Issue 515

PS

October 1995

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-515

Read and heed, then pass along!

Maintenance Management . . . See Page 27

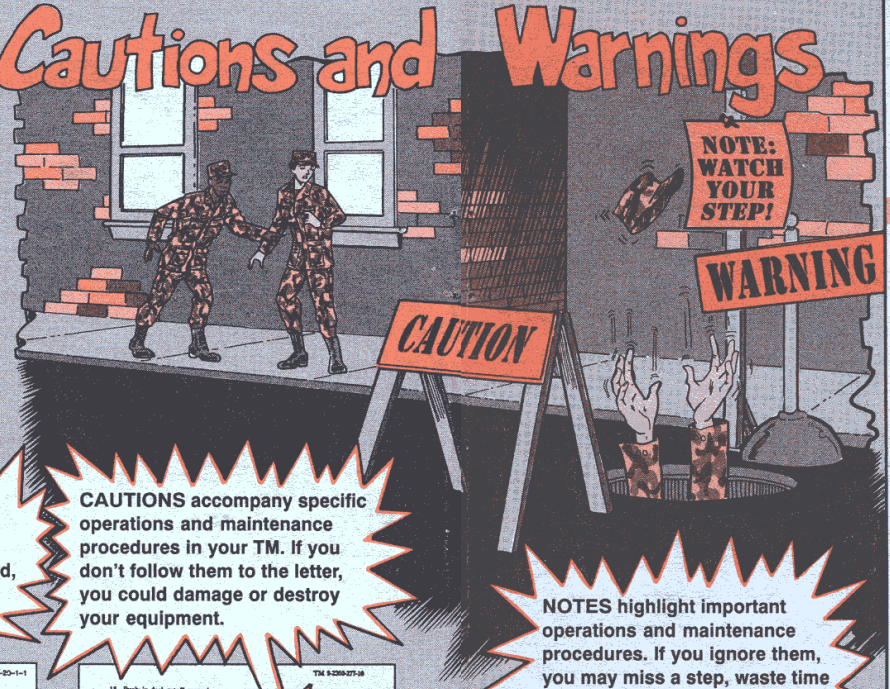
Read and Heed . . .

Notes, Cautions and Warnings

Some soldiers skip over the WARNINGS, CAUTIONS and NOTES in their TMs. They have lots of excuses...and they're likely to have lots of injuries, too.

Other soldiers heed all WARNINGS, CAUTIONS and NOTES. They don't have accidents. They stay healthy and their equipment does its job.

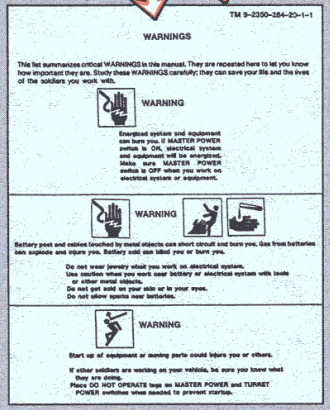
WARNINGS, CAUTIONS and NOTES are in your TMs for one important reason — to protect you, your equipment, and your fellow soldiers.



WARNINGS signal danger like a red flag. They warn you of conditions which, if not avoided, could injure or kill you and the soldiers you work with.

CAUTIONS accompany specific operations and maintenance procedures in your TM. If you don't follow them to the letter, you could damage or destroy your equipment.

NOTES highlight important operations and maintenance procedures. If you ignore them, you may miss a step, waste time and effort, or jeopardize safety.


TM 9-2350-264-20-1-1

WARNINGS

This list summarizes critical WARNINGS in this manual. They are repeated here to let you know how important they are. Study these WARNINGS carefully; they can save your life and the lives of the soldiers you work with.

WARNING

Energized system and equipment can burn you. If MASTER POWER switch is ON, electrical system and equipment will be energized. Make sure MASTER POWER switch is OFF when you work on electrical system or equipment.

WARNING

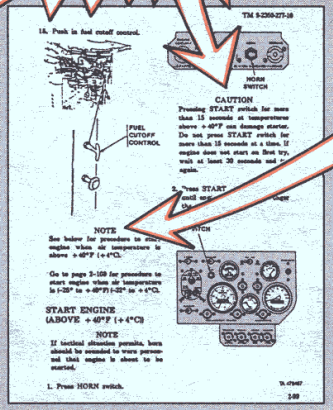
Battery post and cables touched by metal objects can short circuit and burn you. Gas from batteries can explode and injure you. Battery acid can blind you or burn you.

Do not wear jewelry when you work on electrical system.
Use caution when you work near battery or electrical system with tools or other metal objects.
Do not get acid on your skin or in your eyes.
Do not allow sparks near batteries.

WARNING

Start up of equipment or moving parts could injure you or others.

If other soldiers are working on your vehicle, be sure you know what they are doing.
Place DO NOT OPERATE tags on MASTER POWER and TURRET POWER switches when needed to prevent startup.


TM 9-2350-277-10

18. Push in fuel cutoff control.

FUEL CUTOFF CONTROL

HORN SWITCH

CAUTION

Pressing START switch for more than 15 seconds at temperatures above +40°F can damage starter. Do not press START switch for more than 15 seconds at a time. If engine does not start on first try, wait at least 30 seconds and try again.

2. Press START switch and release when engine starts.

NOTE

See below for procedure to start engine when air temperature is above +40°F (+4°C).

Go to page 2-102 for procedures to start engine when air temperature is (-25° to +40°F) (-32° to +4°C).

START ENGINE (ABOVE +40°F (+4°C))

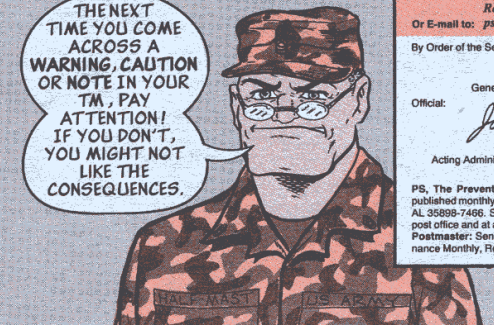
NOTE

If tactical situation permits, horn should be sounded to warn personnel that engine is about to be started.

1. Press HORN switch.

TA 47947

2-89



PS THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-515, 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.

ISSUE 515 OCTOBER 1995

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:

MSG Half-Mast
The Preventive Maintenance Monthly
Bldg. 3325
Redstone Arsenal, AL 35898-7466

Or E-mail to: *psmag@logsa-emh2.army.mil*

By Order of the Secretary of the Army:

DENNIS J. REIMER
General, United States Army Chief of Staff

Official:

JOEL B. HUDSON
Acting Administrative Assistant to the Secretary of the Army
00610

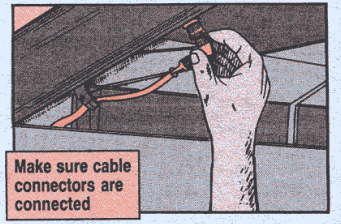
PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Redstone Arsenal, AL 35898-7466. Second Class Postage is paid at the Huntsville, AL post office and at additional mailing offices.

Postmaster: Send address changes to PS, The Preventive Maintenance Monthly, Redstone Arsenal, AL 35898-7466.

"Washed and lubed" is the way to keep your MLRS in top condition. Removing dirt and then lubing moving parts will help everything move smoothly. But here are some things to remember before you grab a hose or grease gun.

Washing

Before you turn on the water, walk around the MLRS and make sure all the electronic cables are tight. Vibration loosens the cable connections. Loose connections let in water that can cause short-circuiting and bad prompts.



Cover components such as the electronic unit (EU) with garbage bags and keep the hose away from them. Water can fry them.

For everything but the tracks, use tap water at normal pressure (50 PSI or less).

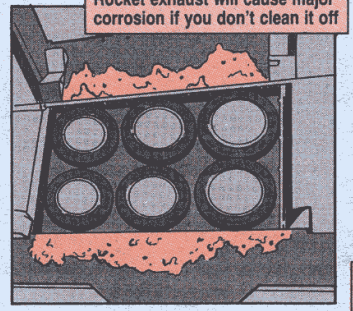
To clean the vehicle, park on an incline with the front of the MLRS higher than the rear so water will drain out.

To clean the launcher, elevate the module to 200 mils and open all three rear doors. That keeps water from collecting in the launcher where it can short out electronic components.

Turn the MLRS around to clean the engine compartment so water drains to the front.

Cleaning

Rocket exhaust deposits will eat through metal. So after every firing mission, clean off those deposits. Pay special attention to the front of the launcher, booms, actuators, and pod holddowns. They collect the most exhaust.



Give the launcher exhaustive cleaning like this:

➤ Spray CLP-5, NSN 9150-01-054-6453, on the rocket exhaust deposits and let it soak for 10 minutes. Wipe away the deposits with a rag. For stubborn deposits, use a green cleaning pad. Your post SSSC has the pads.

➤ Spray moving parts with dry lubricant, NSN 9150-00-349-9290, and put corrosion preventive compound, NSN 8030-01-347-0979, on unpainted metal.

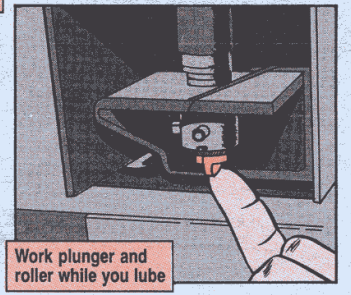
➤ Complete cleaning instructions are in Para 3-9 in TM 9-1425-646-10-1.

To the Limit

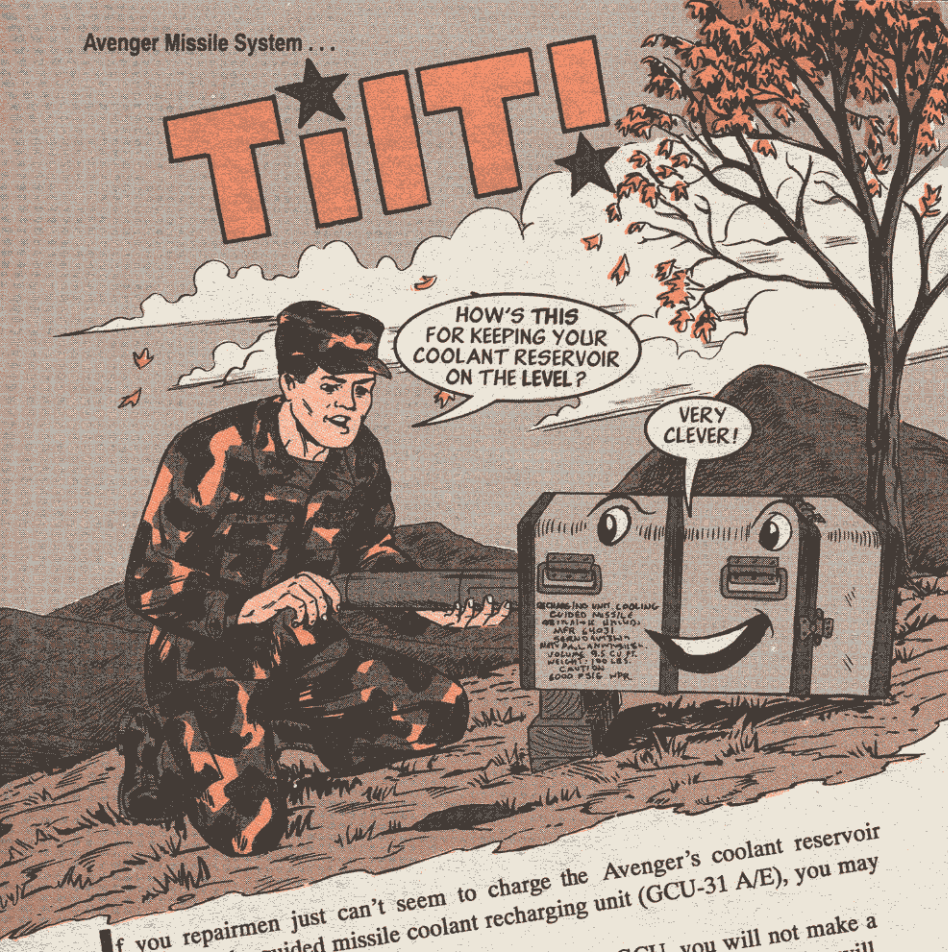
If limit switches seize from sand and corrosion, the MLRS puts the "seize" on firing. And the switches will seize unless you do this:

➤ Weekly, push all 10 limit switches in and out to make sure they move easily. If a switch sticks, clean away any dirt or sand with a rag.

➤ Spray CLP-5 on any rocket exhaust deposits and let the CLP-5 soak for 10 minutes. Use a scrub brush, rag, soap and water to thoroughly clean the switch. Spray the roller with dry lubricant. Turn the roller to work it in.



➤ If any limit switches are not safety wired, tell your repairman. Unwired switches vibrate out of adjustment and stop working.



If you repairmen just can't seem to charge the Avenger's coolant reservoir assembly on the guided missile coolant recharging unit (GCU-31 A/E), you may have a problem.

If you tilt the coolant reservoir as you put it in the GCU, you will not make a solid connection with the quick disconnect that the gas flows through. Gas will leak out instead of going into the coolant reservoir. And you may damage the quick disconnect itself.

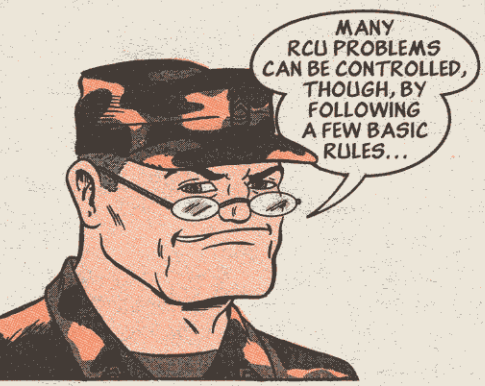
As you guide the coolant reservoir in the fragmentation chamber, keep it as level as possible. Use your left hand to help it stay straight.

If you've still got gas problems, turn in the GCU. Support may need to repair the quick disconnect.

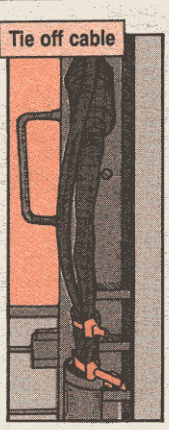
Control Remote Problems

You know how irritating it is when your TV remote control stops working. Your channel surfing stops and you're left muttering choice words at the TV.

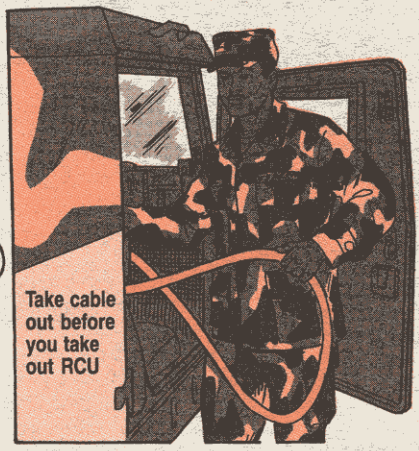
Well, think how frustrating it will be if your Avenger remote control unit (RCU) can't do its job. You're ready to do some serious firing, but nothing happens when you press RCU buttons. Here come those choice words again.



The RCU W80 cable is what usually puts the RCU out of action. It's jerked loose when the RCU's pulled out of the truck. Give the cable more support by tieing the cable to the RCU brackets. That protects the cable better against jerks.

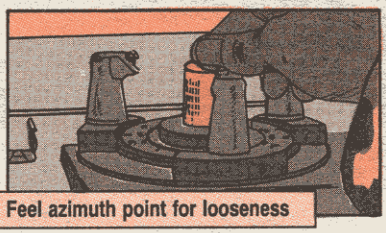


Take the RCU cable out of the truck before you take out the RCU. That makes it easier to pull out the RCU without twisting and jerking the cable.



While walking the RCU out to where you will operate, try not to jerk or twist the cable. If the RCU gets hung up, walk back and find the problem. Don't try to jerk it free.

As part of your BEFORE PMCS, give the azimuth point assembly base a feel. The assembly's setscrews work out. Then you have trouble aligning the RCU. If the assembly's loose, have your repairman tighten the screws.

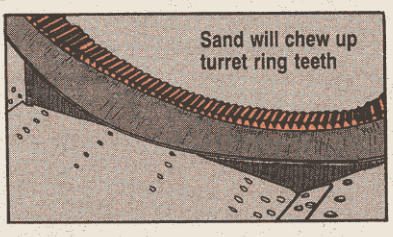


Avenger Missile System . . .

Smooth Turret Turns

The Avenger depends on its fast moves to shoot down aircraft. Its turret needs to swing easily and smoothly or it will swing and miss in battle.

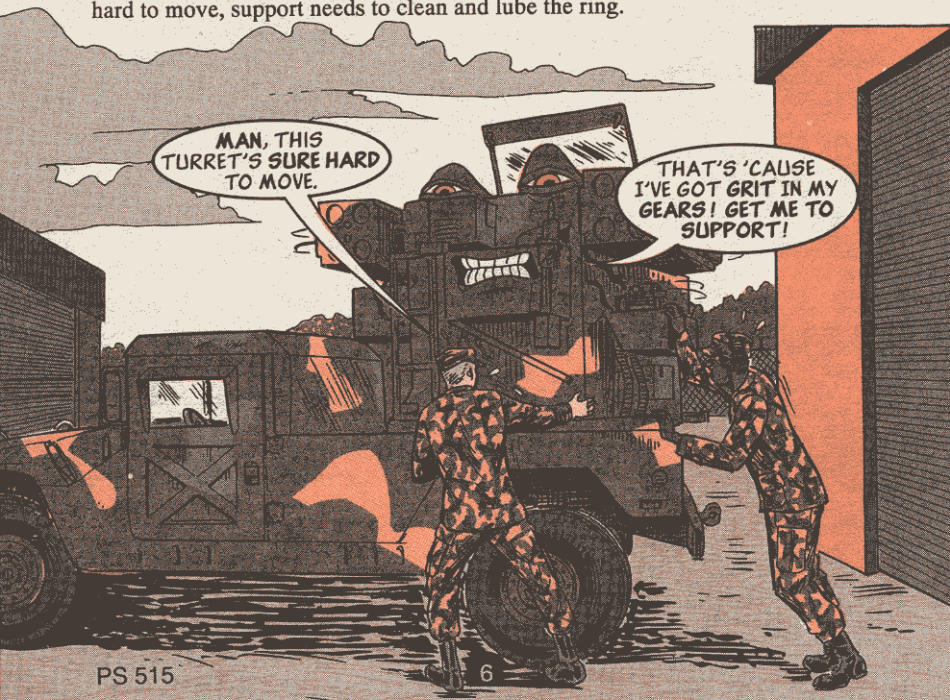
But your Avenger will strike out if the turret rings are not lubed properly. Lack of lube or lube that has turned to sludge can make it a strain for the turret to traverse. Lube that's become mixed with sand grinds down the ring gears. Eventually, the ring has to be replaced.



