

Issue 522

PS

May
1996

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-522

Read and
heed, then
pass along!

1917

1945

IFOR

IT DOESN'T
MATTER HOW MUCH
EQUIPMENT CHANGES,
IT'S STILL PM THAT
KEEPS US GOING!

Approved for Public Release;
Distribution is Unlimited

Special Small Arms Section
... See Page 27

Can You Communicate?

Move, shoot, communicate—actions that form the backbone of any combat mission. Failure to do any of these puts both the mission and men at risk.

How well you move, shoot, and communicate depends in part on the quality of preventive maintenance you give your equipment. First-rate PM pays off in gear that works the way it should when you need it.

Too often, we think of PM as something reserved for equipment that moves or shoots—tanks or rifles, for instance. Less often do we consider the value of PM in keeping our communications equipment operating. But your commo is a fighting tool of no less importance than tanks or rifles. We use it to tell tanks when and where to move and riflemen how to deploy and when to shoot.

Take time to maintain your commo. Here are a few things you can do:

1. Make sure connectors are clean and free of corrosion.
2. Put dust covers on electrical connectors.
3. Safety wire vehicular antennas.
4. Inspect connectors for O-rings.
5. Ventilate commo shelters.
6. Keep commo TMs up-to-date.
7. Perform all checks and services in the PMCS tables.

If your unit can't communicate, it can't move or shoot effectively. Make communications PM a priority.



I CAN'T GET THROUGH TO THE TANK CREW AND THEY'RE HEADING INTO A MINE FIELD!

WHAT! WHY DIDN'T YOU CHECK THE RADIO BEFORE WE LEFT?!

UH-HHH...

THE PREVENTIVE MAINTENANCE MONTHLY

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TB 43-PS-522, 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, questions on maintenance and supply problems, and questions or comments on material published in PS. Just write to:

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PM for Heavy Haulers

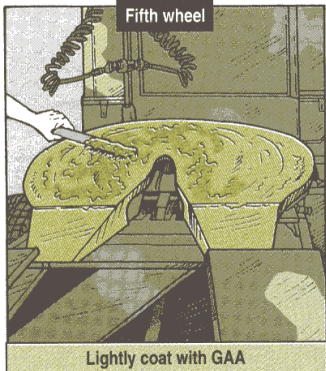
The best drivers know their big rigs need plenty of attention. They also know that the trailer needs just as much attention as the tractor.

To keep your rig on the road, get on a first-name basis with the trailer's PMCS and then key in on these PM tips:

Frame/Suspension

A light coat of GAA is all you need on the fifth wheel base plate and approach plate. Lube the base plate per the vehicle's LO, usually every 1,000 miles or monthly. A 1/4-in coating will do.

Too much lube attracts dirt and crud and can damage the fifth wheel or the trailer's kingpin.



Fifth wheel

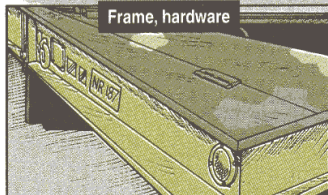
Lightly coat with GAA

Look for cracks around welds, bolts and rivets on crossmembers and tie-



OK, BIG GUY! LET'S HIT THE ROAD!

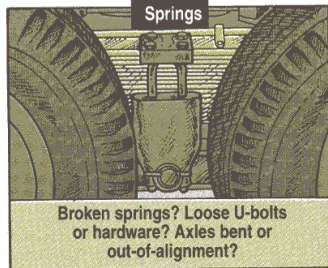
down points, side rails, upper coupler, subframe and rear bumper.



Frame, hardware

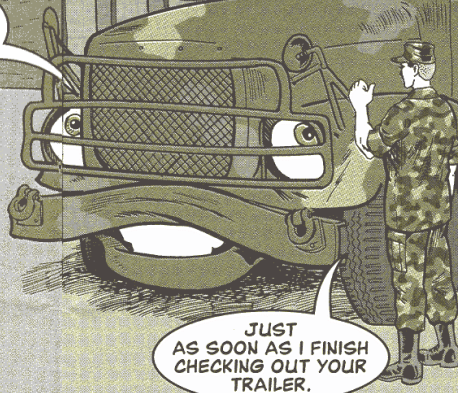
Cracked? Broken welds? Metal corroded? Rivets or bolts loose/missing? Pins gone?

Get under the semitrailer and eyeball the springs for cracks or breaks. Kick the U-bolts to see if they're loose. Take a look at the axles for bending or out-of-alignment conditions.



Springs

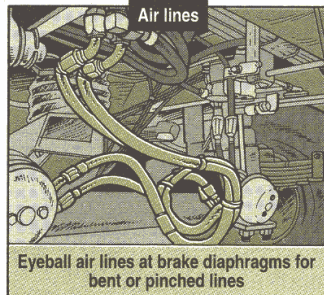
Broken springs? Loose U-bolts or hardware? Axles bent or out-of-alignment?



JUST AS SOON AS I FINISH CHECKING OUT YOUR TRAILER.

Brakes/Air System

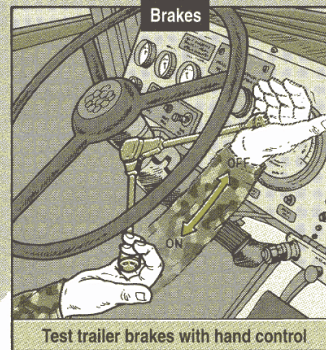
Eyeball the airlines from the air tanks to the brake diaphragm. Make sure there are no sharp ends or pinched lines.



Air lines

Eyeball air lines at brake diaphragms for bent or pinched lines

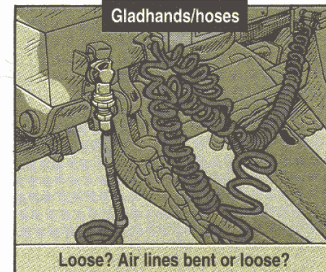
Set the semitrailer's brakes with the tractor's trailer brake hand control. Move the tractor slightly ahead to make sure they hold—then release 'em.



Brakes

Test trailer brakes with hand control

Eyeball the semitrailer's gladhands. Take a look at the gladhand's airline for chafing, bending or crimping.



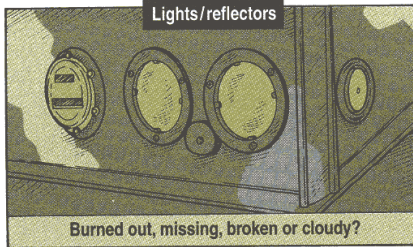
Gladhands/hoses

Loose? Air lines bent or loose?

Lights/Reflectors

Walk around the semitrailer and look at the taillights, clearance lights and reflectors. Lenses should be clean and undamaged.

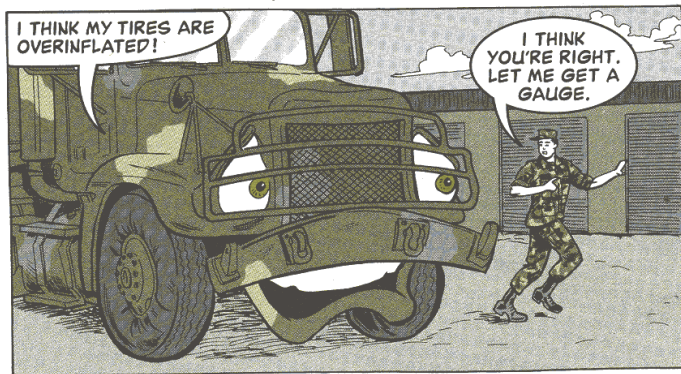
Make sure the semitrailer's lights work.



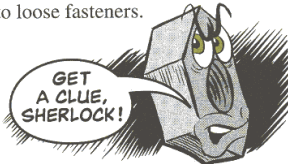
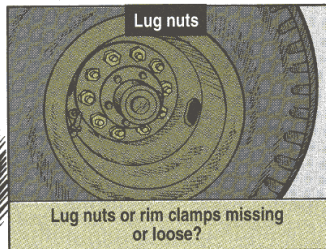
Tires/Wheels

The tires and wheels on these semitrailers take a real beating from highway and cross-country travel.

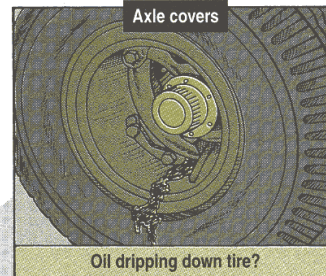
Always make sure the tires are inflated to -10 TM levels. Tires that are over- or underinflated will wear out early.



