

Issue 500

PS

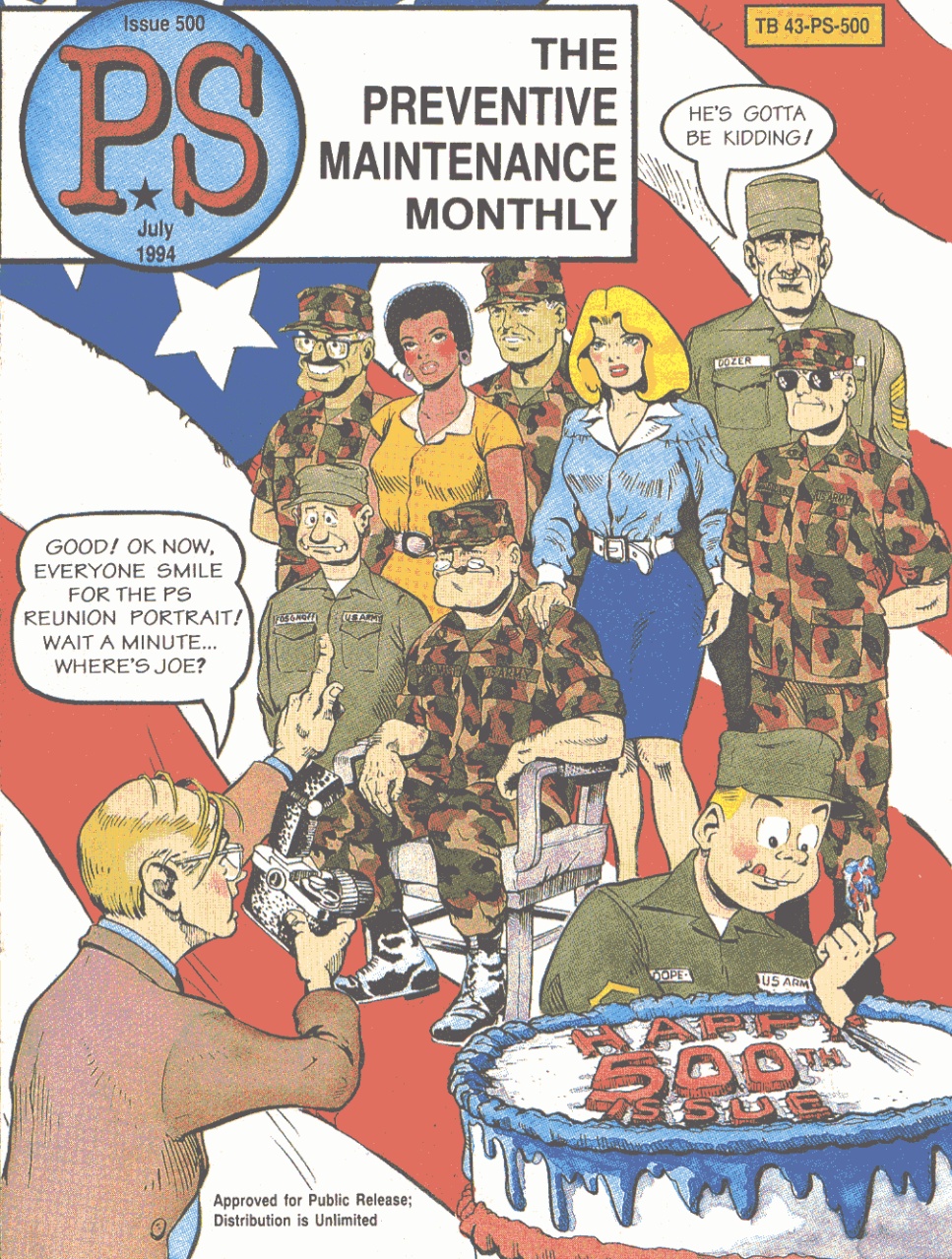
July
1994

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-500

HE'S GOTTA
BE KIDDING!

GOOD! OK NOW,
EVERYONE SMILE
FOR THE PS
REUNION PORTRAIT!
WAIT A MINUTE...
WHERE'S JOE?

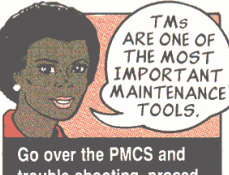


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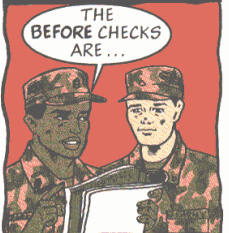
Maintaining a Maintenance Program



NCOs need to train new mechanics to strengthen their maintenance programs. On-the-job training means an experienced person lending a hand to newer mechanics or those lacking in skill and knowledge. Keep an eye on the new guy. If he hits a snag, show him how to do the job right.



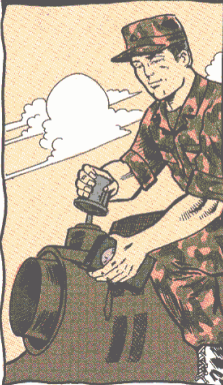
Go over the PMCS and trouble-shooting procedures with your operators.



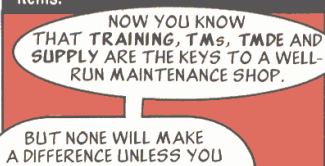
Of course, you'll need to have the most current info available. That means keeping TMs up-to-date. Make sure the 12-series forms are correct. Get the pubs clerk to delete the pubs for equipment that's been turned in and add the pubs for new equipment.



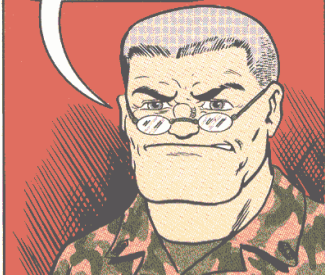
Make sure mechanics know how to use test equipment to check for bad parts. That way you know what part needs to be replaced.



Be sure your supply people know to order and stock only what your unit needs. There's no place for "rainy day" items.



BUT NONE WILL MAKE A DIFFERENCE UNLESS YOU SCHEDULE ENOUGH TIME FOR SOLDIERS TO DO THEIR MAINTENANCE TASKS.



CONGRATS ON #500!

Jack & Diane Backes

Editor's note: Backes Graphic Productions brought SFC Pablo Habito to life, and designed issues 430 through 500.



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-500, 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.

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You are invited to send PS your ideas for improving maintenance procedures, suggestions for articles, or comments on material published in PS. Just write to:

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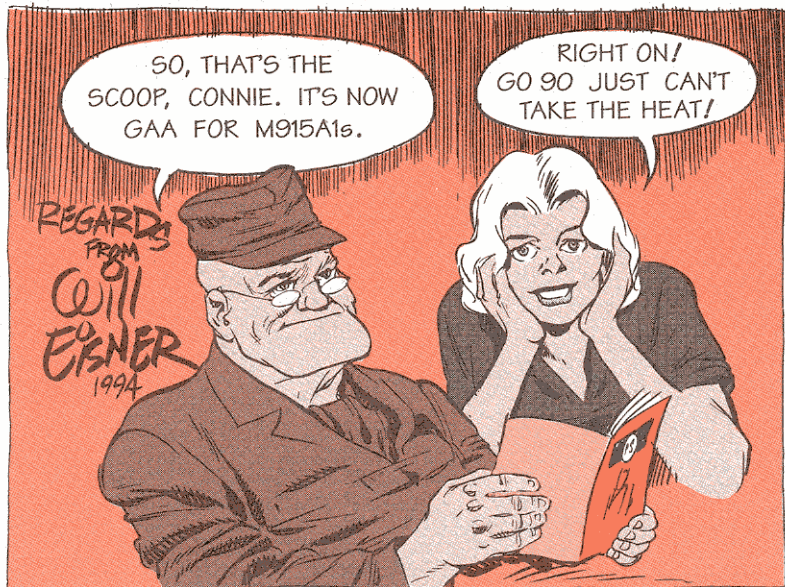
By Order of the Secretary of the Army:

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CHANGE OIL TO GREASE



Editor's note: Will Eisner, a famous cartoonist, created Connie and MSG Half-Mast. He designed issues 1 through 227.

Front axle wheel bearings on those medium transporters take GAA, not GO 90, mechanics. Oil won't stand up to the high temps of over-the-road driving. Bearings run dry and burn out.

So if your trucks still have GO 90, change over to GAA **now!** Make sure to use only the new GAA made under MIL-G-10924E or F.

The procedures in Para 3-205C of TM 9-2320-283-20-3 are wrong. Starting with Item 13, make these changes:

Step 13: Pack inner and outer bearing cones with GAA using a bearing packing tool. If either bearing is damaged or pitted, replace both tapered roller

bearing assemblies.

Steps 14 and 15 are the same.

Add new Step 16: Torque the bearing nut 100 lb-ft while rotating the wheel back and forth. This seats the bearings. Back off the nut until it's loose. Don't rotate the wheel.

Retorque the nut 50 lb-ft. Back off to put in the cotter pin, but no more than 1/4 turn.

Steps 17, 19 and 20 don't change.

At Step 18, seal the rubber plug with with RTV sealant, NSN 8030-01-159-4844.

Delete Step 21 and renumber Step 22 as 21. Seal this plug with RTV, too.

Keep Air Lines Dry

HERE'S A NEAT WAY TO MAKE SURE THAT YOU DRAIN ALL FOUR TANKS IN CORRECT ORDER...

0123456789!
ABCDEFGHIJKLM
NOPQRSTUVWXYZ

HAPPY
500th!!
MURPHY
ANDERSON
1994

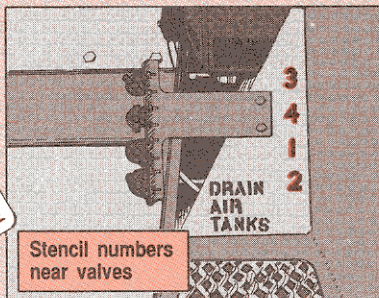
Editor's note: Murphy Anderson, a noted cartoonist, immortalized Bonnie and designed issues 252 through 308 and 315 through 368

Moisture in air brake lines breeds corrosion. In cold weather it turns to ice. Both clog the lines and stop air flow to the brakes and central tire inflation system.

Keep the lines dry by draining the air tanks after each day's operation. Here are three important rules to remember when you do:

① Drain all four tanks. Sure, the most water comes from the air brake system wet tank. But there is moisture in all four.

② Drain them in the order called for on Page 2-76.2 in Change 4 of TM 9-2320-272-10. Drain them like so:



To make the order easy to remember, get your mechanic to stencil the numbers on the truck near the valves. CARC, NSN 8010-01-229-7540, and the 1-in stencil from the No. 1 Common shop set are best. But, any marking system that works for you is fine.

③ Open the petcock just long enough to drain the water, then close it. That way you have air pressure to drain each tank. Close each petcock when you've drained the tank. Leaving it open doesn't get rid of more water—it creates more.

Here's why:

Cool nights and warm days create condensation inside the tanks. When you close the tanks just before you operate, the water is trapped inside, getting ready to do its worst to the air lines.

LOCK SCREW IN PLACE

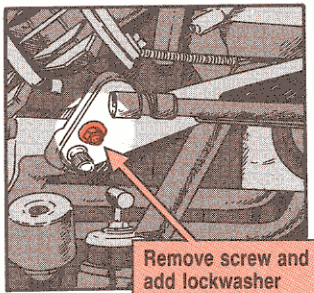


Something as big as an M939A2-series truck can't be stopped by a little screw, can it, drivers?

You bet it can—especially if it's the engine throttle linkage screw, NSN 5305-01-287-1585!

Vibration slowly loosens the screw until it falls out. Without the screw, the throttle doesn't work and you're stuck in your tracks.

Correct that problem by having your mechanic add a 6-mm lockwasher, NSN 5310-01-138-3289. That'll keep the screw in place.

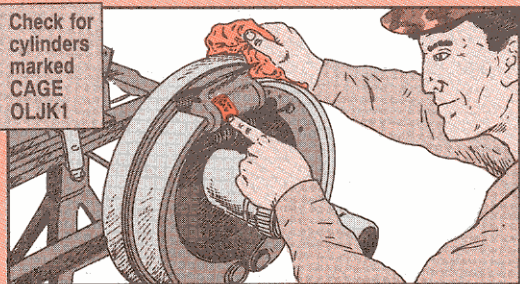


Look Out for Bum Wheel Cylinders

Some bum rear wheel brake cylinders, NSN 2530-00-920-7568, got put on some older model 5-ton trucks.

These cylinders crack real easy, causing fluid to leak out. TACOM Safety of Use message AMSTA-M 021546Z Nov 93 has the word.

If you're not sure if the cylinders have been checked on your fleet of trucks, schedule them for the shop. Pull the rear wheels and eyeball each cylinder for cracks. Look also for CAGE OLJK1 stamped on the front of the cylinder. If you find cracks or the CAGE, put on new cylinders.

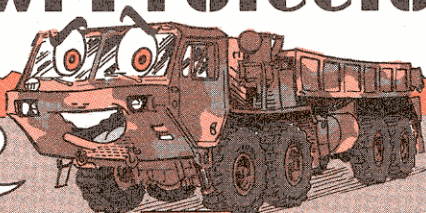


HEMTT . . .

Add Bowl Protector

GROUND MOBILITY

A WELL PROTECTED FUEL BOWL HAS MADE ME A HAPPIER HEMTT.



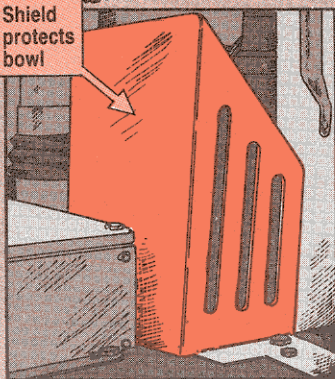
A ready-made fuel bowl shield for the water separator is available for your HEMTT. The shield protects the plastic bowl from rocks, feet and other destroyers.

If your HEMTT came with a shield, you can get a replacement with NSN 2540-01-383-2252.

No shield? Add one by drilling three $\frac{3}{8}$ -in holes in the fender.

To complete the job, you need three capscrews, NSN 5305-00-269-3211, three lock washers, NSN 5310-00-637-9541, and three nuts, NSN 5310-00-655-9544.

Shield protects bowl



M978 HEMTT Tanker . . .

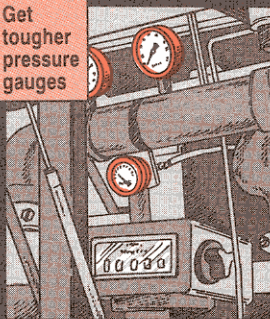
Get Tougher Gauges

If you're having trouble keeping fragile fuel pressure gauges on the job, mechanics, replace them. Ask for the new, tougher models.

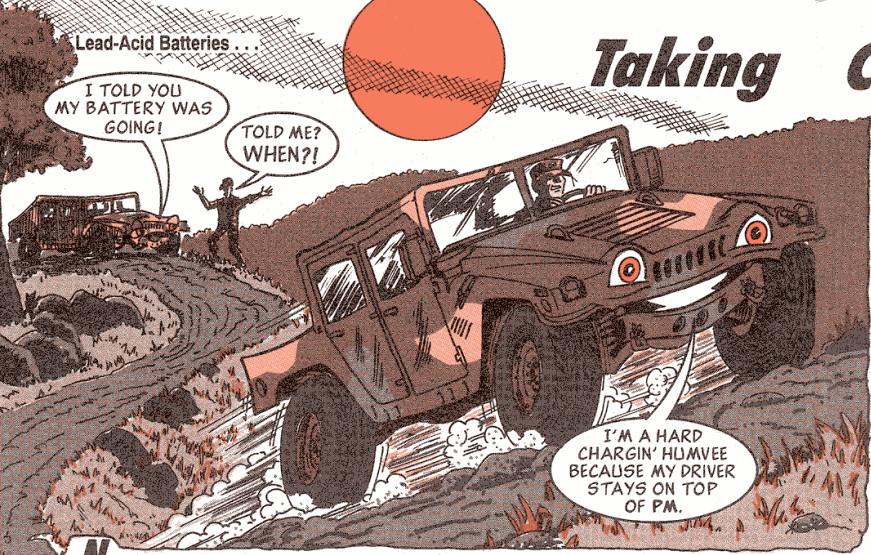
The new line and nozzle pressure gauges both are NSN 6685-01-382-7314. They are shown as Item 2 in Fig 299 of TM 9-2320-279-20P.

