

**THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY**

TB 43-PS-591, 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 591 FEBRUARY 2002**



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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-LP)  
5307 Sparkman Circle  
Redstone Arsenal, AL 35898-5000

Or e-mail to:

psmag@logsa.army.mil

Internet address:

http://www.logsa.army.mil/psmag/pshome.html

By order of the Secretary of the Army:

**ERIC K. SHINSEKI**

General, United States Army Chief of Staff

Official:

*Joel B. Hudson*

**JOEL B. HUDSON**

Administrative Assistant to the Secretary of the Army

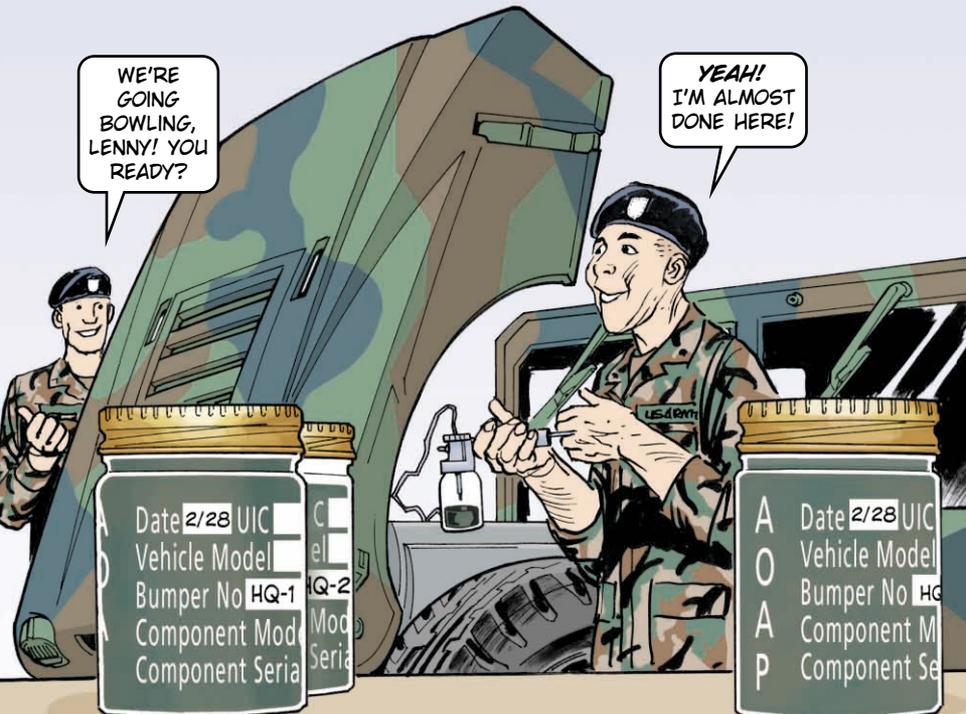
06030

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THE SAMPLER WAS A SPECIALIST BUT ALAS HE IS NO MORE!

WE'RE GOING BOWLING, LENNY! YOU READY?

YEAH! I'M ALMOST DONE HERE!



Date	2/28	UIC	
Vehicle Model			
Bumper No	HQ-1	HQ-2	
Component Mod			
Component Serial			

A	Date	2/28	UIC
O	Vehicle Model		
A	Bumper No	HQ	
P	Component M		
	Component Se		

HE TOOK THE OIL FROM ONE CRANKCASE AND SENT IT IN FOR FOUR!

YOU CAN'T FOOL THE AOAP LAB!

Issue 591

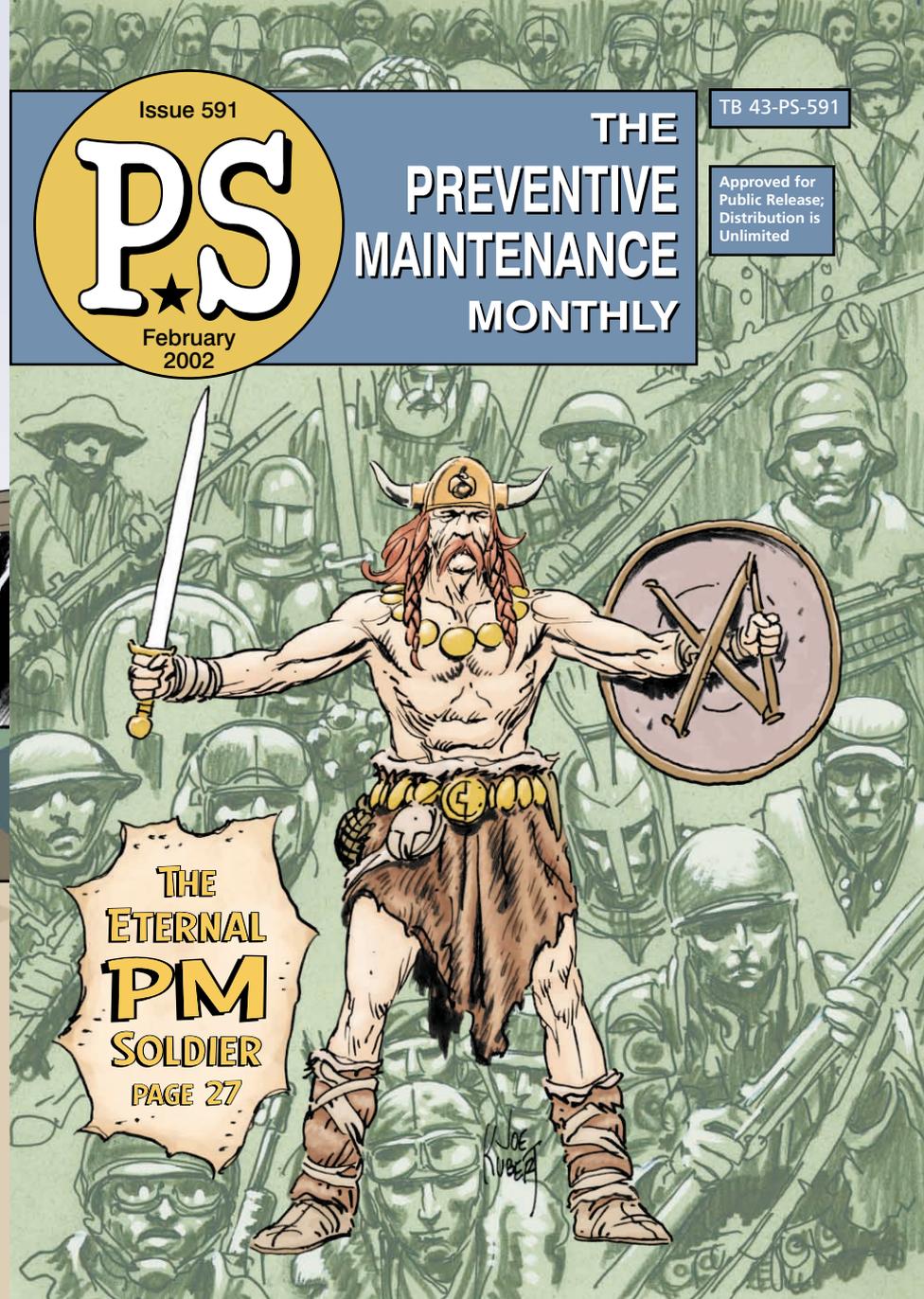
PS

February 2002

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-591

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THE ETERNAL PM SOLDIER PAGE 27

# Move PS Out of the Office

I BET PS COULD HELP WITH THIS, BUT I HAVEN'T SEEN A COPY IN MONTHS!



**W**e hear it everywhere we go. "I love PS, but we hardly ever see it!"

We talk to operators and mechanics on a daily basis. They tell us how they use and maintain their equipment. Sometimes they describe problems already addressed in PS. They say they didn't see the information because the magazine isn't getting to their unit.

Odds are PS is close by. Close to 100,000 copies are mailed out every month. But the information isn't doing much good if it's not getting to the soldiers who need it.

So look around after you've finished this issue of PS. Is everyone in your unit who needs PS getting it? PS is free, so order as many copies as you need. Then make sure those copies get out of the office and down to the motorpool, where it's needed.



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# TIRE PRESSURE INCREASED

LISTEN UP, EVERYONE!  
THERE'S A NEW TIRE  
PRESSURE REQUIREMENT  
FOR THE M1000!



TACOM Maintenance Advisory Message (MAM) 01-018 requires you to increase the tire pressure in your M1000 tank hauler's 42 tires to 95 psi.

The extra 10 pounds of pressure provides increased load-carrying capacity for the tires without affecting their suspension characteristics. The higher pressure also reduces sidewall damage and means longer tire life.

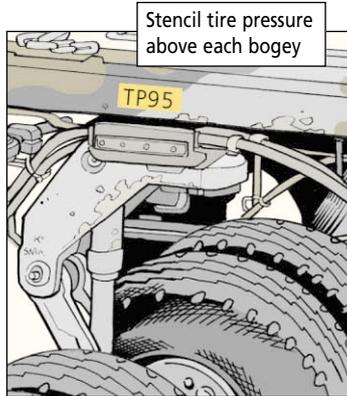
The MAM lays out information for a tire inspection before you increase the pressure and on safety procedures when you do.

It also requires that the stencil above each bogey be changed to reflect 95 psi as the right air pressure.

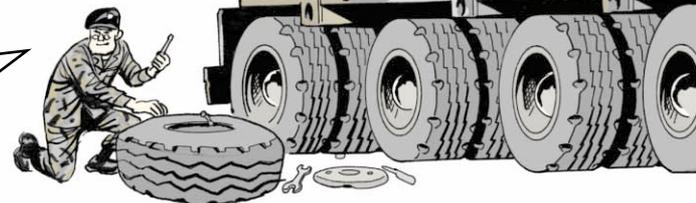
Stencil letters should be about 1 inch high, but no less than 1/2 inch high. Use lusterless Green 383 paint on a black background or lusterless black on Green 383, depending on the camouflage pattern and location. Appendix B of TB 43-0209 has the details.

Additionally, you're required to make notes in TM 9-2330-381-14 that the pressure requirement is increased to 95 psi. Mark the following pages with the word "WARNING" and a reference to MAM 01-018:

Pages 1-15, 2-37, 2-219, 3-31, 4-53 and 4-243.



OTHER THINGS  
TO REMEMBER  
WHEN DEALING  
WITH M1000  
TIRES INCLUDE...



"ONLY MICHELIN 215/75R17.5  
RADIAL TIRES ARE AUTHORIZED  
FOR USE ON THE M1000."

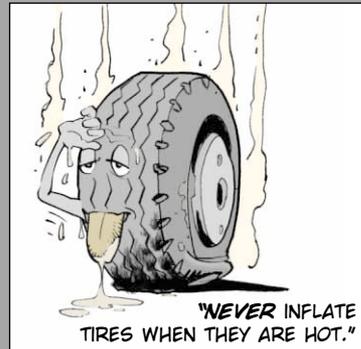
"DO NOT INFLATE ANY TIRE THAT  
IS DAMAGED OR SHOWS SIGNS  
OF POSSIBLE FAILURE (CUTS,  
CRACKS, FOREIGN OBJECTS,  
BLISTERS, BULGES, RIPPLES,  
EXPOSED CORDS OR PROTRUDING  
FILAMENTS, EXCESSIVE TREAD  
WEAR OR SOFT SPOTS IN  
THE SIDEWALL)."



"USE THE TIRE INFLATION GAUGE,  
NSN 4910-00-441-8685, THAT HAS  
A 10-FT HOSE AND STAND OUT OF  
THE SIDEWALL TRAJECTORY AREA  
WHEN INFLATING TIRES MOUNTED  
ON THE TRAILER."



"USE A TIRE CAGE WHEN  
INFLATING ANY TIRE THAT'S  
NOT MOUNTED ON A VEHICLE."



MAKE SURE YOU READ AND UNDERSTAND  
MAM 01-018. YOU CAN FIND IT AT THE ARMY  
ELECTRONICS PRODUCT SUPPORT SITE:  
[https://aeps.ria.army.mil/Commodity/  
safety/SafetyList.cfm](https://aeps.ria.army.mil/Commodity/safety/SafetyList.cfm).

IF YOU  
DON'T HAVE  
A PASSWORD,  
YOU CAN APPLY  
FOR ONE.



M1000 HET Semitrailer...

# ADD 5-YEAR SERVICE STENCIL

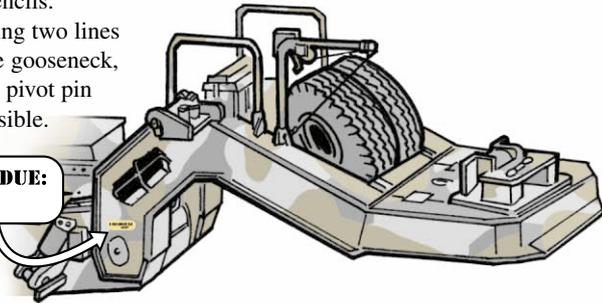


To make sure you don't miss that next tough 5-year service, you must now add a stencil to your M1000 HET trailers.

The requirement is being added to TM 9-2330-381-14 in Para 4-75 for data plates, decals and stencils.

Stencil the following two lines to the curbside of the gooseneck, above the gooseneck pivot pin where it is clearly visible.

5-YEAR SERVICE DUE:  
02/07



If you have already done a 5-year service, add 5 years to the year part of the stencil to reflect the date of the next service.

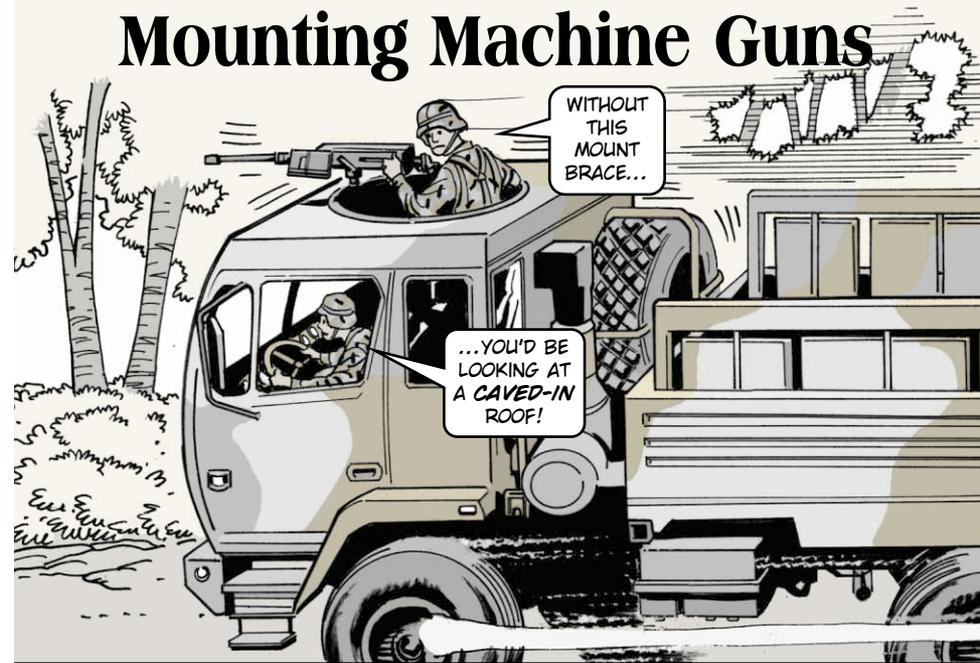
If your trailer is not 5 years old, use the date of its delivery plus 5 years for the service date.

The letters should be about 1 inch high, but no less than 1/2 inch high. Use lusterless Green 383 paint on a black background or lusterless black on Green 383, depending on the camouflage pattern and location. Painting info is found in TB 43-0209.

New production trailers will come with the stencil already applied.

FMTV...

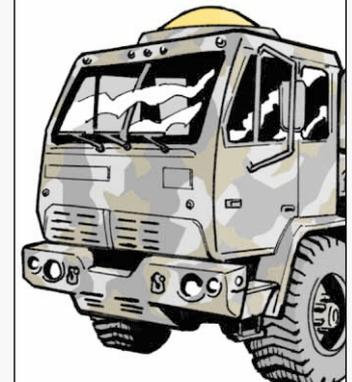
# Mounting Machine Guns



When FMTVs start showing up in your unit for the first time, here's what you should know about mounting machine guns on the cab.

- The FMTV machine gun mount kit, NSN 1005-01-381-5431, consists of a windshield/cab brace, a specially designed middle cab seat and a platform assembly. It does not contain a machine gun ring or mount.
- The M66 machine gun ring and mount should be removed from the truck you turn in when you get a new FMTV. The ring and mount are TO&E items, not part of the truck or the mount installation kit.
- The M66 machine gun ring is NSN 1005-00-701-2810. The .50-cal machine gun mount is NSN 1005-00-704-6650.
- Use tarp, NSN 1005-00-707-0725, to cover the machine gun ring and mount when the gun is not mounted. It'll keep parts clean and dry, including the cab, if there's a leaky roof seal.

Tarp protects ring and cab interior



# PM SHOULD BE AUTOMATIC

"Y'KNOW, IT WOULD BE GREAT IF **PREVENTIVE MAINTENANCE** COULD BE DONE WITH THE FLICK OF A SWITCH..."

"...LIKE OPERATING THE PLS LOAD HANDLING SYSTEM."