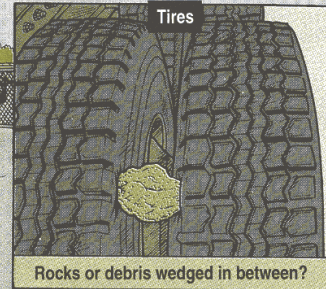
Wheel nuts can loosen by themselves. Take a look at the nuts on each wheel. Look for chipped paint, shiny spots or rust flakes around a nut. That's a clue to loose fasteners.



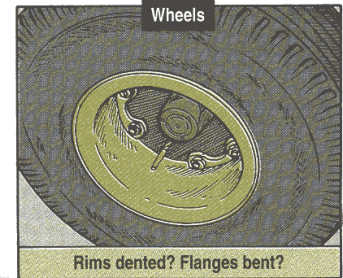
Axle covers on the M870-series semitrailers are born leakers. When covers leak oil, axle bearings go dry and burn out. If you see oil dripping down the tire, report it. Also, eyeball the hub's oil level. Make sure it's up to mark.



Eyeball the space between tires. Make sure there are no rocks wedged between the tires.



Eyeball the wheel rims for dented or bent rim flanges.



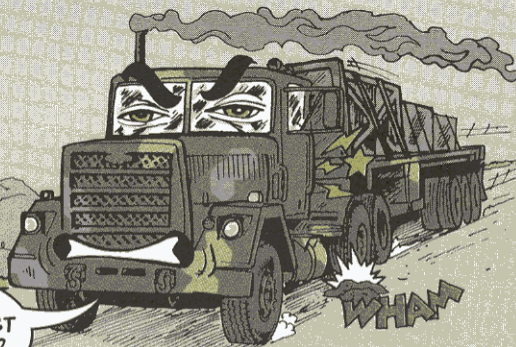
YOU DRIVERS CAN PREVENT EQUIPMENT DOWNTIME BY SPOTTING PROBLEMS EARLY. JUST REMEMBER, REPORT WHAT YOU CAN'T FIX YOURSELF.



Let AOAP Test Oil

If you think sludge, water or fuel is fouling your vehicle's oil, get your Army Oil Analysis Program lab to test it. If you just change suspected bad oil like we said on Page 6 of PS 520, you won't know for sure what the problem is. If you feel you have to change the oil anyway, sample it first. Then send that sample to the lab as soon as you can. Mark the bottle and DD Form 2026 in red to show it's a special sample. The word on AOAP for ground equipment is in Chap 4 of DA Pam 738-750.

Lube It, Don't Leave It



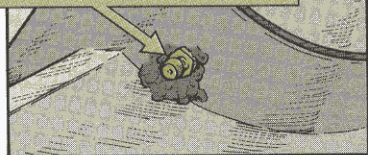
OUCH! I
THINK THAT LAST
BUMP TWISTED
MY FRAME!

If you don't lube your tractor truck's fifth wheel with GAA each month or every 1,000 miles—whichever comes first—the metal sleeve inside the fifth wheel rusts and freezes in place.

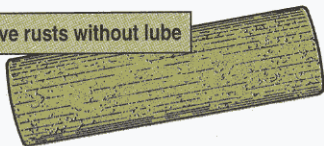
Something has to give the next time your truck hits a bump. If the fifth wheel can't give, the frame will.

For lack of a few squirts of grease, your unit is out one big hauler and a lot of money.

Lube fifth wheel according to LO



Sleeve rusts without lube



Access Cover Torque Talk



I AIN'T A
BELT—SO DON'T
BUCKLE ME!

An oil leak around the winch reservoir access cover is bad news for your M916 or M920 tractor truck.

Don't make it worse by overtightening the access cover nut to stop the oil leak. That just buckles the corner of the cover and lets water seep past the gasket into the hydraulic oil. It keeps the oil from doing its best lubrication job. And, you'll still have the oil leak.

Keep oil in and water out by torquing the nut to no more than 30 lb-ft. If that doesn't stop the oil leak, replace both access cover gaskets, NSN 5330-01-101-2674.



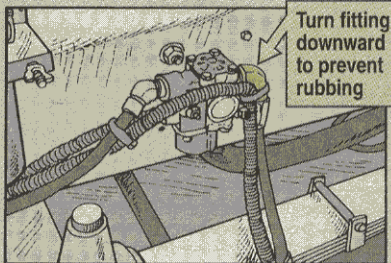
A Turn for the Better

Dear Editor,

Sharp turns with an M915A2 or M916A1 tractor truck let the tires rub against the brake air supply line. Eventually, the line wears out and the brakes fail.

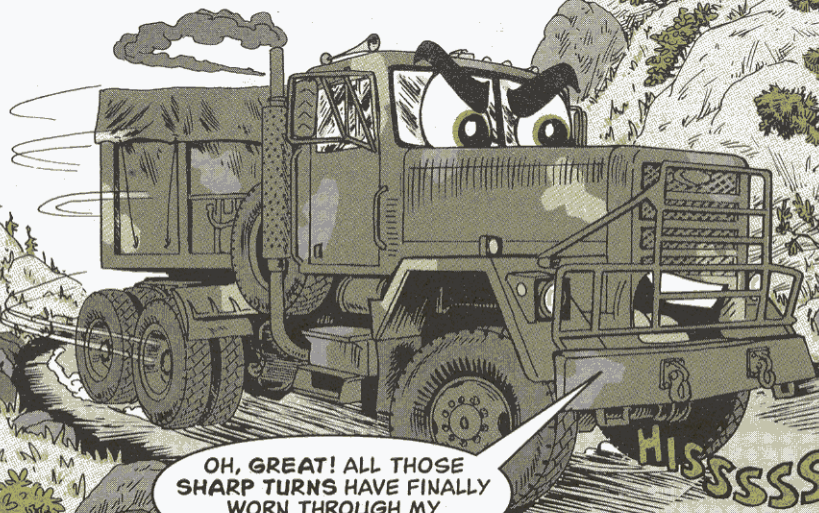
We've fixed this problem by turning the 90° fitting that's attached to the control valve down until it's parallel to the frame. That pulls the supply line just far enough away from the tire to prevent rubbing.

David Hinkson
ECS 33
Ft Riley, KS



FROM THE DESK OF THE Editor 

That's a solution that won't rub people the wrong way! Good job!

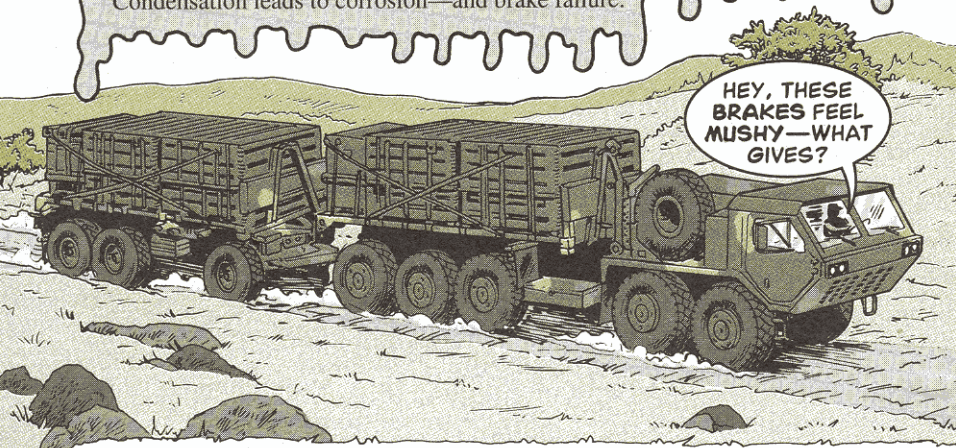


OH, GREAT! ALL THOSE SHARP TURNS HAVE FINALLY WORN THROUGH MY BRAKE LINES!

LET THE WATER OUT

Temperature changes cause condensation in the palletized loading system (PLS) truck's air brake system.

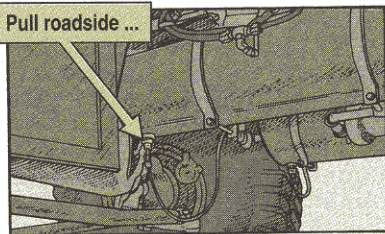
Condensation leads to corrosion—and brake failure.



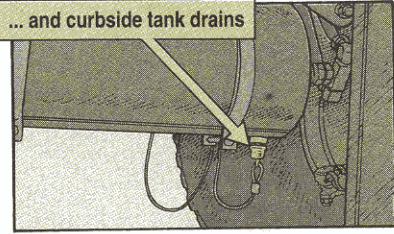
HEY, THESE
BRAKES FEEL
MUSHY—WHAT
GIVES?