The differential pressure gauge is NSN 6685-01-362-4272. The gauge is shown as Item 12 in the same figure.

Get tougher pressure gauges



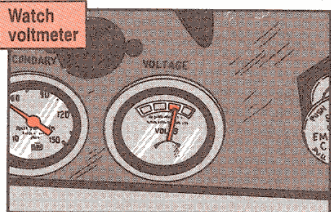
Taking Charge of PM



Nobody has a better idea of the daily condition of the battery in your vehicle than you, the operator.

Most vehicles have either a voltmeter or BAT-GEN indicator. By watching this gauge you can get a good picture of the shape the batteries are in. The gauge tips you off to trouble, so you can tip off your mechanic that the batteries need a maintenance going-over.

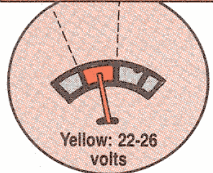
Before you take these readings, turn off all electricity users. Then, it's just the battery and your alternator showing up on the gauge.



Condition Is Color Coded

Watch the gauge when you turn the switch ON and before you crank up the engine. The gauge should hang in the yellow section, or between 22–26 volts. If the needle goes into the red to the left of the meter, your batteries are weak, defective, need charging or there's a short in the system.

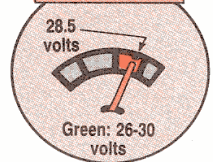
Charge OK to start engine



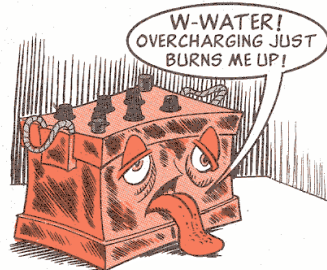
Now, crank up the engine. If the needle hangs to the left after you've started the engine, one battery could have a bad cell.

After the engine starts, run it at fast idle—about 1,500 RPM. The battery charging system's working OK if the needle settles at about 28.5 volts, shown by the notch in the green section.

Correct charging



Overcharging

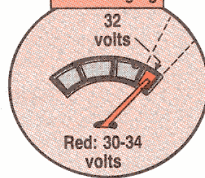


Overcharging's the culprit when the needle hangs in the right (red) part of the gauge.

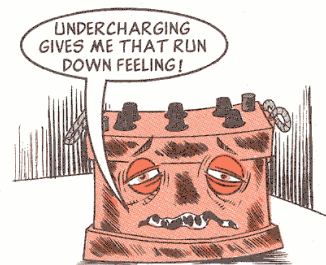
High voltage means water will boil out of the batteries and the plates inside can be damaged. (Another clue to overcharging is a battery that often needs water.)

If the gauge shows a high rate of charge when the engine's been running for 30 minutes, there's a good chance the battery's being cooked to death.

Overcharging



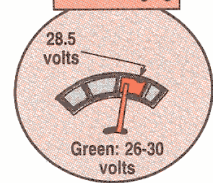
Undercharging



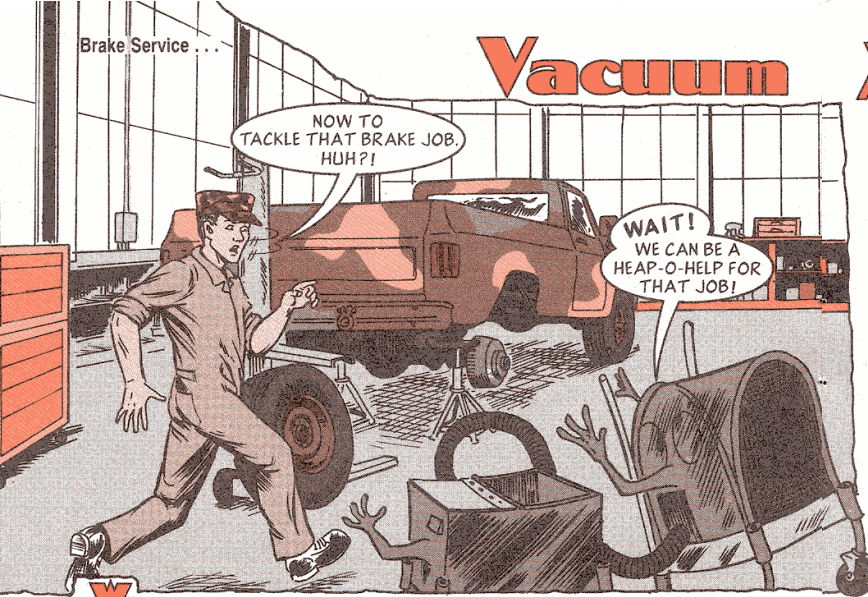
Undercharging is the villain when the needle settles well below that 28.5 volt mark, even though it's still in the green.

Have any of these problems? Get your mechanic to check out the charging system.

Undercharging



Vacuum Away Asbestos



Working on brakes can be dangerous to your health. Many pads still contain asbestos.

Asbestos dust can cause shortness of breath, lung disease, asbestosis and cancer. You usually can't tell which pads have asbestos, so figure they all do.

Each time you apply the brakes, millions of tiny asbestos fibers are ground off brake pads and linings. These fibers — dust — settle on and around brake parts.

Compressed air used to clean drums will blow some 16 million of these fibers around your face. Even hitting the brake drum with one stroke of a hammer fills the air with a million fibers.

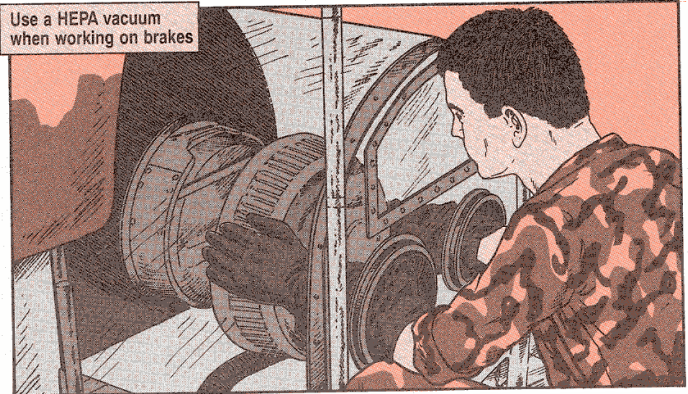
While a wet method — either solvent wash or soap and water — may wash off most of the fibers, millions of fibers will still be lying around the shop.

A High Efficiency Particulate Air (HEPA) vacuum cleaner is the best defense against asbestos. It safely captures asbestos dust knocked free from the hub and brakes. If you have a HEPA, use it.

If you don't have one, order one with NSN 7910-01-292-0009. This brings a vacuum and an enclosure big enough for the CUCV and smaller admin vehicles. NSN 7910-01-338-3327 brings the vacuum and an enclosure for vehicles 2 1/2-tons and larger. In the REMARKS block of your request, note that the "NSN is not on the AMDF."

You can order the larger enclosure separately (the vacuum works with both) with CAGE OC1P4 PN BCE-700. Use RIC GSA on your DD Form 1348-6.

Use a HEPA vacuum when working on brakes



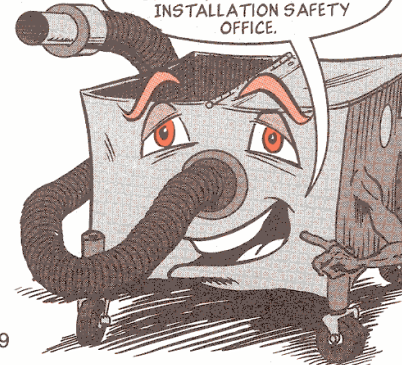
If you're caught in the field without a HEPA and you have to change brake pads, you can spray the area with cleaning solvent. NSN 7930-01-331-1507 brings a 32-oz spray bottle of all-purpose cleaning solvent.

If you're going to re-use the shoes, forget the solvent., Use soapy water from a spray bottle instead.

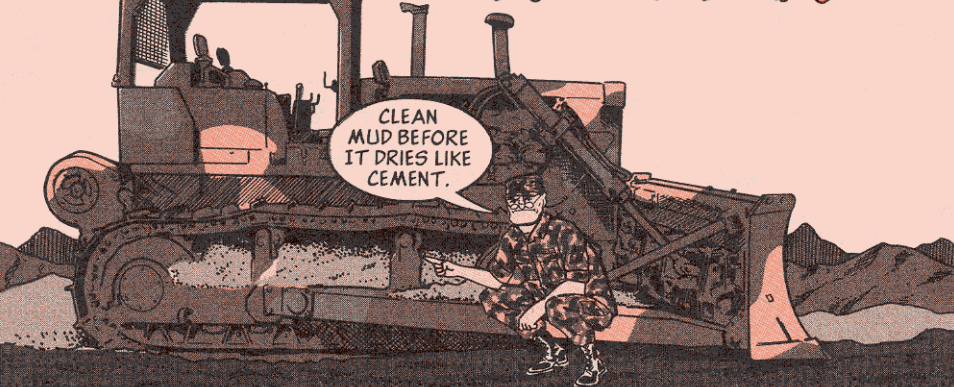
Spray the area until it's wet. Stay far enough away so the spray doesn't disturb the dust. Never spray the area with an air hose. That'll kick dust — and asbestos — into the air.

Once the area is wet, wipe it with a rag or paper towel. Collect the towels in their own container. Have your supervisor contact the local environmental coordinator for instructions on disposal. Coordinators are usually part of your Directorate of Engineering.

FOR MORE INFORMATION ON ASBESTOS SAFETY, CONTACT YOUR INSTALLATION SAFETY OFFICE.



Caked Mud's a Dud



Operators, the track on your CAT tractor dozer needs a little housekeeping after a day's run in wet soil and mud.

That's because caked mud dries like cement on the rollers. The track drags over the rollers because they won't turn like they're supposed to.

So-o-o-o, at the end of every work day, before you go for your shower, wash away any mud on the rollers. Dig out any caked or dried dirt and rocks.

While you're cleaning up, look for loose bolts, leaking seals, oil on the roller and uneven track wear. Report bum parts or anything that needs adjusting.

Transmission Blues

You're working that dozer hard and fast. Rugged terrain is starting to shape up. You've just pushed a load of earth out of the way, and now you want to hurry back for another load. Slam those gears in reverse and move out. Hear that mournful whine? That's your transmission singing the blues. Every time you shift in or out of reverse without reducing engine speed, you're putting unnecessary strain on your transmission. And that's bound to shorten its life. Here's how to change your tune so YOU won't end up singing the blues:

While your CAT's still on the move, push down the decelerator pedal. That slows down engine speed without changing the governor control setting. Stop your CAT dead in its tracks. Shift in or out of reverse. Ease up on the decelerator pedal to speed up the engine and return it to the governor control setting.

Keep Axle Fittings Fit

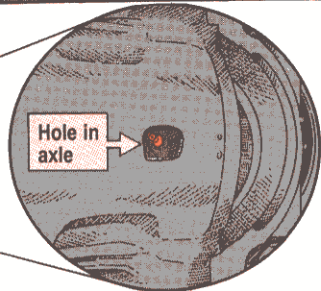
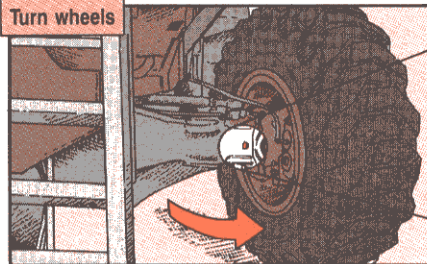
Most times the four steering knuckle lube fittings on the 6K forklift's universal joints are not lubed. That's because they're hard to get to. No lube causes needle bearings in the U-joints to dry out and burn up.

Here's how to lube the fittings:

For the left front and rear fittings —

- ◆ Turn the wheels all the way to the left.
- ◆ Get a fellow mechanic to help.
- ◆ Slowly move the forklift forward until your helper can see the lube fittings through the hole in the axle. You may have to move again to get both the front and rear axle fittings.

THERE'S A
QUICKER, EASIER WAY
TO LUBE FITTINGS!



- ◆ Then give each fitting four to five pumps from the hand-operated grease gun. Do the same for the right front and rear fittings, only turn the wheels all the way to the right this time.

Lubing will keep those bearings fit.

Timing and Headspacing Are Everything

Soldiers who don't take the time to time and headspace their M2 machine guns — before firing — risk running out of time on this earth.

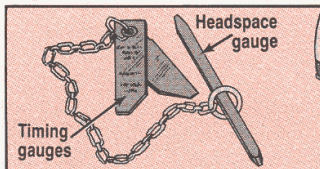
Every year M2s explode because gunners didn't headspace and time.

Don't take that risk. Use your head and take the time to do these checks and steps EVERY TIME before you fire:

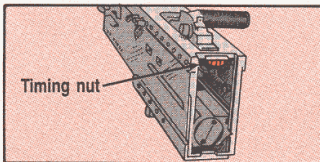
Before PMCS

If your M2's in bad shape, it won't hold headspacing. Before you go to the field, check:

● **GAUGES.** If the headspace and timing gauges are bent, rusted or pitted, you won't be able to headspace and time accurately. Get new gauges from your armorer.



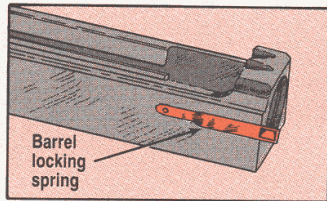
● **TIMING nut.** If the timing nut in the receiver can be moved with one finger or it doesn't click as you do the timing, its spring is weak and it won't hold timing. Tell your armorer.



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● **BARREL locking spring.** If the spring is weak, the barrel turns during firing and headspace is lost. If you hear no clicks as you screw in the barrel, the spring's weak. Your armorer can stake a weak spring.



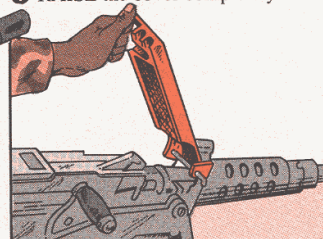
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JUL 94

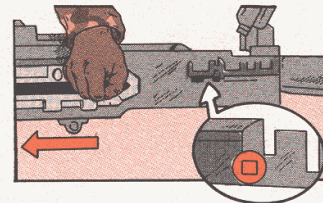
Headspacing and Timing

Remember, you **MUST** set the headspace and time your M2 before firing, after changing the barrel, and after moving it. Here's how:

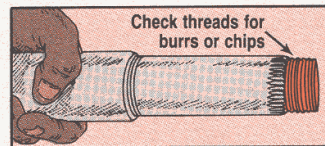
❶ **RAISE** the cover completely.



❷ **PULL** the charging handle back until the bolt is far enough back that the barrel-locking spring lug is aligned with the 3/8-in hole on the right side of the receiver.



● **BARREL** and barrel extension threads. If the threads are chipped and burred, screwing in the barrel will be a pain — and you may think you have the barrel screwed in when you don't. Result: incorrect headspace. Your armorer may be able to stone smooth chips and burrs.



PS 500

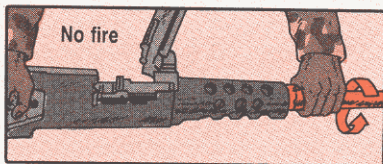
The easiest way to keep the bolt back is to insert the small loop of an M2 ammo link between the trunnion block and barrel extension.

Ammo link



13

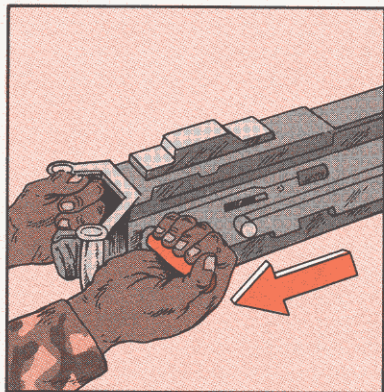
- 3** SCREW the barrel all the way into the barrel extension.