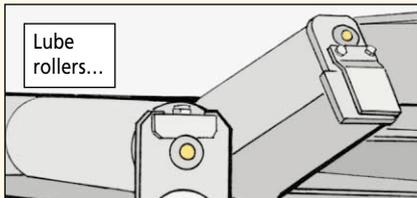


BUT IT CAN'T BE. PM IS A **HANDS-ON JOB.**

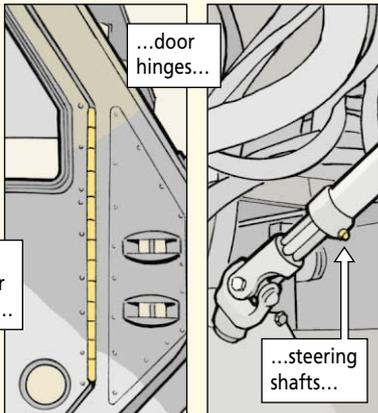


PUT A HAND TO THESE PLS TIPS...

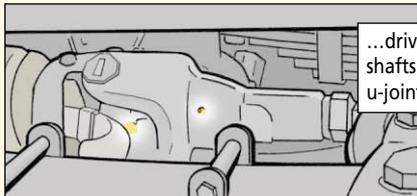
- Keep a grease gun or oil can handy for lubing. Rollers, driveshafts, door hinges, steering gearshafts and container twist locks must have lube or your truck, trailer or flatrack will pay.



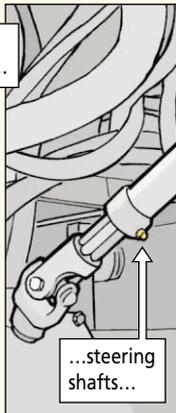
Lube rollers...



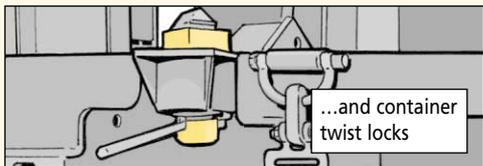
...door hinges...



...drive-shafts or u-joints...



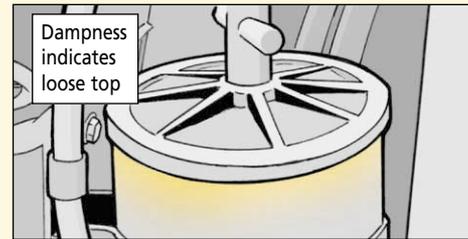
...steering shafts...



...and container twist locks

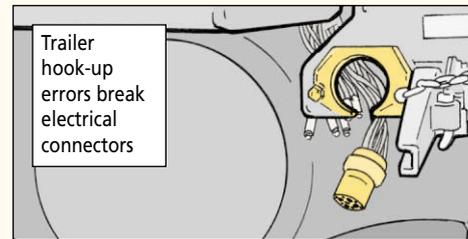
Follow the requirements of TM 9-2320-364-20-1 for the truck, TM 9-2330-385-14 for the trailer and TM 9-3990-206-14&P for the flatrack.

- Keep an eye on the top of the truck's fuel-water separator filter housing. Seepage means the lid is not on tight enough. If the lid lets fuel out, it will also let air into the fuel system, causing rough running or no starts at all.



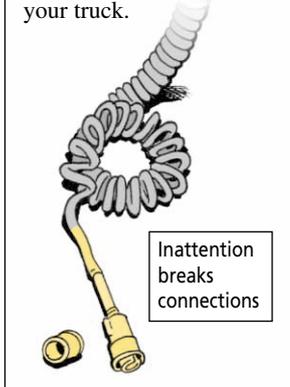
Dampness indicates loose top

- Be extra careful lining up your truck and the trailer drawbar when hooking up to the PLS trailer. Use a ground guide if one's available, to prevent damage to the truck frame or axle, or a broken coupler and electrical connector.



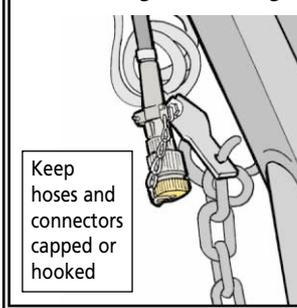
Trailer hook-up errors break electrical connectors

- Make sure all trailer electrical cables and air hoses are disconnected before driving off after a mission. Otherwise, you'll break air and electrical connections and deadline your truck.



Inattention breaks connections

By the same token, make sure all these connections are re-connected before you take off on a mission. Keep all hoses and connectors capped or hooked to their dummy couplings when not in use. That way you can't drive over them when loading or unloading.



Keep hoses and connectors capped or hooked

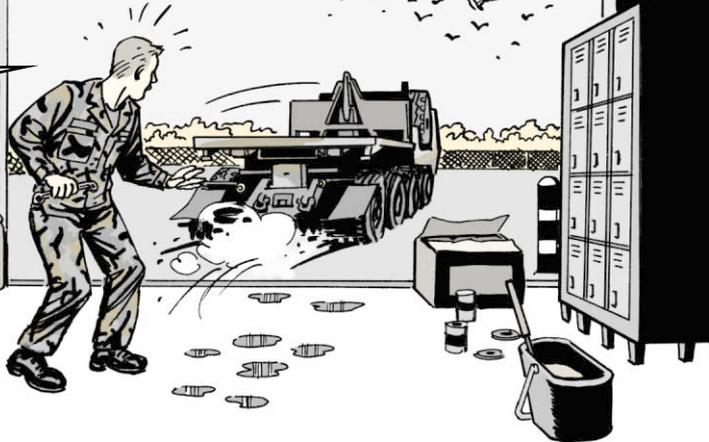
SO MAKE PM A HABIT, SOLDIERS!



# AFTERCOOLER, AIR DRYER SERVICE

HEY!  
WAIT A  
MINUTE!

I WASN'T  
FINISHED WITH  
THE AFTER-  
COOLER OR  
THE AIR  
DRYER!



Protecting the M1074 and M1075 PLS tractor's air system from moisture is your job, mechanics. An aftercooler and two air dryers will keep the air dry, if you keep them serviced.

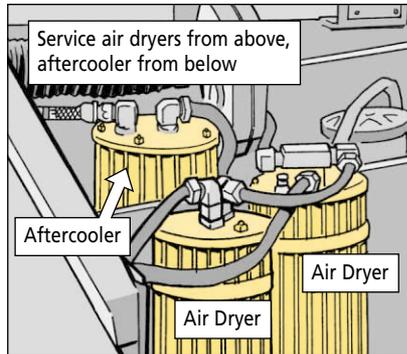
## Aftercooler

The PLS aftercooler cools compressed air so there's less moisture going to the air dryers. To do this, the foil filter in the tractor's aftercooler must be replaced every 2,000 hours or annually, whichever comes first.

The old recommendation—to clean and inspect the foil filter for reuse—no longer applies.

The easiest access to the aftercooler filter is through the bottom lid. That way, you won't have to disconnect the steering driveshaft.

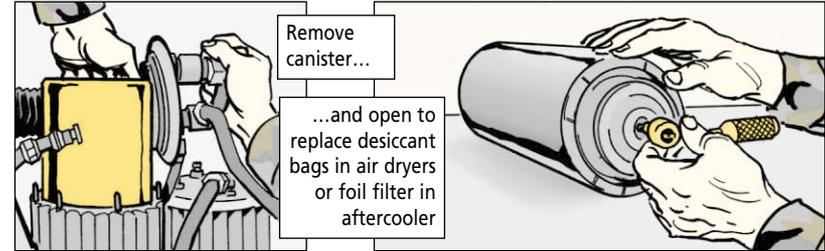
**Do not** avoid servicing the aftercooler because it looks like a hard job. If the filter is not replaced on schedule, moisture gets into the system, corroding or blocking air operation, leading to mechanical component failures. The aftercooler filter kit is NSN 5330-01-377-2460.



## Air Dryers

The air dryers remove dirt and moisture from the air going to the reservoir. To do this, the desiccant bags in the air dryers must also be replaced every 2,000 hours or annually, whichever comes first.

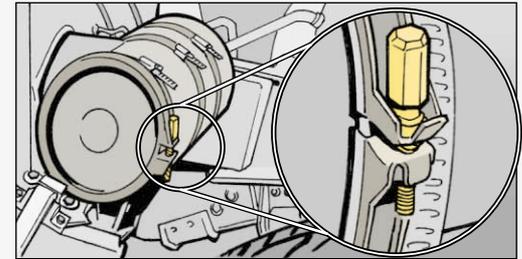
Failure to replace the desiccant bags will also cause corrosion, leading to component failure. The air dryer filter kit is NSN 4440-01-337-7324.



HMMWV...

# You Might Save a Clamp

If you break the bolt that tightens the air cleaner housing clamp on your HMMWV, but there's nothing else wrong with the clamp loop assembly, there's a way to save some money.



Don't replace the entire assembly. Instead, replace only the bolt with these cheap items:

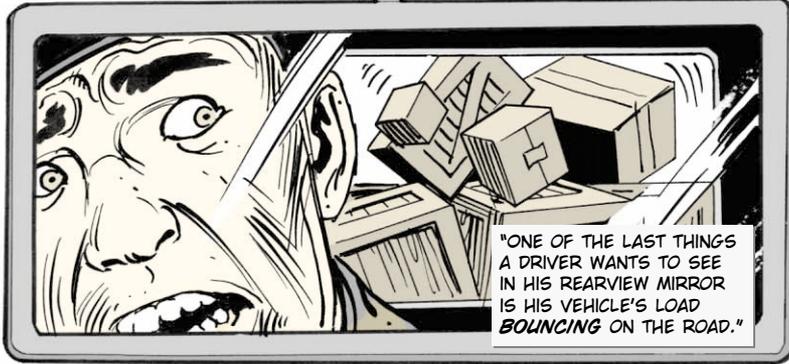


Hex head bolt-NSN 5305-00-782-9489  
Flat washer-NSN 5310-00-080-6004  
Plain nut-NSN 5310-00-010-5606

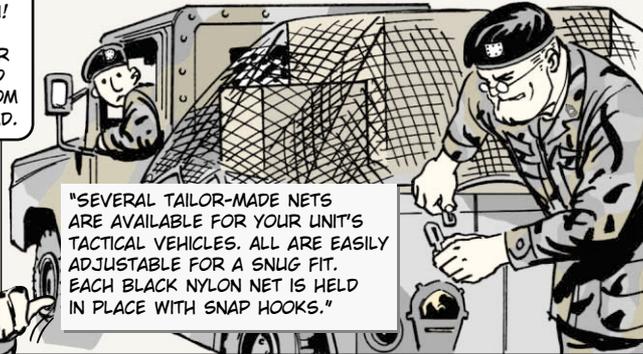
"THE ONLY DRAWBACK WITH THIS FIX IS THAT YOU'LL HAVE TO USE A 3/8-IN SOCKET WRENCH TO LOOSEN OR TIGHTEN THE NUT."



# DON'T LOSE YOUR LOAD



**DON'T LET IT HAPPEN TO YOU!**  
A CARGO NET WILL TAME YOUR VEHICLE'S LOAD AND KEEP IT FROM HITTING THE ROAD.



A THREE-POSITION MOLDED NYLON CLAMP LOCKS A CINCHING ROPE, WHICH GOES AROUND THE ENTIRE NET.

EACH NET COMES WITH A STORAGE BAG AND ATTACHMENT INSTRUCTIONS.

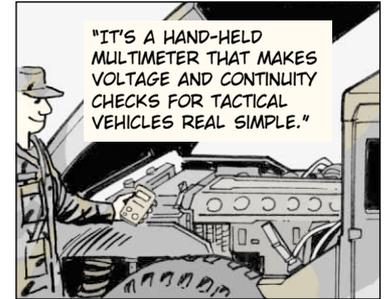
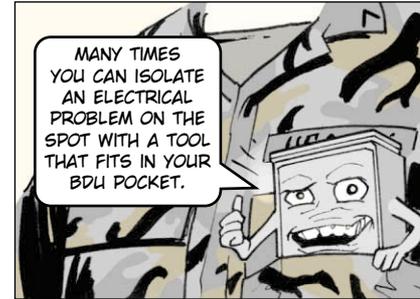
3/4-ton and 1 ton trailers use net, NSN 3940-01-449-2369.

2 1/2-ton and 5-ton trucks need NSN 3940-01-449-2385.

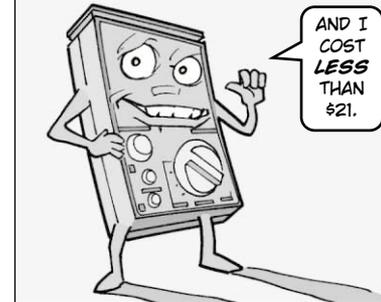
For the HMMWV and HEMTT, use NSN 2540-01-483-5853.

FEB 02

# Get One and Use It!



"MULTIMETER, NSN 6625-00-914-4113, IS AN EXPENDABLE ITEM AUTHORIZED BY APPENDIX A, CTA 50-970."

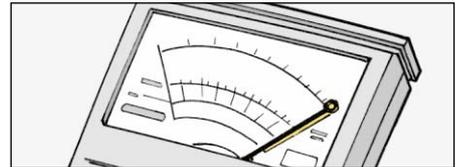


"WHEN YOU GET A NEW MULTIMETER, TAKE IT TO YOUR LOCAL CALIBRATION OFFICE TO BE CHECKED PER TB 9-6625-2147-35, CALIBRATION REQUIREMENTS."



"THEN HAVE IT RE-CALIBRATED EVERY 2 YEARS AS CALLED FOR BY TB 43-180, CALIBRATION AND REPAIR REQUIREMENTS FOR THE MAINTENANCE OF ARMY MATERIEL."

"BETWEEN CALIBRATIONS, CHECK THE MULTIMETER'S FUNCTION BY TURNING THE METER TO THE HIGHEST OHMS RANGE TO MAKE SURE THE METER ZEROES WHEN NO LOAD IS APPLIED."



"IF THE METER FAILS THE TEST, CHECK THE BATTERIES AND TEST LEADS. IF THEY CHECK OUT, THE METER MUST BE REPLACED, SO TURN IT IN ACCORDING TO YOUR UNIT SOP."

# Dull Finish Can't Be Improved



**W**hen it comes to combat and tactical vehicles, a shine is **not** so fine!

Some soldiers (and their commanders) think their vehicles should shine like their POV. So they use baby oil, brake fluid, diesel fuel or their own concoction to put a shine on their tank or truck.

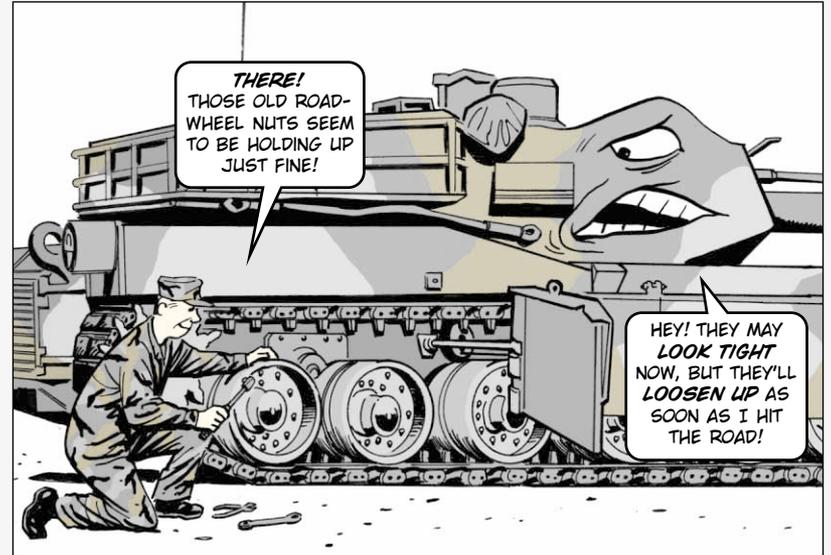
But vehicles that shine on the parade field stand out on the battlefield, too. They're easy to spot and destroy.

A lot of effort and expense have gone into developing coatings and camouflage patterns to make your vehicle harder to spot. So don't blow it by adding "improvements" or "protection" to the paint.

Military vehicles aren't supposed to shine like your POV!



# DON'T CHOOSE TO REUSE

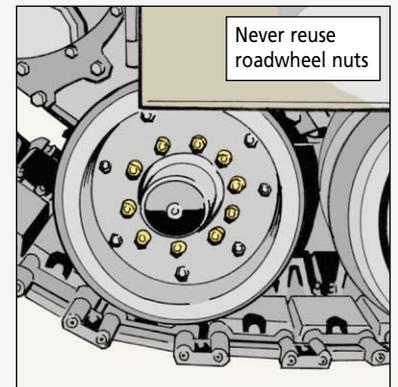


**S**ure it's easier to reuse the self-locking nuts when replacing a tank roadwheel, mechanics. It saves you a few steps to and from the supply room to get new ones. But think of the even longer walk facing the tank crew when that new roadwheel pops loose out in the boonies.