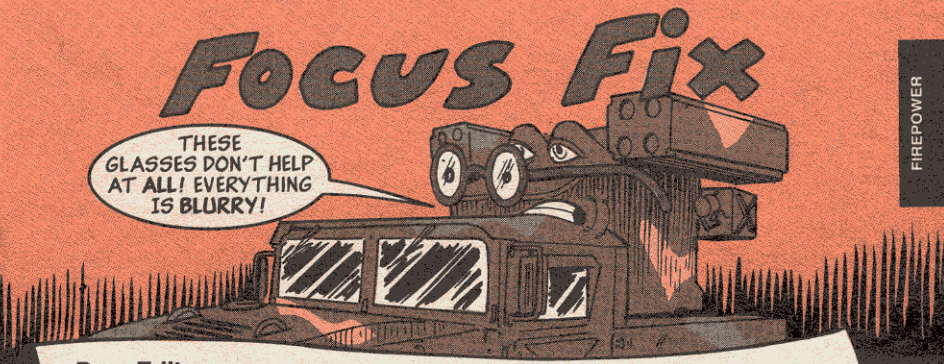
The best thing you repairmen can do is make sure all your Avengers get to support every six months. Support will pull the turret, clean the gears, and lube the ring.

But that may not be enough, especially in sandy areas. Once sand gets in the gears, the Avenger needs another ring job.

How can you tell if the turret ring needs attention? Push it manually. If it's hard to move, support needs to clean and lube the ring.



Focus Fix



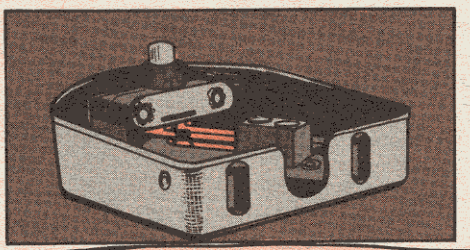
Dear Editor,

If the Avenger's forward-looking infrared receiver (FLIR) won't stay in either narrow or wide view, you may have a contact problem.

We've found that when the FLIR goes right back to a narrow or wide view regardless of what you do, contacts in the foot switch are often the cause.

If the contacts are touching, the FLIR won't stay in focus.

Solution: Have a repairman remove the foot switch cover and bend contacts just enough so they don't touch.



Your FLIR should be back in focus. If it's not, it's a job for higher level maintenance.

SSG Richard Speck
Ft Hood, TX

FROM THE DESK OF THE *Editor*

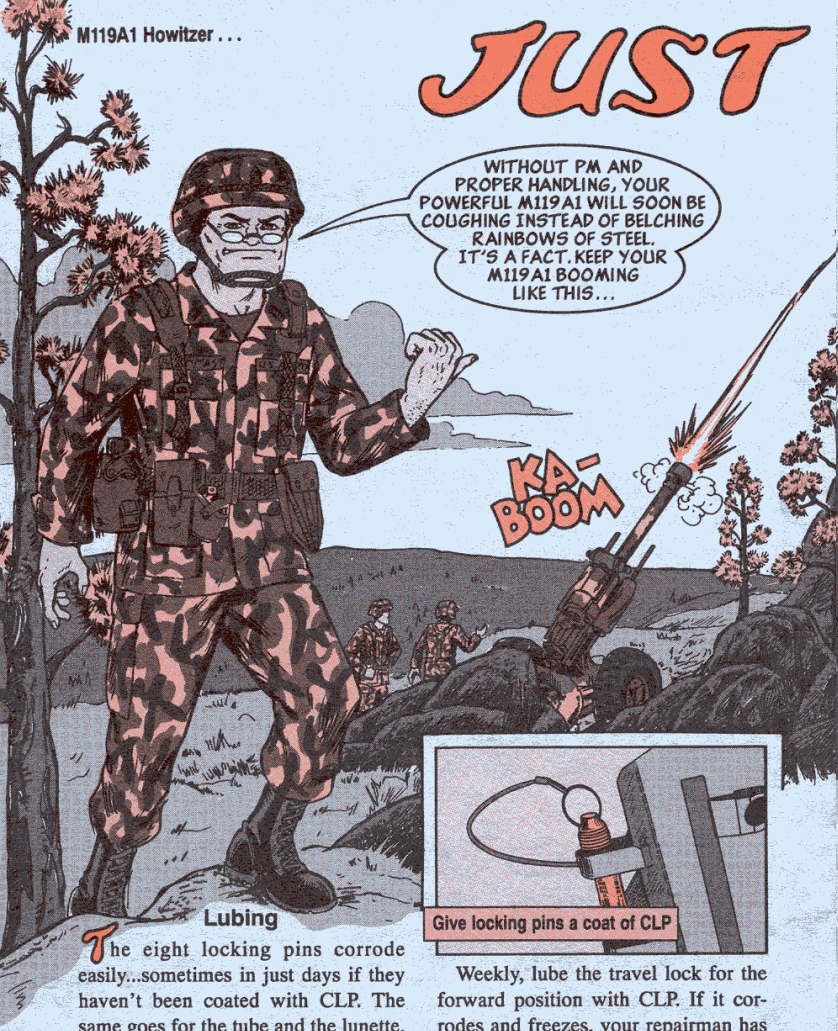
Your suggestion is a good one for Avengers to focus on. Nice job.

Avenger Gun Racks

If you need storage racks for the Avenger missile system's M3P3 machine gun, your support has to make them. Get plans for making the racks by calling (205) 955-7667 (DSN 645) or by writing:

USAMICOM
ATTN: SFAE-MSL-FAD-SS
Redstone Arsenal, AL 35898-5630

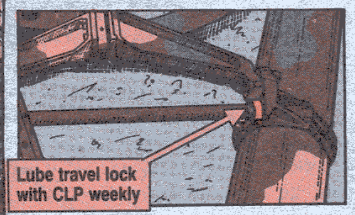
JUST the FACTS



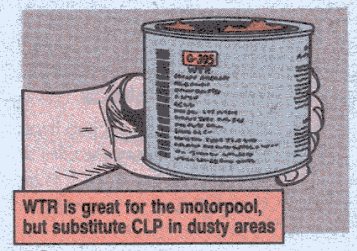
Lubing

The eight locking pins corrode easily...sometimes in just days if they haven't been coated with CLP. The same goes for the tube and the lunette. If your M119A1 is going to sit, coat the pins, lunette, and tube with CLP.

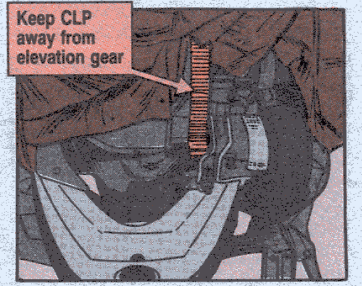
Weekly, lube the travel lock for the forward position with CLP. If it corrodes and freezes, your repairman has to beat it free and tear it down to get at the corrosion—a big job.



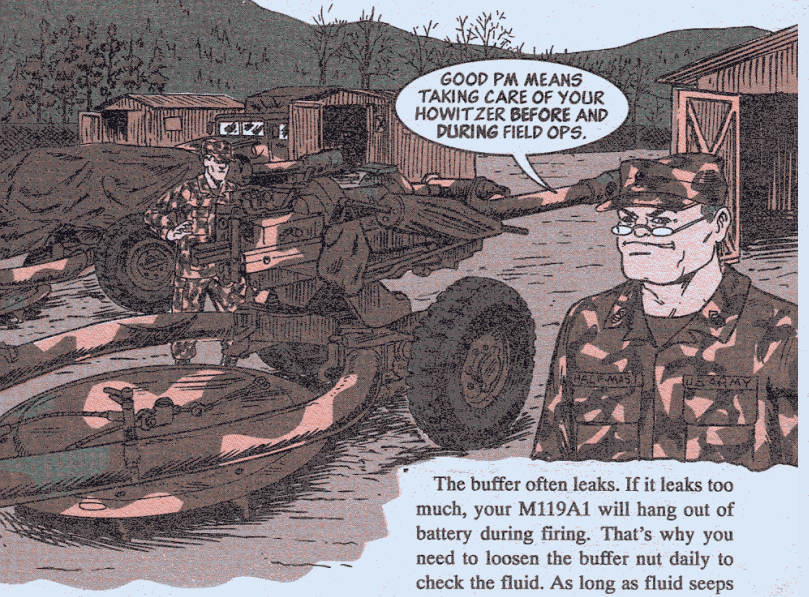
WTR is the way to go in the motorpool. But if you're going to be operating in dusty conditions, wipe off the WTR and replace it with CLP. WTR is a magnet for dust. Dust and grease mix and become like a thick glue, which makes it difficult for the M119A1 to traverse.



But don't use CLP on the elevation gear. CLP does not lube well enough. The gear needs WTR.

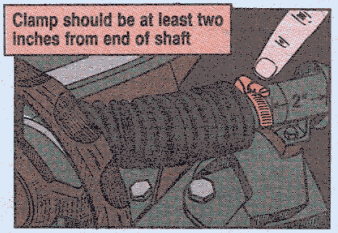


PS MORE

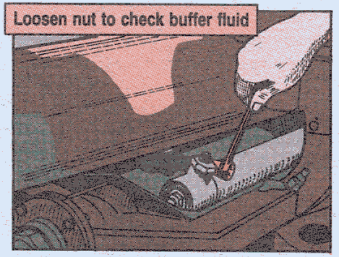


Before Operations

Eyeball the clamp that holds the traversing shaft boot. It should be two inches from the end of the shaft. If the clamp's closer, the boot will be torn when you screw the shaft back into travel lock. The whole shaft then has to be disassembled to replace the boot. Reposition the clamp if necessary.



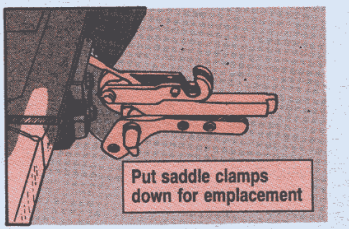
The buffer often leaks. If it leaks too much, your M119A1 will hang out of battery during firing. That's why you need to loosen the buffer nut daily to check the fluid. As long as fluid seeps out, the buffer's OK. No fluid? Your repairman needs to add some.



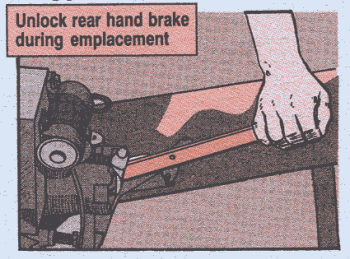
During Operations

Back the truck straight back to hook up the M119A1. Use ground guides to get backing right. If the truck's at an angle, your hands can be crushed between the truck and handspike.

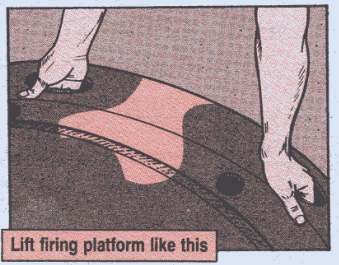
Put the saddle clamps down when you unfold the howitzer. Left up, the clamps bend when the howitzer traverses.



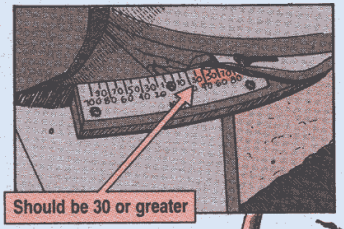
Unlock the rear hand brake during emplacement. If the brake's locked, the M119A1's left sitting too far forward on the base plate. That bends the strut jack when you put the howitzer on the firing platform.



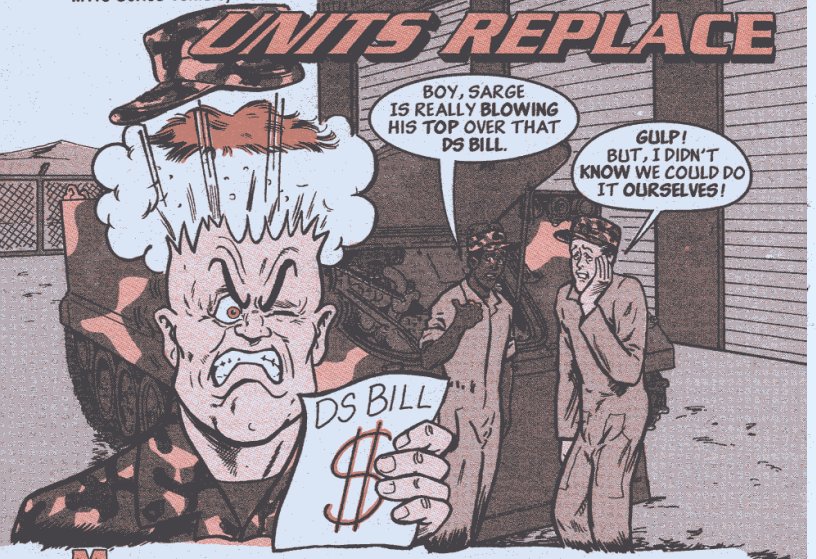
When you lift the firing platform, keep your fingers to the inside with your palms facing away from you. That way your fingers won't be smashed on the trails.



Before you elevate, make sure the M119A1 traversing gauge's right and left limit is set at 30 mil or greater to the right. If it's set at less than 30, the breech bends the anchor pin at maximum elevation. Then the pin won't fit in the hinge bracket.



UNITS REPLACE



Mechanics, if you're still work-ordering those broken blower driveshafts on 6V53 and 6V53T diesels to DS, you're wasting your unit's scarce dollars.

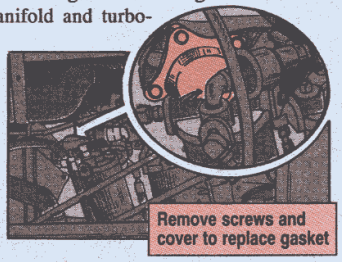
Despite what the Maintenance Allocation Chart (MAC) says, that work **can now be handled at unit level.**

Replacing the driveshaft is easy. Getting to it can be a bit more difficult. Depending on the vehicle, you'll have to remove a few things before tackling the driveshaft.

On the M551, remove the turbocharger and turbocharger tee. For the M113A2-series of vehicles, the fuel filter bracket has to come off first. On the M113A3, remove the air cleaner hose to the turbocharger and the right exhaust elbow between the exhaust manifold and turbocharger tee.

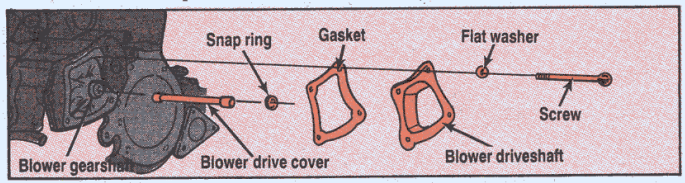
Now you're ready to replace the driveshaft:

1. Remove the four screws and flat washers that hold the blower drive cover to the cover assembly.
2. Take off the cover and toss the gasket.


Remove screws and cover to replace gasket

BLOWER DRIVES

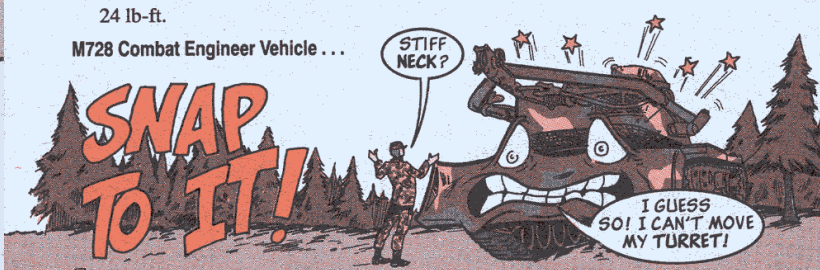
3. Remove the snap ring from the old driveshaft with snap ring pliers, NSN 5120-00-293-0048, and pull out the broken half of the driveshaft. Use a magnetic retrieving tool, NSN 5120-00-545-4268, to remove the rest of the driveshaft from the blower gear shaft.
4. Take off the air inlet cover and rotate the blower rotors by hand. If the rotors stick, DS will have to replace the entire blower assembly. If the rotors move freely…



5. Install a new driveshaft, NSN 2990-00-903-0908, into the blower gearshaft.
6. Put the old snap ring back on the blower driveshaft.
7. Place a new gasket, NSN 5330-00-074-1925, inside the air inlet cover. Reattach the cover with the four screws and flat washers. Torque the screws to 20-24 lb-ft.

M728 Combat Engineer Vehicle . . .

SNAP TO IT!



It's a 'snap' to bring the cupola on your M728 CEV to a screeching halt. All you have to do is ignore the seven terminals on each of the two cupola contact board assemblies.

When a couple of those prongs snap off or corrode, you could lose power to the periscope and machine gun. It might also wipe out communications between the commander and the rest of the crew.

Eyeball the terminals when you do your turret PMCS. If the terminals are missing or corroded, get your support to replace the boards.