Stop corrosion by following the word in TM 9-2320-364-10's AFTER operation PMCS on draining the air reservoir tanks. Pull the cables on both the roadside and curbside tanks, like so:

Pull roadside ...

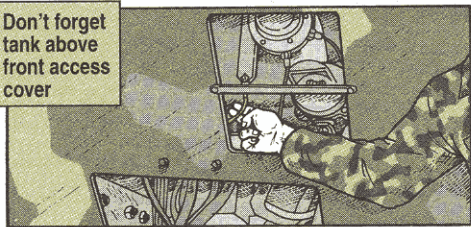


... and curbside tank drains



There's also an air reservoir tank above the front access cover. Make sure you pull the tank's drain cable, not the horn's electrical wire that's next to it. If you pull the wire out of the horn's terminal outlet, the horn won't work.

Don't forget
tank above
front access
cover



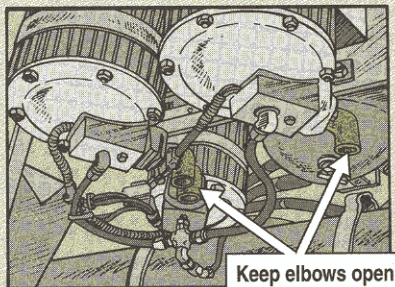
Good Brakes Need Relief



You may just not be able to stop driving your M1074/M1075 palletized loading system's (PLS) truck tractor in the mud. Too much fun? Nope. Not enough brakes!

Mud clogs up the vent relief valve on the bottom of the air dryer canister. Then the valve sticks open so air pressure can't build up in the air brake system. That leaves you without brakes.

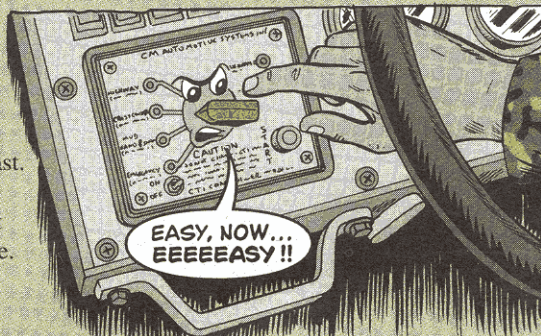
During your AFTER operation check, eyeball all three air dryer/aftercooler canisters. Make sure the rubber exhaust elbows are open and not plugged by mud or dirt. Open any clogged vents.



Click...Click...Click

Easy does it when turning the PLS truck's CTIS control knob. Turn it slowly, one click at a time.

The knob's internal mechanism will break if you twist hard and fast. Then, the knob's control selector won't stay in place and you won't be able to regulate tire air pressure.



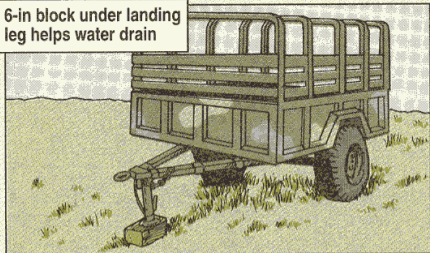
A Little Care Goes a Long Way

I'M READY FOR THE LONG HALL!

WITH GOOD PM, I COULDA BEEN A CONTENDER!

Your small trailers will follow you anywhere if you keep them ready with PM.
 ✓ Park 3/4-ton and 1 1/2-ton trailers with the front end higher. Put a block behind each wheel. Set the caster wheel or landing leg on a block about six inches high and open the tailgate. This keeps water from standing in the floorboard.

6-in block under landing leg helps water drain

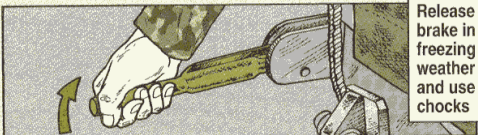


✓ After you chock the wheels, release the handbrakes so the brakes won't be stuck on when you need the trailer. This is especially important for trailers that spend a lot of time sitting. Remember that these trailers need PMCS even when they're not being used.

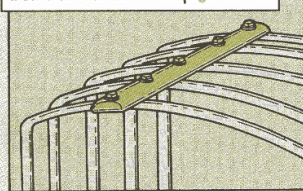
A big part of trailer care is canvas care. Dry and fold the canvas, then store it in a clean, dry place. If you keep the canvas on a trailer, get your mechanic to rig a slat board to put under it so water will run off.

Keep water from puddling on the canvas when it's installed. For a 3/4-ton or 1 1/2-ton trailers, use a 1 x 2-in board long enough to reach from the top of the front bow to the rear bow. Slant the ends and round the edges so the board won't dig into the canvas.

Release brake in freezing weather and use chocks



Board across bows keeps water off



Or, you can use those good ol' electrical ties crisscrossed at the bows. Get a hundred 10 1/4-in ties with NSN 5975-00-570-9598.

✓ Even when the trailer is covered, eyeball it for rust. The best-rigged shelter can't head off all rust. Report rust and chipped paint.

✓ Check air hoses, electrical cables and safety chains regularly. Keep all of them off the ground.

Tire Pressure Changes

Depending on which type of tires your M872-series trailers are using, you may need to add or lose some air pressure.

For M872s using bias tire, NSN 2610-00-060-9960, add air. Here are the new requirements:

Pressure	Surface	Max speed
80	Highway	55
80	Secondary	20
55	Cross country	10

For M872A2s using radial tire, NSN 2610-01-281-0675, lose air. Here are those requirements:

Pressure	Surface	Max speed
75	Highway	55
75	Secondary	20
55	Cross country	10

There's no rush to increase air pressure in the bias tires. Just do it next time you've got access to an air source.

'COURSE, YOU CAN REDUCE THE RADIALS' PRESSURE RIGHT NOW!



Be Your Own INSPECTOR

If you want the mine clearing blade on your M1-series tank to do its job, do yours. That means taking a good look at your equipment before starting each day's run. Here's what to look for:

IF YOU FIND ANYTHING YOU CAN'T FIX YOURSELF, REPORT IT.

Power cable: Not secured to fender torsion bar?

Travel locks: Locks jammed with debris? Loose, damaged, or missing hardware? Locks engage fully? Linch pins broken or missing?

Lifting straps: Cut or frayed?

Lifting mechanism housing: Oil leaking?

Access cover: Bent or cracked? Screws missing? Cover seal in place?

Moldboards and extensions: Breaks in the metal? Cracks in the welds? Hardware loose or missing? Tines broken or missing? Chain damaged or kinked?

Push beams: Breaks or damaged welds? Tubes cracked or damaged? Hardware missing?

Dogbone and chain assembly: Disconnected, broken or missing?

Skid shoes: Cracks? Broken welds? Nuts and bolts loose or missing? Cotter pins, washers and mounting pins in place? Shoes move freely?

KNOW YOUR LIMITS

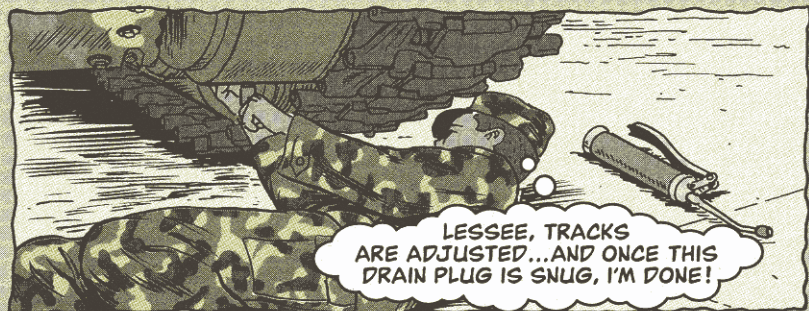
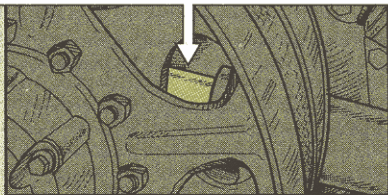
Everything has its limit, crewmen, including the track adjuster rod on your M2/M3-series Bradley.

When tightening the track, the maximum extension for the piston is $3\frac{1}{2}$ inches. If you go beyond that, the piston seal ruptures and the track adjuster rod is ruined.

Don't guess how far the piston is extended, either. What looks like three inches or so could easily be more. Use the ruler, NSN 5210-00-234-5223, from your BII. That's why it's there.