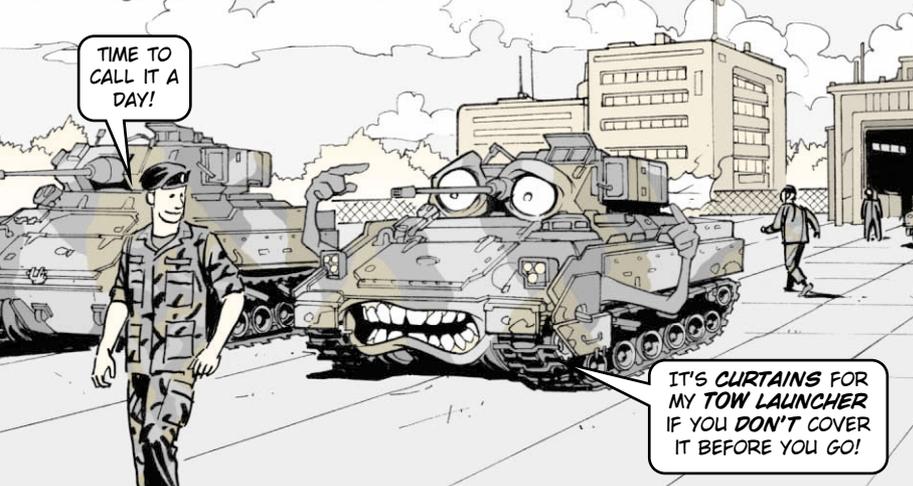
The roadwheel nuts, NSN 5310-01-064-3910, aren't meant to be used more than once. Once they're removed, the threads are stretched and will no longer hold securely.

At best, you end up with a wobbly wheel. At worst, the wheel falls off during operation. That can cause a thrown track.

It's OK to reuse any of the undamaged flat washers, NSN 5310-01-382-9996, that go between the roadwheel and self-locking nuts. But never use the nuts themselves more than once.



# CLOSE THE CURTAIN

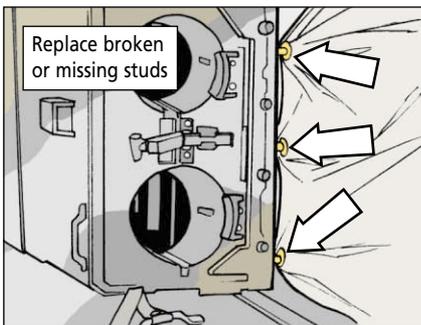
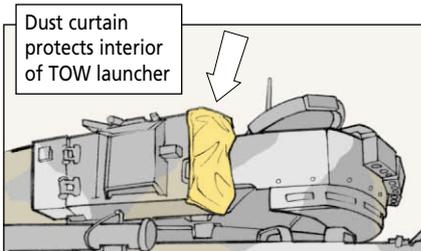


A missing or open dust curtain, NSN 1005-01-126-7797, on your Bradley's TOW launcher is a real show-stopper, crewmen.

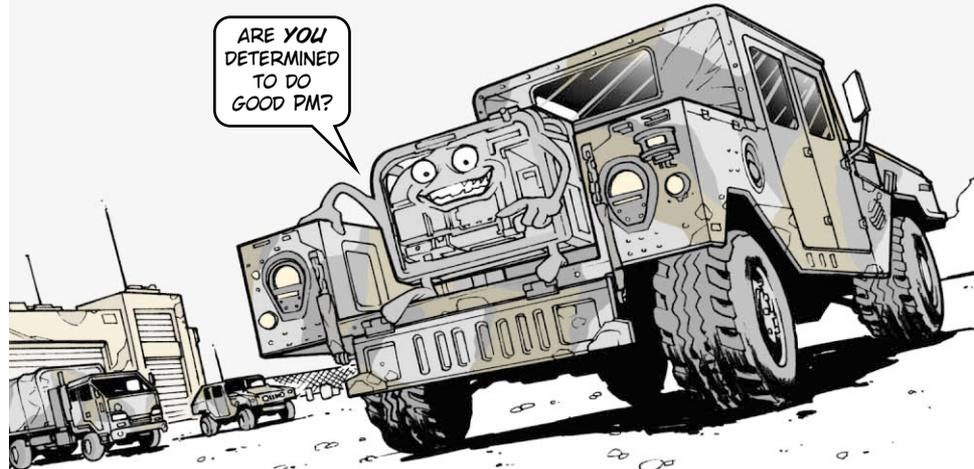
Without the curtain's protection, dirt and moisture get inside the launcher. Then launcher connectors corrode and your missiles won't fire. So keep the curtain closed whenever the launcher isn't being used.

Of course, you can't close the curtain if the snap fastener studs that connect the curtain to the launcher have snapped off. Get new studs with NSN 5315-00-174-2882.

While you're waiting for the replacement studs to arrive, hold the curtain in place with hook and pile tape. NSN 8315-01-470-8453 gets a 25-yd roll of 1-in wide black tape.



# Be Determined with PADS Care



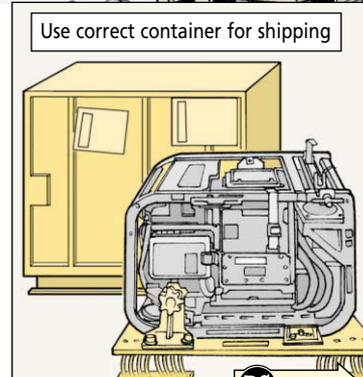
The position and azimuth determining system (PADS) won't be determining many firing positions for your howitzer, MLRS, or Patriot if you're not determined in your PM.

## Unpacking and Packing



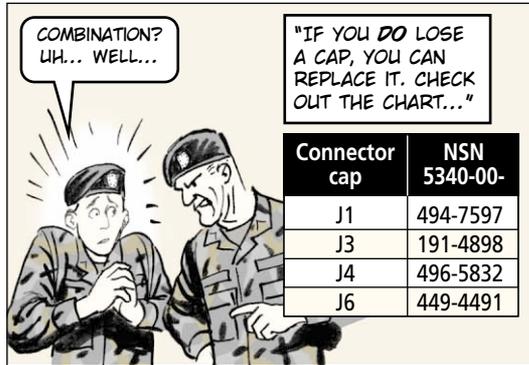
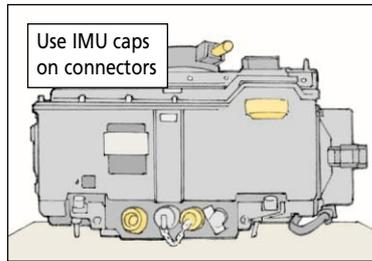
PADS has components that require delicate handling. So carefully follow the unpacking and packing instructions in Section 1 of Chapter 2 in TM 5-6675-308-12.

When sending the PADS or inertial measurement unit (IMU) for repair, use the correct shipping container. Order the PADS container with NSN 8145-01-407-8256 and the IMU container with NSN 6675-01-474-9021. Do not use the Army-fabricated metal containers that have hard-rubber bumpers. They don't provide enough protection.



Center the PADS or IMU container on a 40 x 48-in pallet and secure it with four 1½-in wide straps, with two straps horizontal and two vertical.

When the IMU is not installed in the PADS, keep the four black protective caps on its connectors. The caps protect the connectors from electrostatic discharge and dirt.

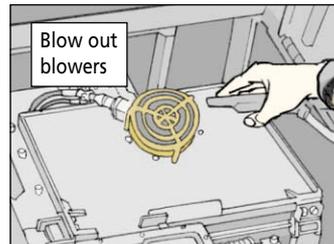


### Keep It Cool

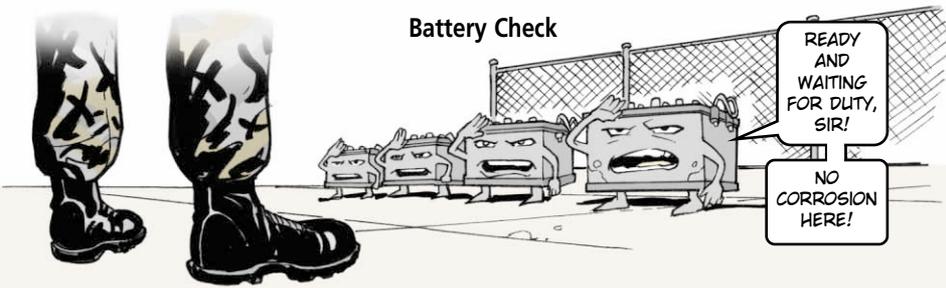
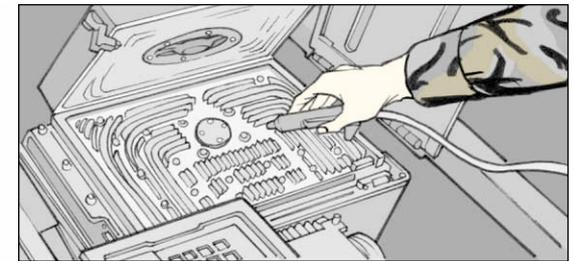
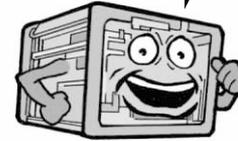


If your PADS doesn't get plenty of cool air, it overheats and shuts down. That's why it's important not to stack stuff on top of or around the PADS. That blocks vents and the PADS thermostat.

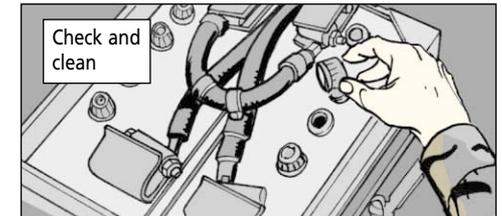
Make sure the IMU vents and blowers and the power supply blowers aren't clogged with dirt. Use an air hose to clean out the vents.



LIFT THE IMU LID SO YOU CAN BLOW OUT ALL DIRT!



The backup PADS batteries are often forgotten until they're needed. As part of your before-operation PMCS, check the electrolyte level in battery cells and clean any corrosion off battery posts and connectors.

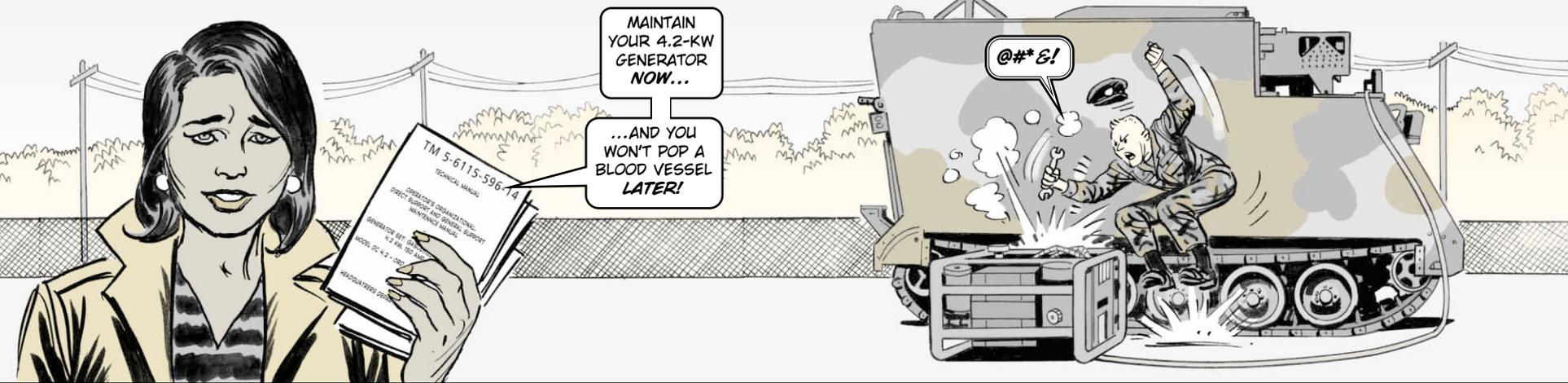


### Travel



As much as possible, keep the IMU installed in the PADS and the PADS turned on during travel. That keeps the gyro spinning and protects it from being damaged by bumps and jolts.

# Generate Some 4.2-KW PM



Crewmen, you need the 4.2-KW generator to power the computer system, radios, lights, and fax machines on board your M577-series command post carrier. But the generator's output will be kaput if you don't pull generator PM.

You won't find anything in the PMCS tables in the carrier's -10 TMs, so make sure you have a copy of TM 5-6115-596-14 for the generator and TM 9-2805-262-14 and LO 9-2805-262-12 for the generator's 6-HP engine.



AFTER YOU'VE DONE THE PM CALLED FOR IN THE TMS, TAKE A LOOK AT THESE AREAS...



## Starting Safety

If you have to use the starting rope to turn over the engine, be careful with the knotted end. The knot can fly off the starter pulley and smack you—or a buddy—in the eye.

To avoid a knot in the eye, wear some eye protection, such as goggles, NSN 4240-00-052-3776, whenever you manually start the generator. Protect others by keeping them clear of the area while you're starting the generator.

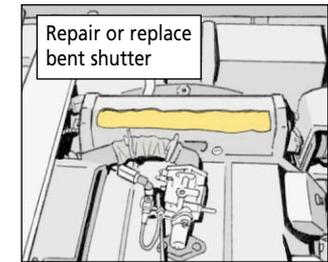


## Keep the Air Flowing

When it's stowed, the generator is easy to step on if you move around on top of the vehicle. Make sure you keep your feet off the shutter assembly.

The shutter automatically opens when the engine needs a shot of cool air to keep running. A bent or jammed shutter assembly won't cool things down and the generator overheats.

So check the shutter often. It should move easily and then spring back to its original position.



## Air Filter Facts

Don't change the generator's air filter more often than necessary. Sometimes the red shows only because the indicator's been bumped, not because the filter is clogged.

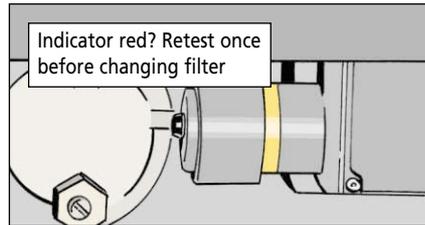
With the engine running, push the release button. If the indicator turns red again, then the filter's clogged and needs to be changed.

If the indicator stays clear after you push the button, the filter's still good. Keep on generating.

In a pinch, your mechanic can clean the filter by blowing a low pressure (30 psi) jet of air from the clean side and out the dirty side.

If replacement filters, NSN 2940-00-876-2212, are in short supply, wash dirty ones in mild soap and water to extend their life. Rinse well and dry the filters thoroughly before you put them back in service.

Never, ever, run an engine without a filter. Dust or dirt in your engine is more trouble than a dirty filter.



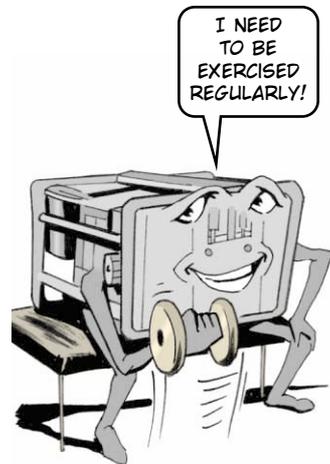
## Exercise

Your generator needs regular exercise. That doesn't mean just before each trip to the field, either.

Exercise is best when it's regular and often—like about 15 minutes or more every week. Without it, seals and filters dry out. Gaskets crack. Batteries get weak or die.

Before exercising the generator, remove it from the carrier and hook it up like it says in the -10 TMs. Then...

1. Start the carrier's engine, then the generator.
2. Switch off the carrier's engine.
3. Turn on the carrier's lights. That gives the generator a load so it runs a little hotter and prevents carbon deposits in the carburetor.



## Don't Be Fuelish

• Clean the fuel sediment bowl before each use of the generator. Otherwise, the carburetor plugs up and the generator won't start.

• Never grab the first can of fuel you find and fill the fuel tank. The 4.2-KW generator uses **gasoline only**.

Diesel fuel stops it cold. Spark plugs won't ignite the fuel. The fuel tank and lines have to be drained and cleaned.

If your commander OKs it, label all fuel cans DIESEL or GASOLINE in flat black lacquer. Get a quart of lacquer with NSN 8010-00-166-3147.

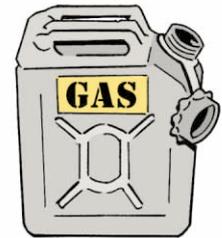
• When you pour fuel from cans, make sure the gas tank's screen is in place and clean. Its job is to screen out dirt and gunk that foul fuel and clog filters.

• Store fuel cans at least 50 feet away from the generator and always have a fire extinguisher handy when fueling.

• Never add fuel to a hot engine. A fire can shut down your generator—and you—for good.



Label fuel cans

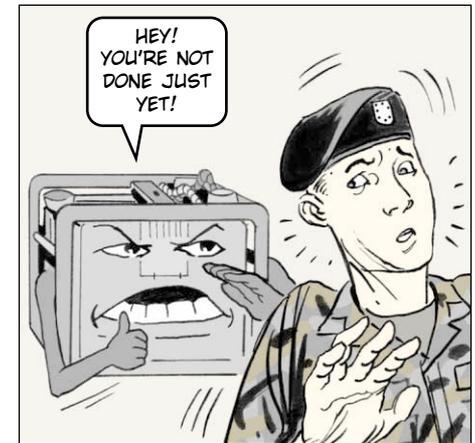


## More to Do

• Make sure all hardware is tight before operating your generator. When traveling cross-country, the generator vibrates enough that nuts and bolts can shake loose.

• Cover things like cables and the fuel sediment bowl before spot painting. Paint will crack rubber hoses and keep you from seeing when the sediment bowl needs cleaning.

• Line up connections when you hook up the NATO slave cable to the generator. If the cable is connected at an angle, it could cause arcing and damage the connector.



SEE...