Watch terminals for signs of wear

Fan Blade Coverup

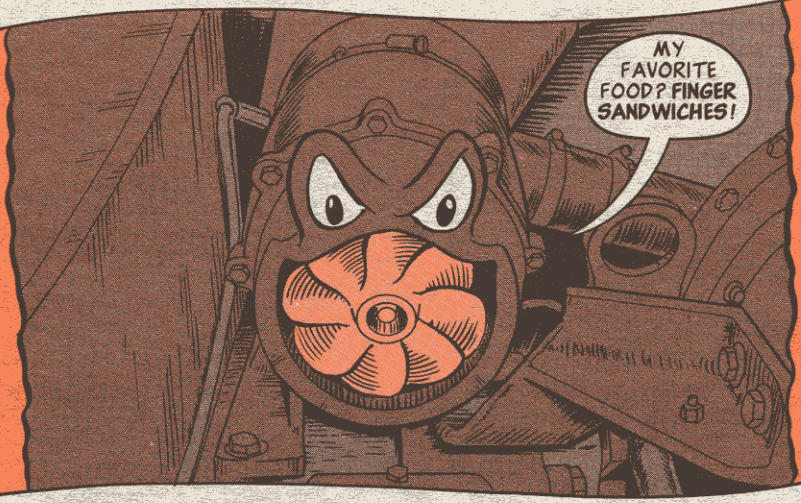
Dear Half-Mast,

We've had some real close calls while ground hopping M1-series tank engines.

The TM says to disconnect the precleaner hose as part of pulling the powerpack. That leaves the tubeaxial fan exposed. A little slip could cost you a finger or two if you get too close.

How do we protect ourselves from this danger? Is there a special guard or something we can use to cover the fan during ground hop?

SSG J.J.F.



Dear SSG J.J.F.,

The TM isn't very specific on this point, but you're only supposed to disconnect the precleaner hose at the precleaner end. Keep the hose attached to the tubeaxial fan.

With the precleaner hose in place, there's no danger from the tubeaxial fan while ground hopping—and no need for a guard.

Half-Mast

Keep Ammonia Away

If the ballistic glass in your HMMWV window is separating, it might be because you're cleaning it with ammonia.

Never clean ballistic glass with ammonia. Ammonia may be good for household windows, but it breaks down the bond between the inner and outer sections of ballistic glass.

Clean the glass like it says on Page 2-59 of TM 9-2320-280-10. Use detergent, soapy water, plastic polish or a cream cleaner. **Never use any cleaning product that contains ammonia.**

If the glass sections completely separate, or if they cause a safety hazard by separating so much that you can't see through the glass, it's time to replace the ballistic glass.

Never substitute regular plate glass for ballistic glass, though. It offers no ballistic protection.

HMMWV . . .

Wash Out Turrets

Cleaning the dirt and grit from the turret bearing on an armament carrier's turret ring doesn't have to take hours. A low-pressure stream of water from a garden hose cleans the bearing just as well as eight hours of wrench-turning and lifting.

This labor-saving idea was developed by the Prototype Engineering Division at the Army's Missile Command.

Engineers added a pipe fitting and three feet of water hose to the turret ring. All the unit mechanic needs to do is connect another hose and turn on the water.

A couple of spins of the turret and the bearing is cleaned out.

Machine Work Needed

You may need some help from your installation's machine shop to add the pipe fitting, though. A hole has to be drilled in the turret bearing.

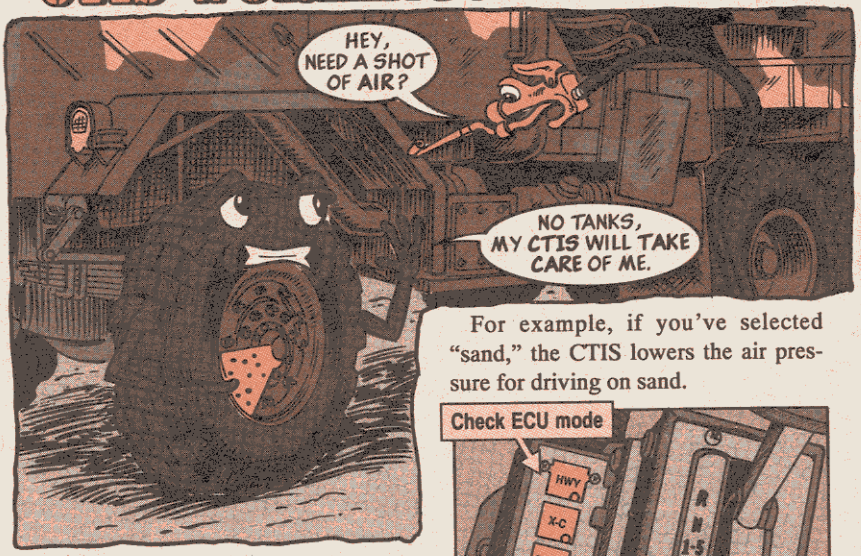
Tank-automotive and Armaments Command (TACOM) has the plans for this fix. Get them by calling:

DSN 786-7416 or commercial (810) 574-7416.

Or write:

Commander USA TACOM
ATTN: AMSTA-IM-MTA
WARREN, MI 48397-5000

CTIS WORKING? NO TANKS!



You've started your M939A2-series 5-ton and the tires still look a little low. What do you do? What you DON'T do is go get an air tank.

Don't manually add air to any tire on the M939A2 while operating the central tire inflation system (CTIS). You can mess up the CTIS' electronic control unit (ECU).

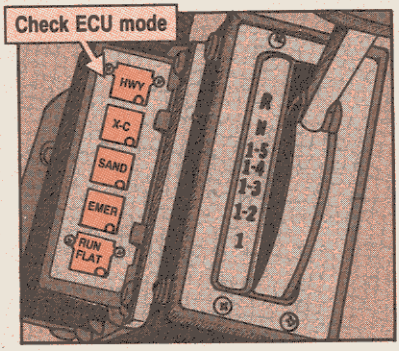
Your mechanic has to disconnect the CTIS system to manually add air.

The CTIS regulates the air pressure, adding or removing air as necessary.

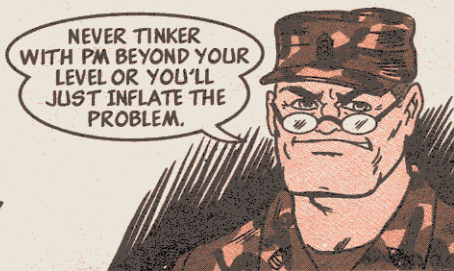
Once you crank up your truck, the ECU automatically checks and regulates the air pressure in each tire.

If you suspect the tire pressure is still not correct, check to see that you have selected the proper ECU mode.

For example, if you've selected "sand," the CTIS lowers the air pressure for driving on sand.



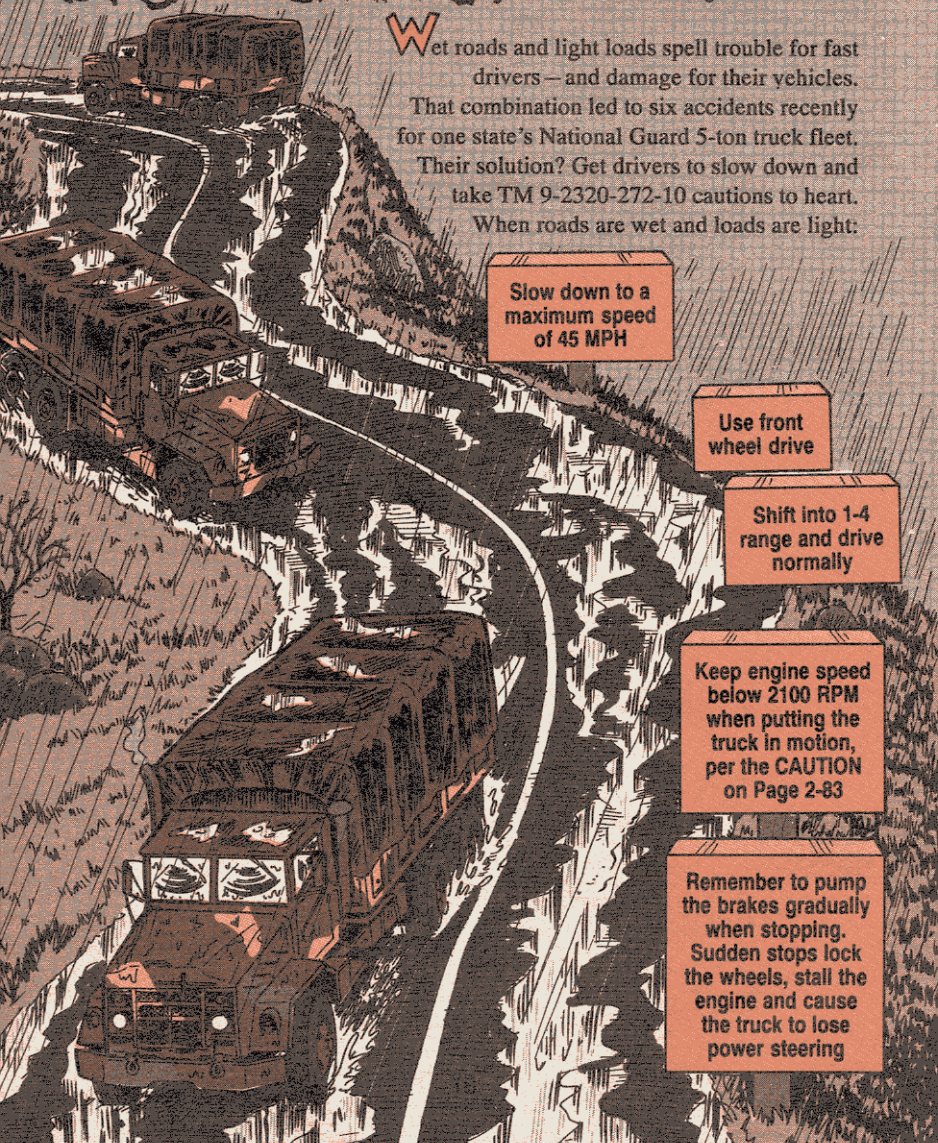
If, after several minutes, you still notice under-inflated tires, and you've done everything allowed by TM 9-2320-272-10, **stop**, because that's all you should do. Go get a mechanic or your sergeant.



M939-Series Trucks . . .

SLOW DOWN ON WET ROADS

Wet roads and light loads spell trouble for fast drivers—and damage for their vehicles. That combination led to six accidents recently for one state's National Guard 5-ton truck fleet. Their solution? Get drivers to slow down and take TM 9-2320-272-10 cautions to heart. When roads are wet and loads are light:



Slow down to a maximum speed of 45 MPH

Use front wheel drive

Shift into 1-4 range and drive normally

Keep engine speed below 2100 RPM when putting the truck in motion, per the CAUTION on Page 2-83

Remember to pump the brakes gradually when stopping. Sudden stops lock the wheels, stall the engine and cause the truck to lose power steering

KEEP BOARDS TIGHT

Loose fasteners on truck troop seats and trailer sideboards are bad news.

The wear and tear from standing, sitting and stacking will crack and break boards that have loose nuts and bolts. Cracked and broken boards and loose hardware can be hard on passengers, too.

Keep fasteners tight. When you notice a loose one, tighten it. Then go over all the others to make sure they're still tight.

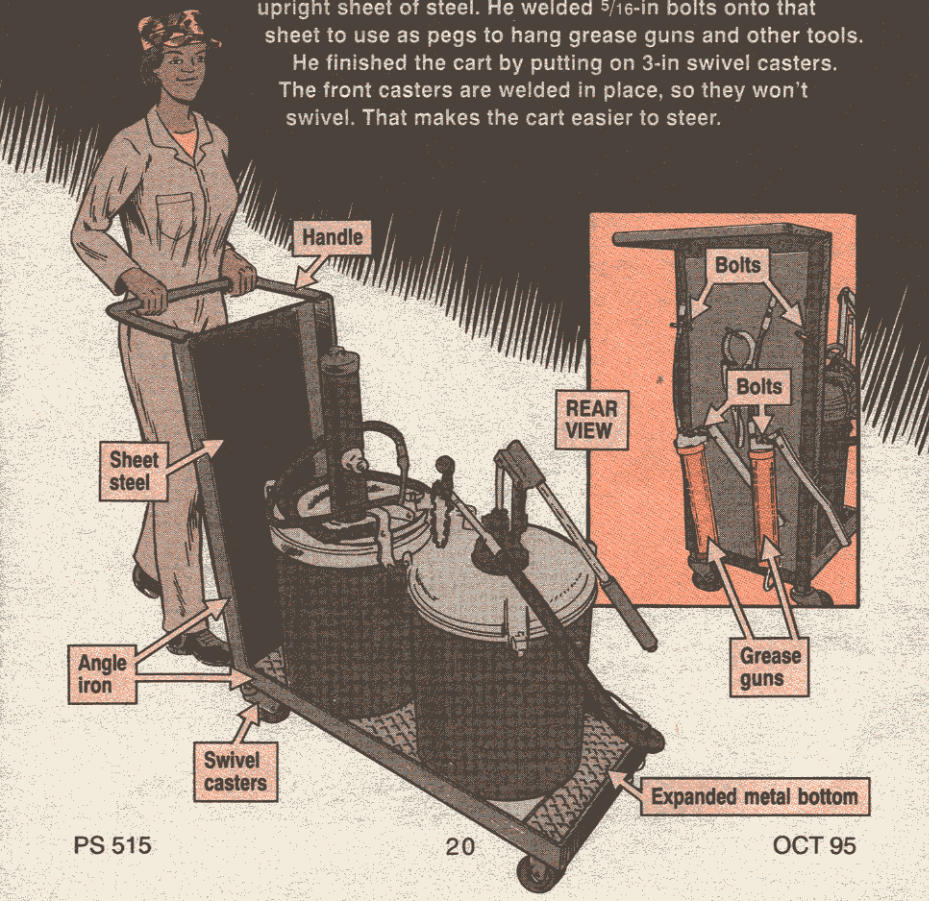
Grease Containers a la Cart

If you're tired of lugging those heavy grease containers around the motor pool when you do lubes, make a cart for 'em. Then you can roll them around without straining your back.

You can customize your own cart, but here's a cart made by SFC Donald Crow of the Alabama National Guard:

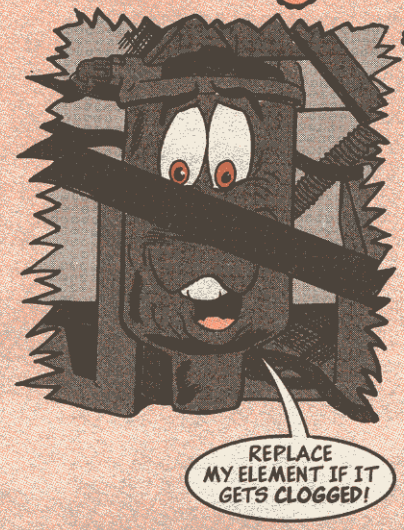
His cart frame is made of angle iron. The bottom of the cart is 32 1/2 inches long and 14 inches wide. You can line the bottom with expanded steel, plywood or some other sturdy material.

The push handle is a 3/4-in bar, bent and welded into place. To hold the push handle, Sergeant Crow added on an upright sheet of steel. He welded 5/16-in bolts onto that sheet to use as pegs to hang grease guns and other tools. He finished the cart by putting on 3-in swivel casters. The front casters are welded in place, so they won't swivel. That makes the cart easier to steer.



Diesel Engines . . .

Getting Started with JP-8



Mechanics, you've probably heard by now that the military is switching to one fuel. It's true, and JP-8 turbine fuel is the one.

It won't happen overnight but when it does, you can expect a rash of plugged fuel filters. JP-8 is a kerosene-based fuel that breaks gunk and contaminants free from the sides of fuel tanks and lines.

After the switch to JP-8, pay attention to your vehicle's engine. When it starts to run rough, replace all fuel filters. They're clogging up. This clogging should stop after two or three refuellings.

JP-8 won't hurt your engines. And it doesn't need any lubricating help, like engine oil, brake fluid or cherry juice. They plug filters, too, and lower engine performance.

Brakes . . .

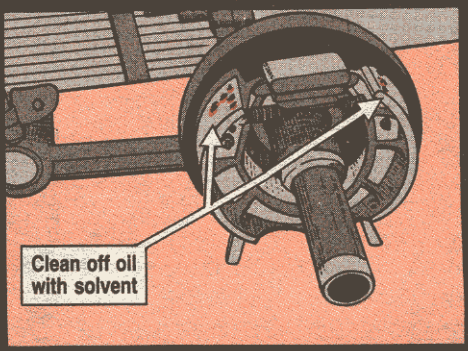
Stop Oily Brakes

A little oil or grease won't ruin a set of brake shoes—if you clean the brakes quickly. Trying to save oil-soaked shoes, though, can cost lives.

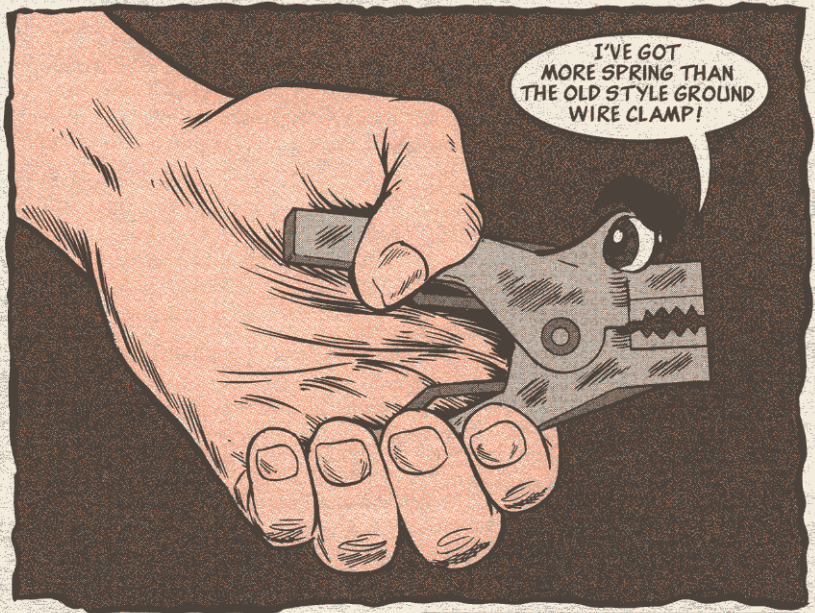
Oily shoes won't stop a vehicle as surely as clean ones. You might make them look safe with solvents and sandpaper, but lives are at stake. Never take the chance.