If the track is still too loose after the piston reaches $3\frac{1}{2}$ inches, loosen the track and remove a shoe. Then try again.

Don't force piston out more than $3\frac{1}{2}$ inches

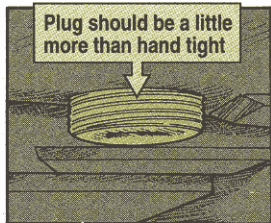


How Tight Is Too Tight?

Operators, keep this in mind while tightening your Bradley's final drive drain plugs: Eventually, they're going to have to come back out.

Those plugs get wet, so corrosion is going to form. When the plugs are tightened too much, that corrosion freezes them in place. When that happens, your only option is to get 'em cut out.

There is no torque requirement, so make sure you put the plugs in snug, but not too tight. Just a little more than hand tight is right.



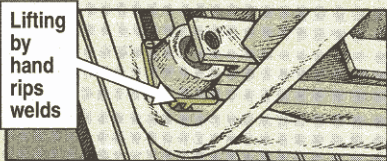
Before you screw in the plugs, coat the threads with caulking compound, NSN 8030-00-297-0600. That'll prevent leaks, hold down corrosion, and help keep the plugs from sticking.

Strength Is Not Everything

Just because you're strong enough to manhandle the 4.2-KW generator down from the top of your M577A2 or M1068 command post carriers does not mean you should, operators.

That generator's heavy. The strain rips the generator frame at the welds. The frame's hollow tubing is too light to be rewelded, so you have to replace the entire frame.

Lifting by hand rips welds



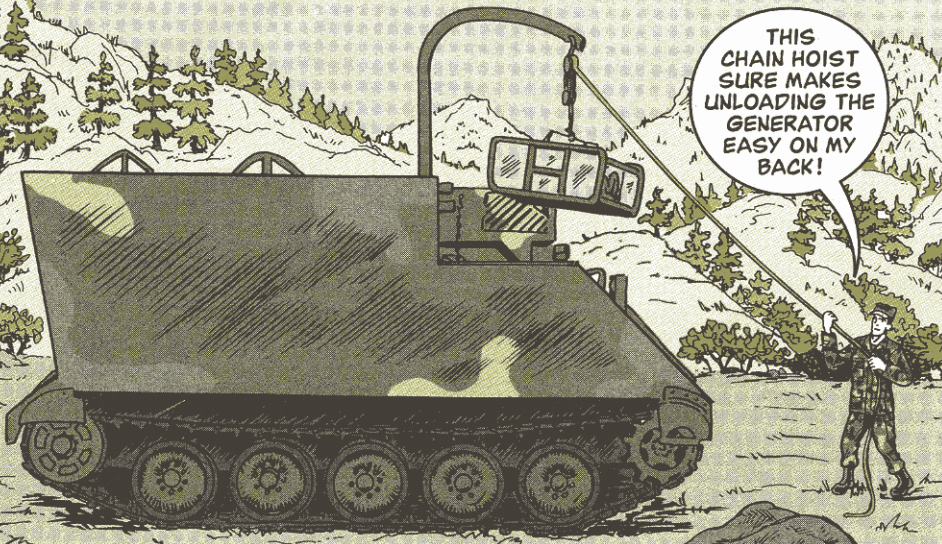
Not only will you ruin the frame, but you can also hurt yourself. The generator is large and bulky, so it's easy to hurt your back or even slip and fall off the vehicle.

The right way is the only way. Remove the generator using the davit and chain hoist stowed on the top deck of the carrier. Here's how:

1. Slip the davit into the mounting bracket to the left of the generator.
2. Attach one end of the chain hoist to the davit and the other end to the lifting bar on the generator frame.
3. Hoist the generator above the enclosure, then swing the davit around until the generator is clear of the carrier.
4. Lower the generator gently to the ground.

Make sure you stand clear at all times when removing or installing the generator. That keeps you safe in case the generator slips and falls.

THIS CHAIN HOIST SURE MAKES UNLOADING THE GENERATOR EASY ON MY BACK!



Lube the Pins

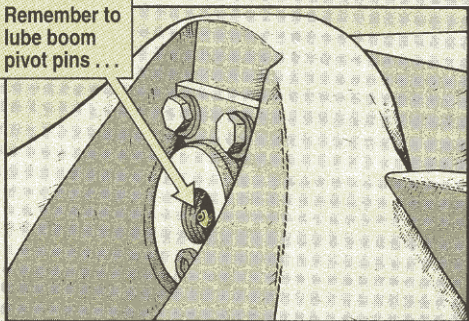



Two lube points on the M88A1 recovery vehicle are hidden and hard to reach. That means they're often forgotten.

 **Boom pivot pins.**

Without a ladder, the boom pivot pins are hard to reach. But unless you lube them monthly with GAA, the pins rust and the boom will not raise.

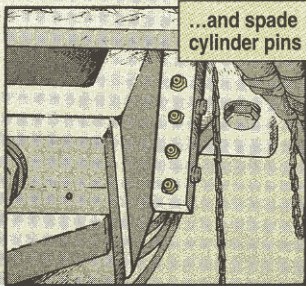
Remember to lube boom pivot pins ...



 **Spade cylinder pins.** Since the spade cylinder pins are located under a floor plate inside the M88A1, it's a case of "out of sight, out of mind." Lube them monthly with GAA to keep the spade operating properly.

Don't miss any others. Always use LO 9-2350-256-12 to lube your vehicle.

...and spade cylinder pins



SUSV...

Fire Prevention

Operators, it's in your best interest to do all you can do to prevent small unit support vehicle (SUSV) fires. You can prevent most fires. Most fires are caused by driving with the parking brake on. Some fires are caused by general lack of housekeeping in the engine compartment.

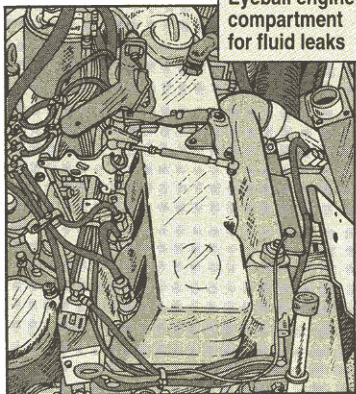
Here's how to make your SUSV more fireproof:

🔥 Release the parking brake before you drive off. An overheated brake system can cause fires.

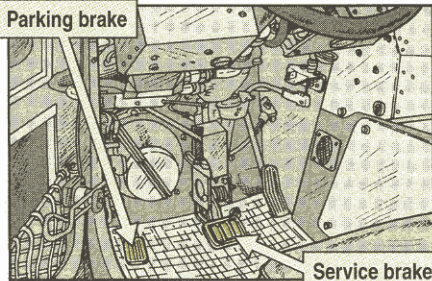
🔥 Also, be careful when you apply the service brake while wearing oversized footgear—like the extreme cold weather boots. The parking brake is real close—only eight inches—from the service brake.

🔥 Look inside the engine/transmission compartment for oil leaks or debris.

Eyeball engine compartment for fluid leaks



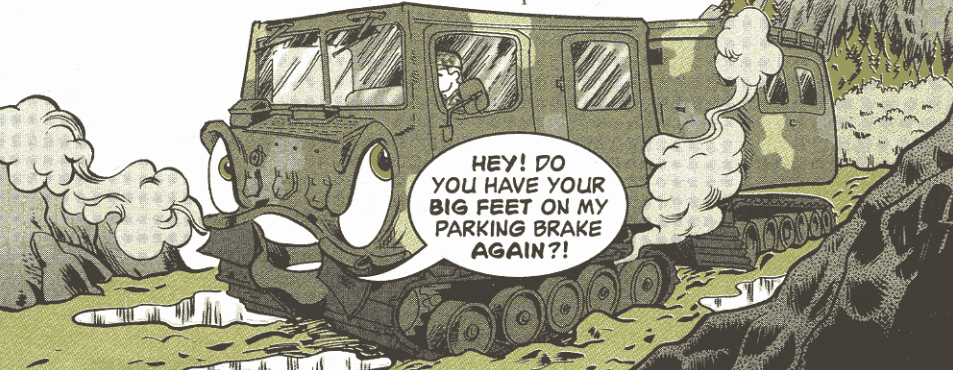
Parking brake



Service brake

If you see a puddle of oil, let your mechanic know now. If you find trash, clean it out. To keep the compartment clean, use P-D-680 drycleaning solvent and water at every semiannual service.

If the cleaning job can't be done completely with the powerpack in place, your mechanic will have to pull the pack to clean.