# A MATTER OF DEGREES

IT'S NO SECRET THAT YOUR EXCAVATOR HAS A HIGH CENTER OF GRAVITY.

THAT MEANS IT'S TOP-HEAVY, ESPECIALLY WHEN YOU'RE LIFTING A BUCKET OF DIRT.



"BALANCED **LOW AND SLOW** IS THE WAY TO GO WHEN TRAVELING OVER ROUGH OR HILLY GROUND."

"KEEP THAT BALANCE IN MIND BY KEEPING AN EYE ON THE INCLINOMETER."

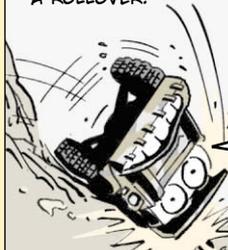
"WHEN A SLIDE SLOPE APPROACHES 17° OR 30 PERCENT ON THE INCLINOMETER, YOU NEED TO FIND **ANOTHER** DIRECTION QUICKLY."

YOU DON'T WANT ME GOING ACROSS THAT SLOPE!

WHY NOT?

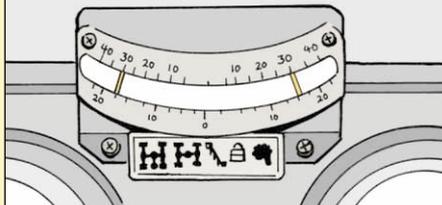


"SIDE SLOPES **STEEPER** THAN 17° OR 30 PERCENT MAY CAUSE A ROLLOVER."



THAT'S NOT! AHM S... THAT'S...

"PLAY IT SAFE. HAVE YOUR MECHANIC TAPE OR MARK THE INCLINOMETER'S 17°/30 PERCENT MARKS WITH **BRIGHT PAINT** OR TAPE AS A REMINDER."



ACE...

# Know ACE Operator Basics

YUH DON'T WANNA **GAMBLE** WITH SAFETY WHEN IT COMES TO OPERATING THE ACE!

IF YOU'RE GONNA PLAY THE GAME, YOU GOTTA LEARN TO PLAY IT RIGHT!

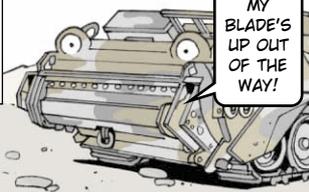


Every good operator knows that **careful** is the right mode for operating the ACE. The earthmover operates differently than a D7G bulldozer or DEUCE—as some have learned the hard way!

Y'GOTTA KNOW WHEN TO **FOLD** 'EM...

Fold blade for travel

MY BLADE'S UP OUT OF THE WAY!

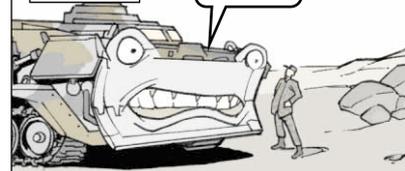


• Always fold the blade when you travel cross-country, no matter what the soil conditions. That way, the blade can't dig into a ridge, tree stump or other obstruction.

...KNOW WHEN TO **HOLD** 'EM...

Don't haul troops

NO HITCHHIKERS, BUB!



• For safety's sake, never haul troops in the bowl. The bowl is for dirt, sand or cargo, not people. Same goes for hauling people in the rear of the vehicle—**never** do it!

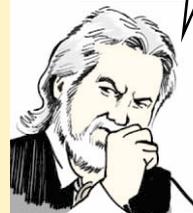
...KNOW WHEN TO **ROCK** AWAY...  
->AHEM->  
KNOW WHEN TO **MOVE** ROCKS AWAY...

Never excavate rock

OOCH! THAT SMARTS!



• Remember what the ACE is designed to do and how to make it do the job. Use the blade for moving, loading and unloading dirt. **Never** use the ACE to excavate solid rock. You'll wreck the blade's scarifier teeth for sure, and probably the blade itself—not to mention the vehicle's hydraulic system.

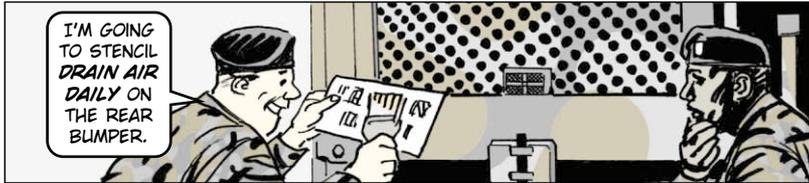
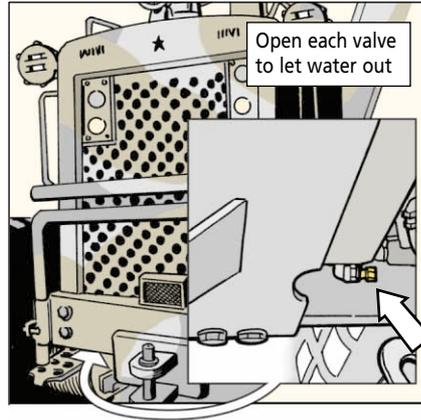


# DRAIN THE AIR TANK

Big swings in day and night temperatures increase condensation in your road grader's air brake system. 'Course, that leads to corrosion and that plugs up brake valves and cylinders and causes brake failure.

So always drain the water from the air tank at the end of the day. The tank is located behind and under the grader's rear bumper hitch. Just open the tank's two valves to drain the water. Be sure to close each drain cock when you're finished.

Because of its location, the air tank is often overlooked. As a reminder, have your mechanic use black CARC paint to stencil "Drain Air Daily" on the grader's rear bumper near the hitch. The stencils are part of the No. 1 Common shop set.



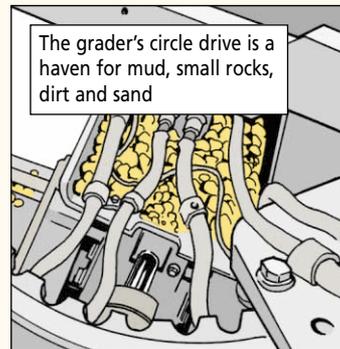
# Circle Drive Scoop

Operators, be sure to clean out the main frame above your grader's circle drive after every operation.

The main frame is a haven for mud, small rocks, dirt and sand.

All that crud breaks down hydraulic hoses inside the main frame. And when hydraulic hoses start to rot, they leak. Without hydraulic oil, the circle drive won't rotate and the centershift can't position the grader's blade.

So use a high-pressure hose to clean out the crud after operation.

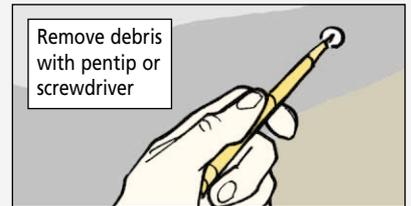


# KEEP THE BED DRY



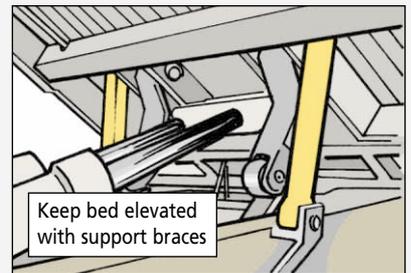
Water in the bed of your 5-ton dump truck usually means the drain holes are stopped up. If the water stays there long enough, you'll end up with a rusted-out dump bed.

So eyeball the drain holes in the front corners of the bed for dirt and leaves. Look for holes that were painted over, too. Remove any debris or paint residue by running the tip of a ballpoint pen or small screwdriver through the holes to open 'em up.



Another way to get water and snow out of the dump bed—especially when your truck sits for long periods of time—is to keep the bed elevated. Use the dump body support braces (bedlocks) to hold the bed up and keep pressure off the dump body's main hydraulic cylinder.

Page 2-19 of TM 9-2320-272-10 tells how to use the dump body's bedlocks.

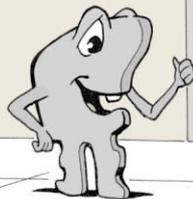


Construction Equipment...

# GET THE RIGHT KEY

YOU'RE NOT GOING ANYWHERE IF THE KEY TO YOUR CONSTRUCTION EQUIPMENT GETS LOST.

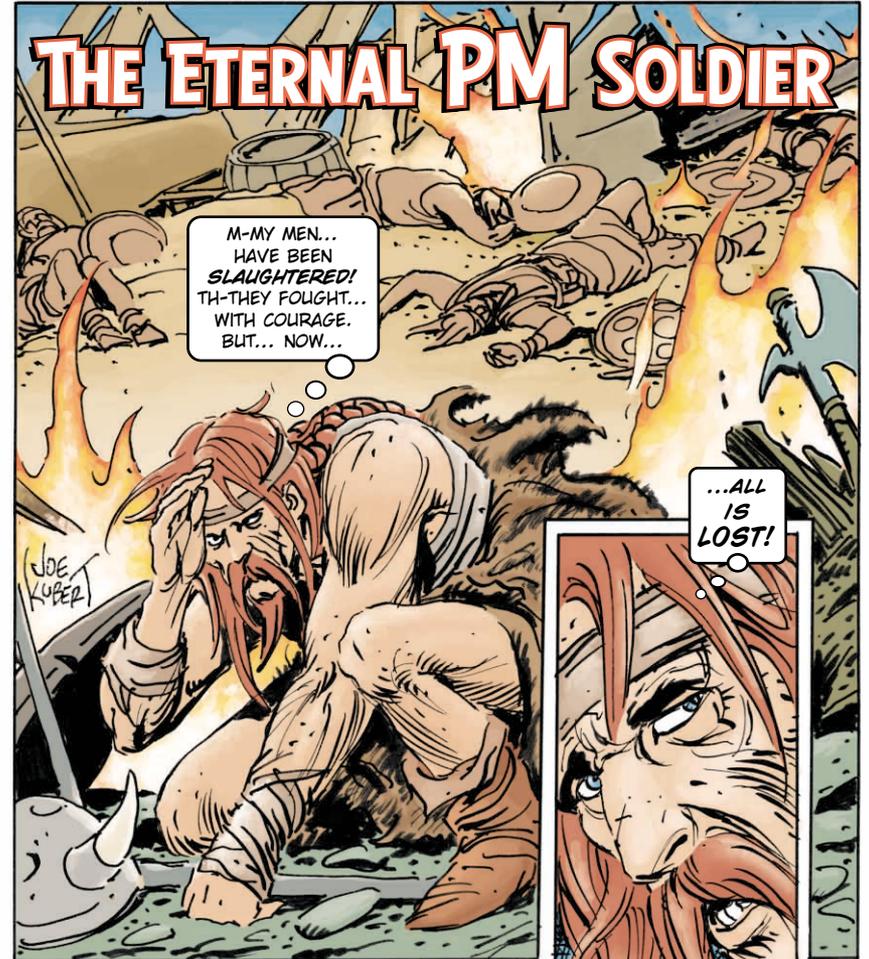
Equipment	Item	NSN
M915-series trucks	Ignition switch	2920-01-092-9134
	Lock cylinder w/key	2540-01-155-3601
	Key blanks	5340-00-357-9269
C530A roller	Ignition switch with key	2920-01-043-9994
SP 848 roller	Ignition key (only)	5930-01-039-2939
	Switch with key	2920-01-318-7906
RS-28 Tampo roller	Ignition lock switch with key	2920-01-185-3686
SEE	Ignition switch key	5930-12-166-1092
	Door key	5340-01-240-1777
	Battery key	5930-12-121-7198
	Hood wrench	5120-01-235-2605
621B scraper	Disconnect switch key	5930-00-715-1939
130G grader(keyless)	Battery disconnect switch	2920-00-775-7691
	Battery disconnect switch key	5930-01-715-1939
D7G tractors	Ignition switch key	5340-01-257-6042
	Battery disconnect switch key	5930-00-715-1939
D8 tractor	Battery disconnect switch key	5930-00-715-1939
MW24C scoop loader	Key blank	5340-01-275-7751
815F compactor	Ignition lock switch without key	2920-01-258-3471
	Key only	5340-01-257-6042
HYEX	Door/fuel/ignition key	5315-01-475-0393



DON'T LET THAT VEHICLE JUST SIT IN THE MOTOR POOL FOREVER. ORDER NEW KEYS OR KEY BLANKS...



THE VIKINGS WERE FIERCE FIGHTERS... BUT... THEY DID NOT WIN ALL THEIR BATTLES!



# THE ETERNAL PM SOLDIER

M-MY MEN... HAVE BEEN SLAUGHTERED! TH-THEY FOUGHT... WITH COURAGE. BUT... NOW...

...ALL IS LOST!

JOE KUBER



I-I DID THE BEST I COULD.



"ONLY THE VULTURES ARE THE VICTORS"



BUT THE BATTLE WAS LOST!

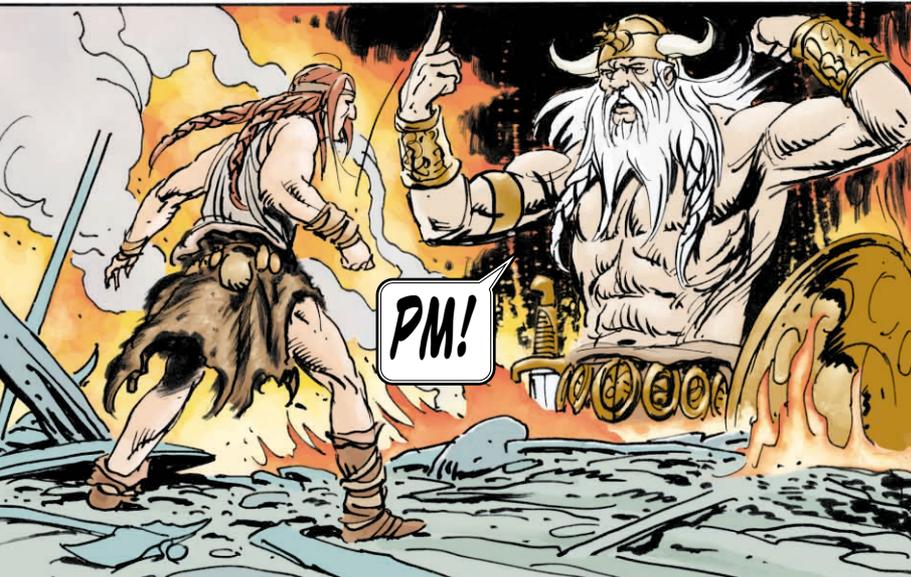


WHY!?



WHAT WENT WRONG?! I TRAINED... I TAUGHT...

MIGHTY THOR, WHAT WAS LACKING?!?



PM!



PM?

PM!



**PREVENTIVE MAINTENANCE!**  
IF YOU HAD INSTRUCTED YOUR MEN ON THE PROPER WAY TO MAINTAIN THEIR EQUIPMENT, THE VICTORY MIGHT HAVE BEEN YOURS!



THEIR EQUIPMENT WAS **NOT** IN GOOD CONDITION, SO THEIR BLOOD IS ON **YOUR HANDS!**



BECAUSE OF THAT, YOU WILL BECOME THE **ETERNAL PM SOLDIER**. YOU MUST BRING THE MESSAGE OF **PM** THROUGH THE AGES!



"YOU WILL FIND **NO REST** UNTIL THE LESSON OF PREVENTIVE MAINTENANCE IS **FULLY TAUGHT** TO ALL WORTHY SOLDIERS."



"THROUGH THE CENTURIES, THE **ETERNAL PM SOLDIER** HAS ROAMED THE EARTH, SPREADING THE MESSAGE OF **PM**. HE WAS THERE IN EVERY U.S. WAR..."



ON THE NIGHT OF AUG. 5, 1777, GENERAL JOHN STARK WAS PREPARING TO FACE BRITISH TROOPS LED BY BRITISH GENERAL JOHN BURGOYNE...



"STARK'S MEN WERE WARNED BY THE ETERNAL PM SOLDIER..."

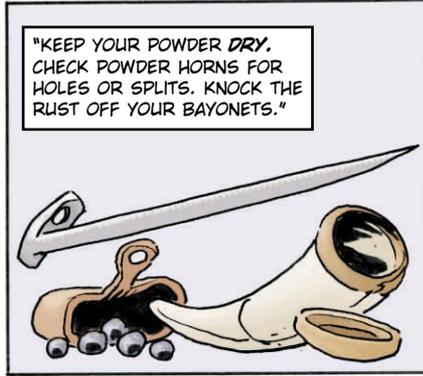
BE PREPARED FOR TOMORROW!



CHECK YOUR EQUIPMENT CAREFULLY! YOUR LIFE DEPENDS ON IT!



"MAKE SURE YOUR FLINTLOCKS WORK SMOOTHLY. A DELAY IN FIRING CAN BE FATAL!"



"KEEP YOUR POWDER DRY. CHECK POWDER HORNS FOR HOLES OR SPLITS. KNOCK THE RUST OFF YOUR BAYONETS."

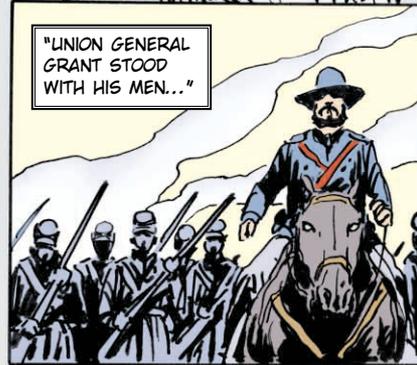


"THE NEXT DAY, STARK'S MILITIAMEN MET BURGOYNE'S FORCES AND ANNIHILATED THEM!"