If you get a little oil or grease on the shoes—while packing wheel bearings, for instance—clean it off right away with dry cleaning solvent, NSN 6850-01-158-3928.

When you replace oil-soaked shoes, replace all shoes on the same axle. That keeps stopping action even and safe.



REPLACE GROUND WIRE CLAMP

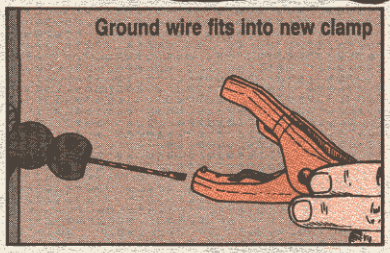


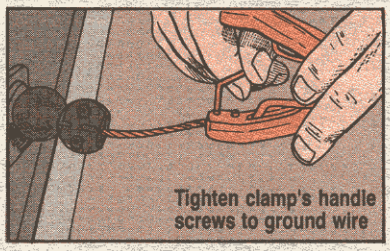
The spring that fits inside old style ground wire clamps has a bad habit of rusting and breaking apart.

Without a spring, the clamp won't provide much of a ground during fuel loading or refueling operations. That spells trouble.

Replace your old-style spring clamp with a more durable clamp, NSN 5999-00-134-5844.

The new clamp is a cinch to install. Remove the old clamp, then fit the ground wire into new clamp. Use a 3/32-in hex wrench from the No. 1 Common shop set to tighten the clamp's handle screws to the ground wire.





Exercise Hydraulic Cylinders

Hydraulic cylinders on D7 and D8 tractors need exercise to keep rust off cylinder rods. Rust on cylinder rods scrapes and cuts seals, causing them to leak. Leaks can make your equipment NMC.

To prevent rust, fully raise and lower the tractor's blade and extend the ripper once a week. This spreads a thin coat of oil on the cylinder rods. If you can't exercise the tractor each week, smear a 1/16 to 1/8 inch thick coating of GAA grease on the cylinder rods.

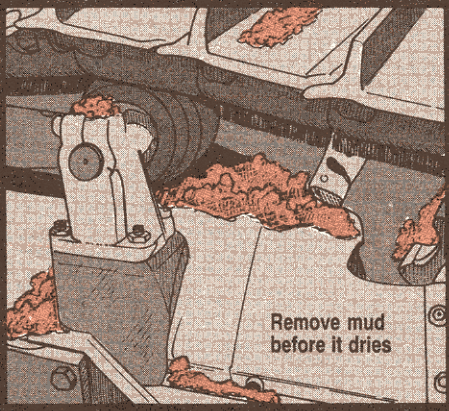
If a D7 or D8 tractor will be idle more than a month, coat the polished cylinder rod with GAA, then wrap it with waterproof paper, NSN 8135-00-753-4662. Use preservation sealing tape, NSN 7510-00-852-8180, to hold the paper in place.

D7/D8 Tractors . . .

The Muddy Lowdown

Dried mud on your CAT tractor's track hardens like cement. The carrier rollers won't turn like they're supposed to. You'll wear flat spots on the rollers and cause extra link wear.

So-o-o-o, after you're through for the day, dig out all the mud before it's dry. And while your head is down low, look for loose bolts, leaking seals, oil on the roller and uneven track wear. Report bum parts or anything that needs adjusting.



MHE 269 Forklift . . .

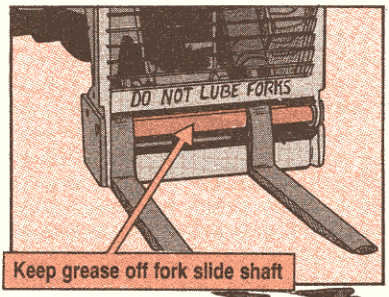
Don't Shaft the Slide Shaft

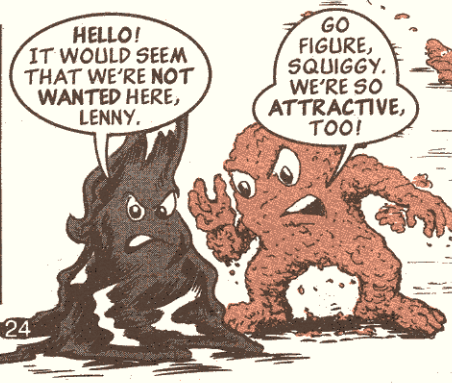
Greasing the fork slide shaft on the variable-reach rough terrain forklift is not a good idea.

Grease would help slide the forks back and forth, but grease attracts dirt, grit and sand like a magnet. That combo works like sandpaper to score the bearings inside the fork tines.

Use drycleaning solvent to remove any gunk, then grease no more.

If it's not already marked, get your mechanic to stencil "DO NOT LUBE FORKS" on the brace above the forks.



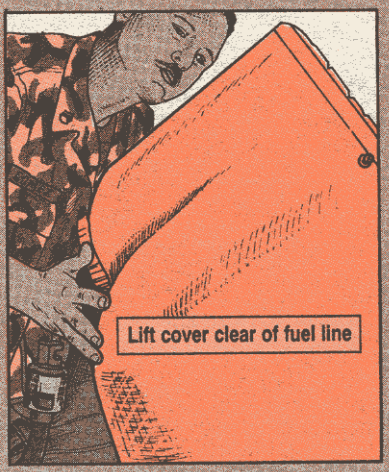


RUB OUT FUEL LINE DAMAGE

Operators, apply a little TLC in removing the SEE's engine cover to eyeball the coolant level expansion tank during PMCS.

It's real easy to bump or rub the "doghouse" against the engine's fuel return line. Over time, that can wear a hole in the line. Then you're stuck with an engine that won't run, not to mention a fuel leak.

Lift the engine cover clear of the fuel return line and you won't have to worry about the rub any more.



SEE . . .

Get Level with Coolant

Operators, you need to get level with the coolant in your SEE. When the coolant gets low, the engine overheats. It could seize and leave you stranded.

Your PMCS tells you to keep the expansion tank half full. Problem is, there are no markings on the tank.

Do yourself a favor. Mark the tank. Use a permanent marker and label the expansion tank at one-half and three-quarters full.

No more guesswork. Just add coolant when the tank's below half full.

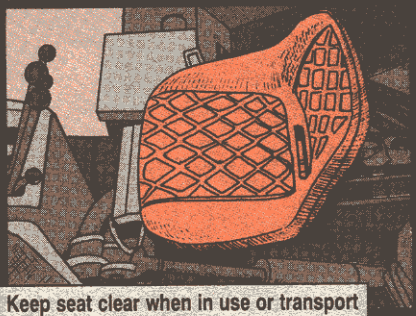
Clear Your Seat

Keep the backhoe seat clear—or you could be setting yourself up for disaster.

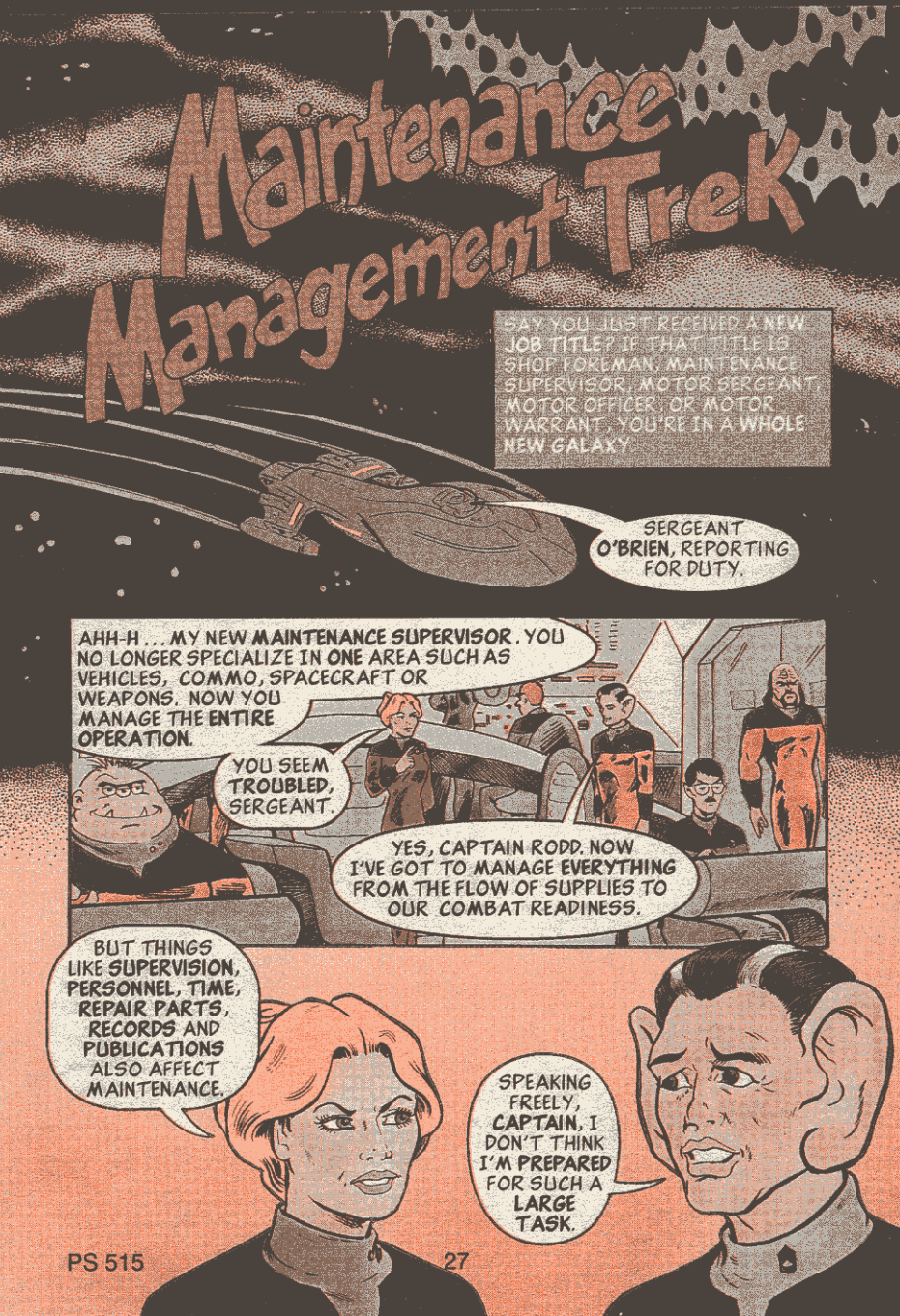
If you're operating the backhoe, you don't want to be sitting on a field jacket or your ALICE pack. It's not only uncomfortable, it's dangerous.

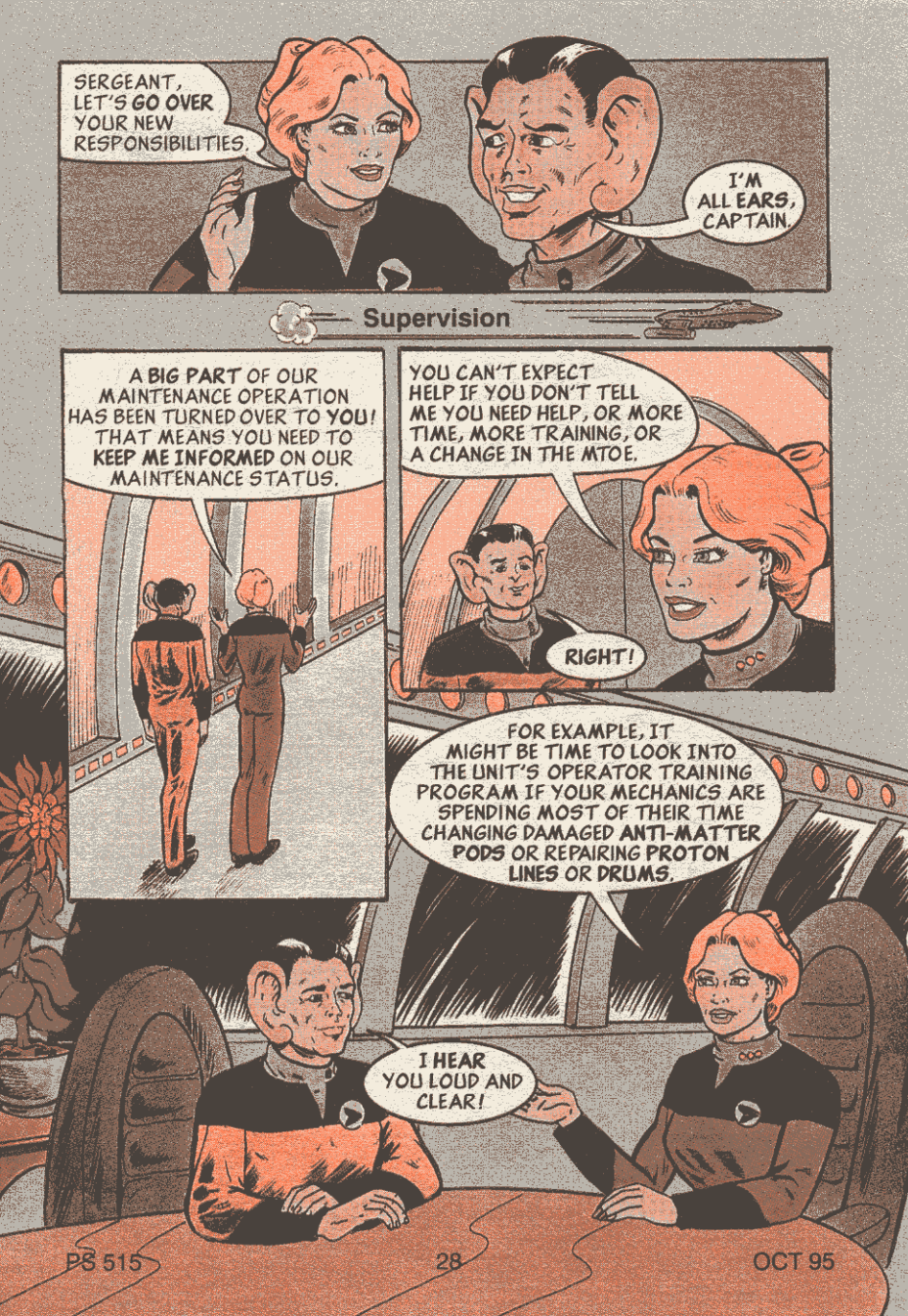
Same thing goes when you transport the backhoe. Gear piled on the seat can activate the control levers when you stow the backhoe. The boom will move. Anything, or anyone in its way will be clobbered.

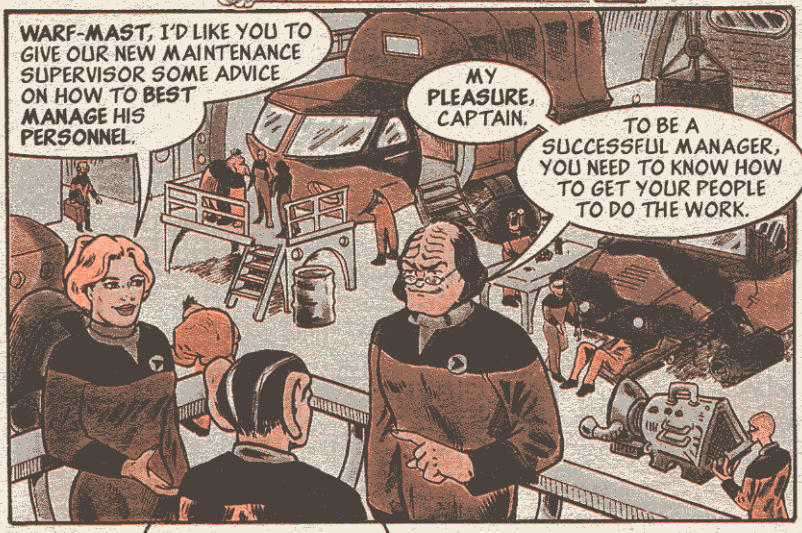
Prevent equipment damage or personal injury by making sure the seat is clear.



Keep seat clear when in use or transport


Maintenance Management Trek
SAY YOU JUST RECEIVED A NEW JOB TITLE? IF THAT TITLE IS SHOP FOREMAN, MAINTENANCE SUPERVISOR, MOTOR SERGEANT, MOTOR OFFICER, OR MOTOR WARRANT, YOU'RE IN A WHOLE NEW GALAXY.
SERGEANT O'BRIEN, REPORTING FOR DUTY.
AHH-H . . . MY NEW MAINTENANCE SUPERVISOR. YOU NO LONGER SPECIALIZE IN ONE AREA SUCH AS VEHICLES, COMMO, SPACECRAFT OR WEAPONS. NOW YOU MANAGE THE ENTIRE OPERATION.
YOU SEEM TROUBLED, SERGEANT.
YES, CAPTAIN RODD. NOW I'VE GOT TO MANAGE EVERYTHING FROM THE FLOW OF SUPPLIES TO OUR COMBAT READINESS.
BUT THINGS LIKE SUPERVISION, PERSONNEL, TIME, REPAIR PARTS, RECORDS AND PUBLICATIONS ALSO AFFECT MAINTENANCE.
SPEAKING FREELY, CAPTAIN, I DON'T THINK I'M PREPARED FOR SUCH A LARGE TASK.


SERGEANT, LET'S GO OVER YOUR NEW RESPONSIBILITIES.
I'M ALL EARS, CAPTAIN.
Supervision
A BIG PART OF OUR MAINTENANCE OPERATION HAS BEEN TURNED OVER TO YOU! THAT MEANS YOU NEED TO KEEP ME INFORMED ON OUR MAINTENANCE STATUS.
YOU CAN'T EXPECT HELP IF YOU DON'T TELL ME YOU NEED HELP, OR MORE TIME, MORE TRAINING, OR A CHANGE IN THE MTOE.
RIGHT!
FOR EXAMPLE, IT MIGHT BE TIME TO LOOK INTO THE UNIT'S OPERATOR TRAINING PROGRAM IF YOUR MECHANICS ARE SPENDING MOST OF THEIR TIME CHANGING DAMAGED ANTI-MATTER PODS OR REPAIRING PROTON LINES OR DRUMS.
I HEAR YOU LOUD AND CLEAR!