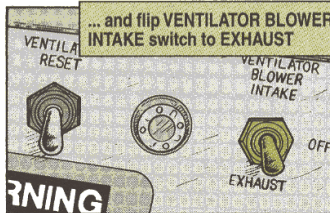
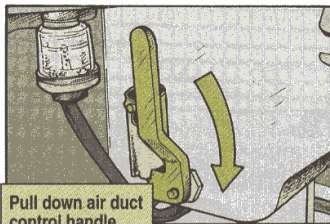


Fire Extinguisher Follies



Operators, the portable fire extinguisher in your M992-series ammo carrier now uses carbon dioxide (CO₂) instead of halon. But that doesn't let you off the hook when it comes to safety. If they're not used right, CO₂ extinguishers pose some dangers of their own—including severe cold burns and suffocation. The -10 TMs come up short on the info you need, so follow these tips:

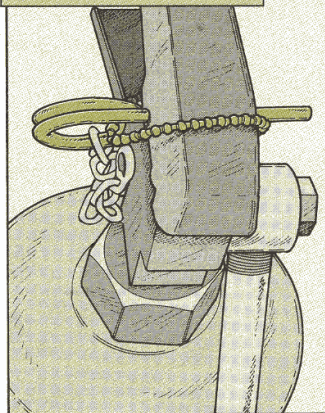
1. Shout a warning to all crewmembers before using the fire extinguisher.
2. After hearing the warning, the driver should pull down the air duct control handle to open the vent door and turn the VENTILATOR BLOWER INTAKE switch to EXHAUST. If



the vent door doesn't open, or the blower motor doesn't work, open all hatches and doors to reduce the concentration of CO₂.

3. Pull the two latches to release the fire extinguisher.

4. Break safety wire and pull pin



5. Aim the discharge nozzle at the base of the flame and squeeze the trigger until the fire is out. Once you've begun using the extinguisher, keep your hands away from the nozzle. You can get severe cold burns by touching the nozzle.

6. Continue ventilating the vehicle until it's clear of all smoke, fumes and CO₂.

MLRS ...

That's a Wrap!

Dear Editor,

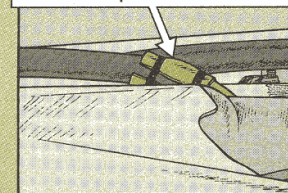
Vibration causes the metal coolant tube, NSN 4710-01-119-7800, to rub against the MLRS's radiator mount.

Eventually, the tube springs a leak and the engine overheats.

The tube is difficult to see or reach, so the wear and tear is usually missed until it's too late.

We've stopped the problem by wrapping the coolant line's trouble spot with a piece of rubber hose, NSN 4720-01-134-6575.

Rubber hose prevents coolant leaks



The hose stays in place with a couple of wire ties, NSN 5975-00-570-9598.

SGT David Powell
6/27th FA
Ft Sill, OK

FROM THE DESK OF THE Editor

You really wrapped up that problem! Good job!

Wheel Hub Conversion Diversion



Mechanics, when you're ready to convert the oil-filled hubs on M109-series howitzers to grease, there's no longer any reason to order the required parts piecemeal.

The parts you need to convert roadwheel and idler wheel hub assemblies are now available in kits. Order one kit per hub.

Kit	NSN
Roadwheel hub	2530-01-320-4799
Idler wheel hubs	2530-01-321-7405

Both kits contain a new seal, NSN 5330-01-308-9171, that is different from the old one.

First, there's no more mess since the seal comes with sealant already applied. Second, you'll need to clean all grease, oil and dirt from the mating surface with drycleaning solvent to ensure a good seal.

Once you've converted those hubs, you can also order a repair kit, NSN 2590-01-335-7330, to fix ones that go bad. Here's what you get:

Part	Qty	NSN
Spring	1	5360-00-737-9067
Washers	6	5310-00-865-9513
Cap	1	5340-01-311-4736
Seal	1	5330-01-308-9171
Fitting	1	4730-00-050-4208
Bearing	1	3110-00-100-5937
Bearing	1	3110-00-227-2559
Pin	1	5315-00-243-1171
Packing	1	5330-00-251-9376
Valve	1	4820-01-131-2341
Screws	6	5305-00-068-0515

When repairing or converting the hubs, make sure you install the spring. It's used for grounding. Leave it out and you'll get static through the radios.

Looks Can Be Deceiving

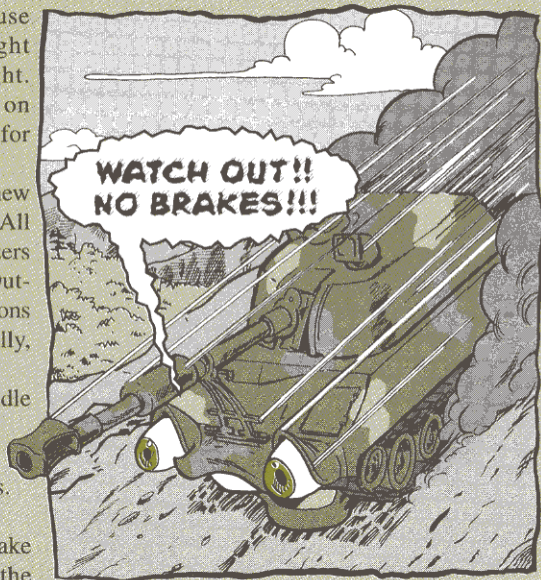
Operators, just because something **looks** right doesn't mean it is right. Take the transmission on your M109A6 Paladin, for example.

The Paladin uses the new XTG411-4 transmission. All other M109-series howitzers use the XTG411-2A. Outwardly, the two transmissions look exactly alike. Internally, they're very different.

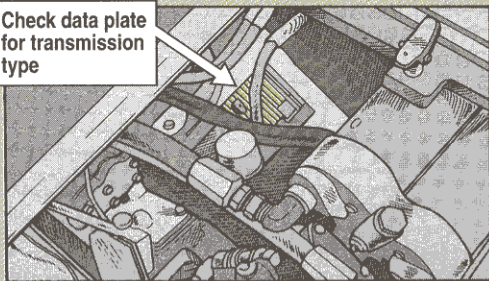
The XTG411-4 can handle the Paladin's increased horsepower, torque output and braking requirements. The XTG411-2A can't.

Right now, check to make sure your Paladin has the right transmission. Otherwise you might find out the hard way—when the brakes fail.

Just look at the transmission data plate. If it says XTG411-4, you're good to go. If it says XTG411-2A, report it. The vehicle is NMC until the right transmission is installed.



Check data plate for transmission type



M109-, M992-Series Starter

The AMDF says NSN 2920-01-075-2813 subs for NSN 2920-00-304-3493, the starter used in your M109-series SP howitzer and M992-series ammo carrier. Trouble is, that starter is too long and doesn't fit. Until the AMDF is corrected, order replacement starter, NSN 2920-01-069-6997, instead.

How Often Is Often Enough?

Every good crewman and mechanic knows the roadwheel bearings on M728 CEV's need fresh lube every quarter, right?

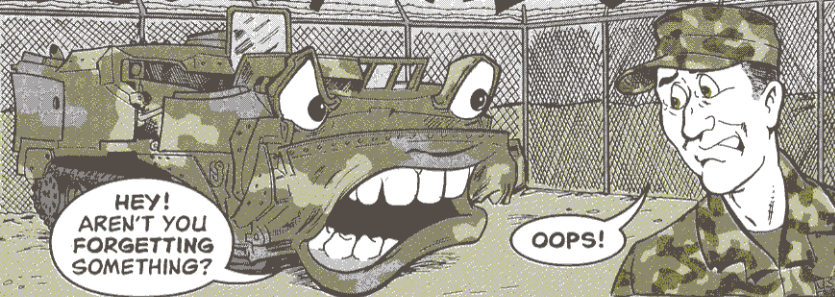
Well, that may be okay under normal circumstances, but if the 728's been through a really tough workout, those bearings may go dry a lot sooner.

You crewmen may feel there's nothing wrong with getting the bearings lubed every few days, just to be safe. On the other hand, you mechanics don't have time to waste on lubing bearings that don't need it.

Luckily, there's a compromise. Crewmen, after really rugged operations, hold your hand a couple of inches away from each hub. If you feel a lot of heat coming off, chances are the bearings are going dry. That's the time to call in your mechanic.