- 4** UNSCREW the barrel two clicks. Let the bolt go forward.

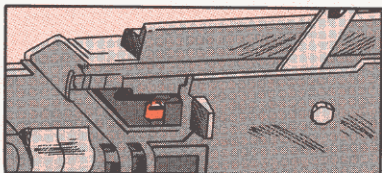
TEST: Try to turn the barrel in either direction. If it turns, don't fire. Tell your armorer and try another barrel.

- 5** COCK the M2 by pulling the charging handle and bolt all the way to the rear.

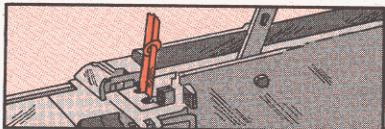


- 6** EASE the bolt forward. Do not press the trigger.

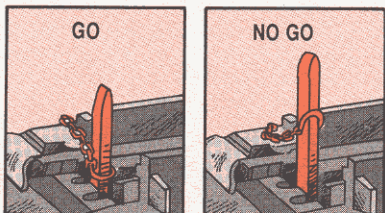
- 7** SEPARATE the barrel extension from the trunnion block by $\frac{1}{16}$ inch with the charging handle.



- 8** RAISE the extractor and insert the GO/NO GO gauge. Hold the charging handle back to keep the $\frac{1}{16}$ -in separation.



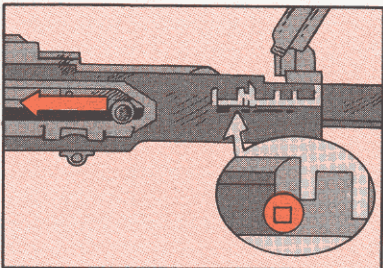
If the GO end goes down the T-slot to the center ring of the gauge and NO GO end will not go in, headspace is OK.



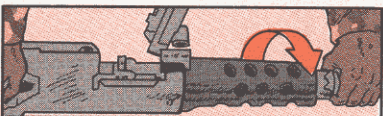
Headspace Too Tight

If the GO end won't fit, headspace is too tight. Do this:

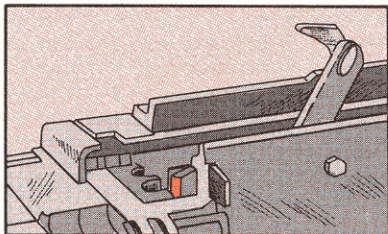
- 1** PULL back the bolt until the barrel-locking spring lug is centered in the receiver $\frac{3}{8}$ -in hole.



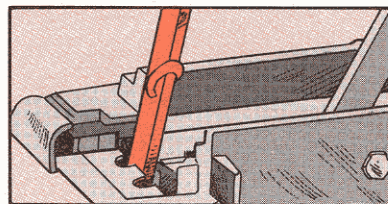
- 2** Unscrew the barrel one click.



- 3 Ease the bolt forward.
- 4 Separate the barrel extension from the trunnion block $\frac{1}{16}$ inch.



- 5 Insert the GO/NO GO gauge again.



If the GO end fits and the NO GO doesn't, headspace is OK. If the GO end still won't fit, repeat these five steps until it does.

Do not unscrew the barrel more than five clicks in steps 1-5 beyond the first two clicks (seven total). If you have to go beyond that, tell your armorer.

Headspace Too Loose

If the NO GO end fits, headspace is too loose. Correct loose headspace by doing the same five steps used for too tight headspace. But instead of unscrewing the barrel one click, screw it in one click.



Repeat the five steps until GO fits and NO GO doesn't.



Timing

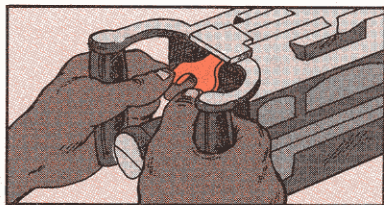
After the headspace is right, it's time for timing:

① Pull the bolt all the way back to cock the gun. Then ease it forward.

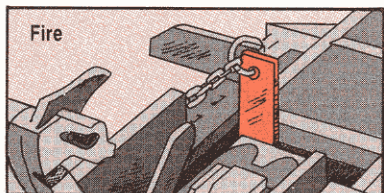
② Pull the bolt back far enough to insert the NO FIRE gauge between the barrel extension and trunnion block. Slowly release the charging handle. Insert the beveled edge of the timing gauge against the barrel notches.



③ Trip the trigger. If the M2 won't fire, go to the next step. If it does fire, you've got early timing.



④ Pull the bolt back just far enough to remove the NO FIRE gauge and insert the FIRE gauge. Slowly release the charging handle.



⑤ Trip the trigger. If the M2 fires, timing's OK. If it doesn't fire, timing's late.

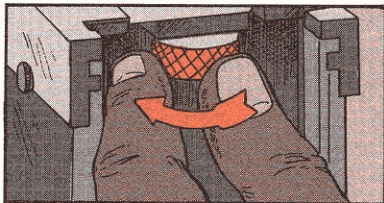
Early/Late Timing

NEVER COCK YOUR M2 WITH THE BACK PLATE OFF. The driving rod spring can turn you into a pin cushion. The bolt must be forward before the back plate's removed.

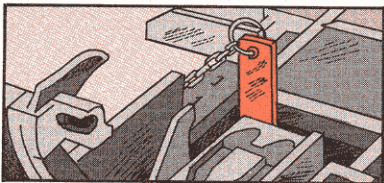
① Remove the gauge. Cock your M2. Ease the bolt forward.

② Remove the back plate.

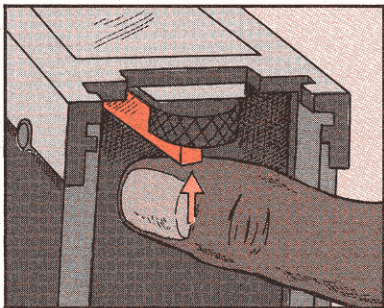
③ Turn the timing nut all the way down to the left.



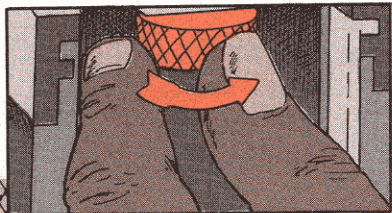
④ Pull the bolt back just enough to insert the FIRE gauge. Slowly release the charging handle.



⑤ Push up on the trigger bar. Your gun shouldn't fire.



6 Turn the timing adjustment nut to the right one click. Push up on the trigger bar. Continue to turn the timing adjustment nut right one click at a time. Push the trigger bar after each click until the gun fires.



7 After the gun fires, turn the nut to the right two more clicks. Stop.

8 Remove the gauge. Put on the back plate. Cock the gun. Ease the bolt forward.

9 With the back plate on, recheck the timing twice more. If the timing's still not right, do the early/late timing one more time.

If that doesn't correct the timing, tell your armorer. Something's wrong.

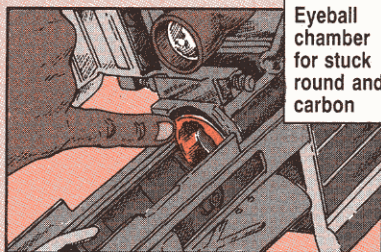
ARMORERS, IT WOULD BE A GOOD IDEA TO MAKE COPIES OF THIS ARTICLE AND GIVE IT TO YOUR GUNNERS FOR FUTURE REFERENCE. IT MAY SAVE LOTS OF YOUR TIME AND M2s LATER.

THANKS FOR THE TIPS, SERGEANT!

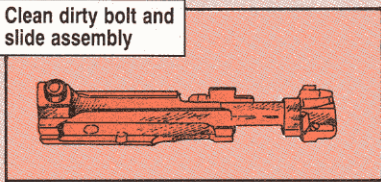
Cure to Bad Extracting

If your M249 machine gun just doesn't seem to want to extract, you can often cure the problem yourself. Before you call your armorer, check for:

- © A stuck cartridge case in the chamber. Remove a stuck cartridge case with a cleaning rod, like it says in TM 9-1005-201-10.
- © A dirty chamber or bolt and slide assembly. Clean them.

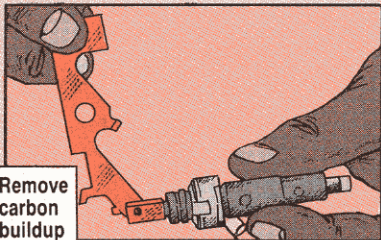


Eyeball chamber for stuck round and carbon

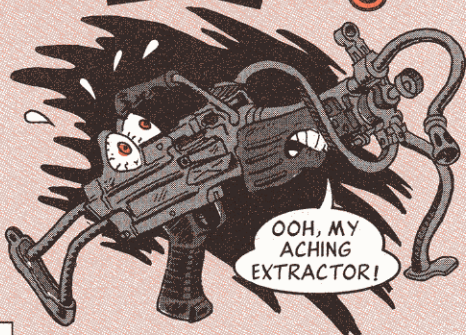


Clean dirty bolt and slide assembly

- © Carbon buildup in the gas system. Clean it.



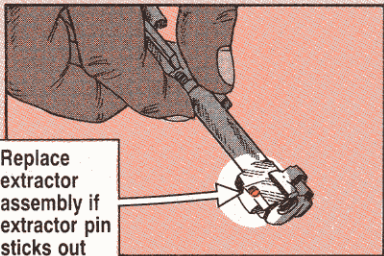
Remove carbon buildup



If your M249 is still ailing, tell your armorer. He needs to inspect the bolt for damage.

Extractor Kit

Armorer, pay special attention to the extractor pin. If it's sticking out, replace the extractor, extractor pin, extractor spring, and guide pin. And replace them — including the extractor — anytime you disassemble the bolt to prevent future extractor problems. Pages 2-22 through 2-25 in TM 9-1005-201-23&P tell how.



Replace extractor assembly if extractor pin sticks out

All four parts come with the extractor parts kit, which you can now order with NSN 1005-01-383-0168.

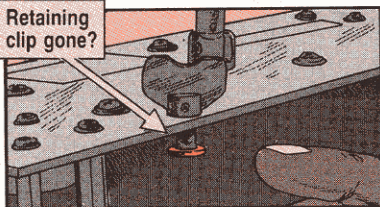
Keeping Fasteners **FAST**

Dear Editor,

Lots of TOWs have to be called NMC because the missile guidance set battery has fewer than four wing fasteners.

The fasteners don't stick around long because their retaining clips snap off when TOW crews jerk the battery out of the MGS without fully unscrewing the fastener. Without the clip, the fastener vibrates out and disappears.

Retaining clip gone?



We've held fast to fasteners by checking for the retaining clips when TOWs come back from the field. If a clip is missing, we get replacements, NSN 5365-00-298-6564. Support may have some if you don't. The wing fastener retaining clip is the same clip used on the pins for the azimuth and elevation covers for the daysight. You can put on the clip with pliers.

If you can't find clips, ask your armorer to wrap lock wire around the fastener where the clip would normally be. He should cut off the wire's end as close to the fastener as possible so nobody gets poked in the finger.

SGT Brian Kelly
Ft Polk, LA.

FROM THE DESK OF THE

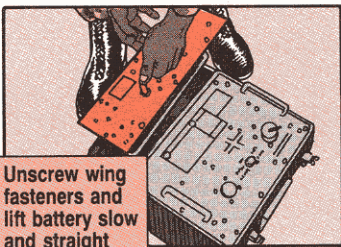


Your wing fastener suggestions are good ones to fasten onto.

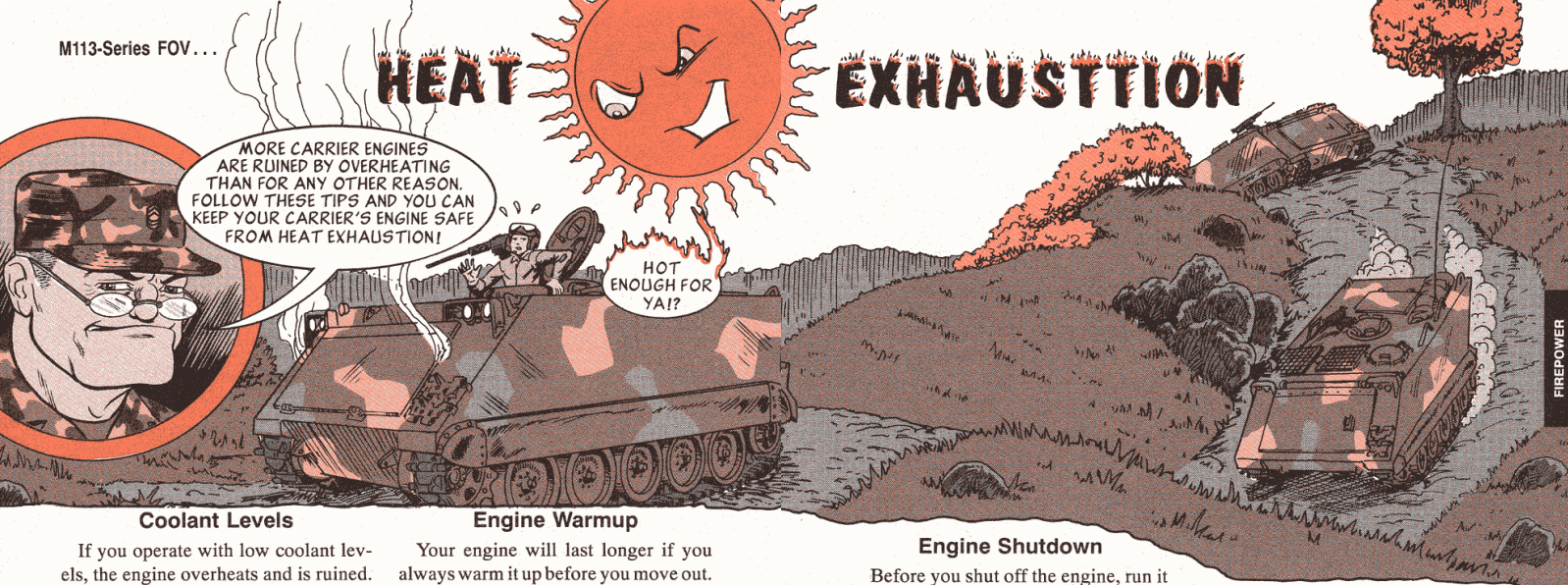
It will also help if you tell your TOWsters to make sure they completely unscrew all the wing fasteners before they pull out the battery. And they should slowly lift the battery straight up and not jerk it out. If they feel resistance, they need to check the fasteners again. That will save most fasteners.

You can order extra wing fasteners with NSN 5325-01-148-8601, which gets 25 for around \$20.

Unscrew wing fasteners and lift battery slow and straight



HEAT EXHAUSTION

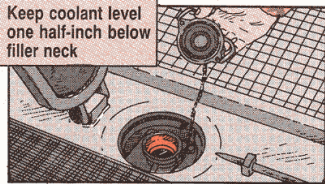


Coolant Levels

If you operate with low coolant levels, the engine overheats and is ruined. Take a look at the coolant level daily before operation. Be sure coolant is at the bottom of the radiator filler neck (for the M113A1 family) or within 1/2 inch of the auxiliary tank filler neck (for the M113A2/A3 family). Keep the level up at ALL times.

If you have to add more than two quarts of coolant at one time, have your mechanic give the system a complete inspection for leaks.

Keep coolant level one half-inch below filler neck

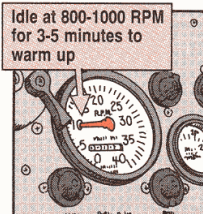


Engine Warmup

Your engine will last longer if you always warm it up before you move out. Oil drains out of bearings when the engine is at rest. You need to give the oil time to circulate before you move your carrier.

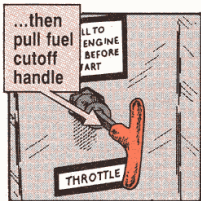
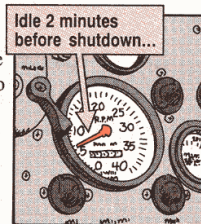
After you start the engine, set the hand throttle and run the engine at 800–1,000 RPM for at least three to five minutes to warm up the coolant and the engine oil.