"PM HELPED WIN THE DAY."



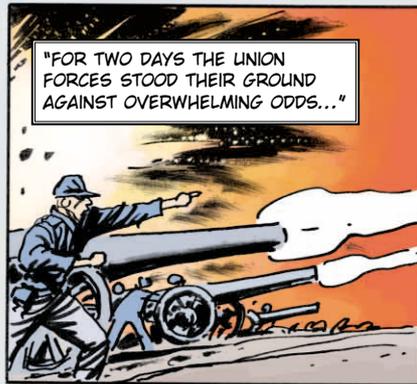
IN 1862, THE AMERICAN CIVIL WAR WAS RAGING. UNION AND CONFEDERATE FORCES MET IN THE BLOODY BATTLE OF SHILOH...



"UNION GENERAL GRANT STOOD WITH HIS MEN..."



"...AS CONFEDERATE GENERAL JOHNSTON ATTACKED."



"FOR TWO DAYS THE UNION FORCES STOOD THEIR GROUND AGAINST OVERWHELMING ODDS..."



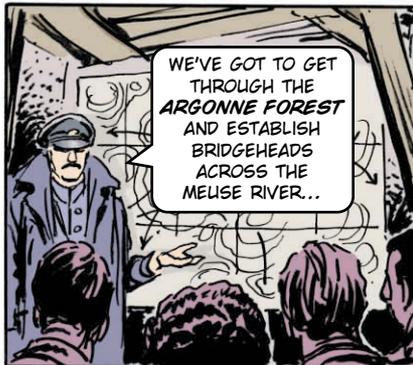
IT'S A GOOD THING YOU CHECKED THOSE CANNONS FOR WEAK SPOTS... OR THEY'DA CRACKED BY NOW!



"GRANT WAS ABLE TO DRIVE BACK THE ATTACK BECAUSE HIS EQUIPMENT HELD UP. THE ETERNAL PM SOLDIER WAS THERE AND HIS MESSAGE WAS HEARD!"



IN 1918, DURING *WWI*, GENERAL PERSHING'S 1ST ARMY FACED A MAJOR OFFENSIVE. IT WAS GOING TO BE *ROUGH!*



WE'VE GOT TO GET THROUGH THE *ARGONNE FOREST* AND ESTABLISH BRIDGEHEADS ACROSS THE MEUSE RIVER...

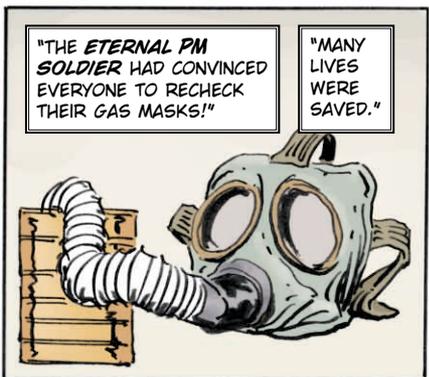


...IN ORDER TO CUT THE RAILROAD LINES THAT SUPPLY THE GERMANS. *LET'S GET STARTED!*



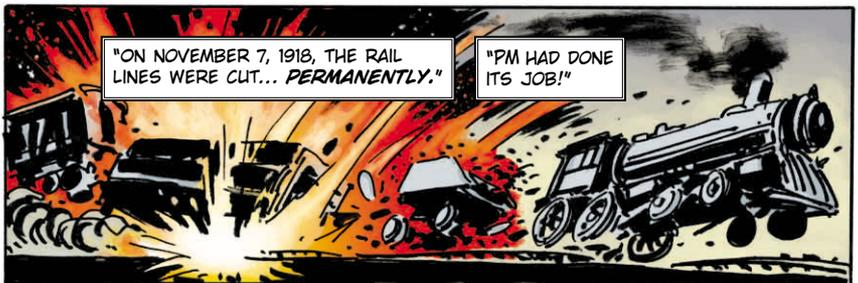
"THE ARGONNE WAS FILLED WITH SMOKE AS THE MEN ADVANCED..."

**MUSTARD GAS! PUT ON GAS MASKS!**



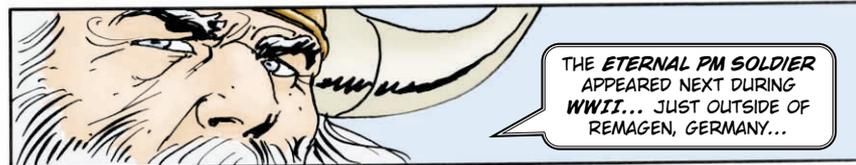
"THE *ETERNAL PM SOLDIER* HAD CONVINCED EVERYONE TO RECHECK THEIR GAS MASKS!"

"MANY LIVES WERE SAVED."



"ON NOVEMBER 7, 1918, THE RAIL LINES WERE CUT... *PERMANENTLY.*"

"PM HAD DONE ITS JOB!"



THE *ETERNAL PM SOLDIER* APPEARED NEXT DURING *WWII*... JUST OUTSIDE OF REMAGEN, GERMANY...



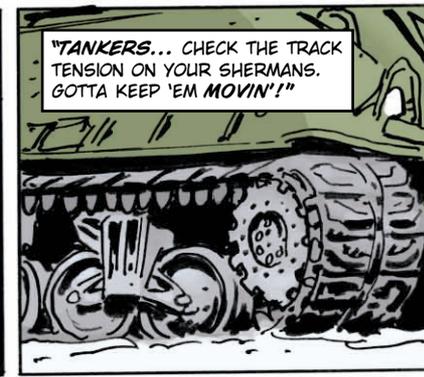
"ON MARCH 7, 1945, U.S. SOLDIERS APPROACHED THE BRIDGE ACROSS THE RHINE RIVER..."



LISTEN UP, YOU GUYS! THIS CROSSING WILL *SHORTEN* THE WAR AND SAVE A LOT OF G.I. LIVES! WE GOTTA DO IT *RIGHT!*



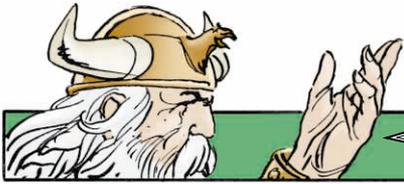
THAT MEANS *CLEANING EQUIPMENT!* MUD AND SNOW CAN FOUL THINGS UP!



"*TANKERS*... CHECK THE TRACK TENSION ON YOUR SHERMANS. GOTTA KEEP 'EM *MOVIN'!*"



"BRAVE MEN AND GOOD *PM* WORKED. EIGHTEEN DAYS AFTER CROSSING THE BRIDGE AT REMAGEN, GERMAN FIGHTING WEST OF THE RHINE ENDED."



A MAJOR VICTORY TOOK PLACE IN 1967 IN VIET NAM... THANKS TO OUR MI3S AND GOOD PM.

THE *ETERNAL PM SOLDIER* HAD TAUGHT HIS LESSONS WELL!



"IT WAS THE DAY BEFORE THANKSGIVING. HILL 63, IN THE QUE SON VALLEY, HAD BEEN IN ENEMY HANDS FOR *TOO LONG.*"



"A MAJOR OFFENSIVE WAS PLANNED. ARMORED PERSONNEL CARRIERS WOULD PLAY AN *IMPORTANT* ROLE."



"PM SOLDIERS MADE SURE THE PROP SHAFT BOLTS WERE ALL *DOWN* AND *TIGHT.*"



"THEY LUBED 'EM *GOOD...* SO THE VEHICLES WOULDN'T BREAK DOWN."



"APCS TRAVELED THROUGH MUCK AND MUD WITHOUT A HITCH. ONCE AGAIN, *GOOD PM* CARRIED THE DAY."

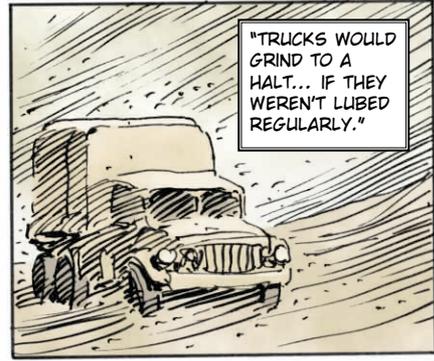


IN 1991, THE US ARMY SPEARHEADED THE OFFENSIVE FOR *DESERT SHIELD-DESERT STORM.*

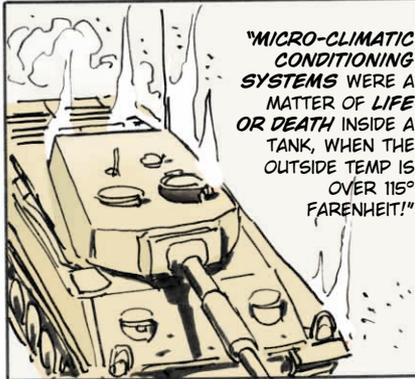
IN ADDITION TO THE ENEMY, OUR SOLDIERS HAD TO CONTEND WITH SEARING HEAT AND ABRASIVE SAND.



"THE SAND GOT INTO EVERYTHING. HELICOPTER ROTORS, AIR FILTERS, AND FUEL."



"TRUCKS WOULD GRIND TO A HALT... IF THEY WEREN'T LUBED REGULARLY."



"*MICRO-CLIMATIC* CONDITIONING SYSTEMS WERE A MATTER OF *LIFE* OR *DEATH* INSIDE A TANK, WHEN THE OUTSIDE TEMP IS OVER 115° FARENHEIT!"



"WEAPONS WERE USE-LESS WHEN SAND GOT INTO THE WORKS."



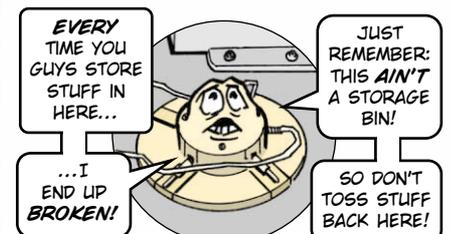
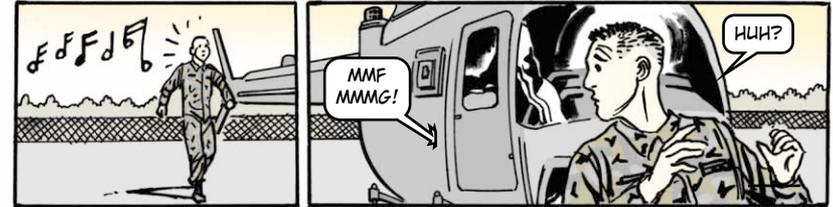
"*GOOD PM* MADE WEAPONS AND EQUIPMENT WORK, AND ENABLED SOLDIERS TO DEFEAT THE ENEMY."

"THE ETERNAL PM SOLDIER HAS A LONG HISTORY, AND HE CAN NEVER REST. RECENT EVENTS PROVE THAT THERE ARE DIFFICULT TIMES AHEAD. GOOD PM IS MORE ESSENTIAL NOW THAN EVER BEFORE."

"DO PM ON YOUR EQUIPMENT EVERY DAY. IT WILL HELP YOU STAY WARM, STAY DRY, KEEP MOVING, KEEP COMMUNICATING, KEEP FIGHTING AND KEEP SURVIVING."



# Any Old Place for Storage? **No!**

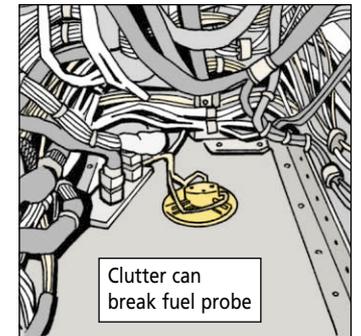


Pilots and crew chiefs, your avionics compartment isn't a storage area for survival kits, TMs, vests and other equipment. It's for avionics **only**.

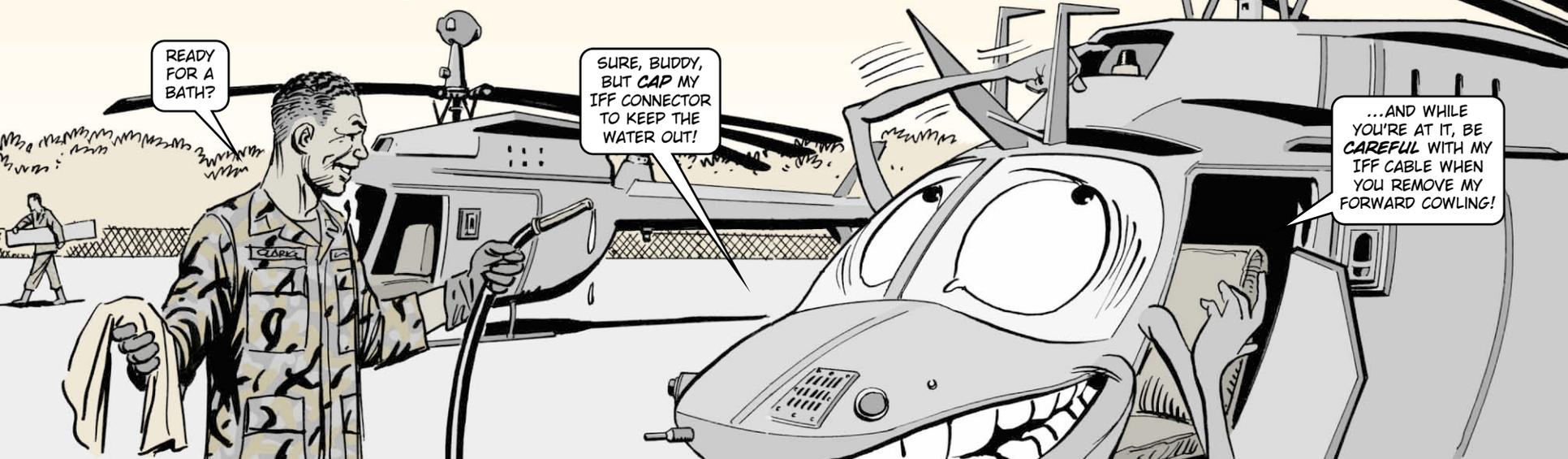
Tossed vests, kits and TMs can break the delicate fuel probe wiring in the avionics compartment and give you a zero reading on the fuel indicator. That deadlines your aircraft.

Careless tossing can also damage COM-SEC components, SINGARS radios, UHF and VHF antenna communication boxes and their cables.

So never use your avionics compartment as a storage bin. When your maintenance task is done, return TMs to your pubs clerk and turn in ALSE equipment to the ALSE shop.



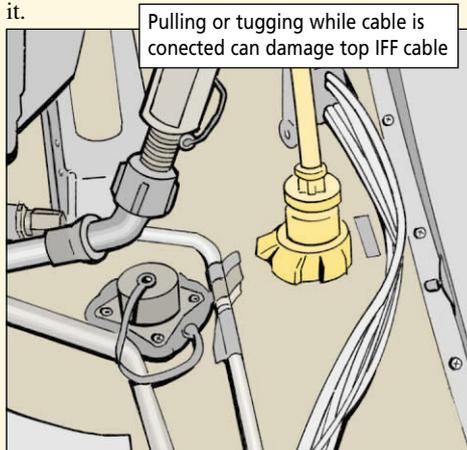
# TOP ANTENNA WASHOUT?



Anytime you wash your Kiowa Warrior with the forward cowling removed, remember to cover the top IFF antenna receptacle. If you forget, water gets in and can short out the antenna when you reinstall it.

That means you'll get a NO-GO reading on the MFD (multi-functional display) when you do your pre-flight checks. A NO-GO means your aircraft isn't ready to identify itself to other aircraft and ground facilities.

Course, a NO-GO could also flash if you're too rough removing the cowling while the cable is still attached. Any pulling or tugging can damage the IFF cable. So check the cable and the connector pin for damage if you get a NO-GO.

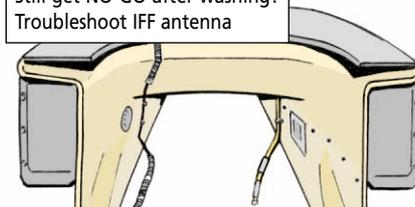


If you get the NO-GO readout only after you've washed the bird, put a small amount of isopropyl alcohol, NSN 6810-00-286-5435, in the antenna receptacle. That will dry up the excess water. Or use a blast of shop air to blow out the water.

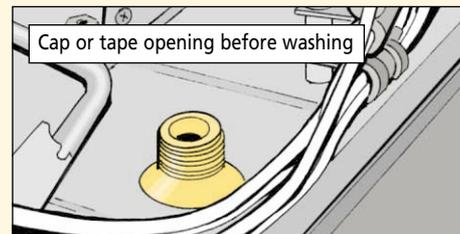
Once it's dried out, do another operational check on the top IFF antenna to make sure it's working. If it still won't work, troubleshoot the IFF antenna system.

Keep that NO-GO at bay by taping the receptacle or putting a plastic cap, NSN 5340-00-211-8188, on it before you wash the bird.

Still get NO-GO after washing?  
Troubleshoot IFF antenna



Cap or tape opening before washing



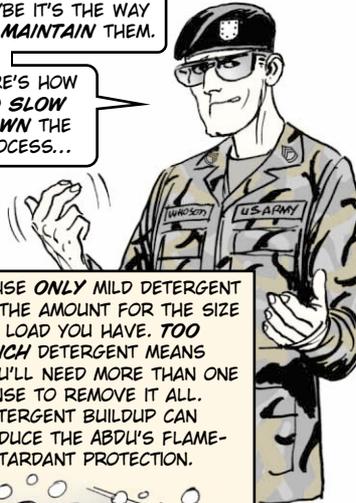
# WHAT'S UP WITH ABDU CLEANING?