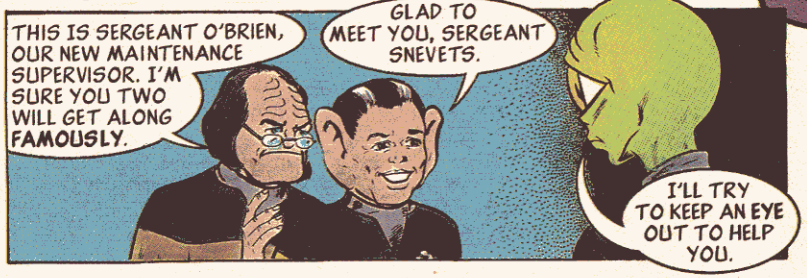


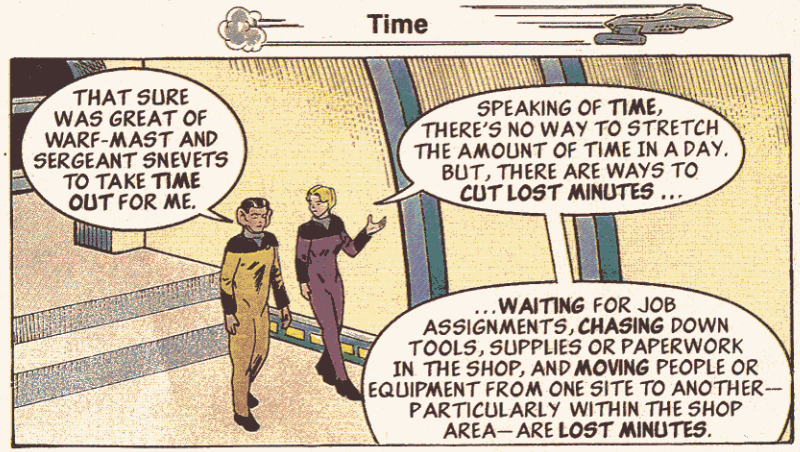
➤ **Use a memo or task list.** In order of importance, list the jobs you expect each person to do. And be sure to identify each person's direct supervisor.

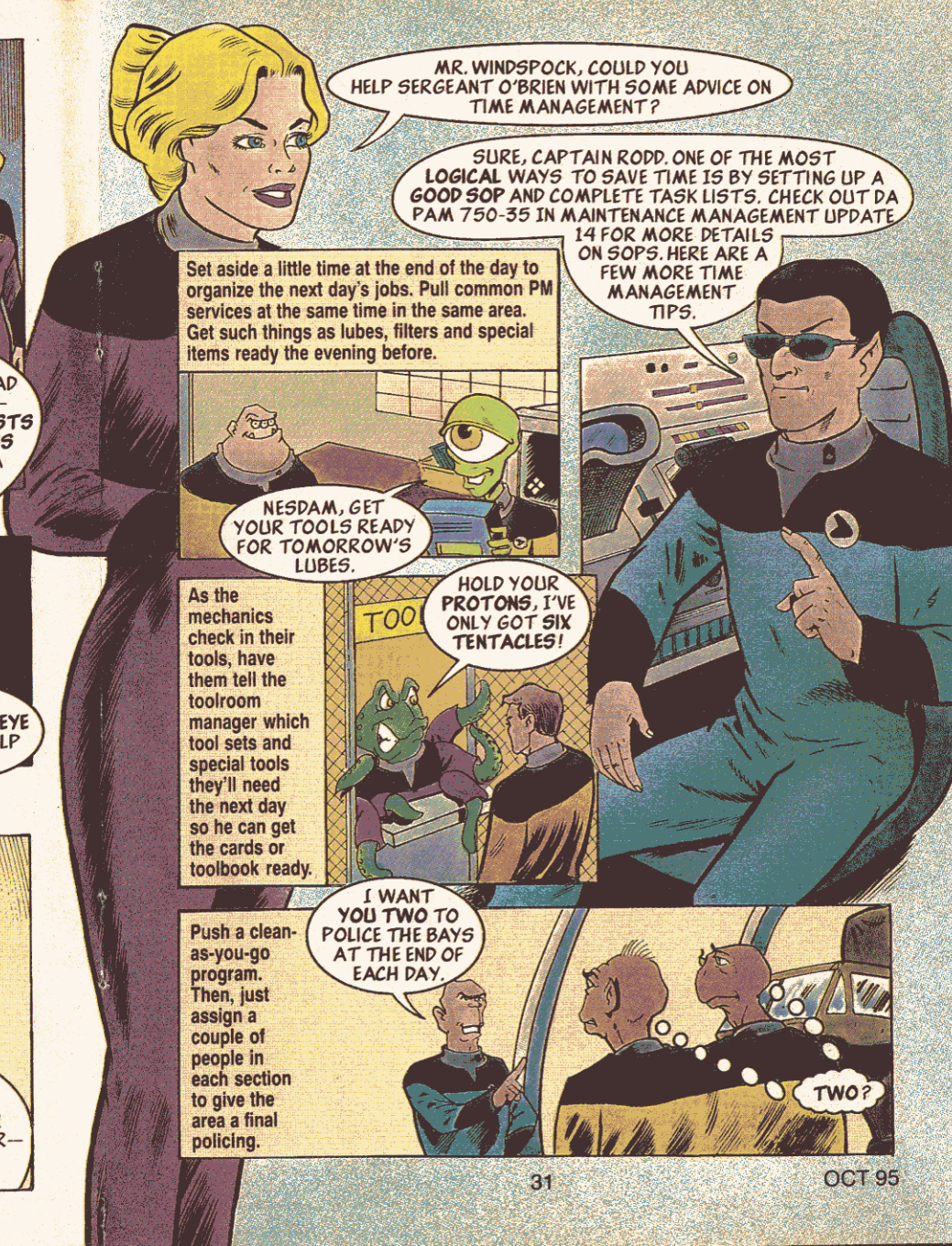
Schedule training time if your people are involved in OJT (on-the-job training) projects. Keep a close eye on OJT results. Some people are better teachers than others.

Use DA Form 2404 or ULLS DA Forms 5988-E to spot problem areas and problem equipment. If identical faults crop up again and again, start checking. Could be your operators or mechanics need more training or work needs to be done and checked better.

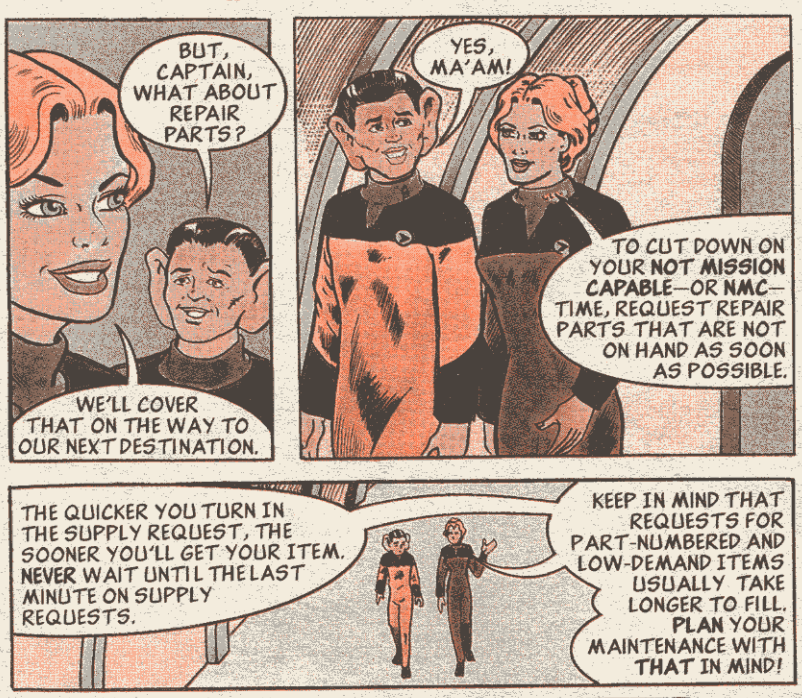
Check to make sure everybody knows which jobs are OK for your level—and which ones are not! Unauthorized or unnecessary work just spins your wheels and slows down other work requests.







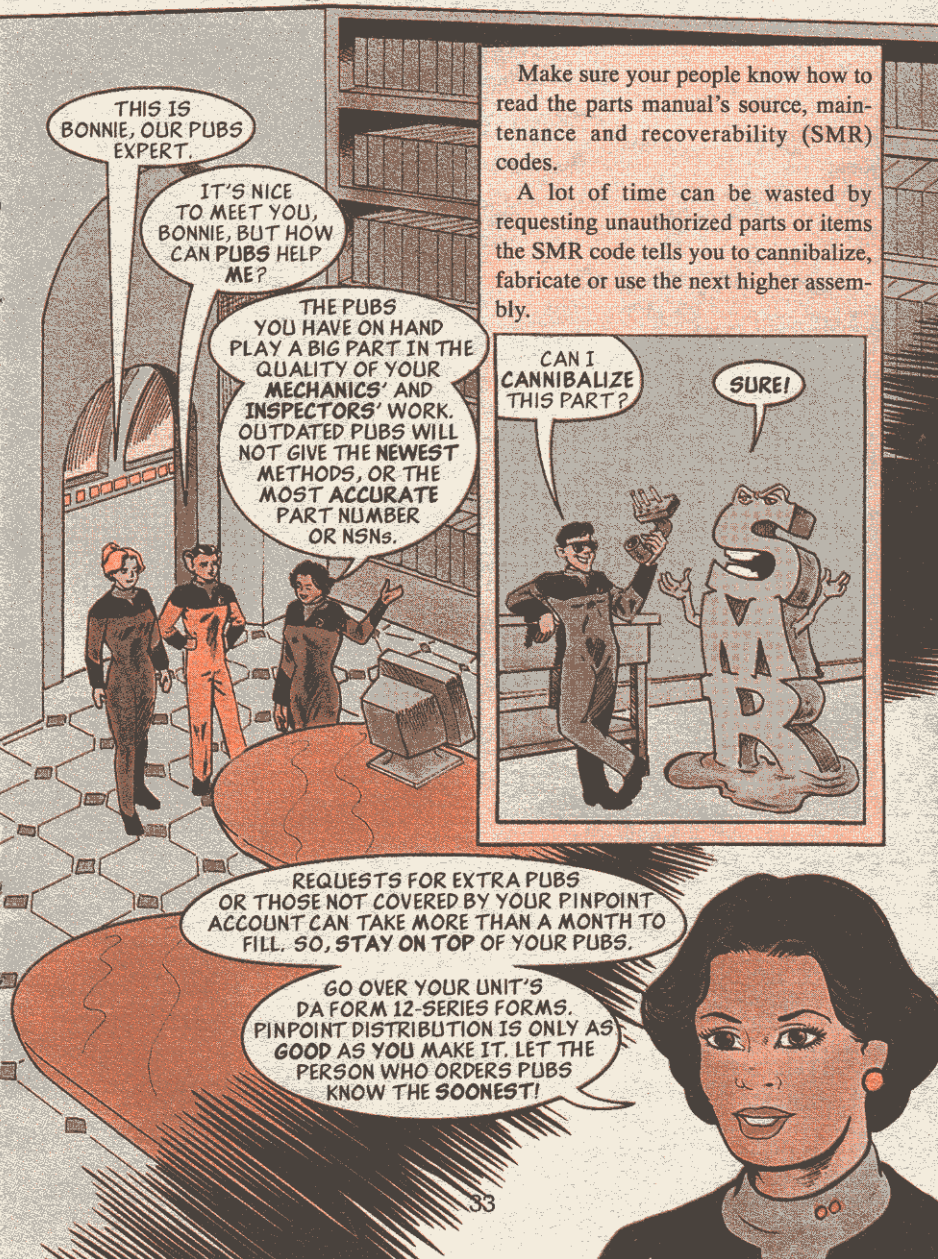
Repair Parts



Records

The main thing is to know DA Pam 738-750 and to train an equipment records clerk to make accurate and timely entries to the proper records. Also make sure you have the latest copy of the Maintenance Management Update for reference.

Operators and mechanics should be regularly checked out on the forms they work with. Bad entries on DA Forms 2404, 5988-E, 2407, 5990-E, or 2408-14 can hang up an entire section's work.



Make sure your people know how to read the parts manual's source, maintenance and recoverability (SMR) codes.

A lot of time can be wasted by requesting unauthorized parts or items the SMR code tells you to cannibalize, fabricate or use the next higher assembly.

More Info?

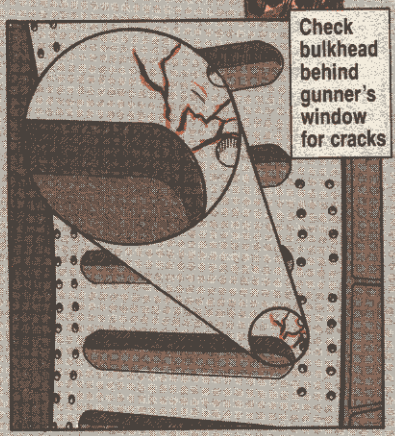
If you're interested in more information on organizing or managing a maintenance operation, look into these publications:

- DA Pam 738-750 — The Army Maintenance Management System (TAMMS)
- DA Pam 750-35 — Functional Users Guide for Motor Pool Operations
- AR 750-1 — Army Materiel Maintenance Policies
- FM 43-5 — Unit Maintenance Operations

As your Black Hawks enter their teenage years, they may be showing some signs of a hard childhood as the Army's utility workhorse. Some of those signs are structural cracks.

Crew chiefs, in addition to your regular PMCS, give your Black Hawks an occasional extra once-over for cracks.

Two areas to keep an eye on are the right side bulkhead behind the gunner's window and the inboard panel behind the main landing gear struts. Check these areas and follow the good words in your TM if you find any cracks.



UH-60A . . .

NIGHT LIGHT

It happened again. Another Black Hawk passenger grabbed another wrong handle and another window was jettisoned.

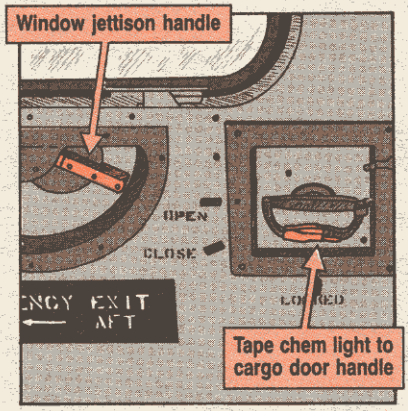
It's easy to see how it happens. The cargo door handle and the window jettison handle are next to each other. Add to the mix inexperience and the darkness of night and soon you'll have nothing but a cool breeze where the window once was.

You mechanics and crew chiefs can make sure this doesn't happen again.

Light the cargo door handle with a mini-chemical illumination light, NSN 6260-01-209-4434, before night ops.

The light stick is green, about 1 1/2 inches long, lasts eight hours and only costs about $12 for a box of 50.

Just tape it to the cargo door handle before night operations. It doesn't give off enough light to be a distraction, but it does give enough light to identify the right handle.



Give Starters Good Service

SCRAP ANOTHER ENGINE STARTER!...

...is heard all too often in Black Hawk maintenance hangars. The reason for early starter death is wrong servicing. The problem is with the gas engine starter, NSN 2995-01-208-7809 or NSN 2995-01-286-1498, that's replacing those old pneumatic starters.

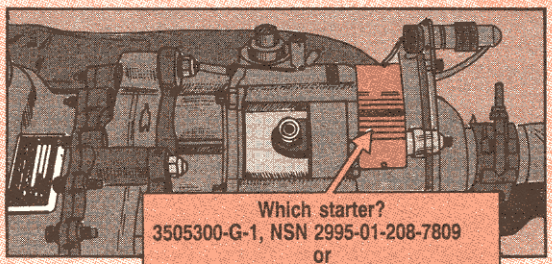
The AMDF says these two starters are interchangeable, but you better believe they're not serviced the same way.

There are two major differences in how you service them.

First, NSN 2995-01-208-7809 can be serviced on or off the helicopter, but NSN 2995-01-286-1498 must be serviced on the helicopter!

Second, when you add oil to starter, NSN 2995-01-208-7809, fill only to just above the step in the fill port. Do not overfill it! Starter, NSN 2995-01-286-1498, must be filled until oil runs out of the fill port.

Switch the servicing on these two and it will be **you** saying...



Which starter?
3505300-G-1, NSN 2995-01-208-7809
or
36E144-12A, NSN 2995-01-286-1498

...SCRAP ANOTHER ENGINE STARTER!

Is Your Tang Weak?

Dear Windy,

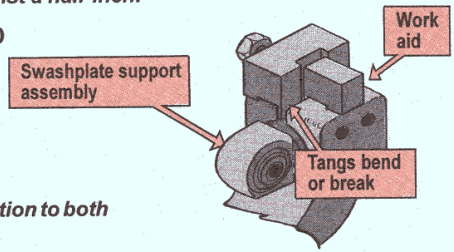
Para 5-62.b. of TM 55-1520-210-23-1 makes it clear: "Do not use any device other than the work aid described to spread the housing ears during trunnion removal/installation."

But the work aid described in Fig 5-38 has two tang problems.

First, the tang where it fits in the trunnion is too thin. It bends, and in some cases, breaks. When that happens, you damage the swashplate trunnion.