A normal idle of 650–700 RPM is too low. That will cause carbon to build up around the valves and in the cylinders. Low idling also contributes to diesel slobber.



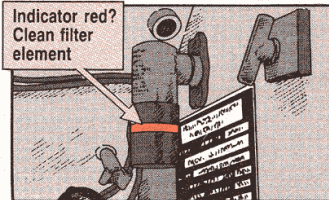
Engine Shutdown

Before you shut off the engine, run it in neutral at about 1,000 RPM for two minutes or so to cool it down. At the end of the two minutes, set the engine back to idle (650–700 RPM) and check the instrument panel for normal readings. Then, if everything is OK, pull the fuel cut-off all the way out.



Air Cleaner

Your engine will lose power and overheat if the air cleaner element is choked with dirt. If your carrier has an air cleaner restriction indicator and it shows only red in the window, clean the element. If your vehicle has no indicator, open the housing latches and check the filter often. Clean the element when and how your TM says.



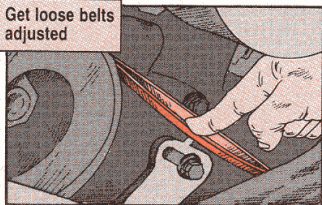
V-Belts

The V-belts for the fan drive and the coolant pump can contribute to engine overheating, too.

When the belts get too loose, the fan and the coolant pump are not operating fast enough to keep the engine from overheating.

Check the coolant pump belt by pushing in on it halfway between the pulleys. If you can push it in more than $\frac{3}{8}$ inch for the M113A1/A2 or $\frac{1}{2}$ inch for the M113A3, get your mechanic to adjust it.

Get loose belts adjusted



Check the fan drive belt at the idler. If the adjuster rod is not between the operating range marks, tell your mechanic.

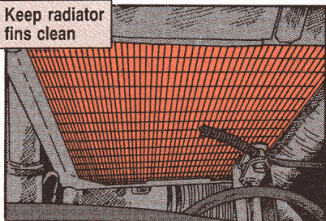
If you use protective covers over the grilles, make sure they're rolled up and strapped in place before you operate your vehicle.

LET THOSE PM TIPS HELP YOUR VEHICLES BEAT THE HEAT!

Radiator Fins

Your radiator can't do a good job of conducting heat if its fins are clogged with dirt, oil, leaves, grass or twigs.

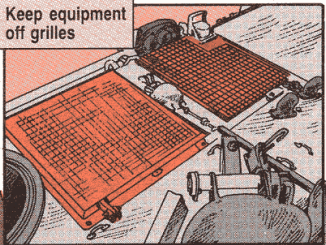
Keep radiator fins clean



Anything that restricts the air from moving through the radiator keeps the coolant hot and overheats the engine.

Keep your equipment — packs, water cans, poles, etc. — off both the air intake and the air exhaust grilles. Make sure both are clean and free of dirt, twigs, leaves and other foreign matter.

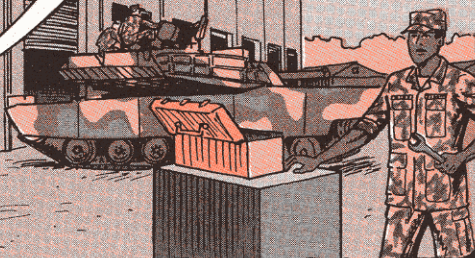
Keep equipment off grilles



GOOD NEWS 'N BAD NEWS



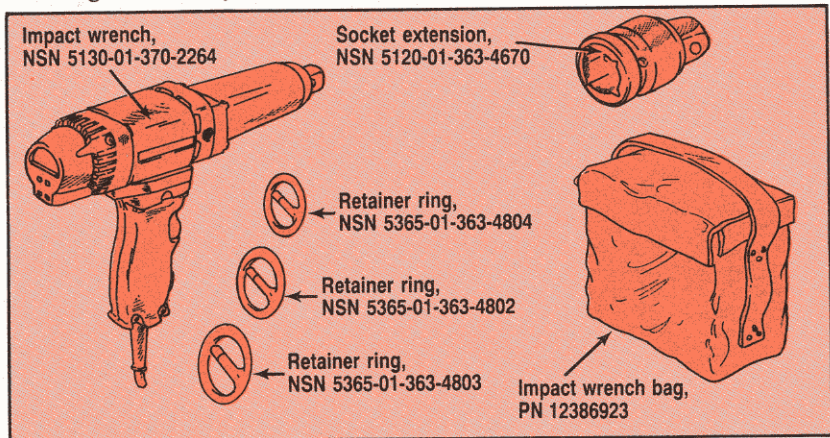
CREWMEN, I'VE GOT SOME GOOD NEWS AND SOME BAD NEWS FOR YOU.



FIREPOWER

The bad news is there's no component listing for the electric impact wrench kit, NSN 5130-01-363-0964, in Appendix B (Basic Issue Items) of either TM 9-2350-255-10-2 or TM 9-2350-264-10-2. That makes the kit tough to inventory.

The good news is you can find the list right here:



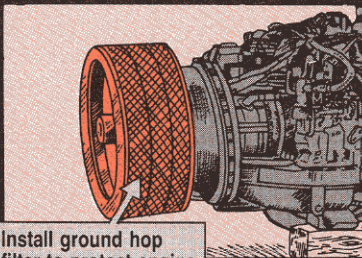
Even after the TMs are updated, you won't find the components listed in any of the -10-2 manuals. Instead, look for the list in the -24P-1 manuals.

Although it's not listed in TM 9-2350-288-10-2 yet, the impact wrench kit is also authorized for the M1A2 tank.

Don't Forget the Filter

Whenever you pull an M1 power-pack for maintenance and run-up, remember to use the ground hop filter.

It takes the place of the tank's air filters. Without the ground hop filter, the engine sucks in dirt, dust, sand and whatever else is handy. That will damage or even kill the engine.



Install ground hop filter to protect engine

CVC Helmet . . .

CLIP TIP

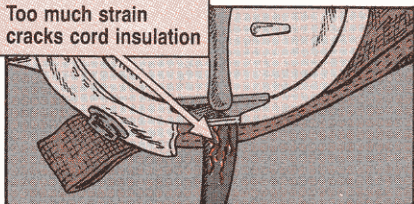


FASTEN THE CLIP TO YOUR POCKET OR COLLAR.

Clothes clip. The name says it all. That little clip on the headset cord of your CVC helmet is meant to clamp to your uniform. Once fastened to your pocket or collar, it keeps the upper and lower cord assemblies out of the way while you go about your job.

Never attach the clothes clip to your vehicle's bulkhead or to other cables. You'll end up with too little slack in the headset cord. That puts a strain on the cord at the earcup connection and at the clothes clip. Sooner or later the cord insulation cracks or the delicate wiring inside breaks. So much for your communications.

Too much strain cracks cord insulation

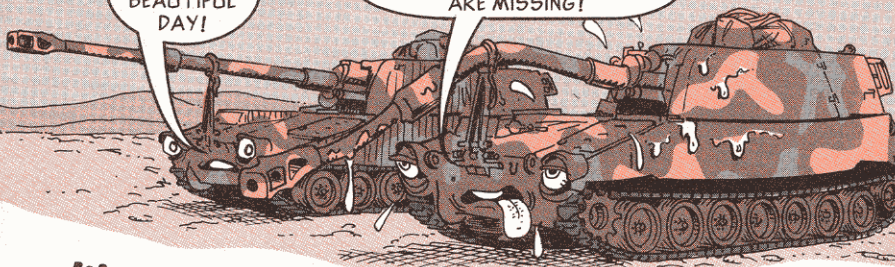


If you need a replacement clothes clip, order it with NSN 5340-00-134-3846.

Radiator Seals ARE Vital

WHY SO HOT? IT'S A BEAUTIFUL DAY!

I'M BURNING UP! SOME OF MY RADIATOR SEALS ARE MISSING!



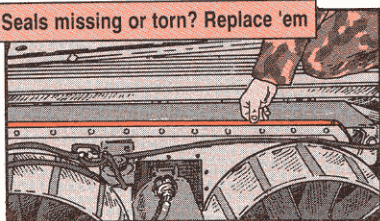
FIREPOWER

Mechanics, if you think the radiator shroud seals on M109-series howitzers are there just to cushion the radiator from the fan tower, think again.

The seals form an air barrier between the radiator and fan tower that increases air flow through the radiator. If seals are missing, torn, mushed or mangled, cooling air escapes around the sides of the radiator. Engine temperature goes up.

eyeball the shroud seals next time the pack's out. If the seals are missing or torn, put in new ones. NSN 5330-00-102-9927 gets seals for the right and left sides, and NSN 5330-00-899-5220 gets the top and bottom seals.

Seals missing or torn? Replace 'em



M109-Series SP Howitzers, M992-Series Ammo Carriers . . .

A Real Steel Wheel

A steel road wheel is now available for all M109-series SP howitzers and M992-series ammo carriers.

Steel road wheels, NSN 2530-01-310-2237, have a longer life than aluminum road wheels.

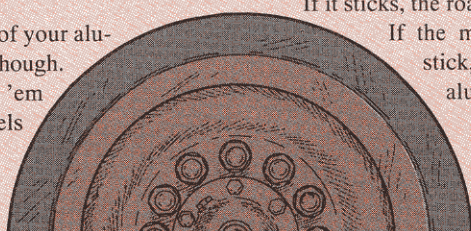
Don't get rid of your aluminum wheels, though. You can mix 'em with steel wheels

on the same vehicle as long as you keep two of the same kind — two aluminum or two steel — on each road wheel arm.

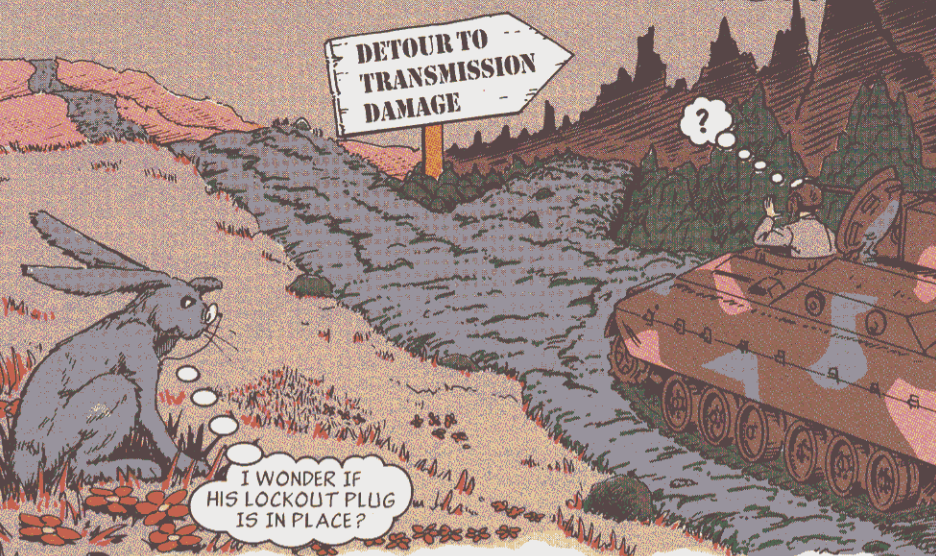
Both wheels are identical except for weight. Use a magnet to tell them apart.

If it sticks, the road wheel is steel.

If the magnet does not stick, you've got an aluminum one.



KEEP TO THE MAIN ROAD



Drivers, you're on the road to transmission damage if your Bradley or the TOW START lockout plug on your Bradley or MLRS is not in place.

Without the plug, it's easy to accidentally shift into TOW START or TOW while your vehicle's moving. That's a sure way to trash a transmission.

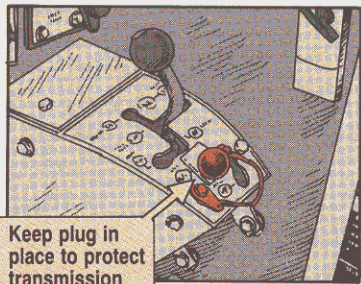
Keep your vehicle headed in the right direction by using the plug whenever you operate the vehicle. If it's missing, have your mechanic order a new plug with NSN 5340-01-198-0507.

If the plug's lanyard is gone, it won't be long before the plug turns up missing, too. Get your mechanic to put in a new plug assembly.

If you have a lot of Bradleys with missing lanyards, it may be less expensive in the long run to make your own.

Just take a 9-in piece of nylon cord and crimp a terminal ring, NSN 5940-00-143-4794, to each end. NSN 4020-00-245-0688 gets you 400 yards of cord.

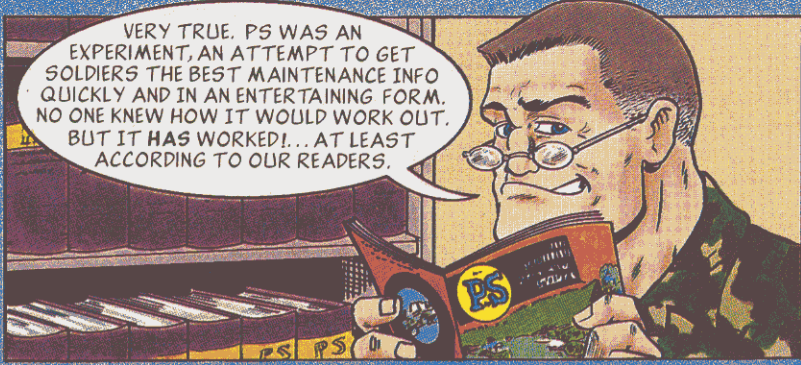
This fix will cost around \$54, but you get enough materials to fix at least 50 Bradleys.



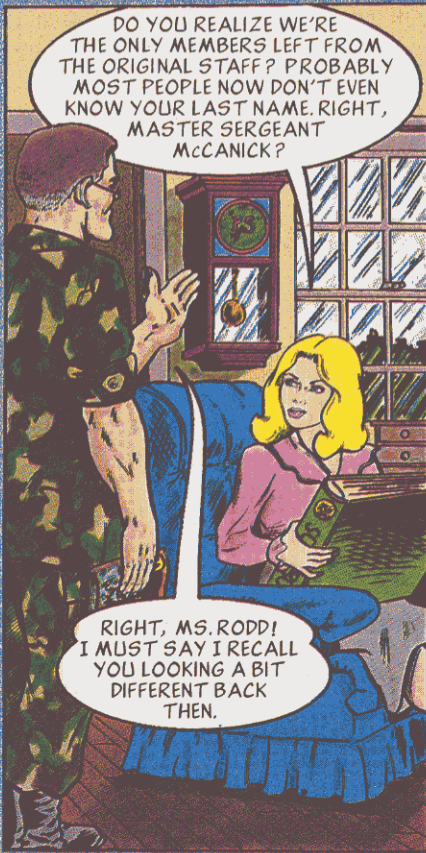
500

AND STILL GOING STRONG!




A man with glasses and a military uniform is sitting at a desk, reading a magazine. The magazine has a yellow circle with 'PS' on it. Behind him are shelves filled with magazines, some labeled 'PS'.

VERY TRUE. PS WAS AN EXPERIMENT, AN ATTEMPT TO GET SOLDIERS THE BEST MAINTENANCE INFO QUICKLY AND IN AN ENTERTAINING FORM. NO ONE KNEW HOW IT WOULD WORK OUT. BUT IT HAS WORKED!... AT LEAST ACCORDING TO OUR READERS.

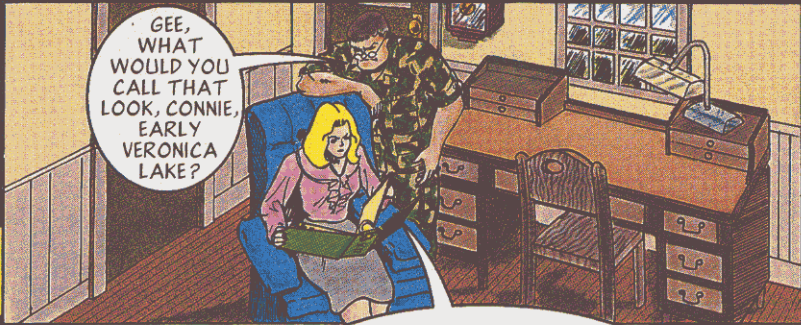
A man in a military uniform is standing and talking to a woman with blonde hair who is sitting in a blue armchair. She is holding a green book. In the background, there is a window and a small cabinet with a 'PS' logo on it.