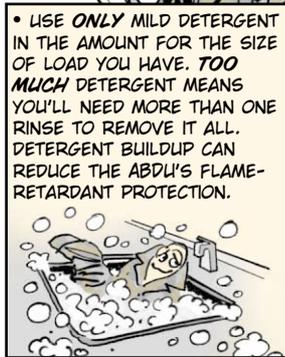
HAVE YOUR AVIATION BDUS BEEN WEARING OUT FAST?

MAYBE IT'S THE WAY YOU MAINTAIN THEM.

HERE'S HOW TO SLOW DOWN THE PROCESS...



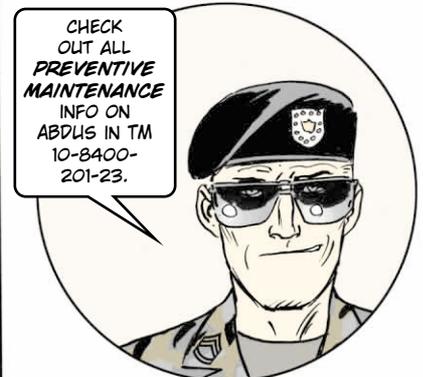
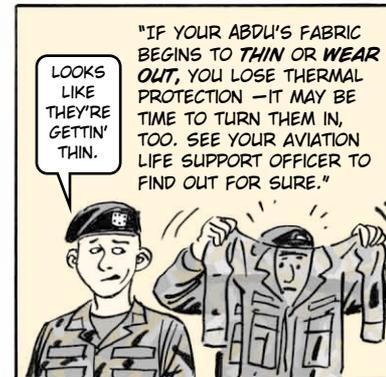
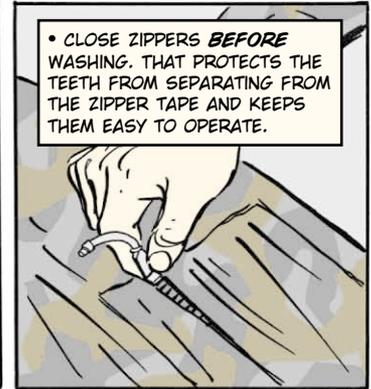
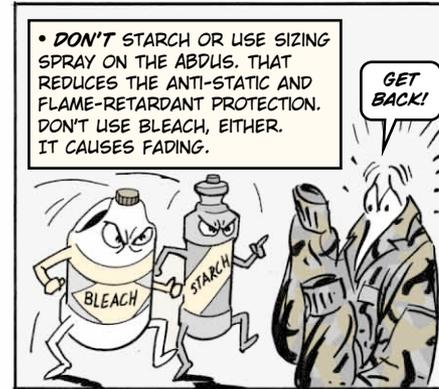
• HAND WASH OR MACHINE WASH 'EM IN **WARM WATER** ON PERMANENT PRESS OR DELICATE CYCLES, JUST LIKE THE LABEL SAYS.



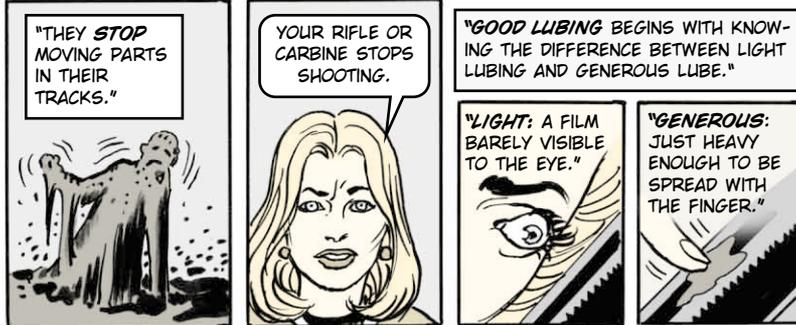
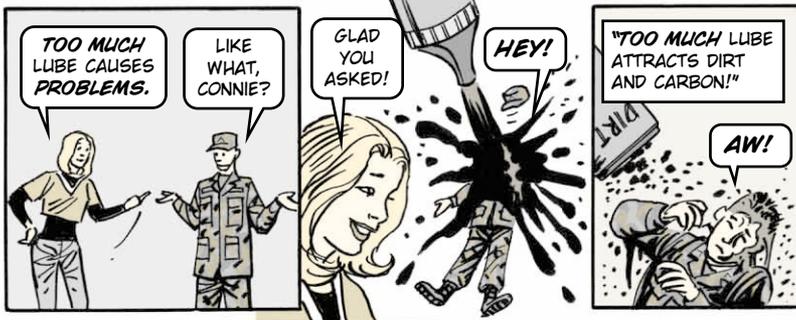
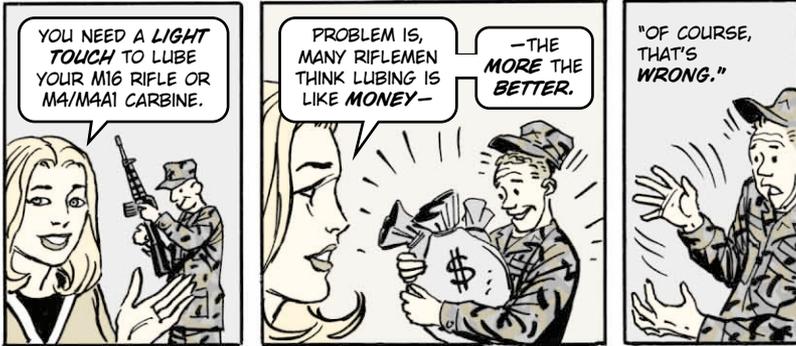
• USE **ONLY MILD DETERGENT** IN THE AMOUNT FOR THE SIZE OF LOAD YOU HAVE. **TOO MUCH** DETERGENT MEANS YOU'LL NEED MORE THAN ONE RINSE TO REMOVE IT ALL. DETERGENT BUILDUP CAN REDUCE THE ABDU'S FLAME-RETARDANT PROTECTION.

• BECAUSE NOMEK MATERIAL **DOES NOT** ABSORB MUCH WATER, ABDUS DO NOT NEED HIGH DRYING TEMPERATURES. EITHER **DRIP DRY** OR **TUMBLE DRY** AT LOW HEAT AND HANG THE UNIFORM ON A RUSTPROOF HANGAR TO AVOID RUST STAINS.

IF YOU **TUMBLE DRY**, USE AN ANTI-STATIC FABRIC SOFTENER SHEET. HANG THEM UP WHEN THE DRYER IS DONE. LEAVING ABDUS IN THE DRYER WILL WRINKLE THEM.

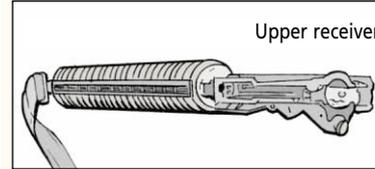


# It Takes a Light Touch



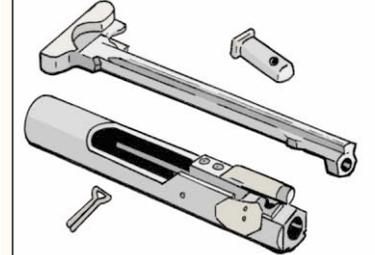
## Light Lube

- Inside upper receiver, bore, and chamber
- Outside of barrel, the front sight and under handguard
- Front sight detent—depress and put two drops of CLP on detent

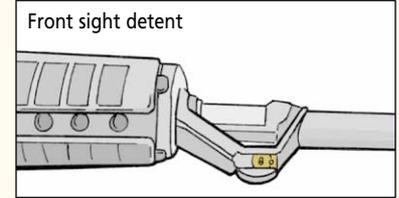
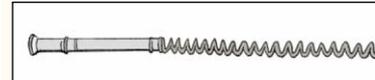


- Charging handle
- Inside and outside of bolt carrier

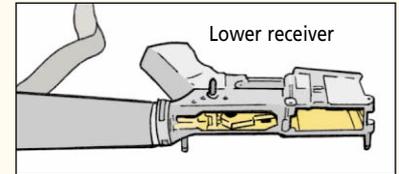
Put one drop of lube in carrier key, but generously lube slide and cam pin hole



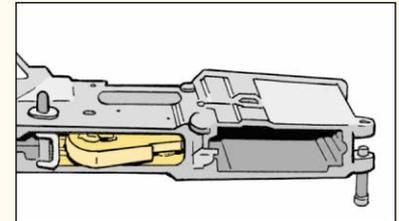
- Buffer and action spring



- Inside of lower receiver

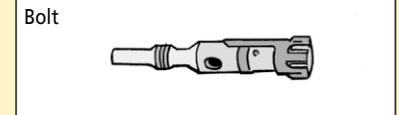


- Moving parts inside lower receiver and their pins



## Generous Lube

- Outside of bolt body, the cam pin area, and the bolt rings (but just a **light** coat on the extractor and cam pin)
- Takedown and pivot pins and detents



## In the Desert

"BUT IN THE DESERT, **DON'T** LUBE LIKE THIS. SAND, NOT CORROSION, IS THE PROBLEM THERE. SAND MIXES WITH LUBE AND BECOMES A SCOURING POWDER THAT EATS UP YOUR RIFLE."

"SO, BEFORE YOU GO TO THE FIELD, WIPE ALL LUBE OFF THE OUTSIDE OF YOUR RIFLE OR CARBINE. LUBE INTERNAL PARTS NORMALLY, BUT CLEAN THEM AFTER FIRING TO GET RID OF SAND."

ARMORERS, THIS INFO WON'T DO ANY GOOD **UNLESS** IT GETS TO YOUR UNIT.

MAKE COPIES OF THIS ARTICLE AND GIVE IT TO YOUR TROOPS.





WE WILL RETURN TO **PS MAGAZINE** AFTER THESE WORDS FROM OUR SPONSOR...

# PM-Bismol for Gas Relief



**GUNNERS!** IF YOU **FORGET** YOUR M240 MACHINE GUN'S GAS SYSTEM...



"...IT CAN DEVELOP WORSE GAS PROBLEMS THAN YOU DO AFTER A BIG BOWL OF TEXAS CHILI!"



HUH?  
BURP  
CLICK  
CLICK  
BURP  
CLICK



IF GAS CAN'T GO WHERE IT'S **SUPPOSED** TO GO IN THE M240'S GAS SYSTEM...

...THEN ROUNDS **DON'T CHAMBER** AND YOU **DON'T FIRE!**

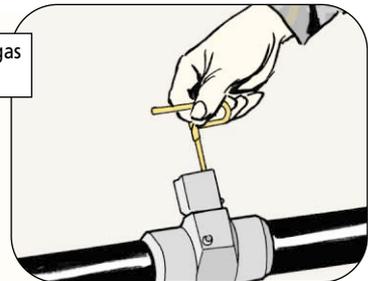
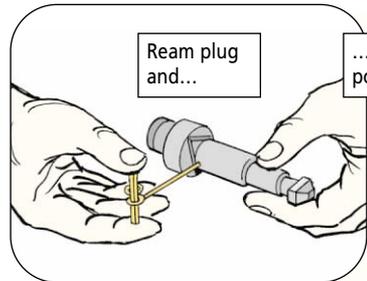
WHAT YOUR GUN NEEDS IS **PM-Bismol!**



"CARBON CAUSES GAS PROBLEMS BY STOPPING UP THE GAS REGULATOR AND PLUG."  
"THE **LONGER** CARBON SITS, THE **HARDER** IT IS TO REMOVE."  
"I'M ALL STOPPED UP WITH CARBON!"



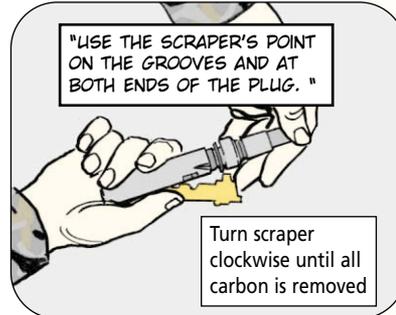
"SO CLEAN OUT CARBON **ASAP** WITH YOUR COMBINATION CLEANING TOOL...  
...ESPECIALLY AFTER FIRING BLANKS, WHICH PRODUCE MORE CARBON THAN LIVE ROUNDS."



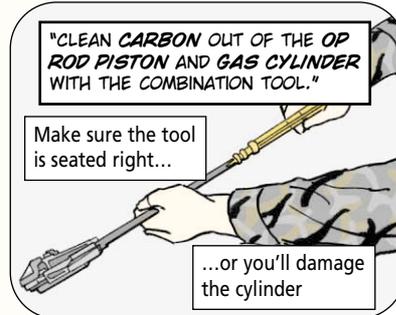
"ON THE RANGE, REAM THE PLUG HOLES AND THE BARREL'S GAS PORT HOLE WHENEVER THERE'S A BREAK IN FIRING. USE THE SMALL REAMER OF YOUR CLEANING TOOL ON THE THREE HOLES IN THE PLUG. BUT DON'T FORCE IT. IT DOESN'T TAKE MUCH TO SNAP THE REAMER. WORK THE REAMER IN AND OUT OF THE PLUG HOLES. THEN TWIST THE REAMER BACK AND FORTH UNTIL THE CARBON'S GONE."

"USE THE **LARGE** REAMER TO CLEAR THE **BARREL'S GAS PORT HOLE."**

"WHEN FIRING'S OVER, GIVE THE GAS SYSTEM A TOTAL CLEANING. TWIST THE SCRAPER IN THE PLUG UNTIL ALL CARBON'S GONE. MAKE SURE THE GAS PLUG IS SET TO 1."



"USE THE SCRAPER'S POINT ON THE GROOVES AND AT BOTH ENDS OF THE PLUG."  
Turn scraper clockwise until all carbon is removed



"CLEAN **CARBON** OUT OF THE **OP ROD PISTON** AND **GAS CYLINDER** WITH THE COMBINATION TOOL."  
Make sure the tool is seated right...  
...or you'll damage the cylinder

"REAM THE PLUG AND GAS PORT HOLE AGAIN. USE THE GAS CYLINDER BRUSH TO CLEAN THE CYLINDER BORE. YOU'RE DONE."  
"FOR MORE INFO, SEE CHAPTER 3 OF TM 9-1005-313-10."

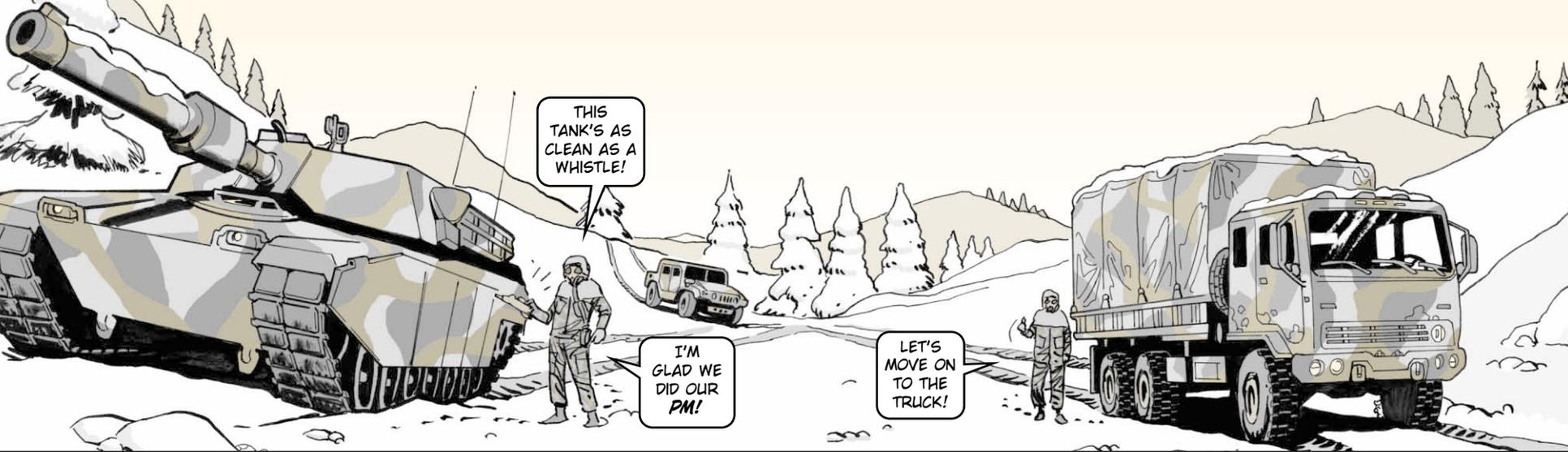
"ONE CLEANING PRODUCT TO **AVOID** IS CLP."  
"CLP ACTUALLY TURNS INTO **CARBON** BECAUSE OF THE HEAT PRODUCED DURING FIRING."



IF YOU **CAN'T** REMOVE ALL THE CARBON, TELL YOUR ARMORER.  
HE CAN USE **DRY CLEANING SOLVENT** TO REMOVE THE REST.

# Develop a

# CAM-Do Attitude



A LITTLE PM AND A FEW OPERATING CAUTIONS CAN GIVE YOU A CAM-DO ATTITUDE IN DETECTING CHEMICAL THREATS.