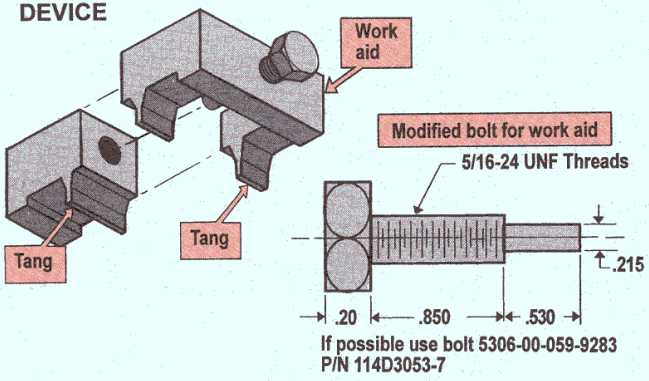
Second, the tangs are not equal in surface area. There's an inch pulling against a half-inch.

OLD WORK AID DEVICE



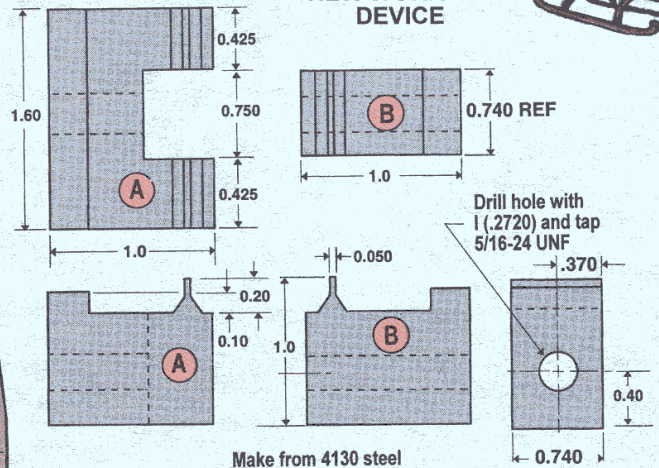
Here's my solution to both problems:

NEW WORK AID DEVICE



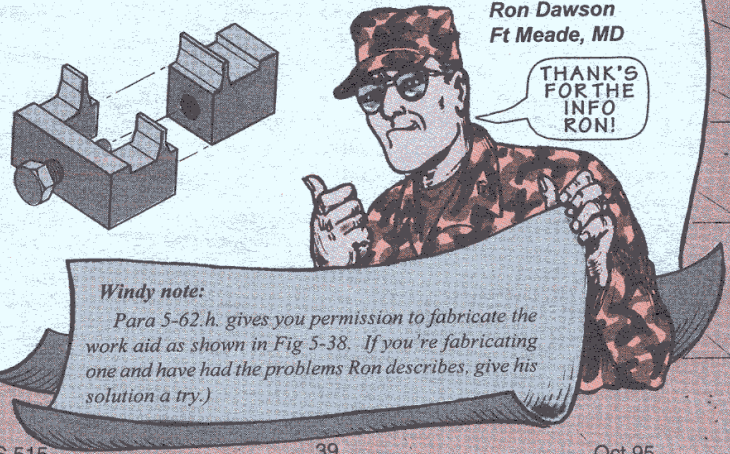
If possible use bolt 5306-00-059-9283
P/N 114D3053-7

NEW WORK AID DEVICE



Make from 4130 steel

Ron Dawson
Ft Meade, MD

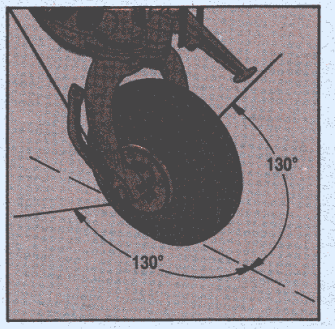


Windy note:

Para 5-62.h. gives you permission to fabricate the work aid as shown in Fig 5-38. If you're fabricating one and have had the problems Ron describes, give his solution a try.)

AH-64A . . .

180 NO, 130 YES!



There's no doubt your tail gear landing fork can swivel 360 degrees (180 degrees either side of center).

There's also no doubt that swiveling can cause the lower cam slot to gall, the lower cam pin to seize and the cam housing to bend.

Those problems start when you approach the 130-degree mark. At 180 degrees your wheel is backward. The lower cam becomes part of the load path. And the cam area can't handle the load!

So, when you're towing the aircraft or pushing it backwards by hand while the tail wheel is unlocked, make sure the wheel does not turn farther than 130 degrees either side of center.

AN/ALQ-144 Countermeasure System . . .

SPARE TOOLS

Dear Windy,

We use torque wrenches on the AN/ALQ-144 that must be sent out for calibration. While the wrenches are away, we have nothing to work with. Can we order spares? Also, is there an NSN for the T-handle used to tighten the panes?

SPC R.G.

Dear Specialist R.G.,

The answer to both questions is YES. Here are the NSNs:

Item	NSN 5120-01-
Torque wrench, 40 in-oz	388-0960
Torque wrench, 65 in-oz	387-8928
Torque wrench, 90 in-oz	388-1495
Rod holding tool (slotted)	391-1090
Rod holding tool (flat)	388-5082

You will need your commander's authorization to order a second set of tools.

Windy

AIR MOBILITY

An Illuminating Problem

Dear Windy,

We keep getting the wrong navigation light for our Apaches. We order PN 30-0158-3, but we get PN 30-1572-1. PN 30-1572-1 is the old light. It doesn't conform to MWO 1-1520-238-50-13. The new light does. So how do we get the new light?

SGT W. W. W.

Dear Sergeant W. W. W.,

Order the new light, PN 30-0158-3, with NSN 6220-01-322-9330. Enter 2B in blocks 65/66 so that the supply people know not to substitute. This should ensure that you don't get the old light.

Windy

Corrosion Videos Available

To fight the aircraft corrosion war, you need to use all available weapons. Your local Training and Audiovisual Support Center has four bullets for your anti-corrosion gun. So hop on your horse and ride over there and ask them for these video tapes:

"Corrosion—The Silent Enemy OH-58D AHIP Corrosion Control" ID# 708477, TVT 46-27
"The Silent Enemy (UH-60 Black Hawk)" ID# 707334, TVT 46-10
"UH-60 Black Hawk CPC Training and Awareness II" ID# 708639, TVT46-28
"Water Displacing Compound (WDC) Training and Awareness" ID # 709105 709105, TVT 46-56

Fine Points for PLGR Operation

Finding your position with the AN/PSN-11 precision lightweight GPS receiver (PLGR) is no trouble for a sharp operator. Finding answers to PLGR operational problems may be a little harder.

Here's how to correct some of the problems that keep cropping up:

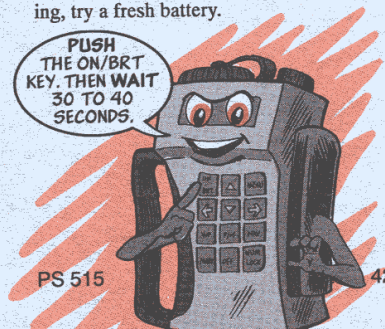
Power Problem

After you install a new BA-5800/U power battery, the PLGR may not turn on or it may come on briefly before turning itself off. The problem sometimes happens when you use batteries that have been stored for long periods.

The first step to setting things straight is to make sure the battery is installed the right way. Check for the right battery polarity and a tight-fitting battery cap.

Next push the ON/BRT key and wait for 30 to 40 seconds until the PLGR turns on. If it still won't turn on, push the ON/BRT key again. You may have to go through this procedure for five minutes before the PLGR turns on.

If you still can't get the PLGR working, try a fresh battery.



PLGR Unmasked

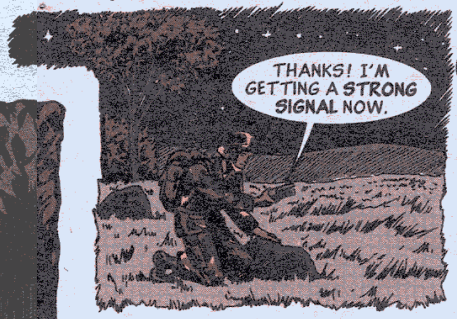
Your PLGR relies upon satellite signals received by line-of-sight. It needs a clear field of view to the sky so that it can acquire and track satellites. If you take cover indoors or under dense foliage, your PLGR will probably be masked. That means the cover interferes with satellite signals that the PLGR is trying to receive.

If the PLGR is masked while in the operating mode of CONT, FIX, AVG or TIME, it may go into a Search the Sky Mode. In this mode the PLGR tries to find satellites that may not yet be visible.

You may be able to return the PLGR to normal operation while under cover by following the procedure in Paragraph 4.4.9 of TM 11-5825-291-13.

You may also need to follow instructions for reacquiring satellites after you leave cover. You'll find that info in Paragraph 6.1.2.3 of the same TM.

If both these steps fail, turn off the PLGR, then turn it back on. Go into normal operation and allow Time to First Fix (TTFF). TTFF is the time it takes for the PLGR to complete a self-test, acquire the satellites and locate your position after it's turned on.



Power Battery

Some PLGRs have failed their start-up self-test when the LS-6 memory battery is put in before the power battery. This failure **usually** occurs only when the PLGR is coming out of storage. When you have to insert both the memory and main power batteries, put the main power cell in first. This does not apply to the normal exchange of main power batteries during routine PLGR operation.

Outdated GUV

Some operators have gotten this message on their PLGR's display screen:

WARNING Check GUV issue number

It means the data gathered from the satellites do not match the group unique variable (GUV) key entered in the PLGR. Chances are your GUV's 54-week cryptoperiod has run out and you're using last year's GUV. See your COMSEC custodian for a new one.

Memory Battery Cover

Next time you install a memory battery in the PLGR, take care when you screw the battery cover back on. Make sure the cover's coiled spring does not catch on the raised edge of the LS-6 lithium battery. If it does, the battery will overheat and the PLGR will display a failed memory battery warning.

The only thing you can do is turn the PLGR off, remove the battery and let it cool down. If the cover's coiled spring is bent, try to bend it back to its original shape. If that doesn't work, turn your PLGR in for a new one. There are no replacement covers for the memory battery compartment.

On Again, Off Again

Does your AN/PSN-11 precision lightweight GPS receiver (PLGR) keep coming back on by itself after you've turned it off?

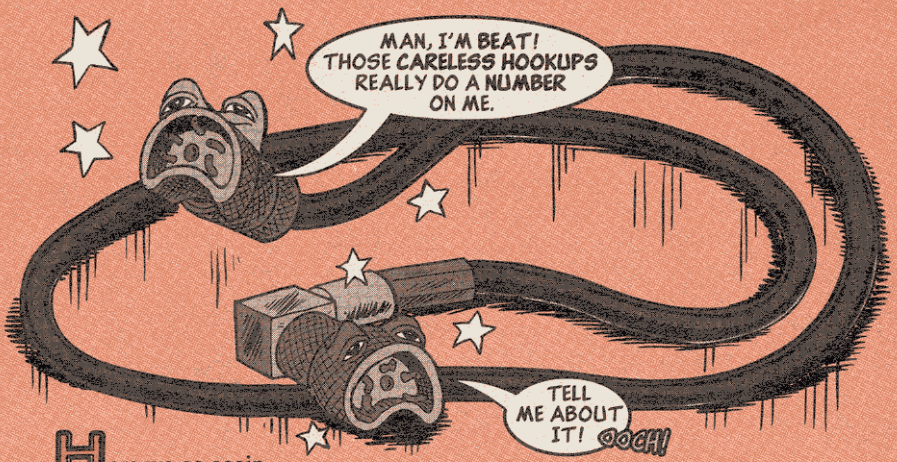
The problem could be that you've accidentally set the PLGR to the automark mode. The automark mode records positions at regular time intervals. If the PLGR happens to be turned off, automark turns it back on briefly to find its position.

If you suspect this mode is causing your problem, look at paragraph 3.5.9 of TM 11-5825-291-13. It'll tell you how to determine if automark is operating—and how to turn it off.

If your PLGR still keeps coming back on, ask your unit repairer to look at it.

Turn off AUTOMARK MODE

MSE CABLE FABLE



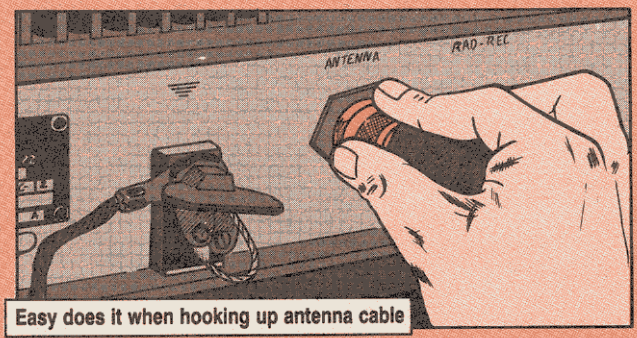
Here we go again.

It's the same old tale of caution told to every radio operator who ever lived: Take care when making cable hookups. A careless hookup bends pins or strips the keys out of the connector.

That's good advice when cabling any radio. It's also especially good advice when connecting the antenna cable to the MSE RT-1539 antenna connector. Lately, a number of antenna connectors have taken a beating, the direct result of hasty, careless hookups. Repairing the damage costs time and money.

The next time you hook up the antenna cable to the RT-1539 antenna connector, do it the right way:

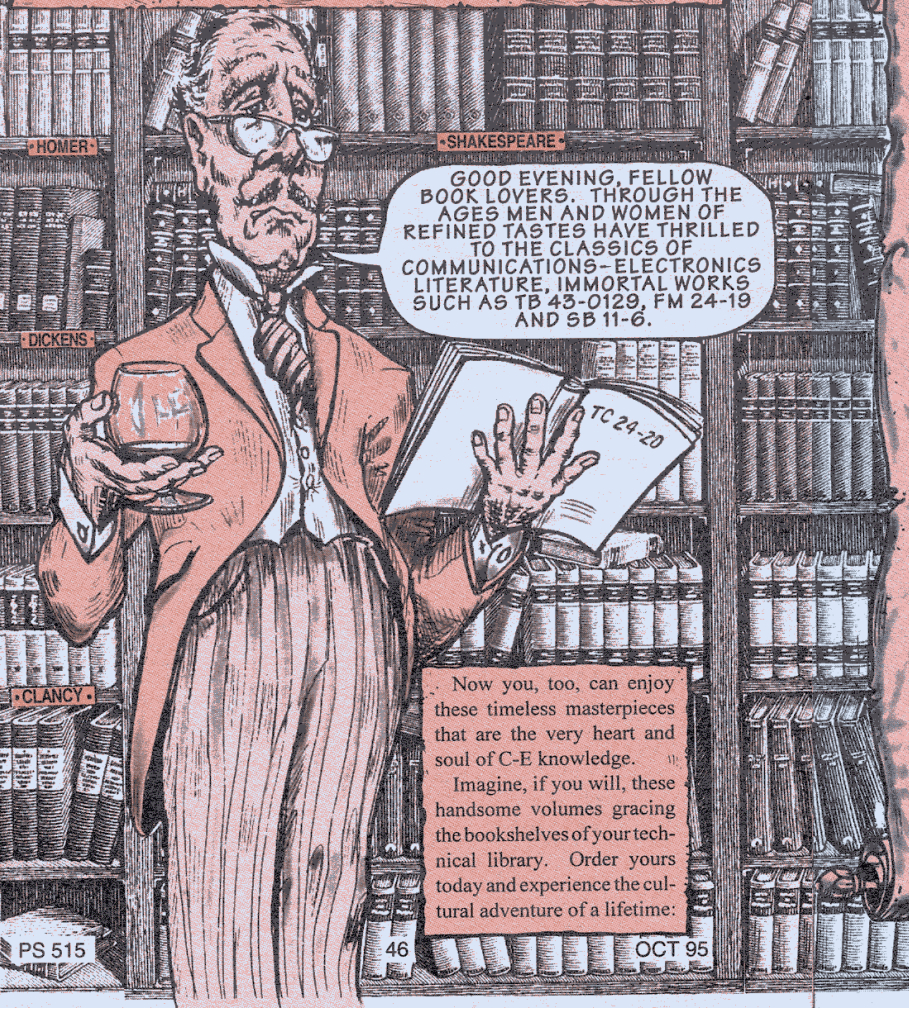
1. Take your time. Hurrying the connection makes damage all the more likely.
2. Center the cable, lining up the keys and the keyways.
3. Push in the cable connector firmly.
4. Turn it to the right.



Easy does it when hooking up antenna cable

Commo Classics Can Be Yours

And now, dear readers, we pause for a cultural moment with Sir Nigel Blueblood.



Now you, too, can enjoy these timeless masterpieces that are the very heart and soul of C-E knowledge.

Imagine, if you will, these handsome volumes gracing the bookshelves of your technical library. Order yours today and experience the cultural adventure of a lifetime:

FM 24-18 (Sep 87)—Tactical Single-Channel Radio Communications Techniques.

FM 24-19 (May 91)—Radio Operator's Handbook.

FM 24-24 (Dec 94)—Signal Data References: Signal Equipment.

SB 11-6 (Apr 93)—FSC Class 6135 Primary Battery Supply and Management Data.

SB 11-131-1 (Mar 91)—Vehicular Sets and Authorized Installations (Vol I).

BF 11-131-2 (Sep 92)—Vehicular Sets and Authorized Installations, Volume II (SINCGARS).

TB SIG 222 (Mar 85)—Solder and Soldering.

TB 43-0118 (Jun 86)—Painting and Preserving Communications-Electronics Equipment.

TB 43-0129 (Jun 86)—Safety Measures for Installing and Using Whip Antennas, Field Type Masts, Towers, Antennas and Metal Poles Used With Communication, Radar and Direction Finder Equipment.

TB 43-0134 (Jul 93)—Battery Disposition and Disposal.

TB 43-0135 (Jun 94)—Environmentally Safe Substances for Use with Communications-Electronics Equipment.

TB 385-4 (Aug 92)—Safety Requirements for Maintenance of Electrical and Electronic Equipment.

TC 11-4 (Apr 77)—Handbook for AN/VRC-12 Series Radio Sets (includes AN/VIC-1 intercommunication set).

TC 11-6 (Mar 89)—Grounding Techniques.

TC 24-20 (Oct 88)—Tactical Wire and Cable Techniques.

TC 24-21 (Oct 88)—Tactical Multichannel Radio Communications Techniques.

TM 11-5800-215-BD (Dec 86)—Battlefield Damage Assessment and Repair for Communications-Electronics Equipment.