DO YOU REALIZE WE'RE THE ONLY MEMBERS LEFT FROM THE ORIGINAL STAFF? PROBABLY MOST PEOPLE NOW DON'T EVEN KNOW YOUR LAST NAME. RIGHT, MASTER SERGEANT MCCANICK?


RIGHT, MS. RODDI! I MUST SAY I RECALL YOU LOOKING A BIT DIFFERENT BACK THEN.

A woman with blonde hair is sitting in a blue armchair, reading a green book. The book has 'PS SCRAPBOOK' written on the cover.

WELL, IT WAS 40 YEARS AGO. I DID BRING MY SCRAPBOOK. WHY DON'T WE TAKE A QUICK HIKE DOWN MEMORY LANE?



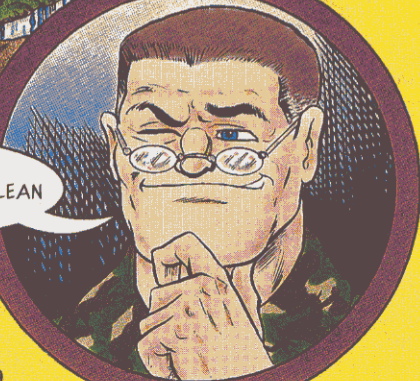
GEE, WHAT WOULD YOU CALL THAT LOOK, CONNIE, EARLY VERONICA LAKE?



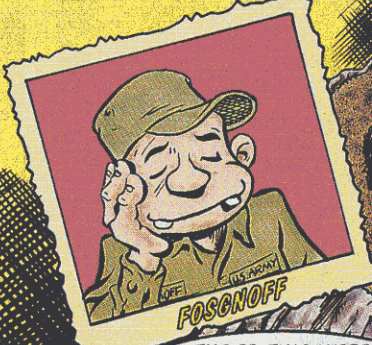
WHAT ABOUT YOU? YOU USED TO BE SHORT AND STOUT—SHORTER THAN ME AS A MATTER OF FACT. HOW'D YOU END UP TALLER?



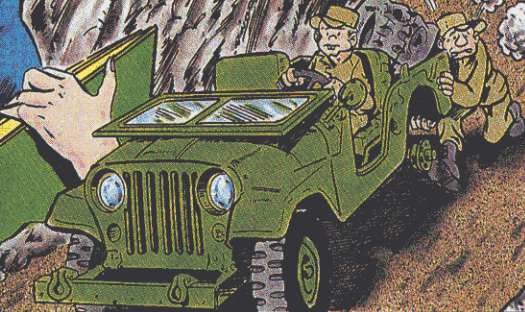
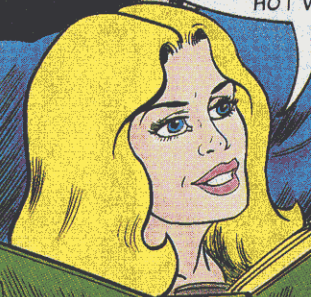
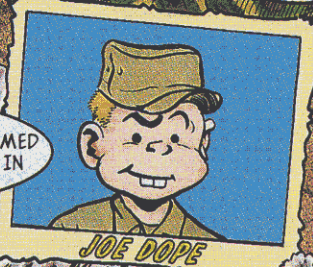
CLEAN LIVING, CONNIE, CLEAN LIVING.



HEY, HERE ARE TWO GUYS FROM THE '50s, PRIVATE FOSGNOFF AND PRIVATE JOE DOPE.



THOSE TWO WERE REAL CHARACTERS. IT SEEMED LIKE THEY WERE ALWAYS IN HOT WATER.



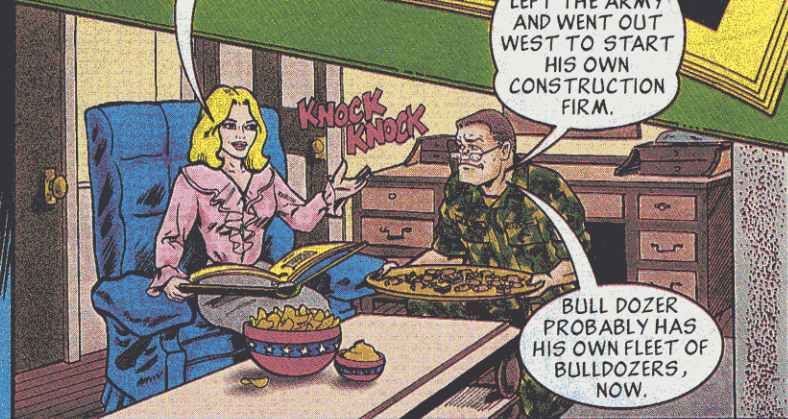
WHAT EVER HAPPENED TO THEM?

WELL, FOSGNOFF LEFT THE ARMY IN '55 AND WENT TO WORK AT HIS COUSIN'S SERVICE STATION IN SOUTH DAKOTA. JOE DOPE WENT CIVILIAN IN '57. LAST I HEARD HE WAS PRETTY HEAVILY INVOLVED IN CATFISH FARMING.



AND THEN THERE WAS SERGEANT BULL DOZER... A MOUNTAIN OF A MAN.

HE WAS OUR CONSTRUCTION EXPERT IN THE '50s. I BELIEVE HE LEFT THE ARMY AND WENT TO START HIS OWN CONSTRUCTION FIRM.



BULL DOZER PROBABLY HAS HIS OWN FLEET OF BULLDOZERS, NOW.

GLAD YOU ALL COULD MAKE IT. CONNIE AND I HAVE JUST BEEN LOOKING BACK AT SOME OF THE PEOPLE FROM THE EARLY YEARS. WHEN DID YOU COME ON BOARD, WINDY?

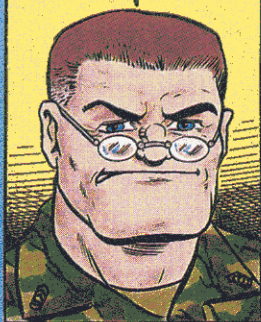


WELL, MOST PEOPLE DON'T REALIZE IT, BUT I APPEARED IN A FEW ISSUES IN THE EARLY '50'S ...



... ALTHOUGH I DIDN'T LOOK MUCH LIKE I DO NOW. I CAME TO STAY IN 1962.

AND THEN BONNIE JOINED THE STAFF.



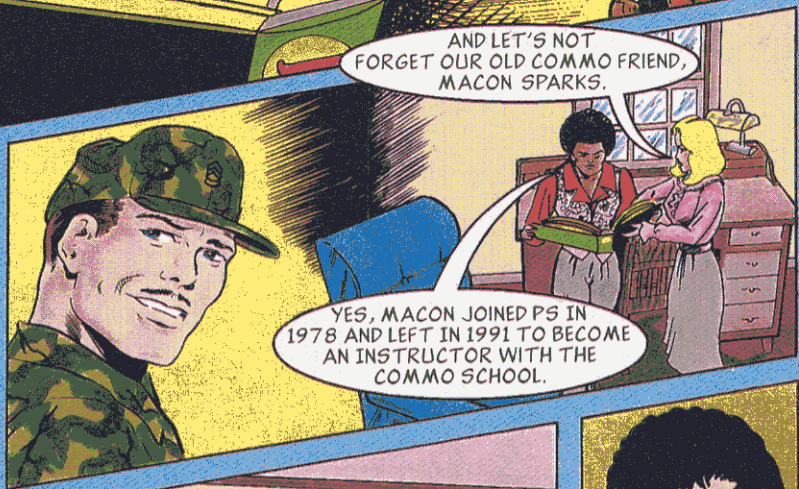
FINALLY, ANOTHER WOMAN.



RIGHT, I SIGNED ON IN 1970.



WHOA!
LOOK AT ALL THAT
HAIR!

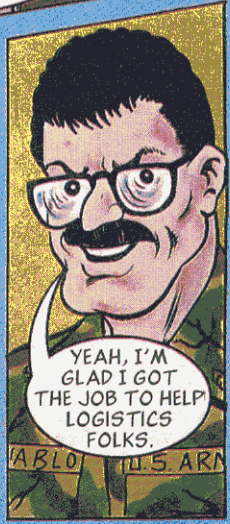


AND LET'S NOT
FORGET OUR OLD COMMO FRIEND,
MACON SPARKS.

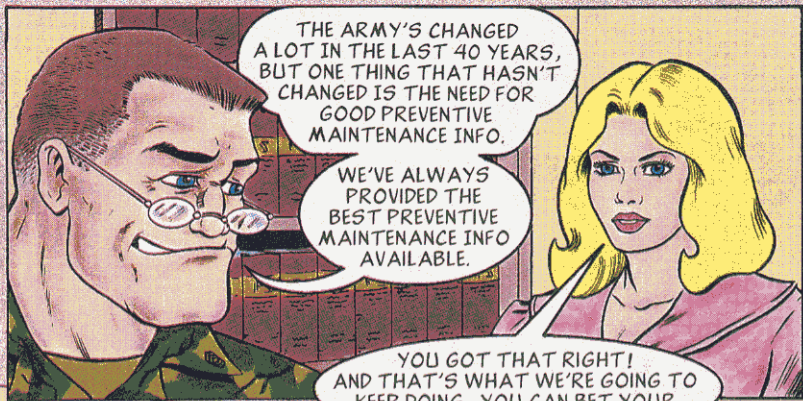
YES, MACON JOINED PS IN
1978 AND LEFT IN 1991 TO BECOME
AN INSTRUCTOR WITH THE
COMMO SCHOOL.



SPEAKING OF WHICH,
LET'S MENTION OUR LOGISTICS GUY,
SERGEANT PABLO HABLO, WHO
JOINED US LAST YEAR!



YEAH, I'M
GLAD I GOT
THE JOB TO HELP
LOGISTICS
FOLKS.



THE ARMY'S CHANGED A LOT IN THE LAST 40 YEARS, BUT ONE THING THAT HASN'T CHANGED IS THE NEED FOR GOOD PREVENTIVE MAINTENANCE INFO.

WE'VE ALWAYS PROVIDED THE BEST PREVENTIVE MAINTENANCE INFO AVAILABLE.

YOU GOT THAT RIGHT! AND THAT'S WHAT WE'RE GOING TO KEEP DOING - YOU CAN BET YOUR PAYCHECK ON IT.

OUR MOTTO WAS, IS AND ALWAYS WILL BE...



WE HAVE THE WORLD'S BEST EQUIPMENT... TAKE CARE OF IT!

Manual Forms to Printouts

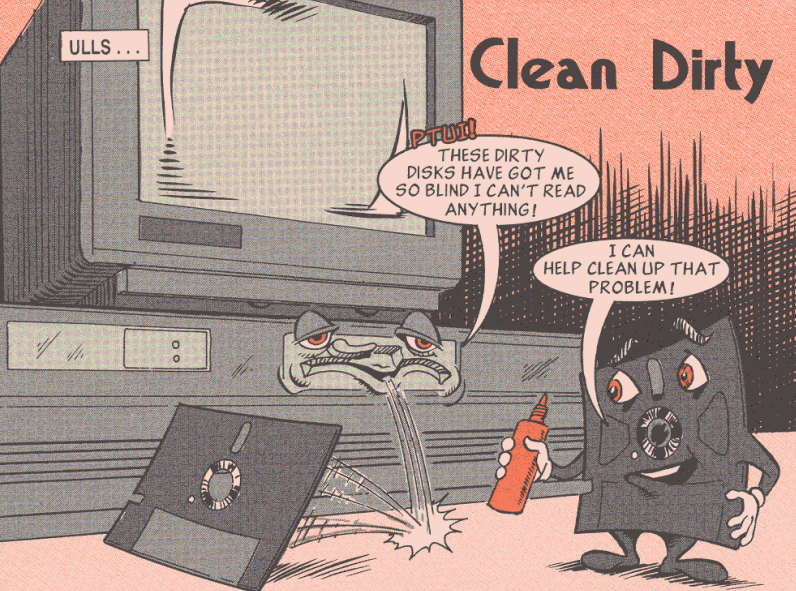
The Unit Level Logistics System-Ground (ULLS-G) automates or replaces portions of The Army Maintenance Management System (TAMMS). The following forms have been automated and the ULLS printouts are authorized replacements:



Manual form	Description	ULLS printout
DA Form 5823	Equipment Identification Card	Information on dispatch printout.
DD Form 1970	Motor Equipment Utilization Report (Alert Dispatch)	DA Form 5987-1-E
DA Form 2401	Organizational Control Record for Equipment (Purge Record)	DA Form 5982-1-E
DD Form 314	Preventive Maintenance Schedule and Record (Front Side Only)	DA Form 5986-E
DA Form 2404	Equipment Inspection and Maintenance Worksheet	DA Form 5988-E
DA Form 2405	Maintenance Request Register	DA Form 5989-E
DA Form 2407	Maintenance Request	DA Form 5990-E
DA Form 2408-14	Uncorrected Fault Record	Eliminated. All information on DA Form 5988-E.
DD Form 2026	Oil Analysis Request	DA Form 5991-E
DA Form 2408-9	Equipment Periodic Usage (Usage only)	DA FORM 5992-E
DA Form 348	Equipment Operator Qualification Record	DA Form 5983 and 5983-1-E
OF 346	US Government Motor Vehicle Operator's Identification Card	DA Form 5984-E
SF Form 46	Operator's Identification Card	DA Form 5984-E

Clean Dirty

Disk Drives



If dirt and dust get on your ULLS computer disks, you'll not be able to read the data saved on them. Dirty disks usually mean dirty disk drives.

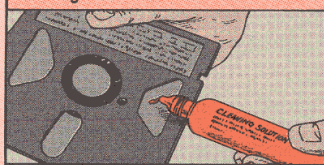
Fight the war against dirt and dust in your ULLS computer's disk drives by keeping them clean. These drives need to be cleaned weekly. However, if your work area is very dusty, you'll need to clean the drives more often.

Since there's no operator TM on the commercial computers used with the ULLS, here's the correct way to clean the ULLS computer disk drives:

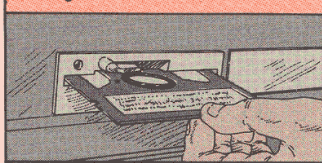
- Turn ON the computer and monitor.
- Press the ESC key after the ULLS logon screen appears. This exits to the DOS prompt.

- Take the cleaning disk and solution from the cleaning kit. If the cleaning disk has tabs that cover the cleaning pad, remove the tabs.
- Read the instructions with the kit for the right amount of solution to use. Do not put solution on the disk while holding it over the keyboard or computer. You could accidentally get solution inside the computer causing it to short out.

- Put the solution on the pads of the cleaning disk.



- Place either the 3.5-in or 5.25-in cleaning disk in the disk drive.



- Engage the read/write heads for about 30 seconds. Do this by keying in "dir.a." or "dir.b." and pressing ENTER. This engages the heads for about 10 seconds.

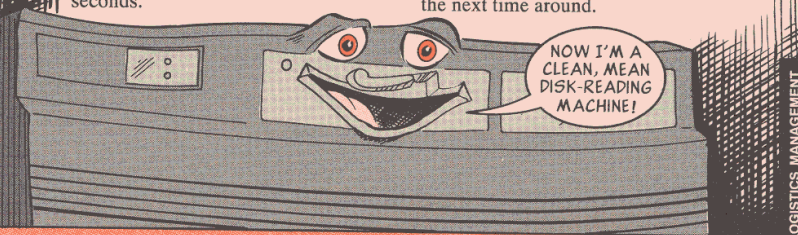
- Press R for retry when you get the error message. This engages the heads for another 10 seconds. The error message reappears.

- Press R once more. This engages the heads for another 10 seconds. That completes the total 30 seconds.

- Press A to abort after the error message reappears for the third time.

- Remove the disk.
- Reboot the system.

Remember, if the disk drive heads are clean, you'll be able to read your records the next time around.