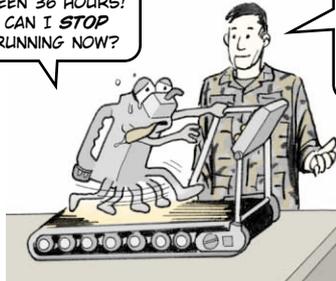
PS 591

## NBC NCOs

If you don't run **all** of your CAMs 30 minutes every week, they will give you problems. It's as simple as that.

Fortunately, most problems can be solved by running the CAM until it passes the confidence test or for up to 72 hours straight. But if that doesn't solve your problem, send the CAM to support.

->WHEEZE-< IT'S BEEN 36 HOURS! CAN I STOP RUNNING NOW?



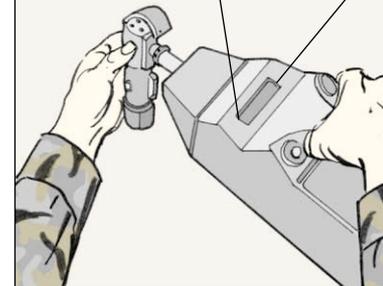
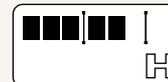
YOU'RE ONLY HALF WAY THERE. 36 HOURS TO GO!

FEB 02

## Operators

Start and stop the CAM in the H mode. That's the only way it will properly self-test.

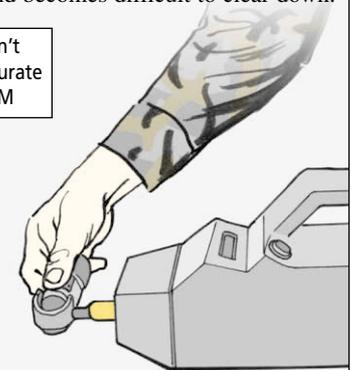
Start and stop in H mode



PS 591

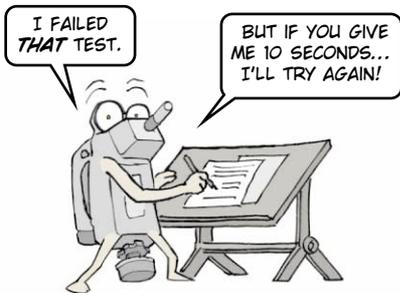
Never leave the sampler on for more than 1 second or the CAM gets saturated and becomes difficult to clear down.

Don't saturate CAM



47

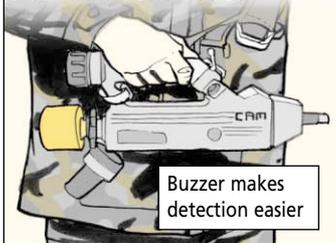
If your CAM doesn't pass the confidence test, wait at least 10 seconds and try again. You can do the test as many as five times, but must wait at least 10 seconds between tests. If your CAM doesn't pass after five tries, it's time to call your NBC NCO. More tests will only saturate the CAM.



Maintain the proper sampling distance: no closer than 1 inch for people and equipment. Any closer risks contamination.



The CAM buzzer makes it easy to keep track of distance. It sounds when the CAM detects agent, so you don't have to keep looking at the display. Your NBC NCO can order buzzers with NSN 6350-01-394-9916.



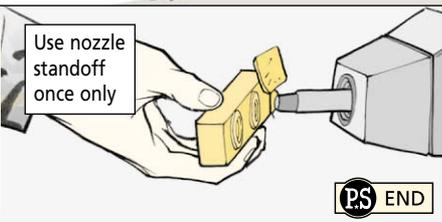
If your CAM detects something, pull it away immediately to avoid saturation.

Clear the CAM to one bar before switching modes to prevent clearing problems.

Keep the CAM away from vehicle exhaust, cleaning fluids and solvents. They make it very difficult to clear the CAM.



In the field, use the nozzle standoff once only to avoid contamination, then throw it away. Keep the standoff as clean and dry as possible so it stays sensitive. If it gets dirty or wet, replace it.



PS END

M40-Series, M42-Series Masks...

# A FITTING SOLUTION



Soldiers with small or large heads can cause big headaches for you NBC NCOs when it comes to fitting an M40 or M42 mask. But there are ways to relieve your headaches and make sure soldiers are protected..

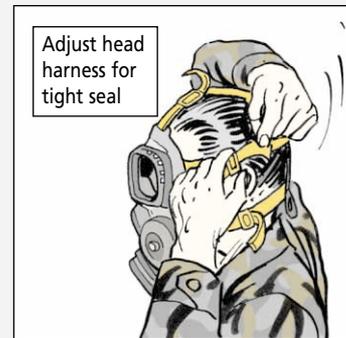
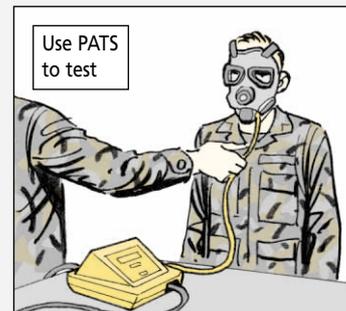
Use the M41 protection assessment test system (PATS) instead of banana oil to test every mask. PATS is much more accurate than banana oil.

If a small mask is too big to create a good seal, readjust and tighten the head harness, then test with PATS again. Sometimes that's enough for the mask to pass.

If the mask still doesn't pass, replace the headharness with a skull cap head harness, NSN 4240-01-390-3057, and re-check.

Still no luck? Then check out TB 3-4240-341-20-1, *Chemical-Biological Protective Mask for Hard-to-Fit Service Members*, for further help. If nothing works, tell your CO. He will decide if the soldier is deployable.

Check out the TB if the M40 or M42 large mask is too small for a soldier, too.



# TEST SET CALIBRATED?

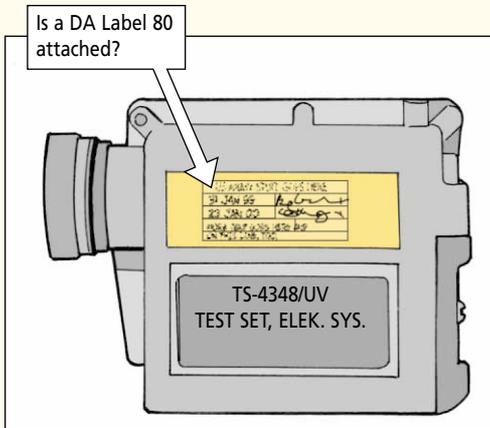


The TS-4348/UV electronic systems test set, NSN 6625-01-323-9584, tells you whether a night vision device (NVD) is good to **GO** or is a **NO GO**.

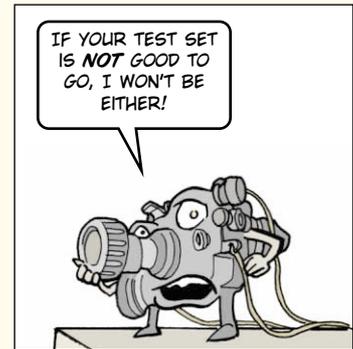
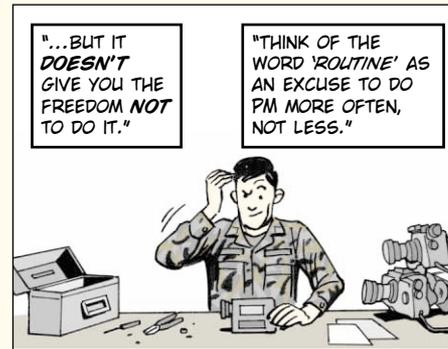
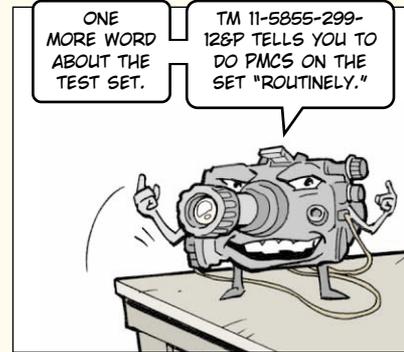
But how do you know if the test set is telling you the truth? You won't unless you get it calibrated regularly.

Armorers, look at the test set and see if a DA Label 80 is attached to it. If it is, the label will tell you when the next calibration is due. If the NVD is overdue for a calibration, turn it in to your calibration team or TMDE.

If there is no DA Label 80, take no chances. Get it calibrated. After calibration, you will have a DA Label 80 on your NVD to tell you when the next calibration is due.



Don't wait until your test set gives you a **Check Calibration** warning before you get it calibrated. That's too late. You should be using the test set regularly in the field and that is not the time to worry about calibration.



## PLGR BA-5800 Battery Availability

The BA-5800 main power battery for the AN/PSN-11 precision lightweight GPS receiver, once in short supply, is now well-stocked. Use NSN 6135-01-440-7774 to get a package of eight. The old NSN 6135-99-760-9742 is discontinued. New rechargeable substitutes for the BA-5800 should be available this summer.

# YOU MUST CONNECT IN ORDER

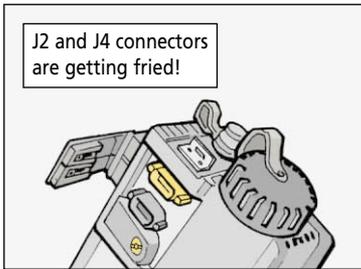


Fried eggs are good. So are fried chicken and fried green tomatoes. But fried J2 and J4 connectors on your AN/PSN-11 precision lightweight GPS receiver (PLGR) are not good!

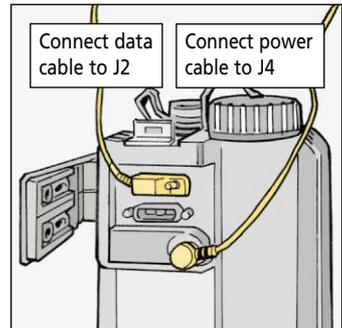
But some of you must think they are, because a lot of J2 and J4 connectors are turning up fried! 'Course, a fried J2 connector usually means internal damage, too.

The problem comes when you connect or disconnect the PLGR from an external power source. The right connection or disconnection means your PLGR will live to receive another day. Get either one wrong and you'll be eating the cost of a fried PLGR, along with crow, for lunch. The key is in the connection sequence.

J2 and J4 connectors are getting fried!



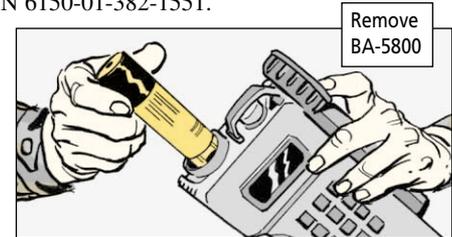
2. Connect the data cable to the J2 serial port.
  3. Connect the remote antenna cable, if used.
  4. Connect the power cable to the J4 connector. Make sure you don't reverse the polarity when you're attaching the cable. The cable wire with the in-line fuse is the positive or "hot" wire. It is always connected to a positive terminal.
  5. Put the PLGR in its mount.
- Reverse the steps to disconnect the PLGR.



Keep in mind that if you remove the PLGR from the power cable instead of the power cable from its external source, you still have a hot power cable!

If you need a new power cable, get it with NSN 6150-01-375-8661. If you need a fuse for the cable, order it with NSN 6150-01-382-1551.

Finally, don't forget to remove the BA-5800 battery from your PLGR before you connect to an external power source. A BA-5800 left in a PLGR getting external juice will overheat and explode or melt the battery case of the PLGR.



HERE'S THE RIGHT WAY TO CONNECT A PLGR TO AN EXTERNAL POWER SOURCE...

1. Make sure the PLGR and the electronic device you connect it to have a common ground before you connect the power.

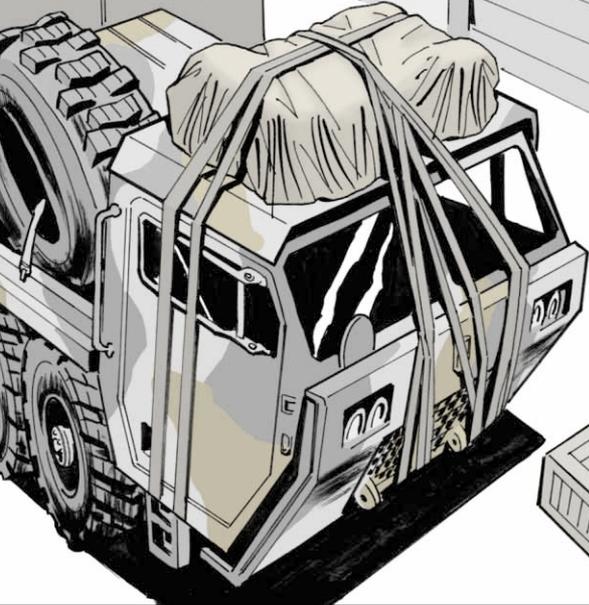
The PLGR grounding wire should be attached to the same battery post as the ground wire that runs from the vehicle to the vehicle's battery.

Some PLGR installations involving computers have a special ground. If that's the case with your equipment, make sure this step includes that ground.



Tiedown Straps...

# STRAP 'EM ON!



WHAT DO YOU MEAN YOU COULDN'T FIND A SHORTER CARGO STRAP?!



Using a rubber or fabric strap to tie down canvas covers, bundles, gear and other loose items is a cinch. But finding the right-size strap used to be a problem.

Not any more. If your equipment TM doesn't specify a strap, just select one of these.

NSN 5340-	Length (inches)	Stretch (range)
00-340-0980	10	15-20
01-029-9084	15	20-30
01-231-6015	21	26-42
01-029-9085	31	36-42

All rubber straps have an S-hook on each end.

## Fabric Cargo Straps

NSN	Size (inches)	Material
5340-01-428-8800	1½ x 12	Nylon
5340-00-678-9031	1 x 18	Nylon
5340-00-530-5021	1 x 20	Nylon
5340-00-543-3477	1 x 24	Nylon
5340-00-664-0364	1 x 26	Cotton
5340-00-543-7110	1 x 28	Nylon
5340-00-753-3742	1 x 30	Nylon
5340-00-543-3188	1 x 33	Nylon
5340-00-753-3744	1 x 36	Nylon
5340-00-339-3768	1 x 42	Nylon
5340-00-543-3155	1 x 45	Nylon
5340-00-753-3745	1 x 48	Cotton
5340-00-543-3173	1 x 51	Nylon
2540-00-715-3854	1 x 54	Cotton
5340-00-958-6917	1 x 60	Cotton
5340-00-894-9545	1 x 64	Cotton
5340-00-949-8637	1 x 18	Cotton
5340-00-854-6737	1 x 108	Nylon
5340-00-134-3196	1 x 114	Nylon

Each fabric strap is OD green and comes with a buckle to secure it in place. If you need a different size, see your installation DOL. They may be able to fabricate straps from bulk stock.

Use Appendix A of CTA 50-970 as your authority for ordering the straps.

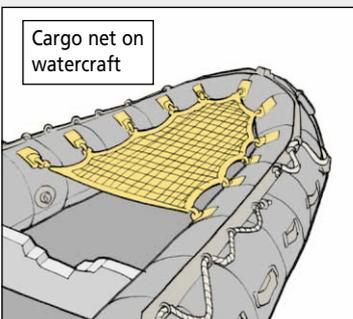
F470 Watercraft...

# KEEP CARGO SECURE

NSN 3940-01-477-7081 gets a tailor-made cargo net for your F470 Zodiac attack watercraft. The nylon net holds cargo in place and adjusts easily for a snug fit. It's held in place with carabiners.

A three-position molded nylon clamp locks a cinching rope, which goes around the entire net.

Each net includes a black nylon stowage bag with a draw cord closure. Installation instructions are included.

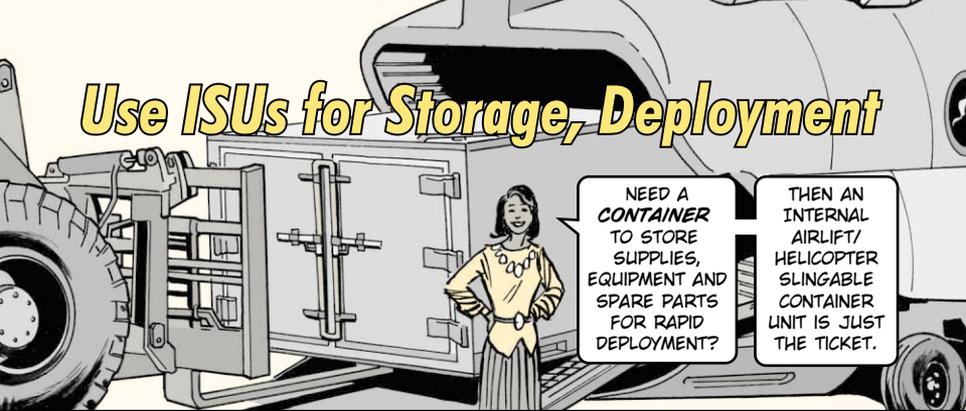


Cargo net on watercraft



THIS CARGO NET WILL KEEP OUR GEAR IN PLACE 'TIL WE HIT THE BEACH!

# Use ISUs for Storage, Deployment



NEED A CONTAINER TO STORE SUPPLIES, EQUIPMENT AND SPARE PARTS FOR RAPID DEPLOYMENT?