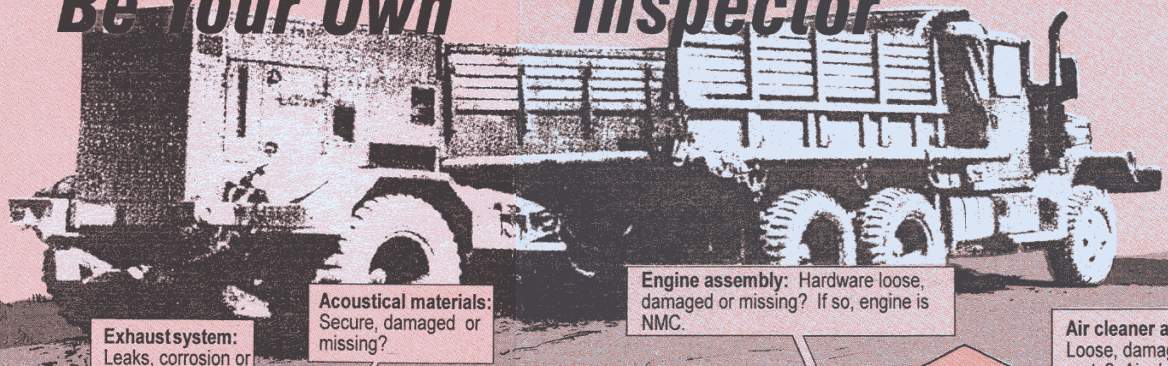
TM 11-5800-216-L (Oct 94)—List of TMs, TBs, SCs and other pubs for Mobile Subscriber Equipment.

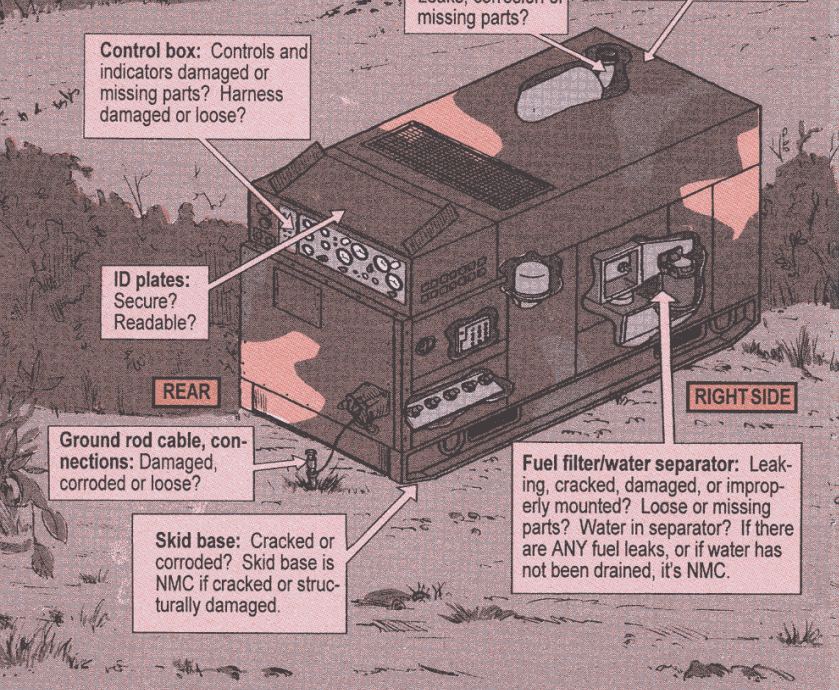
Tactical Quiet Generator . . .

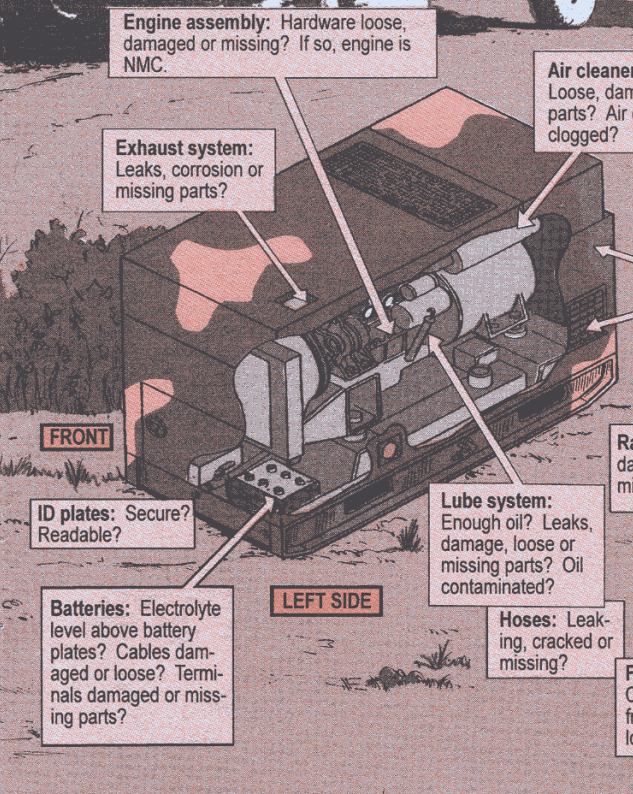
Be Your Own Inspector

When it's time to do PMCS on your tactical quiet generator (TQG), NSN 6115-01-274-7388 or -7393, be sure you include the following checks to keep it in running condition.

Here's what to check:







Insulated Container . . .

HOT or Cold?

Your insulated food container, NSN 7330-00-238-2411, is just another box unless you take care of it.

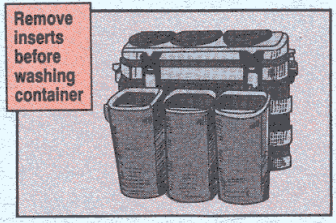
Make sure your food container has no missing or unserviceable parts. Something as simple as a missing gasket can make a difference.

Follow these tips and your container will keep hot food HOT and cold food COLD:

Keep 'em Clean

Make sure you clean the container and the inserts before and after every use. Here's how:

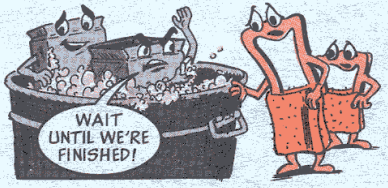
- Remove the inserts, insert seals, and the container gasket.



- Wash the container in hot, soapy water and rinse it good with boiling water. Never dunk the container in water.
- Wash the inserts separately with hand dishwashing compound, NSN 7930-00-281-4731, and hot water. Rinse them in boiling water.

Remember to wipe off the bottom of the inserts before putting them back in the container. If there's sand on the bottom of the inserts, it could scratch the inside of the container and contaminate your food.

Wash the gasket and seals whenever you clean the container and inserts. Use hot water and hand dishwashing compound with them also. Rinse them well in boiling water.

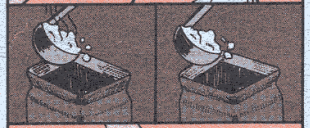


Put the gasket back on the container—flat side down. Place the insert seals back on the insert covers. This lets them dry in place so they won't stretch, shrink or lose shape. Let the container and inserts air dry.

It Takes PM!

Fire and Ice

Just as fire and ice don't mix, hot and cold food in the same food container won't mix. Put in all hot food or all cold food.

HERE'S HOW TO PREPARE THE CONTAINER FOR *HOT* FOOD:		HERE'S HOW TO PREPARE THE CONTAINER FOR *COLD* FOOD:
Remove the inserts.		Remove the inserts.
Pour two quarts of boiling water into the container. Replace the inserts.		Fill the container with crushed ice or pour two quarts of ice water in the container.
Close the cover and secure the latches diagonally.		Close the cover and secure the latches diagonally.
Wait 30 minutes. Remove the inserts. Empty water.		Wait 30 minutes. Empty water or ice.
Put hot food in the inserts.		Put cold food in the inserts.
Replace insert covers.		Replace insert covers.
Place filled inserts in the container.		Place filled inserts in the container.
Close and fasten the container by securing the latches diagonally.		Close and fasten the container by securing the latches diagonally.

DOs

D☺—Replace your container if it has a loose collar or holes punched in the inner shell, outer body or cover. When food gets in the openings, bacteria grows in the insulated space. This contaminates your food and there's a good chance someone will get food poisoning.

D☺—Lift the containers down off the end of a truck—never drop them off.

D☺—Seal the container by locking one front latch and one rear latch (diagonally opposite) at the same time. Then lock the other two the same way.

D☺—Pick up the container by its handles. Never use the cover as a handy pick-'em-up.

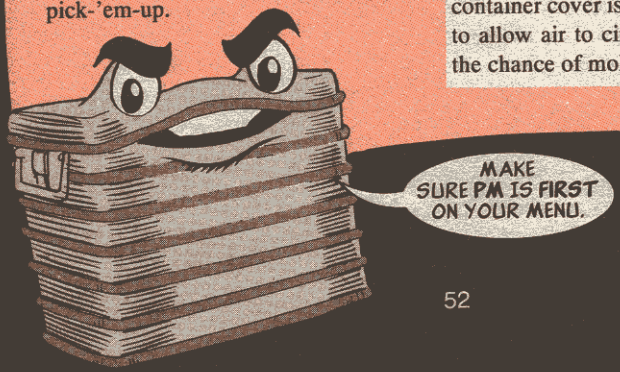
DON'Ts

D☹N'T—Lay anything on the cover when it's open.

D☹N'T—Sit on the food containers or use them for footstools. They're made of aluminum and will not hold your weight.

D☹N'T—Use ice picks, screwdrivers or other sharp objects to chip or break ice in your food container. You might poke a hole in the container. Chip the ice before putting it in the container.

D☹N'T—Leave the container open when you won't be using it for a while. Put the inserts in, with covers and seals on. Store container with the cover closed but unlatched. Make sure the container cover is pushed back slightly to allow air to circulate. This reduces the chance of mold and mildew.



Mobile Field Kitchen . . .

Parts for Liquid Dispenser

Replacement parts for 5-gal insulated liquid dispensers in your mobile field kitchens are hard to find.

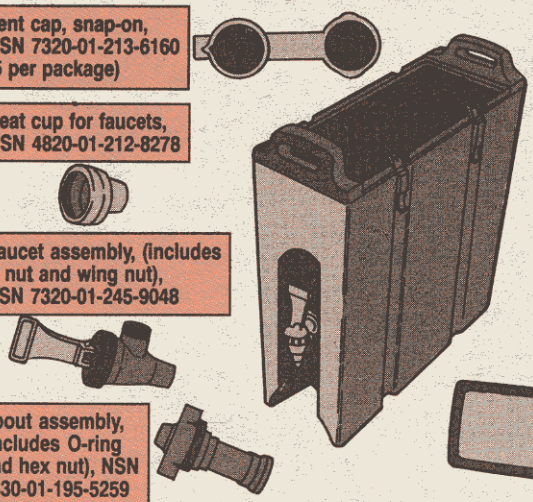
Parts for the older model dispenser, NSN 7320-01-093-7371, include:

Vent cap, snap-on, NSN 7320-01-213-6160 (5 per package)

Seat cup for faucets, NSN 4820-01-212-8278

Faucet assembly, (includes C nut and wing nut), NSN 7320-01-245-9048

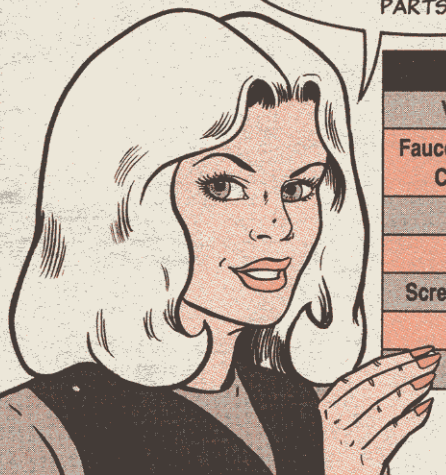
Spout assembly, (includes O-ring and hex nut), NSN 7330-01-195-5259 (local purchase item)



Latch assembly, (includes 4 latches and 16 screws), NSN 7320-01-224-0074

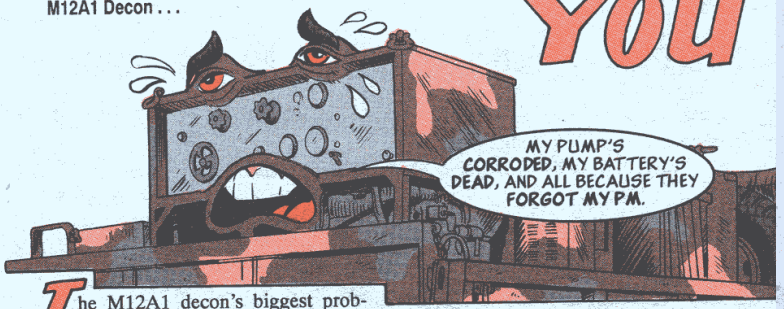
Complete lid, NSN 7320-01-223-9158

Lid gasket, NSN 5330-01-255-2588



Item	NSN
Vent cap, snap-on	7320-01-213-6160
Faucet assembly, (includes C nut and wing nut)	7320-01-245-9048
Spout assembly	7330-01-250-7730
Catch, flush	5340-01-249-6786
Screw, tapping (for catch)	5305-00-497-7401
Lid assembly	7320-01-255-8174
Lid gasket	5330-01-255-2588

YOU FORGOT?



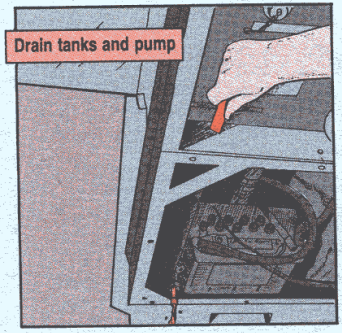
The M12A1 decon's biggest problem is that it sometimes sits for weeks. Corrosion quietly locks up the valves and pump. The battery slowly loses all its juice. Then it's time to go to the field.

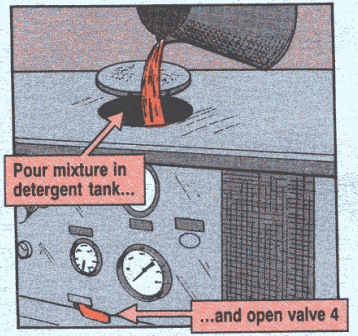
Surprise! Your M12A1 won't start—and it leaks. Why? Because you forgot your M12A1 needs special care for sitting. Such as:

Park the M12A1 on level ground and drain the main tank, prime detergent tank and the pump. If water's left in the tanks and pump, corrosion starts and your M12A1 will soon leak like a sieve.

Cold is a special problem. It's practically impossible to drain every bit of water out of the pump. Even a cup of water can freeze and damage the pump. You can't use antifreeze, because it could explode.

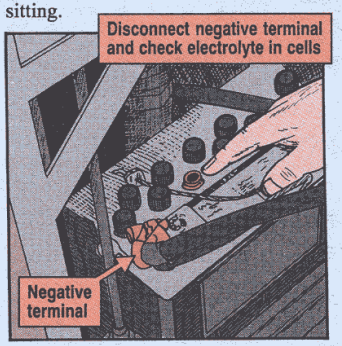
The solution is General Purpose Lubricating Oil (PL-S), NSN 9150-00-231-6689. If cold weather's expected, mix three pints of PL-S with three gallons of water. Pour the mixture in the detergent tank. Open Valve 4. Run the pump 30 seconds. Drain the pump. Close the drain valve and Valve 4. Now the pump won't freeze.



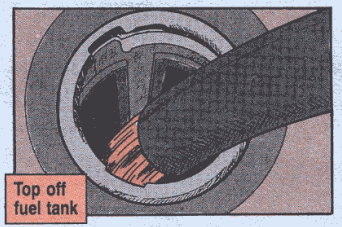


Disconnect the negative battery terminal to keep the battery from draining while the M12A1's sitting. If it's going to be hot (over 90° F), watch the electrolyte levels in the battery cells. Fill them if necessary.

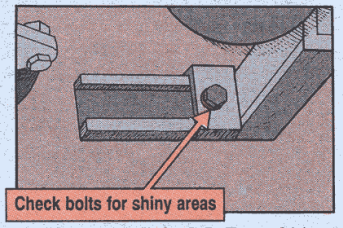
Then check the electrolyte level every couple of weeks. Heat can dry out the battery even when the M12A1's sitting.



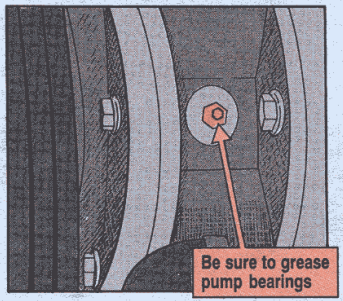
Top off the fuel tank. That keeps condensation from building up in the tank and starting corrosion. Then before you start the M12A1, drain the fuel sediment bowl so water doesn't get in the carburetor.



Eyeball the bolts for the motor mount, the starter, and the alternator for shiny areas that mean loose bolts. The M12A1 shakes like crazy and bolts work loose and maybe out. Tighten loose bolts.



Finally, check the DD Form 314 or ULLS DA Form 5986-E to see when your M12A1 was last lubed. If it's been more than three months, get out LO 3-4230-209-10 and go to work. Be especially sure to catch the two grease fittings for the pump bearings. If they're forgotten, the pump can lock up. Make the job easier by using the flexible grease gun adapter that's part of your BII.



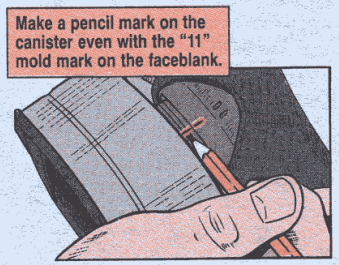
Leaks, Canisters and Cables

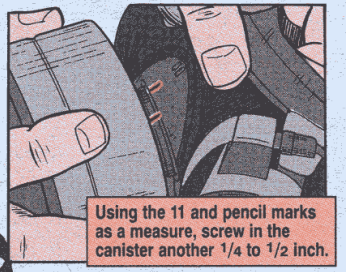
NBC NCOs, check out the latest on plugging M40/M42 mask leaks, disposing of canisters, and protecting the microphone cable.