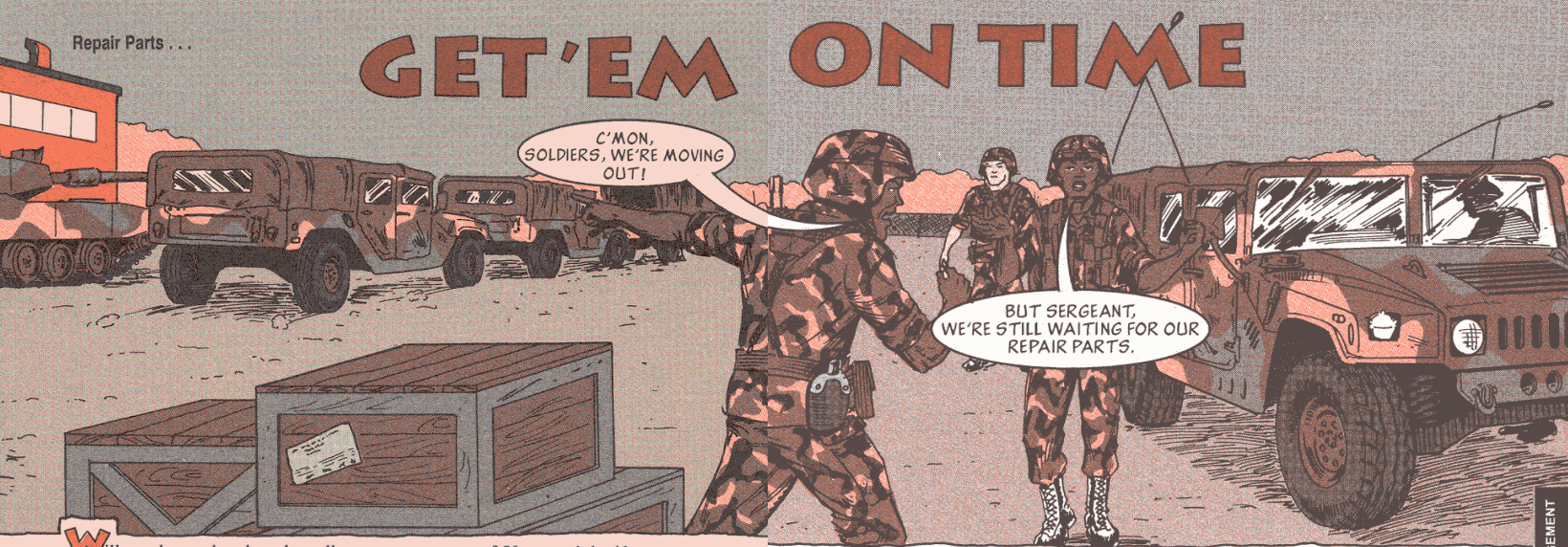


CD Caddy NSN

YOU CAN GET A CADDY FOR YOUR CD WITH NSN 7025-01-341-8878. USE NSN 7045-01-179-2980 TO GET A CD STORAGE BOX.



GET 'EM ON TIME



Will you be ready when the call comes to move out? You won't be if:

- ✓ Your equipment is not mission capable.
- ✓ You think the item will become not mission capable.
- ✓ The standard delivery date (SDD) is later than your deployment date.

If a repair part is all you need to make your gear fully mission capable, you may be closer than you think to a solution.

Just let the supply and transportation folks know your requisition deserves special treatment. Let them know by putting something in the Required Delivery Date (RDD) block of your supply request.

DA Form 2765

SEND TO: _____ REQUEST FROM: _____

5310000122006 EA00002

03999

RDD gets item to your unit faster

The RDD tells the item manager when you need the item, or whether the part is required for an NMCS or an anticipated NMCS end item. Here's how it works:

If the RDD block shows:	Request must have priority:	Use this RDD when:
999	01-03	you're an overseas unit that needs rush delivery or a CONUS unit alerted for deployment within 30 days.
777	01-08	you need expedited delivery for reasons other than RDD 999.
N in first position	01-08	you have a NMC piece of equipment.
E in first position	01-08	you have an anticipated NMC piece of equipment.

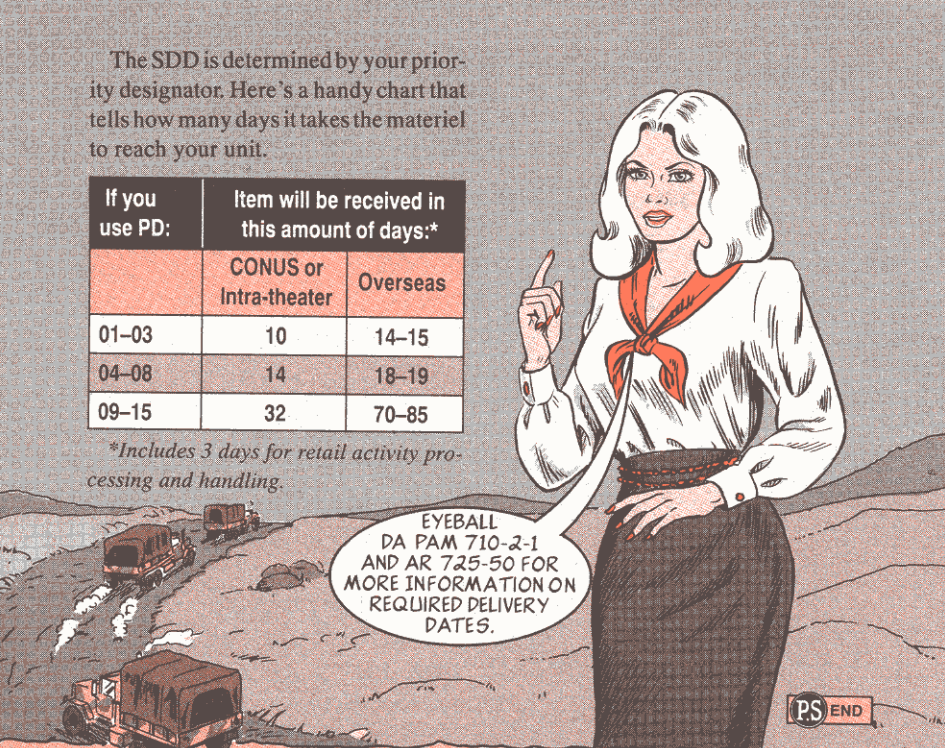
However, that's not all the RDD tells. Once the item has been released, the RDD tells the transportation folks how to ship the item.

If the RDD is blank, your requisition is shipped using the standard delivery SDD.

The SDD is determined by your priority designator. Here's a handy chart that tells how many days it takes the materiel to reach your unit.

If you use PD:	Item will be received in this amount of days:*	
	CONUS or Intra-theater	Overseas
01-03	10	14-15
04-08	14	18-19
09-15	32	70-85

*Includes 3 days for retail activity processing and handling.



EYEBALL
DA PAM 710-2-1
AND AR 725-50 FOR
MORE INFORMATION ON
REQUIRED DELIVERY
DATES.

PS END

Cancel to \$ave!

Help cut costs. Stop wasting printing and distribution dollars!

When your unit phases out, remember to cancel your publications account at the Baltimore Pubs Center.

It can take up to 90 days to process all the paperwork; so let them know as early as possible when you're closing shop. Just write a letter to:

Commander
USAPDC
2800 Eastern Blvd
Baltimore, MD 21220-2896

Be sure to include your account number!

PS 500

40



TACCS ...

Expendable Supply List

It's the little things that keep your AN/TYQ-33(V), Tactical Army Combat Computer System (TACCS), working for you.



HERE'S A LIST OF
EXPENDABLE SUPPLIES THAT'LL
HELP WITH YOUR TACCS OPERATION
AND MAINTENANCE.

ITEM	NSN
Filter, remote module	4130-01-271-1966
Filter, logic module	4130-01-271-2890
Filter, printer	4460-01-264-4035
Ribbon, printer	7510-01-170-8886
Diskettes, 5-1/4-inch	7045-01-173-4574
Cleaning kit, floppy disk drive	7045-01-154-1315
Cleaning kit, tape drive	7035-00-348-1864
Line voltage indicator (ground) - used to check ground and polarity of field generators	6625-01-012-1452



HERE ARE
TWO ITEMS THAT'LL
HELP KEEP THE TACCS
CLEAN.

ITEM	NSN
Duster, pressurized air	6830-01-335-7509
Duster refill - fits above duster - NSN gets a dozen 10-oz refills	6830-01-334-7026

Shelters . . .

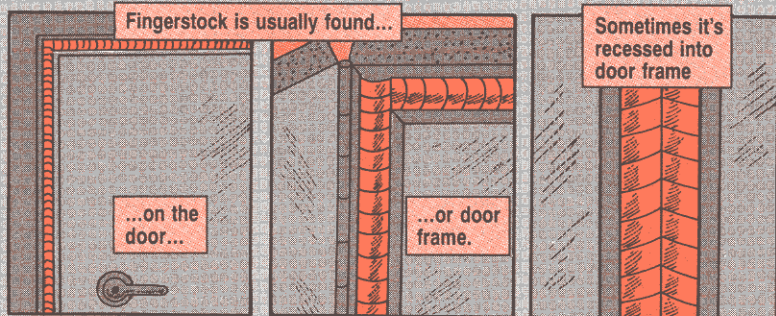
Protect EMP Protection

More and more mobile shelters, as well as fixed shelters, are being manufactured with electromagnetic pulse (EMP) protection.

EMP is a special form of high-energy radio wave produced by the detonation of nuclear devices. EMP damages or destroys sensitive electronic equipment.

Your equipment may have fingerstock gaskets as protection. These gaskets keep EMP from getting into your shelter - through cracks around the door and through other areas such as signal cables, electrical connectors, and panels.

However, your shelter's fingerstock gaskets won't work for long without PM.



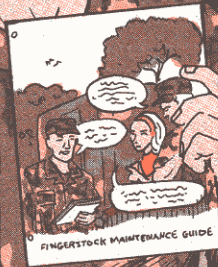
To keep fingerstock on-line against EMP, a maintenance guide is available that will help you maintain it.

The guide contains:

- damage inspection procedures
- cleaning procedures
- NSNs for items needed to perform PM

ORDER THIS PUB FROM ...

US Army Center
for Public Works
ATTN: CECPW-K
7701 Telegraph Rd
Ft Belvoir, VA 22310-3862



DODAAC ...

Change Address, Please

You might not get the repair parts you ordered if you have the wrong Department of Defense Activity Address Code (DODAAC) on file.

Every unit has a six-digit DODAAC for the receipt, requisition, shipment and billing of supplies.

If your unit's name or address changes, be sure to update the DODAAC file. You'll find instructions on how to make additions and deletions in AR 725-50.

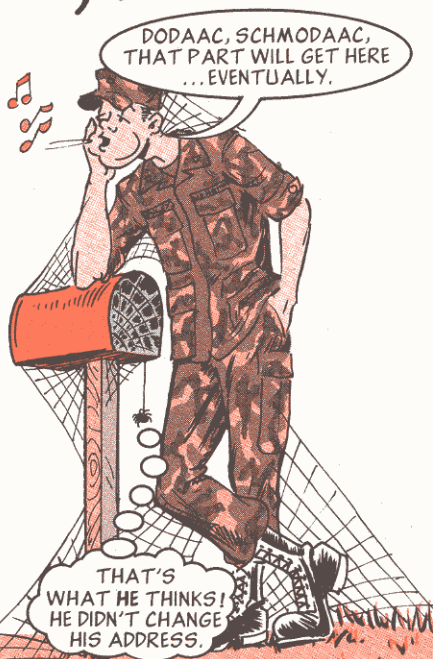
For more information, call the Army DODAAC manager at DSN 570-8156 or Commercial (717) 267-8156.

Or write:

USAMC Logistics Support Activity
ATTN: AMXLS-MSF
Chambersburg, PA 17201-4180

Or E-mail:

acsp@letterkenn-emh1.army.mil



Get PMCS Training Video



Need help with your unit's PMCS training? The Unit Maintenance Office at Aberdeen now has a video aimed at improving maintenance BEFORE, DURING and AFTER operations. Order the video by sending a DA Form 3903 through your TASC to:

Commander
USAOC&S
ATTN: ATSL-DOS-TS
Bldg 3518
Aberdeen Proving Ground, MD
21005-5201

On Guard!

Sooner or later it's bound to happen — usually when you're driving around with a full load. Cable connectors and front panel receptacles get bent or broken. This is because troops and gear bump into the exposed cables hooked up to the front panel of your MSE's RT-1539.

Protect connectors and receptacles with a cable guard. Here are the individual parts to the cable guard:

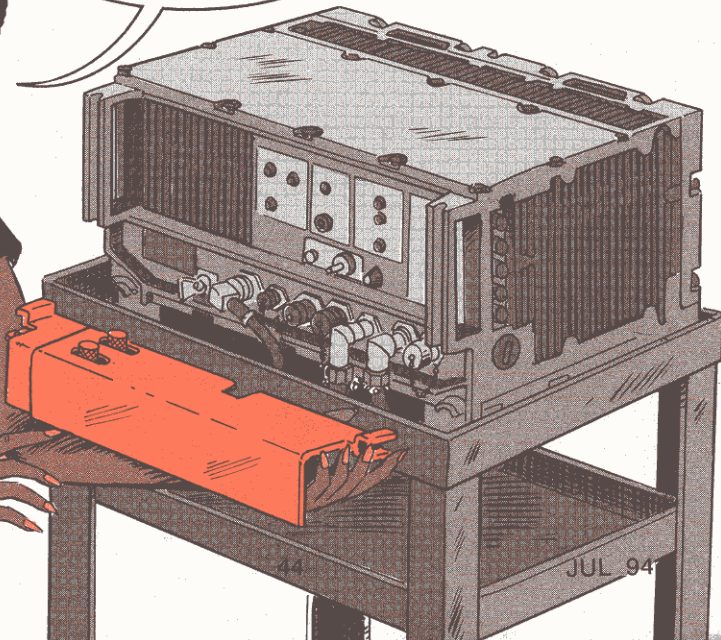
Item	NSN
Left-hand guard	5975-01-385-5682
Right-hand guard	5975-01-385-5957
2 thumb screws	5305-01-370-5554
2 lock washers	5310-00-933-8120
2 flat washers	5310-00-595-6772

The cable guard comes with a tether that attaches to the radio mount.

Use the guard in M998 and M1009 vehicles. See Para 2-8 of TM 11-5820-1021-10, which tells how to get it together.



THIS CABLE GUARD IS JUST THE ANSWER FOR CRUSHED CABLES.



The Battery Choice



How you power your AN/PRC-77 radio set could save both lives and money.

Battery choice depends upon the application. For most training exercises and everyday use, the BA-4386/PRC-25 magnesium battery, NSN 6135-00-926-8322, works well and costs about \$13.35 each.

But when your unit moves out on a combat mission, use the BA-5598/U lithium sulfur dioxide battery, NSN 6135-01-034-2239.

It's smaller and lighter than the magnesium battery. And, it can be stored outside in hot weather longer without losing power.

You'll also want to use the lithium battery for arctic/cold weather operations. Compared to the magnesium battery, the lithium delivers better performance when the temperature plunges below freezing. This battery runs about \$43.35.

Choose your battery carefully. You can save money by using the BA-4386 for everyday operations, and you can save lives by using the BA-5598 when it's crunch time.

Antenna PM's a Tall Order

PM for your OE-254 antenna group centers on the RF cable and the feedcone assembly. Treat them with care for a strong signal.

CG-1889 RF Cable

The CG-1889 RF cable is the lifeline between your radio and the antenna. Regular inspection keeps it in top shape. Be on the lookout for:

Connector pin missing, bent or broken



Connector dirty, corroded or rusted

Cuts in insulation or exposed wire that could ground out cable during transmission



If you find any of these problems, report them to your unit repairman.

Take the strain off the cable and its connectors by attaching a PF-211 strain relief clamp, NSN 5975-00-563-0229, to the upper guy plate. Paragraph 2-4 of TM11-5985-357-13 shows you how.

