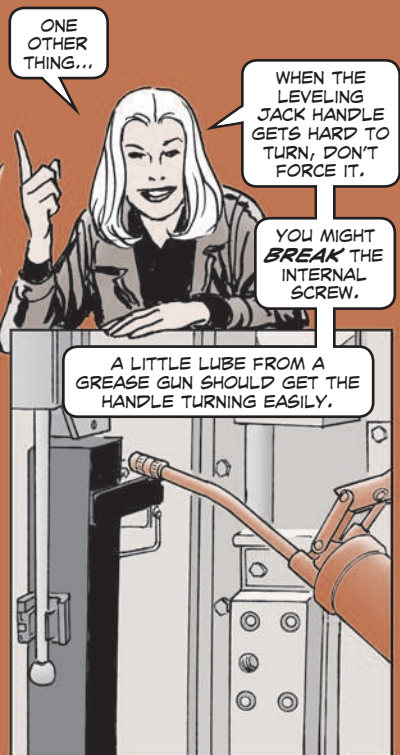
- If the ground's soggy, put a 2 x 2-ft piece of $\frac{3}{4}$ -in plywood under the jacks to keep them from sinking.



- To make your shelter more stable, put a standard scissor car jack under the center of the I-beam. If your shelter expands to only one side, use one scissor jack. If it expands to two sides, use two scissor jacks, one under each I-beam.



- To level a two-sided expandable shelter, you'll need eight leveling jacks. To level a one-sided expandable shelter, use six leveling jacks.



FOR MORE ON EXPANDING THE **TWO**-SIDED SHELTER, SEE CHAPTER 2 OF TM 10-5411-200-14.

FOR MORE ON EXPANDING THE **ONE**-SIDED SHELTER, SEE CHAPTER 2 OF TM 10-5411-201-14.



PS 674

60



PS
END

JAN 09



WANTED DEAD OR ALIVE

CECOM needs Kiowa Warrior units to turn in unused serviceable or unserviceable inverters, NSN 6130-01-186-8815, part number 406-075-802-103. There is now a repair program for the inverter. Contact the CECOM Item Manager for the details: DSN 987-4767, (732) 427-4767.

MOLLE Buckles Set

Did you bust a buckle? You don't have to order the entire MOLLE field pack if one buckle has broken. Instead, replace busted buckles with the MOLLE buckles set, NSN 8465-01-524-7639.

The set contains:

- one 2-in center release buckle
- two 1-in Ladderloc™ buckles
- two 1 1/2-in side release buckles
- four 1-in side release buckles

M68 CCO TM Number Wrong

PS 670 (Sep 08) gave the wrong TM number for the M68 close combat optic (CCO). The correct number is TM 9-1240-413-13&P.

MMDF Now Published Quarterly

The Maintenance Master Data File (MMDF) is now published each quarter. This increase is based on the SB 700-20 going to monthly updates. The MMDF will be published to LOGSA's Logistics Information Warehouse website every January, April, July, and October. For any questions regarding the MMDF, call 256-955-9748 or DSN 645-9748, or send a message to the MMDF mailbox: logsa.mmddf@conus.army.mil

M1101 Trailer-MWO Application

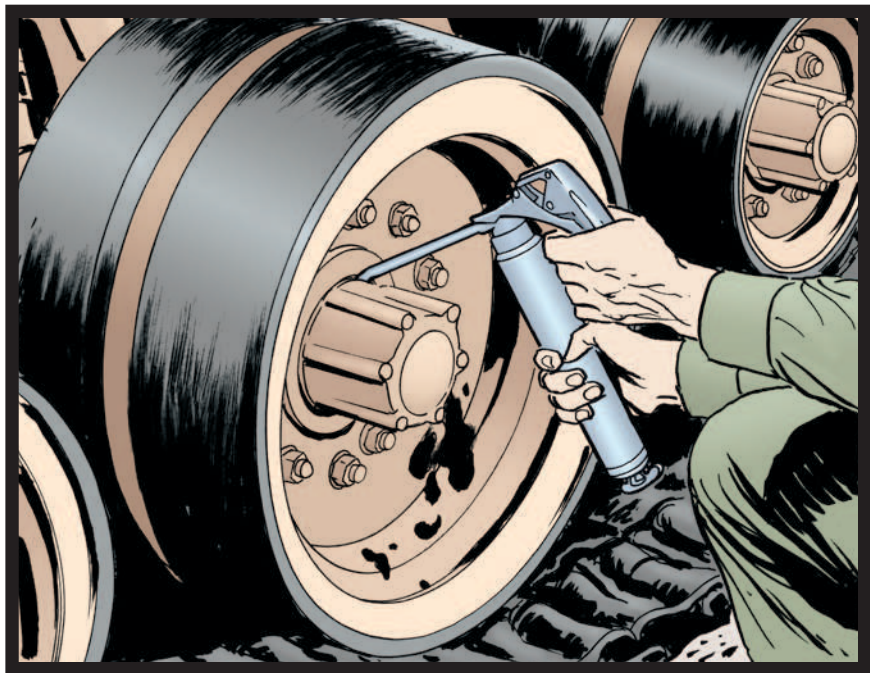
MWO 9-2330-392-20-1 gives your trailer's landing leg mounting bracket more stability, and MWO 9-2330-392-20-2 upgrades the original surge brake actuator. And both MWOs apply to M1101 and M1102 trailers and chassis manufactured under the 1994 contract. Your trailer needs these MWOs if the data plate, shown as Item 3 in Fig 15 of TM 9-2330-392-14&P, has contract number DAAE07-94-CR014 on it. Otherwise, no action is required.

Trailers manufactured after that were produced with the required changes. Got questions? Contact TACOM LCMC equipment specialist, Mark Worden, at mark.worden@us.army.mil, DSN 786-8182 or (800) 325-2920, ext. 48182.

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?

**You're
not done
LUBIN'...**



**... 'til *all* the
OLD GREASE is
pushed out!**