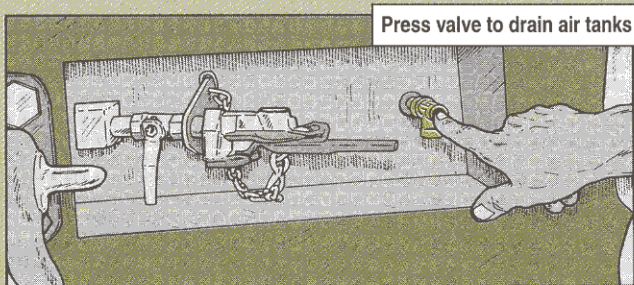


Let the AIR out



Operators, temperature changes let condensation form in your ACE's brake system. That's bad news for the brakes. Water leads to rust and corrosion in brake valves and cylinders, which leads to brake failure.

To keep ACE brakes braking, drain air tanks daily. Hold the valve open until air stops escaping. That keeps moisture from stopping you cold.



Construction Equipment ...

Protect Hydraulic Cylinders

Operators, corrosion ruins cylinder rods. It pits the rod so badly that no seal can prevent fluid leaks. If the leaks go to Class III, equipment is NMC.

Stop corrosion long before pitting by exercising your equipment each week. This spreads a thin coat of hydraulic oil on the cylinder rods.

If you can't exercise the equipment, smear a thin— $1/16$ - to $1/8$ -in thick—coating of GAA on the rods.

If your equipment sits unused for more than a month, coat rods with GAA, then wrap them with waterproof paper, NSN 8135-00-753-4662. Use preservation sealing tape, NSN 7510-00-852-8180, to hold the paper in place.

Lick MICLIC Problems



Your MK-155 mine clearing line charge (MICLIC) has a few problems that take more than a lick and a promise if it's to blow up mines. Try these tricks for your MICLIC.

Mud—If you're driving in muddy areas, clean between the tracks and wheels every chance you get. If mud



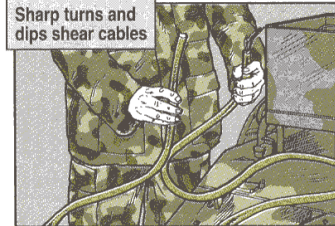
builds, the track will be thrown. It's not fun to put a track back on in the field.

Clean out the mud, then move the MICLIC forward a couple of feet, and clean some more. That lets you get all the mud. Use the truck or APC pioneer tools for cleaning.

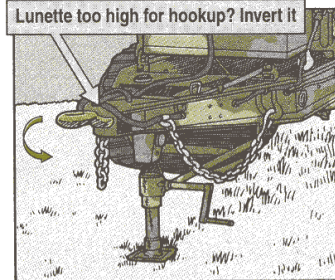
Remember, any time the MICLIC goes through heavy mud or through water, your mechanic needs to lube the trailer as soon as possible. If grease washed out of the bearings, the bearings will seize without more lube. The MICLIC lubrication chart is in Chap 3, TM 9-2330-389-14&P.

Sharp turns—Don't make them. During sharp turns, the back of the

prime mover can shear air lines and intervehicular cables. Make gradual turns. Steep dips in the road cause problems, too. If you can't avoid a dip, take it slow and easy.



Short APC—If your APC pintle isn't high enough to hook up to the MICLIC, try inverting the trailer lunette. Pages 2-58 and 2-68 in TM 9-1375-215-14&P tell how. That may lower the trailer lunette enough for the hookup.



Connector fix—If the cap for the electrical raise connection (the W5P3 at the lower left side of the hydraulic assembly controls) has disappeared, you're in a fix. There are no replacement caps and dirt can plug the connection fast. Best bet: Tape a plastic bag over the connection to give it some protection.

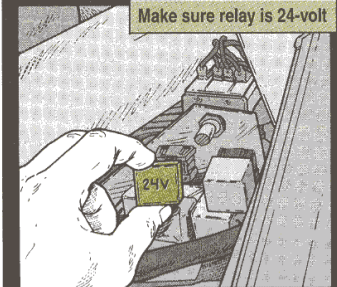
SEE ...

Stray Starter Relay

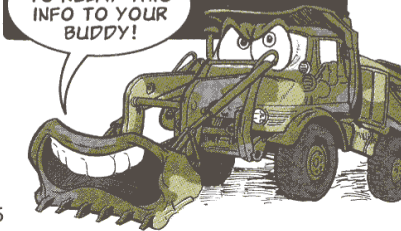
Starting problems on the SEE may trace back to a bad starter relay module. A bunch of 12-volt modules got mixed up with 24-volt modules in the supply system.

eyeball the starter relay modules. They're located under the hood by the air intake. Each module should be stamped "24V." Replace any that aren't stamped with NSN 5945-01-251-8699.

If you get another 12-volt module from supply, turn it back in to supply with an SF 364, Report of Discrepancy (ROD).



BE SURE TO RELAY THIS INFO TO YOUR BUDDY!



SEE...

Starved Steering Pump

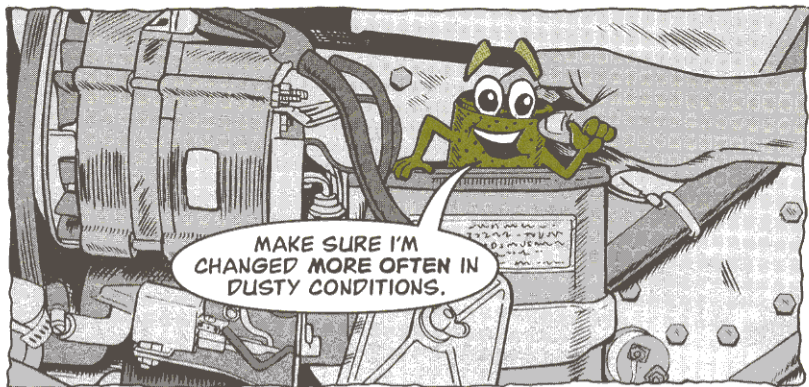
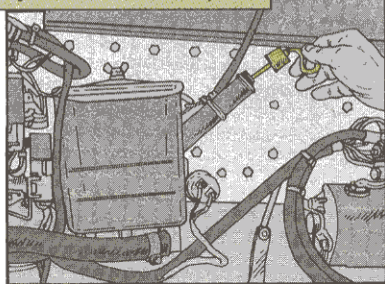
Hard or erratic steering on your small emplacement excavator means the power steering fluid is low or the steering pump's filter element is clogged.

Eyeball the fluid level on the dipstick. Make sure the fluid level is between the ADD and FULL marks.

In dusty conditions the pump's filter element clogs up. A clogged filter starves the pump for oil. No oil means tough steering.

Have your mechanic replace the pump's filter element during scheduled service.

Eyeball fluid level on dipstick



Brake Line Blues

Corrosion does a real number on the carbon steel brake line between the SEE's pressure regulator and air tanks.

If corrosion has ruined the brake line on your SEE, replace it with stainless steel tubing, NSN 4710-01-384-6291.

Pages 3-26 through 3-31 of TACOM EIR Digest TB 43-0001-39-5 (Jun 95) has the removal and installation instructions. If you need a copy, see your local TACOM LAR, or write Half-Mast.

Smile When You Say PM!

THESE PM POINTS WILL KEEP YOU AND YOUR M9 PISTOL SMILING...

Check for cracks around slide rails...

Use toothbrush on stubborn grime

...and magazine catch

Don't dislodge trigger bar spring in magazine well

Clean rails with CLP and a cloth

Trigger bar spring—The biggest problem M9 pistols have is disappearing trigger bar springs. The spring's under lots of tension. If you happen to nudge it during cleaning—*ZING*—it flies out and is gone. The M9 won't be firing until you get a new spring.

Be extra careful cleaning in the magazine well. When you're done, doublecheck that the spring's still in place.

Cracks—When you look for cracks, pay extra attention to the slide rails and around the magazine catch. That's where cracks usually appear. If you spot any cracks in the receiver or slide, your pistol is unsafe.

Rails—Clean the receiver and slide rails extra well with a cloth and CLP. If the rails are gritty, the repeated back-and-forth of the slide soon wears the bearing surfaces and causes firing problems.

Keep it dull—Your M9 doesn't want to shine... honest. Shiny spots are shiny because the protective **dull** coating has been rubbed off. Corrosion's footsteps are not far off.

Your M9 stays dull if you keep wire brushes and scouring pads away from it. Use CLP and a soft cloth to clean. For tough spots, a toothbrush works. Your armorer can touch up shiny spots with solid film lubricant, NSN 9150-01-260-2534.

Be Your Own Inspector

M203 gunners, because you don't fire your grenade launcher as often as you fire your rifle, you need to maintain your M203 a little more carefully.

After clearing the M203, here's what to look for:

LEAF SIGHT: Bent, loose or broken? Screws loose?