For more strain relief, tape the cable to the mast just below the feedcone. Continue to tape it about



Tape cable to mast every 5 feet to relieve strain



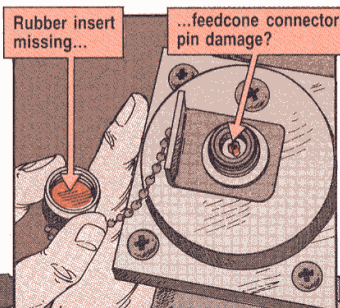
every five feet. You'll find the electrical tape, NSN 5970-00-419-4291, listed in Appendix E of the TM.

Install an elbow connector adapter, NSN 5935-01-375-5085, on the receiver-transmitter's antenna connector. The elbow connector makes hooking up the RF cable a little easier. It also keeps the cable and its connector from extending out past the panel guards, where they're more likely to get banged up.

AS-3166 Feedcone Assembly

The AS-3166 feedcone needs regular PM, too.

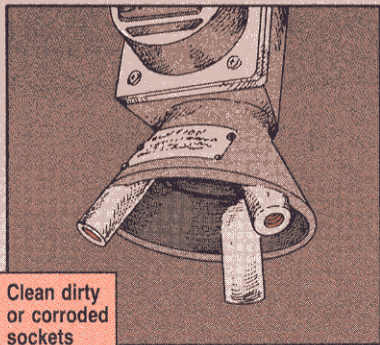
Start with the RF connector. Is the connector dirty or corroded? Receptacle pin bent or broken? Is the rubber insert inside the connector cover missing? Is the cover itself missing? Report any problems to your unit repairman.



THAT ANTENNA COULD BE CAUSING YOUR COMM PROBLEMS.

THE ANTENNA? WHAT COULD GO WRONG WITH THAT?

Look at the sockets, where the antenna elements are installed. If the sockets are dirty or corroded, clean them with isopropyl alcohol, NSN 6810-00-753-4993, and foam swabs, NSN 7045-01-154-1317.



Clean dirty or corroded sockets

The same goes for the antenna elements themselves. Clean the contacts,

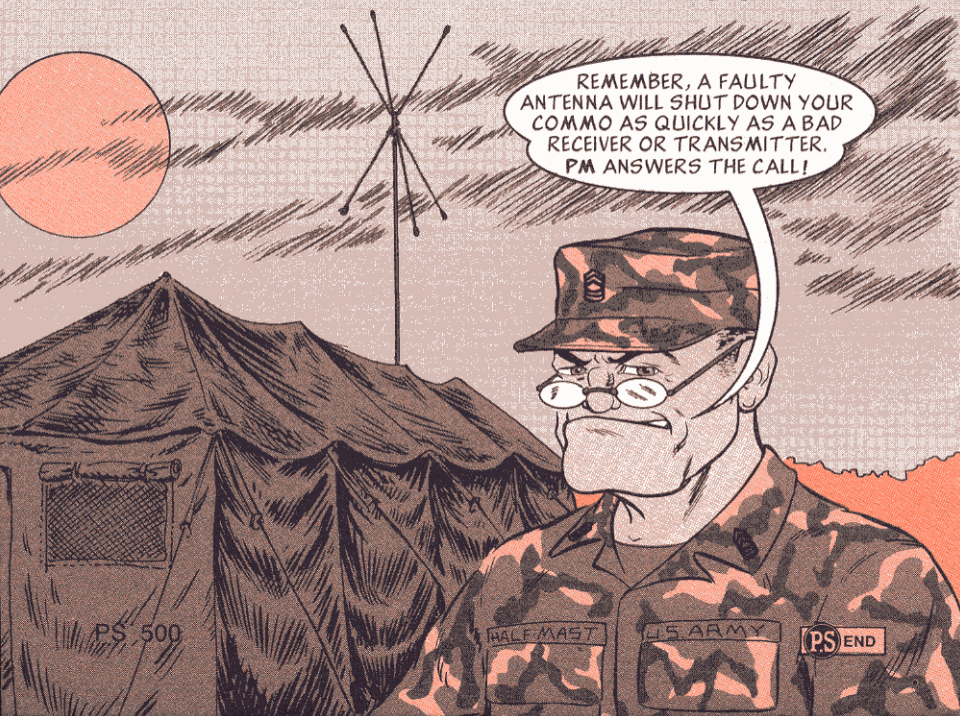
then spray them with water displacing compound, NSN 6850-00-142-9409. Follow that up with a coating of silicone compound, NSN 6850-00-880-7616. That's the formula for protecting contacts against moisture and corrosion.



Electrical tape moisture-proofs antenna connections

For added protection, wrap electrical tape around the joints of the assembled antenna elements.

You can also use electrical tape to help moisture-proof mated RF connectors on the feedcone. Paragraph 2-8 of the-13 TM has the taping instructions.



REMEMBER, A FAULTY ANTENNA WILL SHUT DOWN YOUR COMMO AS QUICKLY AS A BAD RECEIVER OR TRANSMITTER. PM ANSWERS THE CALL!

Reeling in the NSNs!



THE TMs FOR YOUR RL-207 AND RL-207A REELING MACHINES DON'T LIST NSNs FOR THE V-BELTS, THE DRIVE BELT OR THE CONTROL LEVERS. HERE'S WHAT'S AVAILABLE . . .

Item	NSN
Upper V-belt	3030-00-892-4576
Lower V-belt	3030-00-892-4577
Drive belt	3030-01-140-0100
Upper control lever	3895-00-560-2239
Lower control lever	3895-01-129-1337

TE-33 Lineman's Tool Kit . . .

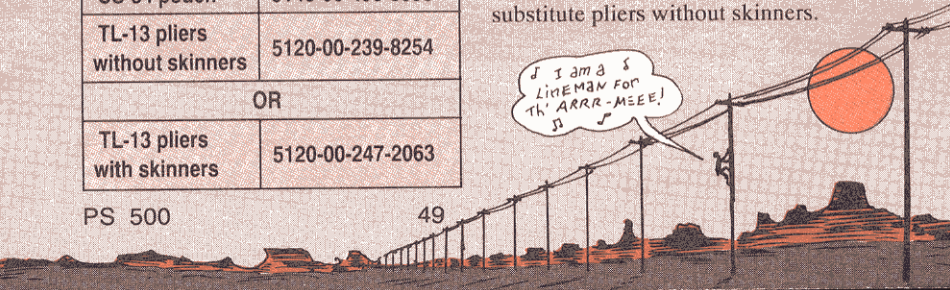
Order by the Piece

No single NSN will get you the TE-33 lineman's tool kit. You must order each part to make up a kit. Here are the items:

Item	NSN
TL-29 knife	5110-00-240-5943
CS-34 pouch	5140-00-498-8898
TL-13 pliers without skinners	5120-00-239-8254
OR	
TL-13 pliers with skinners	5120-00-247-2063

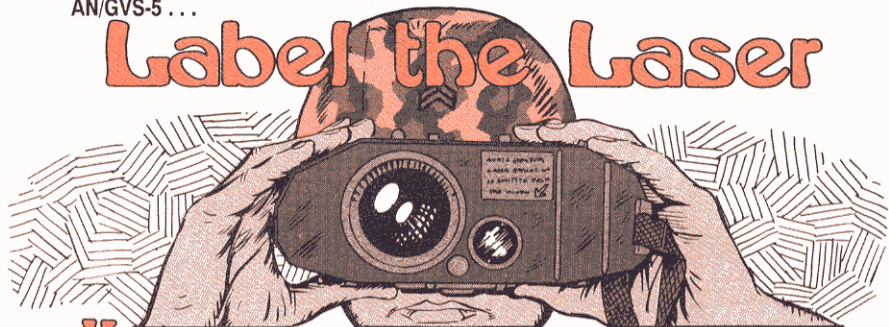
If you need TL-13 pliers with skinners, put advice code 2B in card columns 65-66 of the supply request. That alerts the supply people not to substitute pliers without skinners.

I am a
Lineman for
th' ARRR-MEEE!
♪ ♪



AN/GVS-5...

Label the Laser



You can never be too safe when operating a laser device like the AN/GVS-5 laser rangefinder.

Besides following the good words in TM 11-5860-201-10, make sure your rangefinder has radiation warning labels on it. No labels? Get them from your friendly CECOM LAR.

If he has no labels, get 'em from CECOM.

Call:

DSN 995-3112

Commercial (908) 544-3112

Or write:

US Army Communications-
Electronics Command

ATTN: AMSEL-SF-RER

Ft Monmouth, NJ 07703-5024

When you order labels, ask for the instruction sheet that shows you where to stick 'em.

AVOID EXPOSURE
LASER RADIATION
IS EMITTED FROM
THIS WINDOW



AVOID DIRECT EXPOSURE
PERMANENT EYE INJURY
MAY RESULT



INVISIBLE NEODYMIUM
LASER RADIATION

WAVELENGTH - 1064NM ENERGY - 15M J/PULSE
ANSI CLASS 3b LASER PRODUCT

SINCGARS...

AN/PRC-119 Antenna

Get an AS-3683/PRC antenna for your SINCGARS AN/PRC-119 manpack radio with NSN 5985-01-235-9189. This NSN gets you both the base and the whip.

You can also order the base, NSN 5985-01-204-0074, or the whip, NSN 5985-01-323-2674, separately.



COMMO ID PLATE



Looking for a permanent identification/name plate for your commo gear? You won't find an NSN or part number for it. The only way to get it is to follow the directions in SB 11-631 (Aug 88). The supply bulletin tells DS or GS how to order the plate.

Your job is to give your support these details about the plate:

- ✍ The number needed.
- ✍ Length and width. Get the right size by measuring an ID plate on an identical piece of equipment.
- ✍ Type of equipment or component by nomenclature and model number, such as TA-312/PT or TA-312A/PT telephone set.
- ✍ Manufacturer's name and location.
- ✍ Procurement contract number.
- ✍ Equipment or component serial number.



You may have to look in a few different places to find all this information: In your unit's property book, on an old data plate or on the piece of equipment itself.

If you're replacing an old, beat-up plate, send it along with your requisition.

When your support receives the plate, they'll notify you so that they can install it on your gear.



Because I told you so!

All of us heard that phrase more than once as we were growing up. Knowing why is not always important, but it sure is when you're doing PM.

Here are a few things you hear about Ni-Cad battery maintenance and the "Why?" behind it.

Never store a Ni-Cad battery near a lead-acid battery.

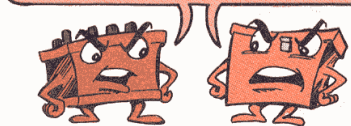
Like oil and water, the chemicals in Ni-Cad (potassium hydroxide) and lead-acid (sulfuric acid) batteries just don't mix. Just one little whiff of lead-acid fumes could ruin a Ni-Cad battery. The mixing of fumes may also cause an explosion!

So keep the Ni-Cads as far away as you can from lead-acid batteries. Separate shops are best, but if that's not possible, use separate benches. Put the benches at opposite ends of the battery shop, and mark each area clearly.



If possible, don't use the same tools or materials on both types of batteries.

Here's Why:



That goes for face shields, aprons, gloves, testers, screwdrivers and wrenches.

To help make sure you keep them apart, mark tools and materials used on Ni-Cad batteries with blue paint and those for lead-acid batteries with another color.

If you absolutely must use the same tools for both types of batteries, wash and rinse the tools with clean, hot water after they're used on either type. Use plenty of strong soap. A mild vinegar wash and then a rinse in distilled water is good, too.

Examine the electrolyte level in a fully charged battery that has been at rest for at least 30 minutes, but no more than two hours.

As a battery discharges, electrolyte is absorbed in the plates and separators of a cell. There is no way to get an accurate electrolyte reading. As a battery is

charged, the electrolyte level rises and may peak with a temporary high reading.

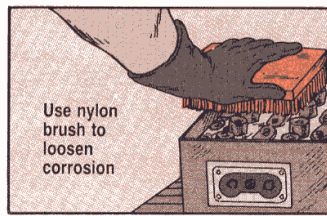
Letting a fully charged battery rest is the only way to get the right reading of 1/4-inch above the top of the plates.

Never use a wire brush to clean the battery or its tray and box.

A wire brush will remove or scratch protective coatings and give corrosion a good place to grow. Even stubborn corrosion can be removed with a nonmetallic stiff bristle brush and elbow grease.

Also, a wire brush could short out your battery.

No need to use soap when removing potassium carbonate from your battery.



That white stuff on top of cells and cell connectors is potassium carbonate, and it needs to be removed because it could allow corrosion to set in. But soap is not needed. Potassium carbonate is highly soluble and will act like soap and do the cleaning job for you. In fact, potassium carbonate is used to make soap!

Always wear a face mask when doing battery maintenance.

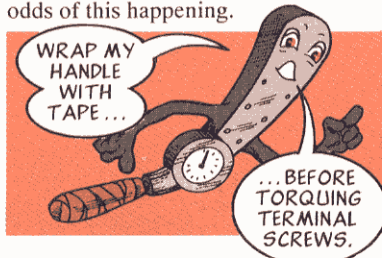
Any time you work around chemicals, and especially chemicals under pressure or subject to change, you must wear safety equipment. If you don't, you leave yourself wide open for blindness or chemical burns.

So, when you eyeball, clean or service a battery, wear rubber gloves, NSN 8415-00-266-8675; an apron, NSN 8415-00-082-6108; and a face shield, NSN 4240-00-202-9473.

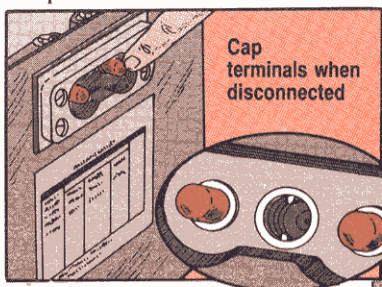


Before you tighten loose terminal screws, wrap the wrench handle with cloth tape.

The possibility of shorting out your battery is always there when doing battery maintenance. Wrapping your wrench handle in cloth tape will cut the odds of this happening.



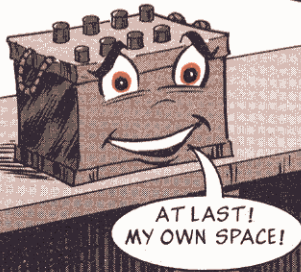
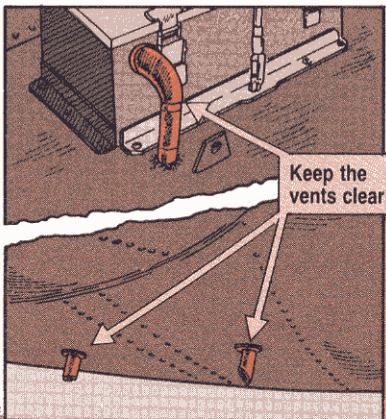
While the battery is disconnected, prevent shorting of the terminals of the connector by using plastic caps from oil sample tubes, NSN 4710-00-933-4415. When reconnecting the battery cable, hold it level as you push it in the receptacle.



Make sure your vent lines are not clogged.

Your battery discharges fumes. These fumes must escape and not build up in the battery compartment. If vent lines get plugged, battery fumes can only escape through the cockpit. So, disconnect the vent hoses at the battery end and use low pressure air to clear them.

And now you know why.



Don't Slip Up!



OOH! WHAT
A TUMBLE!



HEY, SLICK,
NON-SKID STRIPS WOULD
MAKE MY DOOR STEP
SAFER!

Dear Windy,
Climbing up on a Cobra's center pylon fairing access door step can be a slippery chore, especially in wet or freezing weather.

We solved that problem by bonding a non-skid strip, NSN 7220-00-205-0389, to the step. The strip is self-adhering and needs only a clean, dry surface to stick. It's 24 inches wide and 6 inches deep, so cut it to fit the length of the access door opening.

We also use this type of non-skid strips on all step surfaces and on top of the aft crossover tube.