Leaks

If the canister isn't screwed on tight enough, the M40 and M42 leak. When nerve agent is floating through the air, that could be quite unpleasant. Prevent leaks like this:

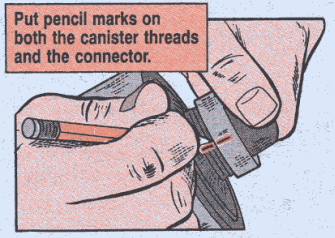
On the M40, screw in the canister until it touches the seat of the facepiece.

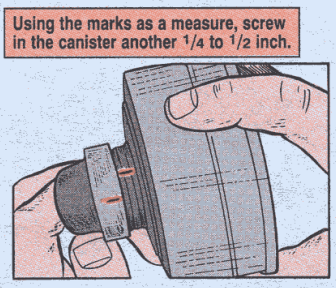




Now the canister is tight enough so it won't leak.

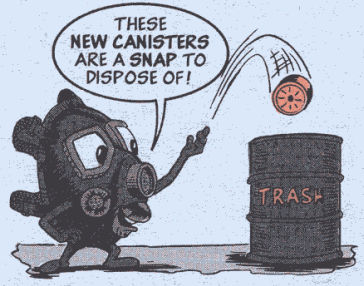
On the M42, screw in the canister until it touches the seat of the connector.





If you're not sure if either canister's tight enough, test it with banana oil or the Protection Assessment Test System. If your hand is not big or strong enough to screw in the canister, don't be afraid to ask for help. Your unit's lives could depend on how tight the canister's screwed in.

New Canister

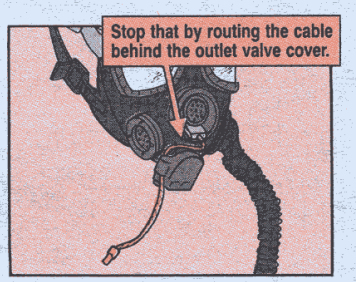


A new M40/M42 canister is hitting the street that makes disposal as simple as tossing it in the trash. In most places, it's not considered hazardous waste unless it's been exposed to war agent. Check with your local environmental office to make sure it's OK to toss it.

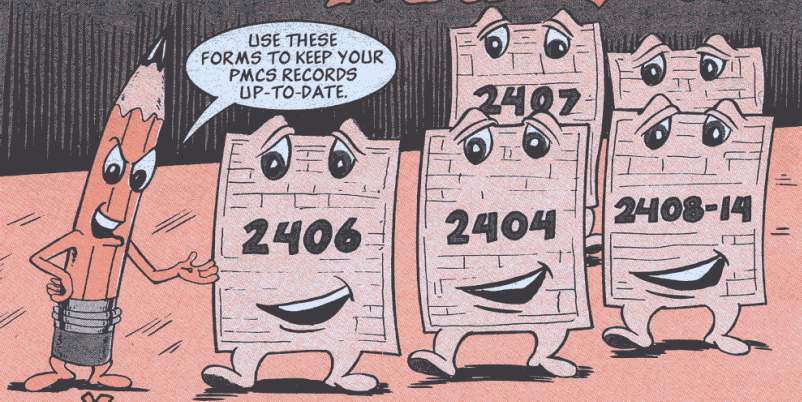
You will see the old canisters for a few more months until they're used up. They must continue to be disposed of as hazardous waste.

Cable

M42 microphone cables are working loose and disappearing.



Ready or Not!



Your commander knows what equipment is ready for operation by using the unit's material condition status report, DA Form 2406.

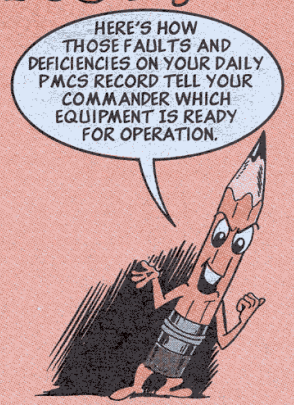
But, the readiness on the 2406 report is only as good as the PMCS you perform on that equipment.

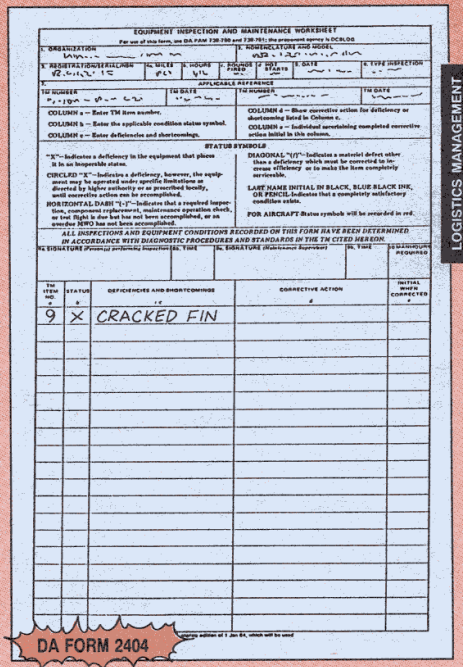
You—the operator—actually rate the operational status of your equipment, using the equipment TM's PMCS tables to identify equipment faults and NMC deficiencies.

TM 9-2350-314-10

TABLE 2-1, PREVENTATIVE MAINTENANCE CHECKS AND SERVICES FOR HOWITZER, SELF-PROPELLED, M109A6 — CONTINUED

Item No.	Interval	Location / Item To Check/Service	Crewmember Procedures	Not Fully Mission Capable If:
9	Before	Cooling Fans	Driver	
			WARNING Keep hands and loose clothing away from fans when working with running engine. Injury or death to personnel may result.	
			Open engine air intake grille (para 2-8.14.10) and transmission access doors.	
			Check for coolant leaks and serviceability of hoses.	
			Check cooling fans (1) for missing or broken parts.	Either Class III leak, cooling fan missing or not operating. Fin(s) broken or cracked.
			Start engine. Check that cooling fans (1) are turning. Check for oil leaks at fan drive. Check hoses and fittings for leaks.	




EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET

DA FORM 2404

All faults—except those you fix yourself—go on the DA Form 2404 or ULLS DA Form 5988-E daily. Keep this form in the equipment record folder.

When a deficiency is found that's in the NOT FULLY MISSION CAPABLE IF column of the PMCS, an "X" status symbol is put in column b of DA Form 2404 or the fault status column on ULLS DA Form 5988-E.

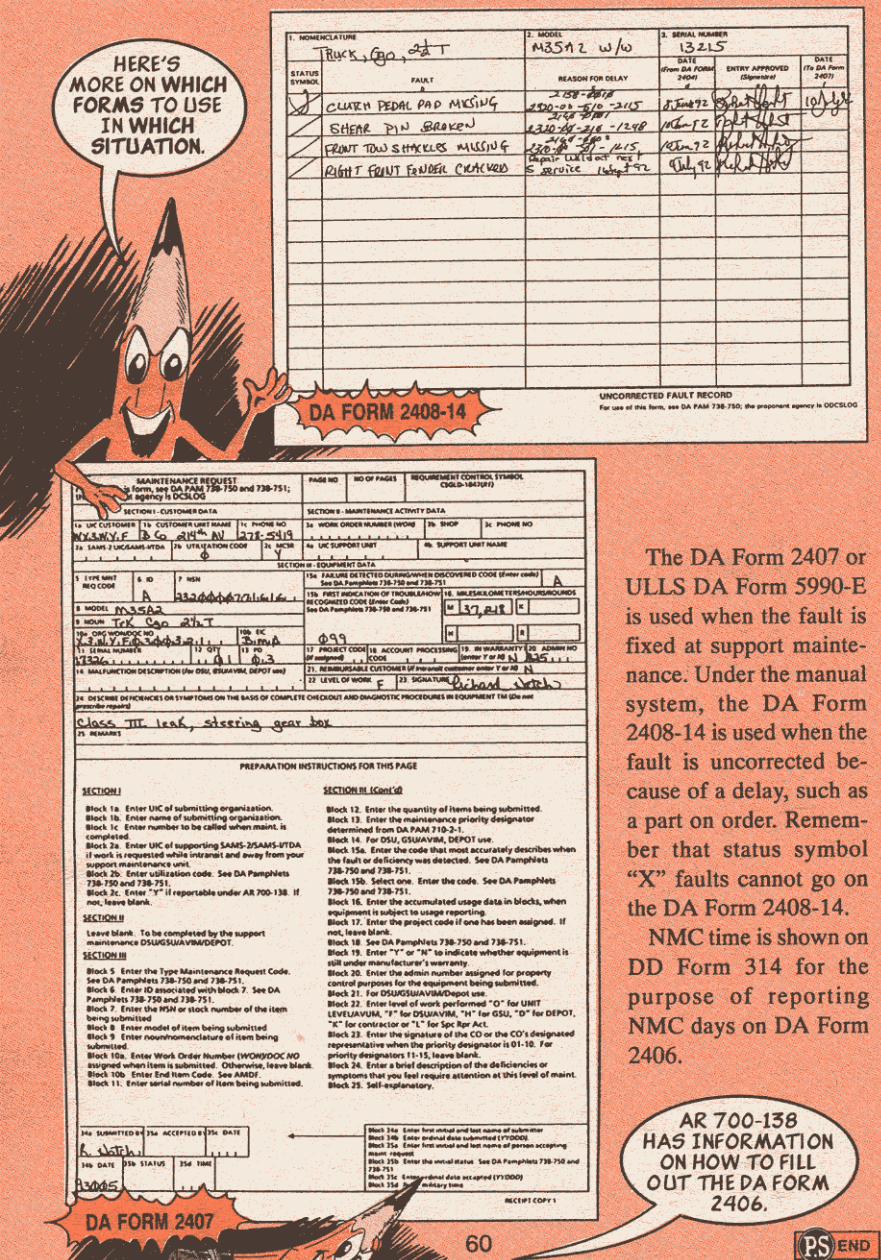
Other faults get the status symbol that you think describes the seriousness of the fault.

No matter how many faults and NMC deficiencies are found, make sure you check everything marked in the TM's BEFORE column.

Of course, any faults or NMC deficiencies you find during and after equipment operation go on the equipment inspection and maintenance worksheet, too.

You then turn in the worksheet to the dispatcher or maintenance supervisor. The dispatcher, supervisor or mechanic will check those faults and deficiencies that are recorded on the 2404 or 5988-E.

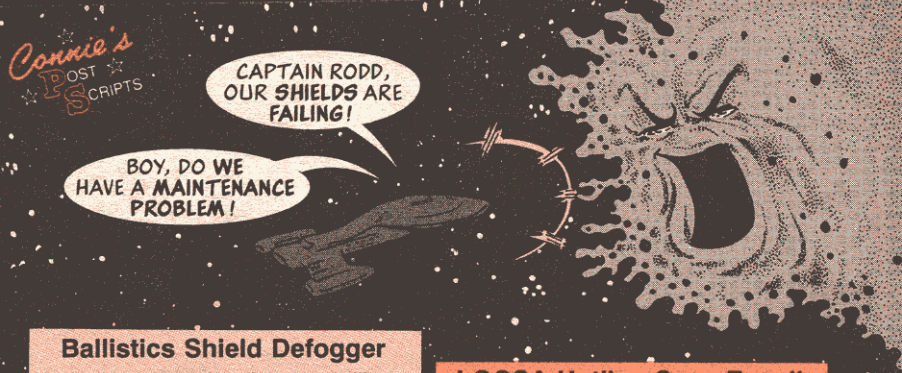
Any fault or NMC deficiency that can't be corrected by unit personnel is transferred to the maintenance work order, DA Form 2407 or ULLS DA Form 5990-E. Under a manual system, the fault or deficiency can also be transferred to the deferred maintenance form, DA Form 2408-14.



The DA Form 2407 or ULLS DA Form 5990-E is used when the fault is fixed at support maintenance. Under the manual system, the DA Form 2408-14 is used when the fault is uncorrected because of a delay, such as a part on order. Remember that status symbol "X" faults cannot go on the DA Form 2408-14.

NMC time is shown on DD Form 314 for the purpose of reporting NMC days on DA Form 2406.

PS END



Ballistics Shield Defogger

Keep the panoramic telescope ballistics shield on your M109-series SP howitzer fog-free on those cold, wet nights with anti-fogging kit, NSN 6850-00-127-7193.

New M249 BFA

You can now train with a blank firing attachment (BFA) specifically made for your M249 machine gun. The new BFA comes with NSN 1005-21-900-9739. It is being issued free, one per fielded M249. After that, armorers can order it as an AAL item from TM 9-1005-201-10.

Shelf Life of Vinyl Overshoes

The shelf life of green or black vinyl overshoes is 15 years after the date of manufacture. Natick says the renewable five-year shelf method no longer applies to the overshoes. Any overshoes older than 15 years are good for training only.

PQDR/EIR Electronic Mail

When you submit your Product Quality Deficiency Reports (PQDRs) and Equipment Improvement Reports (EIRs) by electronic mail to TACOM (Armament), use this address:

qawqdrs@ria-emh1.army.mil

The address on Page 35 of PS 507 is wrong.

LOGSA Hotline Goes E-mail

You can now e-mail your logistics questions to the Logistics Support Activity hotline. The address is:

hotline@logsa-emh2.army.mil

In addition to your question, give your name, telephone number and address—both postal and e-mail. You can still call the hotline: Toll free 800-878-2869, DSN 645-0499 or Commercial (205) 955-0499

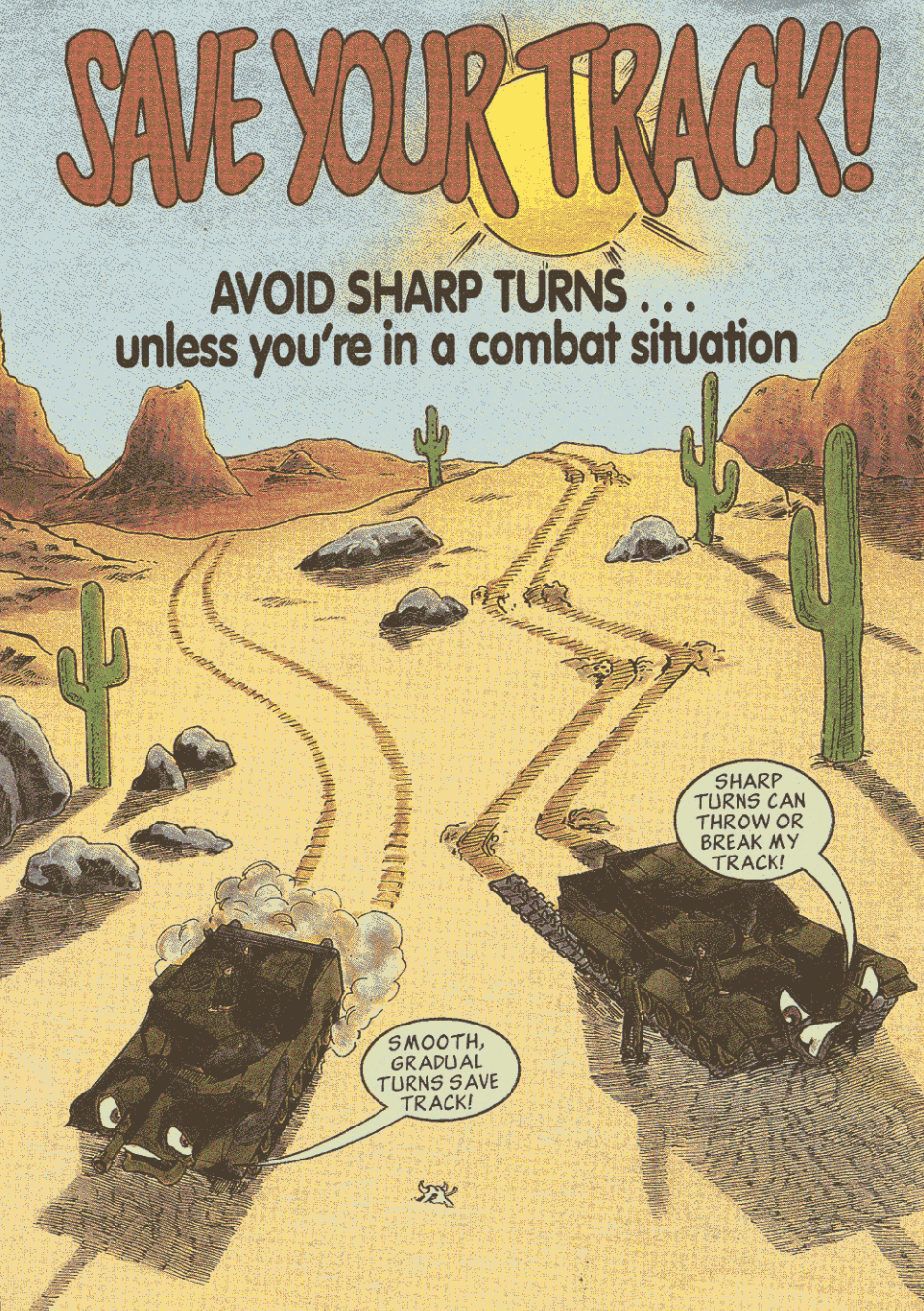
M871, M872A2 Tires Cheap

While supplies last, get radial tire, NSN 2610-01-281-0675, size 11.00R20, highway tread, load range H, regular price about $300, for $48.32. The price includes a flap and tube. This tire fits M871 basic trailers and M872A2 trialers. Remember that all tires on a vehicle must be radial or all bias ply, including the spare. Use this inflation guide:

Use	Inflation
Highway (hardtop) up to 55 MPH	75 PSI
Secondary (gravel) up to 20 MPH	75 PSI
Cross-country up to 10 MPH	55 PSI

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?


SAVE YOUR TRACK!
AVOID SHARP TURNS . . .
unless you're in a combat situation
SHARP TURNS CAN THROW OR BREAK MY TRACK!
SMOOTH, GRADUAL TURNS SAVE TRACK!