HAND GUARD: Cracked, broken or dirty?

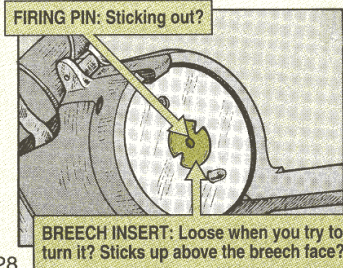
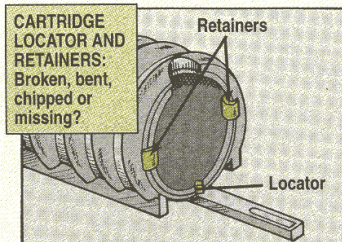
BARREL ASSEMBLY: Oily or dirty bore or chamber? Barrel won't close?

LAUNCHER: Any forward-to-back movement? Side-to-side play more than 1/8 inch each side of center for a total of 1/4 inch?

BARREL EXTENSION: Barrel loose at all?

QUADRANT SIGHT: Bent, loose or broken? Won't pivot? Pivot screw tight? Teeth broken?

PROBLEMS?
CALL YOUR
ARMORER.



The Bolt

The bolt is the main moving part of your M16 rifle. If it's dirty or damaged, you've got a sick weapon.



Keep your bolt in good health like this:

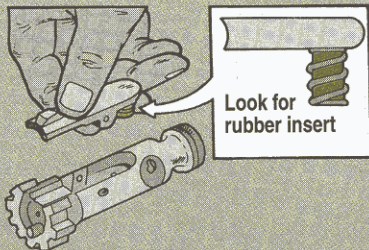
Use an old bore brush and CLP (or RBC) to get all the crud off the bolt locking lugs. Dirty locking lugs make bolt locking and unlocking a chore.

Clean under the extractor lip or the rifle will jam. If the lip's chipped, it'll have trouble grabbing cartridges. Report it.



Clean under extractor lip

Make sure the extractor spring has a rubber insert. Without the insert, the spring is weak. If the extractor spring is weak, your rifle will soon be in a jam.



Look for rubber insert

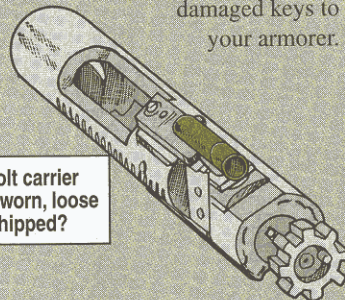
Health Plan

If the spring is loose, put its large end in the extractor and push it down until it seats.

Clean the inside of the bolt with a pipe cleaner, and the bolt face with a patch.

Run your bore brush through the carrier key... all the way. Carbon in the key causes short recoil.

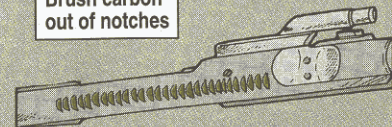
If the bolt carrier key is worn, loose or chipped, the M16 will lose gas pressure. Show loose or damaged keys to your armorer.



Is bolt carrier key worn, loose or chipped?

Never use cotton swabs on the carrier key. The cotton can plug the key and it's nearly impossible to get it out.

Brush the carbon out of the notches in the bolt carrier. If notches are dirty, the forward assist **can't** assist.



Brush carbon out of notches

Never use the firing pin as a cleaning instrument. That can damage it. Use a bore brush or pipe cleaner to clean.

Always make sure the bolt ring gaps are staggered to prevent loss of gas pressure and short recoil. When you clean, put CLP on the rings, like it says in the TM.

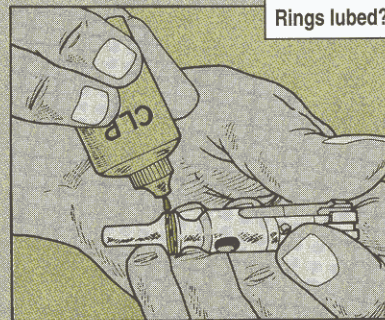
Bolt ring gaps staggered?



Use only a light coat of CLP on the firing pin and its recess in the bolt. Dry the carrier key with a pipe cleaner, and put one drop of CLP in it.

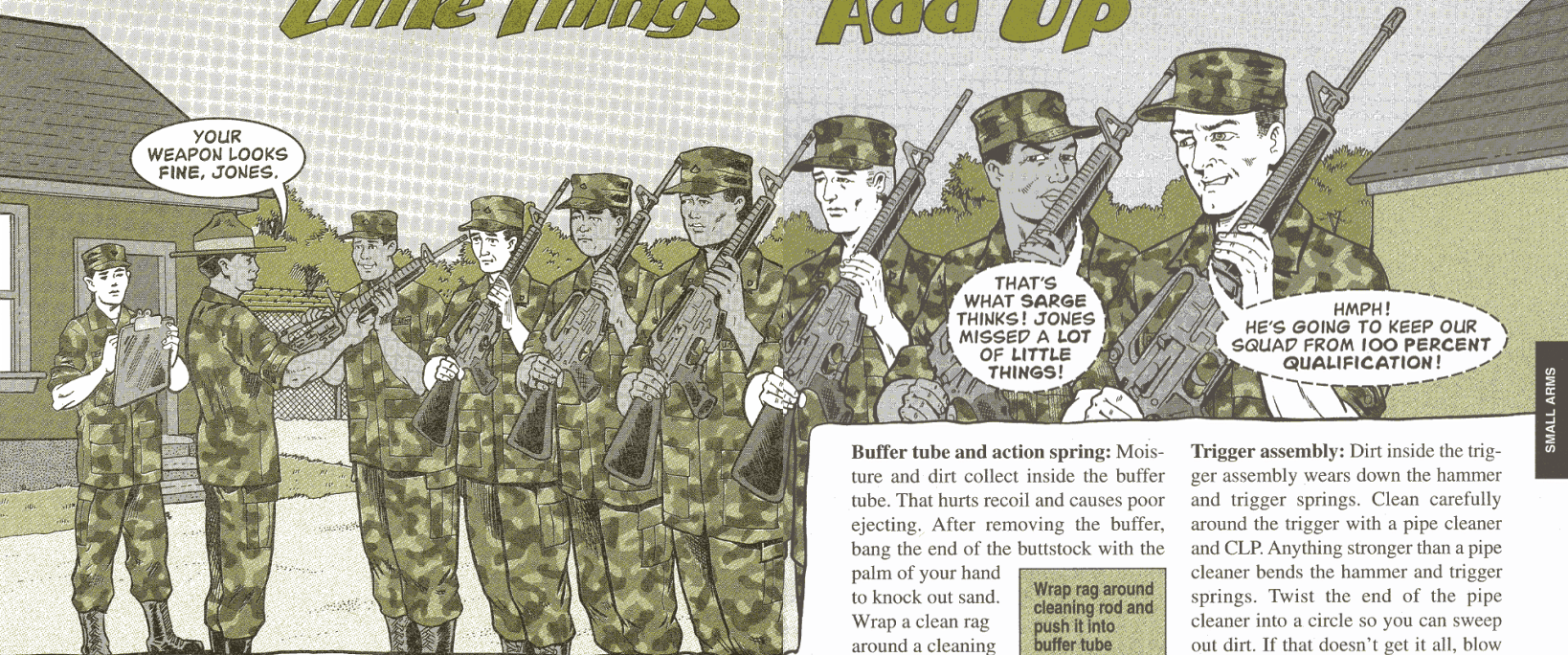
Generously lube the outside of the cam pin area, the bolt rings and the outside of the bolt. Put a light coat of CLP on the extractor and pin.

Rings lubed?



These small steps can make all the difference in whether your rifle fires... or doesn't.

Little Things Add Up



YOUR WEAPON LOOKS FINE, JONES.

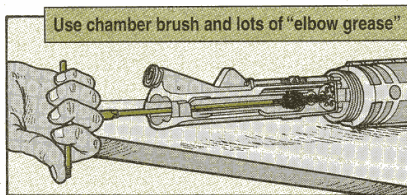
THAT'S WHAT SARGE THINKS! JONES MISSED A LOT OF LITTLE THINGS!

HMPH!
HE'S GOING TO KEEP OUR SQUAD FROM 100 PERCENT QUALIFICATION!

Your M16 rifle may be clean enough to pass inspection, but skipping little things—dirty, little things—eventually adds up. Your rifle will fire with difficulty or not at all. Parts will wear out fast.

So next time you clean your rifle, remember these little things:

Locking lugs: Clean the chamber and its locking lugs with CLP and the chamber brush. Stick a rod section through the end of the brush handle to get more leverage. Really muscle the brush to get out all the carbon.