THEN AN INTERNAL AIRLIFT/ HELICOPTER SLINGABLE CONTAINER UNIT IS JUST THE TICKET.

ISUs can be moved by forklift or helicopter and they're easily loaded onto airlift aircraft.

The containers also fit on 2½-ton and 5-ton trucks. They can be outfitted with low-speed or high-speed mobility wheel sets or corner casters for easy movement.

Here are some of the available ISUs. These are OD green, but they're also available in desert tan, gray, white, black or a custom color:

ISU container	NSN 8145-01-
ISU-90 GEN X	465-3621
ISU-90-KCI GEN X	465-4140
ISU-60 GEN X	465-3629
ISU-90-KC GEN X	465-3687
ISU-90-I GEN X	465-3685
ISU-90-EO GEN X	465-4146
ISU-70-KC-GEN X	465-4160
ISU-70-KCA GEN X	478-9990



ISU container	NSN 8145-01-
90 GEN X	
ISU-90-KCI GEN X	
ISU-90-KC GEN X	465-3687
ISU-90-I GEN X	
ISU-90-EO GEN X	
ISU-70-KC-GEN X	465-4160
ISU-70-KCA GEN X	

THE NUMBER IS THE HEIGHT OF THE CONTAINER IN INCHES

I AND KCI CONTAINERS WERE SHAPED TO FIT KC10 AIRCRAFT, BUT ARE ALSO 6 INCHES NARROWER ON ONE SIDE TO PERMIT SHIPMENT IN PALLET POSITION 3 ON C130 AIRCRAFT

EO STANDS FOR END OPENING

GEN X REFERS TO THE NEW DAMAGE-RESISTANT ALUMINUM BASEPLATE

KC MEANS THE CONTAINER WILL FIT INTO KC10/MD11 CARGO AIRCRAFT

KCA MEANS THE CONTAINER IS DESIGNED FOR KC135 AIRCRAFT

If you have questions or need help ordering ISUs, contact the Defense Supply Center Philadelphia. Call Cindy Ciardullo at DSN 444-7406 or (215) 737-7406 or Maureen Leiter at DSN 444-7355 or (215) 737-7355.

Publications...

# Pubs System "FAQ"tering



HOW DO I SET UP AN ACCOUNT FOR MY UNIT?

"PARA 2-1 OF DA PAM 25-33, USER'S GUIDE FOR ARMY PUBLICATIONS (SEP 96), TELLS YOU IF YOU ARE ALLOWED TO HAVE YOUR OWN ACCOUNT."

IF YOU ARE ALLOWED, THEN USE THE INSTRUCTIONS IN PARA 2-2 OF DA PAM 25-33 TO SUBMIT DA FORM 12-R, REQUEST FOR ESTABLISHMENT OF A PUBLICATIONS ACCOUNT, THROUGH YOUR CHAIN OF COMMAND TO USAPA  
ATTN: New Account Processing  
1655 Woodson Road  
St. Louis, MO 63114-6128

REQUEST FOR ESTABLISHMENT OF A PUBLICATIONS ACCOUNT

For use of this form, see DA PAM 25-33, the proposed change to...

1. ACCOUNT NUMBER  
2. DATE  
3. TYPE OF SUBMISSION (INITIAL, CHANGE, etc.)  
4. FROM (include nine-digit ZIP Code)  
5. THRU (include nine-digit ZIP Code)

SECTION I - GENERAL REQUEST FOR THE FOLLOWING SERVICE:

PUBLICATIONS  BLANK FORMS  TEST MATERIAL

7b. JUSTIFICATION FOR BLANK FORMS (Use a separate sheet of paper)

HOW DO I ESTABLISH MY INITIAL PUBS DISTRIBUTION REQUIREMENTS



FOLLOW THESE STEPS...!



IS YOUR UNIT MOVING OR CHANGING ITS UNIT NAME



IF SO, MAIL OR FAX THE CHANGE ON DA FORM 12-R TO USAPA AS SOON AS POSSIBLE.

"OTHERWISE, YOUR PUBS *WON'T FOLLOW YOU* TO YOUR NEW UNIT LOCATION *NOR* WILL THE PUBS FOLKS KNOW YOUR NEW UNIT NAME."



IS YOUR UNIT BEING DEACTIVATED



"IF SO, CANCEL YOUR ACCOUNT WITH DA FORM 12-R TO USAPA 90 DAYS BEFORE THE UNIT IS DEACTIVATED. PARA 2-10 OF DA PAM 25-33 TELLS YOU HOW TO PREPARE THE FORM."

WHEN YOU GET YOUR PUBS ACCOUNT NUMBER, GO TO <http://www.usapa.army.mil>

101001 240

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Army Publications and Forms Ordering System

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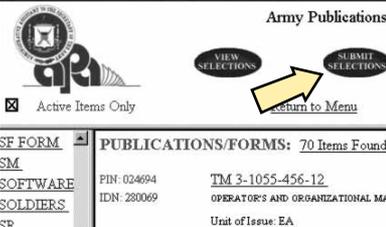
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Place orders using manual entry screen, delete subscriptions

NEXT, SELECT A CATEGORY AND A SPECIFIC PUB AND SELECT SUBSCRIBE AT THE NEXT SCREEN.

SE FORM	SUBCATEGORIES: (TM)
SM	TM 1-1 thru TM 1-1270
SOFTWARE	TM 1-13A9 thru TM 1-1520-244
SOLDIERS	TM 1-1520-248 thru TM 1-1520-252
SE	TM 1-5855-265-20 thru TM 2-1040-287
SEA	TM 2-1055 thru TM 2-4240-300-10-2
SEA FORM	TM 2-4240-300 thru TM 2-241-26
SSS FORM	TM 2-241-371 thru TM 2-805-14
STP	TM 2-807-7 thru TM 2-888-12
STG	TM 2-890-3 thru TM 2-2410-200-10
TA	TM 2-2410-200-20 thru TM 2-2520-552
TR	TM 2-2590-214 thru TM 2-3610-253-14

AFTER YOU ID YOUR PUB NEEDS, COMPLETE THE PROCESS BY HITTING THE SUBMIT SELECTIONS BUTTON.



"YOUR INITIAL DISTRIBUTION NEEDS ARE NOW ESTABLISHED, IT WON'T GET YOU CURRENT COPIES OF THE PUBS.

"HERE'S WHAT TO DO TO GET CURRENT COPIES OF THE PUBS YOU NEED. # CHECK RE-SUPPLY TO GET A COPY OF THE CURRENT PUB. # CHECK CHANGES TO GET A COPY OF A PUB'S CHANGES ONLY. # CHECK RE-SUPPLY AND CHANGES TO GET A CURRENT COPY OF A PUB WITH ALL ITS CHANGES."

"REMEMBER, SUBSCRIBE ONLY GETS YOU PUB REVISIONS AND FUTURE CHANGES."

"DA PAM 25-33 (IDN 040112) SHOULD BE ON-HAND IN YOUR UNIT TO ANSWER PUBS QUESTIONS."

"IF YOU DON'T HAVE A COPY, GET ONE USING THE PUBS PROCEDURES IDENTIFIED ABOVE."

"OR, GO TO THE USAPA WEB SITE AND CLICK ON ARMY ADMINISTRATIVE ELECTRONIC PUBLICATIONS AND REVIEW THE PUB ON-LINE."

NO. YOU VALIDATE YOUR ADDRESS EVERY TIME YOU LOG-IN TO THE PUBS ORDERING SYSTEM.

"ALL UNIT ADDRESS CHANGES, HOWEVER, MUST BE MAILED TO USAPA ON DA FORM 12-R."

"PARA 5-3 OF DA PAM 25-33 TELLS YOU HOW TO SEND IN AN ADDRESS CHANGE."

QUESTIONS? YOU CAN CALL USAPA AT DSN 693-7305 OR (314) 283-7305, GO TO THEIR WEB SITE AND SUBMIT YOUR INQUIRY TO USAPA CUSTOMER SERVICE OR E-MAIL THEM AT CustomerService@usapadof.army.mil



### **FMTV Tire Chain Update**

Use tire chains on FMTVs only when the CTIS is not working or when you will be driving on ice. TACOM recommends the use of CTIS only in less severe conditions (mud or snow).

### **FMTV Trailer Use Restriction**

Watch what you haul with M1082 and M1095 FMTV trailers. Only general cargo or ammunition is allowed. In addition, the only kit allowed is the tarp and bow kit. General cargo includes tents, nets, concertina wire, tools, spare tires, spare parts, etc. TACOM Ground Precautionary Message (GPM) 01-025 has the details. Access the GPM at the AEPs web site: <http://aeps.ria.army.mil>

### **NEW M40/M42 OPTICAL INSERTS**

To mount the new optical inserts with plastic frames in M40 and M42 masks, you need the plastic mount that comes with NSN 4240-01-389-7152. See Page 2-68 in TM 3-4240-343-20&P for installation instructions.

### **M483 FORKLIFT ALTERNATOR**

NSN 6115-01-428-2592 gets the alternator for the 4K forklift. The NSN shown as Item 6 in Fig 30 of TM 10-3930-671-24P is no longer available.

### **TAILLIGHT LENSES CLARIFIED**

Page 11 of PS 590, Jan 02, may mislead you. Plastic lens, NSN 6220-01-359-2870, is used on plastic tail lights only. Metal and plastic lens, NSN 6220-00-179-4324, is used on metal taillights only.

### **HMMWV Restraining Nets**

If your armament or TOW carrier HMMWV needs a restraining net, look at Fig 210 of TM 9-2320-280-24P-1 (Mar 01). Item 1, NSN 5340-01-429-9352, covers the stowage compartment; Item 2, NSN 5340-01-415-8672, covers the hatch; and Item 7, NSN 3990-01-411-6575, separates the rear seats from the cargo area at the bulkhead.

### **PATRIOT TIEDOWN BOLT DRIVER**

Patriot units, the missile tiedown bolt driver (Item 46, Fig 2, TM 9-1410-600-24P) has been renamed and reclassified to make it easier to obtain. It used to be a Class II tool; now it's a Class IX hex nut. Order the hex nut with NSN 5310-01-118-0770. But don't tighten it more than 60 ft-lbs. The hex nut is designed to break if torqued more than 60 ft-lbs.

### **PLS CTIS Front Manifold**

The NSN and part number for the CTIS front manifold assembly on M1074/M1075 PLS tractors are wrong in TM 9-2320-364-24P-1. Make a note that Item 2 of Fig 281 should be NSN 4730-01-359-9679 and PN 10217023.

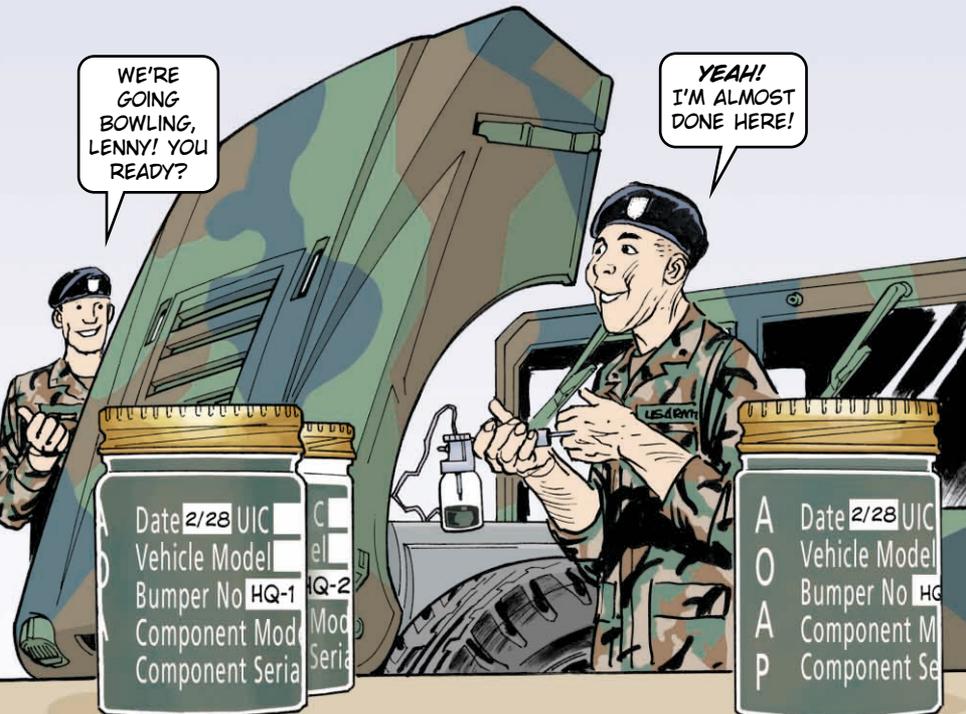
### **AVLB Transverse Brace**

The part number and NSN for the AVLB's transverse brace, shown as Item 16 in Fig 9 of TM 5-5420-203-24P (Nov 88), are being deleted from the supply system. Use PN 13230E6447 and NSN 5340-00-542-3123 instead. Make a note until the TM is updated.

THE SAMPLER WAS A SPECIALIST BUT ALAS HE IS NO MORE!

WE'RE GOING BOWLING, LENNY! YOU READY?

YEAH! I'M ALMOST DONE HERE!



Date	2/28	UIC	
Vehicle Model			
Bumper No	HQ-1	HQ-2	
Component Mod			
Component Serial			

A	Date	2/28	UIC
O	Vehicle Model		
A	Bumper No	HQ	
P	Component M		
	Component Se		

HE TOOK THE OIL FROM ONE CRANKCASE AND SENT IT IN FOR FOUR!

YOU CAN'T FOOL THE AOAP LAB!

Issue 591

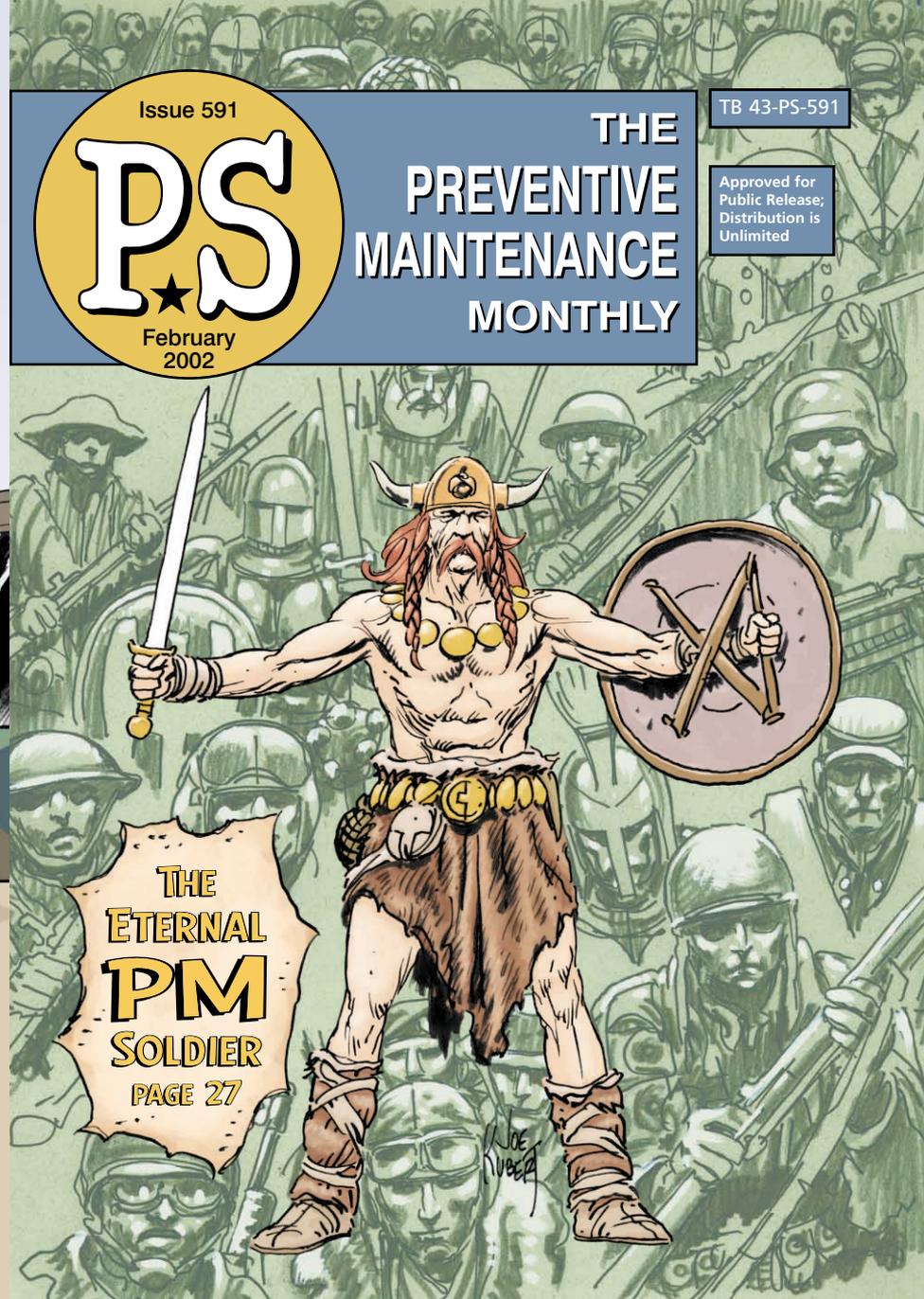
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February 2002

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TB 43-PS-591

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