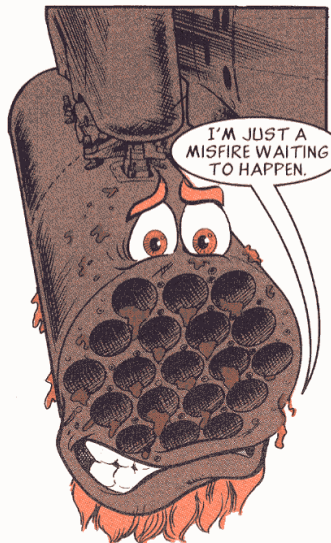
Jim Galchick
Greensburg, OH



Dear Jim,
The first step in any preventive maintenance job is safety, so using non-skid is great PM advice. You'll find it listed as deck covering in the GSA catalog.

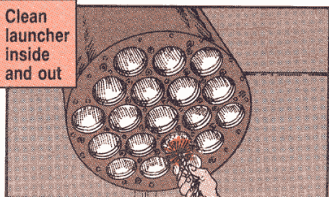
Windy


CLEAN & LUBE IN A CAN




Scrub the inside of the launcher with a borebrush. Six NSNs are needed to get the brush assembly. NSN 1055-00-871-8468 brings the brush; NSN 1055-00-227-0637 the staff; NSN 4730-00-187-7610 the pipe coupling; NSN 4730-01-098-7931 the pipe nipple; NSN 1055-00-871-8466 the core; and NSN 1055-00-871-8467 the nut.


Rinse the entire launcher with CLP. Remove excess CLP with a dry rag and let it air dry.

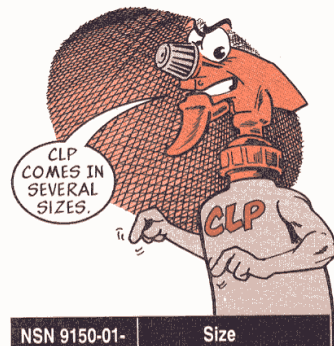
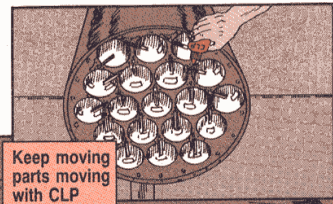


 Clean the fuse umbilical connectors using CLP and acid swabbing brush, NSN 7920-00-514-2417. Use a back and forth and then circular motion. Make sure the bristles reach inside the connector. Flush away residue with CLP and blot off the excess.

 Use the swabbing brush again to clean the aft firing contacts, the inside firing contact and the rocket detent/retainer.

The inside contact may need a little more work to get off carbon residue. Apply a little CLP to the bristles of a small wire brush, NSN 7920-00-900-3577. Gently scrub the contacts on all sides. A 20-mm bore brush will also do the job.

 After the launcher is dry, reapply CLP to all moving parts and areas that tend to rust. Apply a light coat to the igniter arms, inside contacts and the fuse umbilical connectors. Wipe off all excess.




NSN 9150-01-	Size
102-1473	1/2-oz bottle
070-6124	4-oz bottle
054-6453	pint bottle with trigger spray
053-6688	gallon

You may think the relationship between a lightweight rocket launcher and its rockets is like a can to sardines — just a container. But if you don't keep the launcher cleaned and lubed, you'll open another can — of worms!

A dirty launcher with carbon buildup can lead to a misfire.

Here's what you need to know about cleaning and lubing your launcher:

 At the end of a firing day, clean the launcher inside and out, including the igniter arms, with CLP. Forget the hot soapy water called for in the TM. It's out.



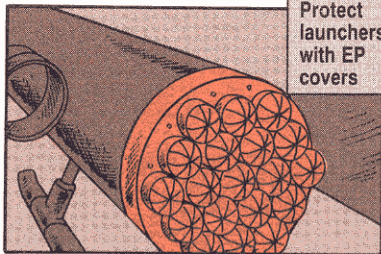
THAT COVERS IT!

ENVIRONMENTAL COVERS
HELP KEEP YOUR ROCKET LAUNCHERS
FULLY MISSION CAPABLE!

Lice can freeze a rocket in its tube. Sand can seize one there, too.

To stop this, use environmental protective covers. NSN 1055-01-107-4732 brings the M260 cover. NSN 1055-01-241-1049 brings a cover for the M261.

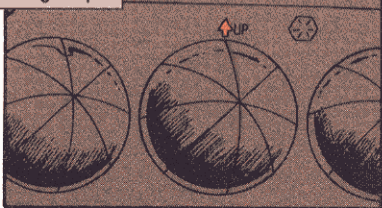
Not only will the covers keep sand and ice out of the launcher, they will also help prevent the results of ripple fire—heat and flames—from warping the bulkhead.



Protect launchers with EP covers

When the covers come, position them so that the arrow on the outer surface points straight up. Align the bolts with

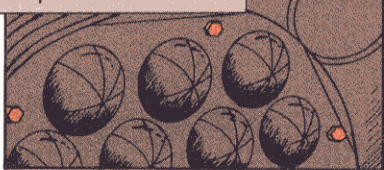
Arrow points straight up



bolts with the launcher's captive nuts and torque them to 50 to 75 lb-in.

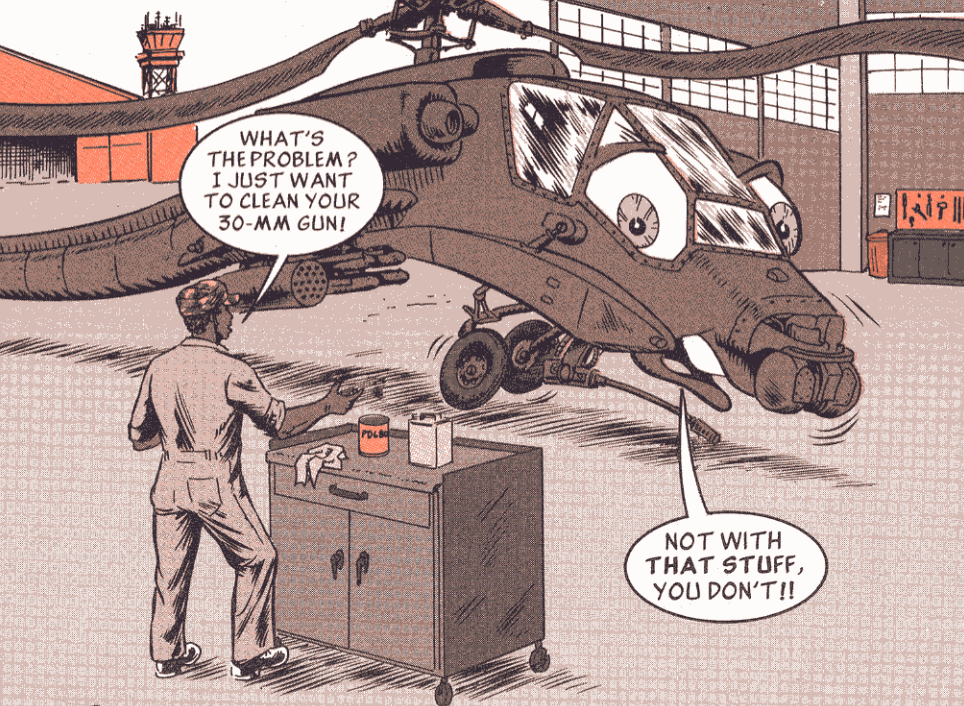


Torque bolts to 50-75 lb-in



Some soldiers never use the covers because the cups fail to fragment right. Other soldiers think it's just too much trouble to torque the bolts. But good soldiers always use covers to fight the bad effects of sand and ice.

Too Much of a Good Thing

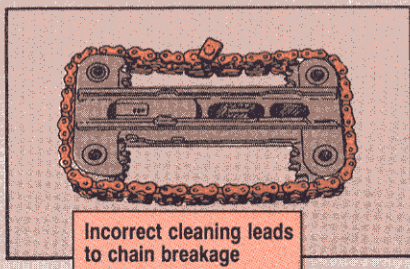


Over-cleaning is causing the chain in the track assembly of the 30-MM gun to break.

When the chain gets dirty, some of you are going after that grit with P-D-680 and other cleaning fluids. Soon the chain shines, but the cleaning fluid has removed the hot-dipped lube and preservative that keeps the chain in shape.

That means you'll soon be filling out a supply request using NSN 3020-01-215-6176 — the stock number for a new chain!

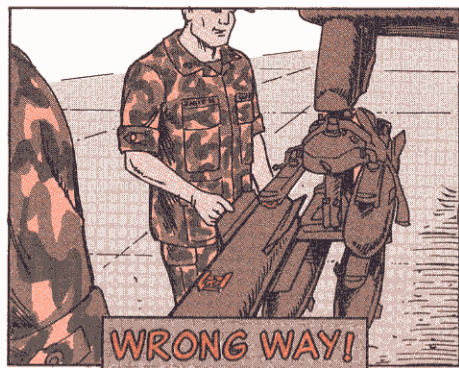
So keep the chain clean, but only with a dry, lint-free cloth and keep the cleaning fluids on the shelf.



Getting Loaded

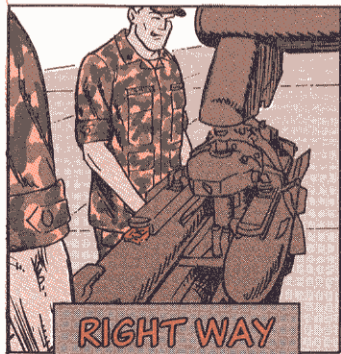


THEY ALSO KNOW THERE'S A RIGHT WAY AND A WRONG WAY TO UPLOAD A HELLFIRE MISSILE ONTO A LAUNCHER. SHOW 'EM THE WRONG WAY, FELLAS.



THE WRONG WAY HAS THE REAR SHOE POSITIONED IN FRONT OF THE RAIL ENTRANCE. THAT MEANS YOU MUST SLIDE THE MISSILE THE ENTIRE LENGTH OF THE LAUNCHER RAIL.

DO THAT, AND THE INTERMEDIATE SHOE SLAMS AGAINST THE STOP BLOCK. EVENTUALLY, YOU'LL WASTE A SHOE AND A BLOCK. NOW SHOW 'EM THE RIGHT WAY, FELLAS.



THE RIGHT WAY PUTS THE REAR SHOE IN THE RAIL CUTOUT AND STARTS THE MISSILE FORWARD WITH THE INTERMEDIATE SHOE JUST IN FRONT OF THE RAIL ENTRANCE.



Connie's
POST
SCRIPTS

Welding Screens NSNs

Welders, shield others from your welding light. NSN 3438-01-159-2206 brings a 12-ft x 6-ft screen of flame-resistant olive drab duck. NSN 3438-00-198-8348 gets a 12-ft x 7-ft screen of green vinyl-coated fiberglass.

Forklift Filter Element NSN

To get a fuel filter element for the MHE 243 4,000-lb forklift, order NSN 2910-00-069-4500. Use it instead of NSN 2940-01-166-8835 shown on Page 7-28 of TM 10-3930-647-14&P. That NSN's not stocked.

M149A2 Wheel Bearing NSN

Use NSN 3110-00-100-5951 to get a complete wheel bearing assembly. The NSN shown as Item 16 in Fig. 17 of TM 9-2330-267-14&P gets only the tapered roller bearing.

M9 ACE Nut NSN

The hex nut, NSN 5310-01-183-6841, used on ACE roadwheels, outer sprockets, track pins, and track pads, had been replaced by a reusable nut, NSN 5310-01-123-1421. Not only is the new nut reusable, it's also cheaper.

NSNs for Pack Straps

Shoulder straps for the camouflage field pack frame are available with these NSNs: left strap, NSN 8465-00-269-0482, and right strap, NSN 8465-01-078-9282. The straps come only in olive drab—not camouflage.

HEMTT Wrecker Cable

The HEMTT self-recovery winch cable now comes as a non-repairable assembly, complete with clevis and pin. If you need the cable, order NSN 4010-01-370-5904.

Trailer Wheel Seal NSN

Use NSN 5330-01-140-8231 to get an oil seal for the wheel and hub assembly on M101A2 and M116A2 3/4-ton trailers. The NSN shown in the TM is wrong.

HEMTT Fuel Hose NSN

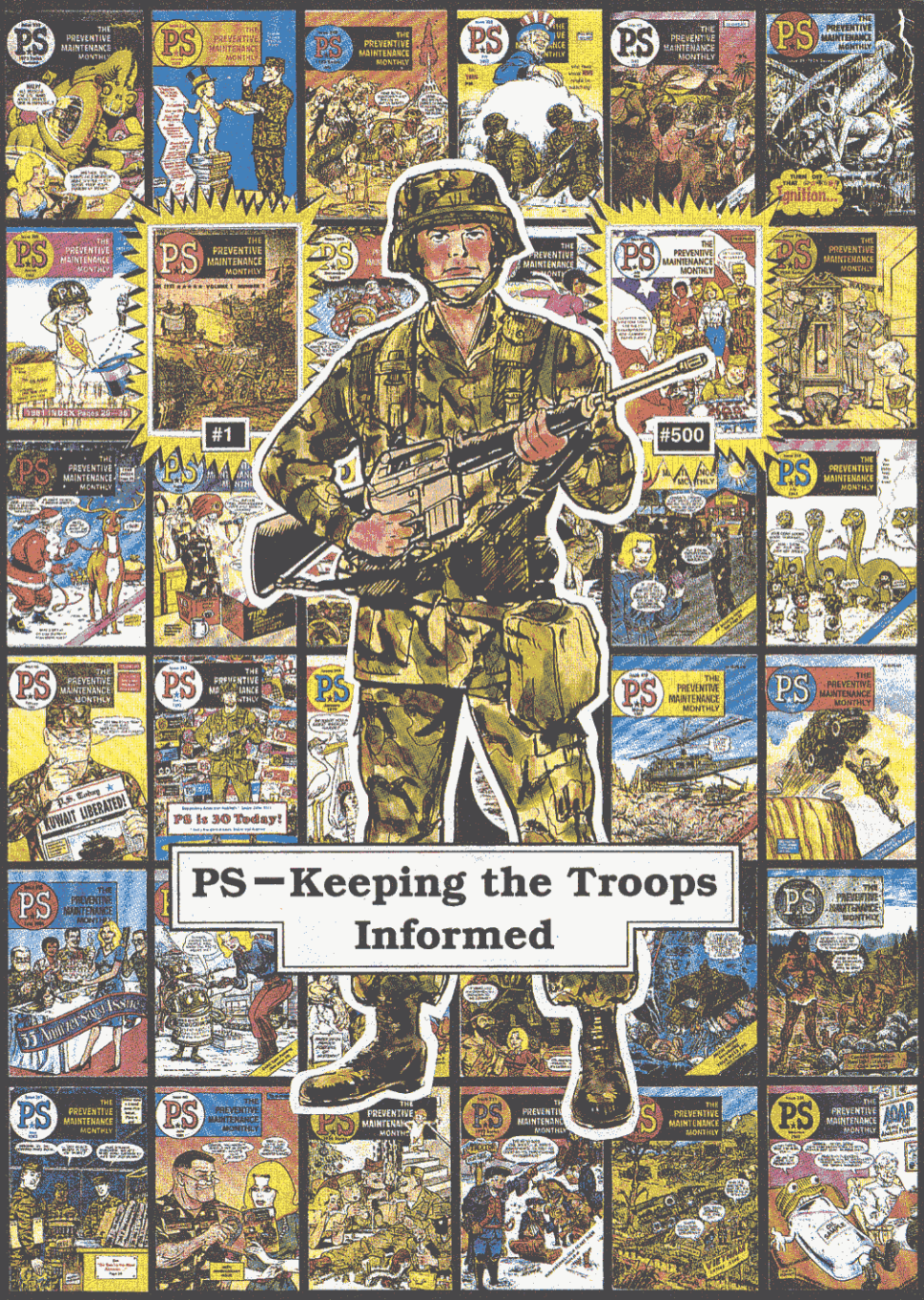
NSN 4210-01-381-2846 gets a more durable fuel service hose for the HEMTT tanker—except for use in arctic climates. It's too stiff for use there. Instead, stick with the one that's shown in the -20P TM. To get the more durable hose, order on a DD Form 1348-6. In the Remarks block write, "NSN not on AMDF"

Distribution: To be distributed in accordance with DA Form 12-34-C-R, for TB-43-series.

Would You Stake Your Life *right now* on the Condition of Your Equipment?

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