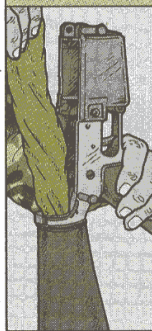


Use chamber brush and lots of "elbow grease"

Buffer tube and action spring: Moisture and dirt collect inside the buffer tube. That hurts recoil and causes poor ejecting. After removing the buffer, bang the end of the buttstock with the palm of your hand to knock out sand. Wrap a clean rag around a cleaning rod and push it down the tube to dry up moisture. Clear the buttstock drain hole with a straightened paper clip.

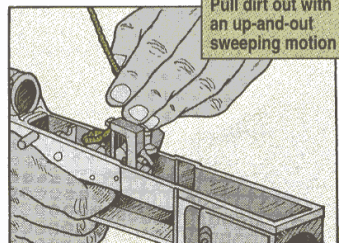
Don't forget the action spring. If it's caked with dirt and carbon, you get poor recoil. Clean it with a rag and CLP.

Wrap rag around cleaning rod and push it into buffer tube



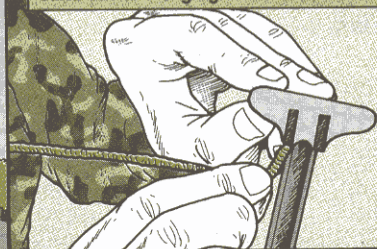
Trigger assembly: Dirt inside the trigger assembly wears down the hammer and trigger springs. Clean carefully around the trigger with a pipe cleaner and CLP. Anything stronger than a pipe cleaner bends the hammer and trigger springs. Twist the end of the pipe cleaner into a circle so you can sweep out dirt. If that doesn't get it all, blow it out with your breath. But **never** take the trigger assembly apart. It's hard to get back together.

Pull dirt out with an up-and-out sweeping motion



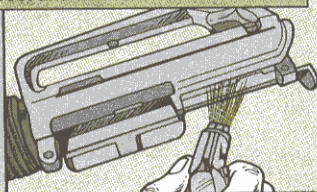
Charging handle and forward assist: Either one can freeze from neglect. Remove the charging handle from the upper receiver and clean it with a cloth and CLP. Work a pipe cleaner dipped in CLP where the handle moves in and out of the receiver until all the grit's gone.

Use rag, pipe cleaner and CLP to clean sand out of charging handle's slot



Squirt one shot of CLP on the forward assist port inside the upper receiver. Run the forward assist back and forth until all dirt is forced out.

Squirt some CLP on forward assist post and work it back and forth



DARN IT! THOSE GUYS WERE RIGHT, THE LITTLE THINGS DO ADD UP!



M16-Series Rifle, M4 Carbine ...

Barrel Busters

An M16 rifle or M4 carbine barrel can only take so much.

If you rapid fire an M16 or M4 again and again, the barrel gets hotter and hotter. Eventually it gets so hot it ruptures or causes a cookoff. There goes your rifle...and maybe you.

The maximum rounds per minute that both the M16 and M4 can handle safely during sustained fire is 15. If you're shooting faster, slow down. Your rifle will last longer and so will you.

Not As Simple As It Looks

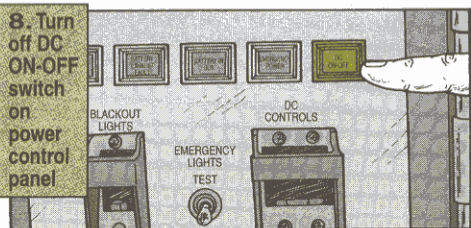


Some things can be done at the push of a button—like surfing through TV channels, or turning your microwave on and off. Other things aren't that simple, like shutting down your MSE's AN/UYK-86 digital computer when you're using DC power from your HMMWV. It's not just a simple matter of pushing the D.C. ON-OFF pushbutton switch.

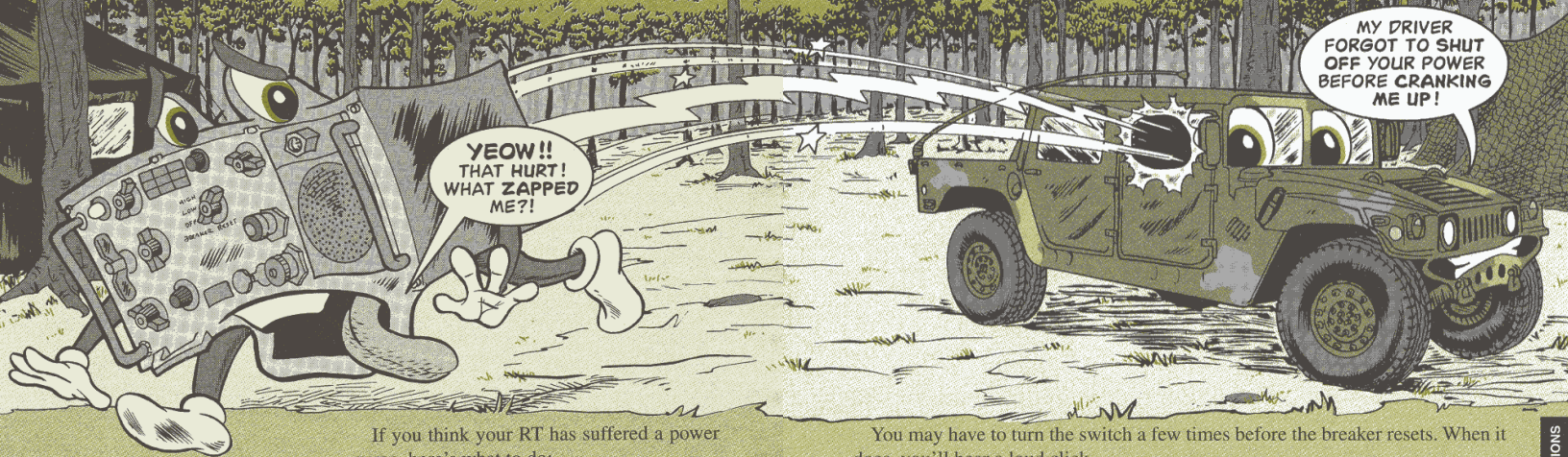
Hit that switch and you might crash the hard drives in the computer. Then you can't bring the AN/UYK-86 or the OL-386 central processor group on line. Worse, you'll have to get the hard drives replaced.

So, forget short cuts when it comes time to shut down. Do it the right way:

1. Call up the main menu on the display screen.
2. Go to the workstation utilities menu. Hit the return key.
3. Go to **SHUTDOWN**. Hit return.
4. The display screen will read: **Shutdown the Workstation Y/N**
5. Select Y. Hit return.
6. The screen reads: **WSOLOP Shutdown continues**
7. Then the screen reads: **System is down—OK to disconnect power**

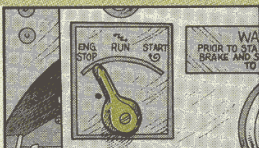


POWER SURGE CAN TRIP YOU UP

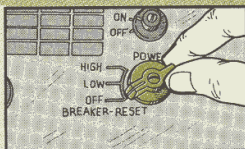


If you think your RT has a power surge, here's what to do:

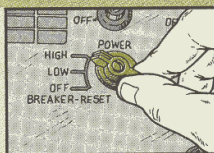
1. Turn off vehicle's engine



2. Set radio's POWER switch to OFF BREAKER-RESET



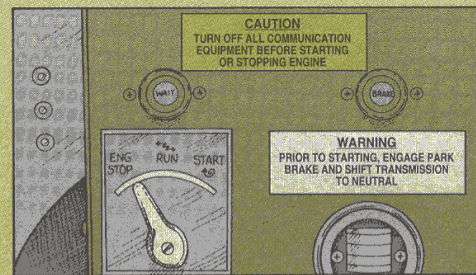
3. Turn the POWER switch quickly up to HIGH, then back to OFF BREAKER RESET



You may have to turn the switch a few times before the breaker resets. When it does, you'll hear a loud click.

If the breaker doesn't reset, ask your unit maintainer to take a look.

Just one other tip to make life easier: Put a caution label, NSN 7690-00-942-7067, next to the vehicle starting switch to remind you to turn off the radio. SB 11-624 is the ordering authority for the label.



It's just about the oldest rule in the book—the one that most drivers remember, but one some careless drivers forget:

Always shut off main power to your vehicular radio BEFORE you start your vehicle's engine. Otherwise, the power surge can blow the radio's circuits.

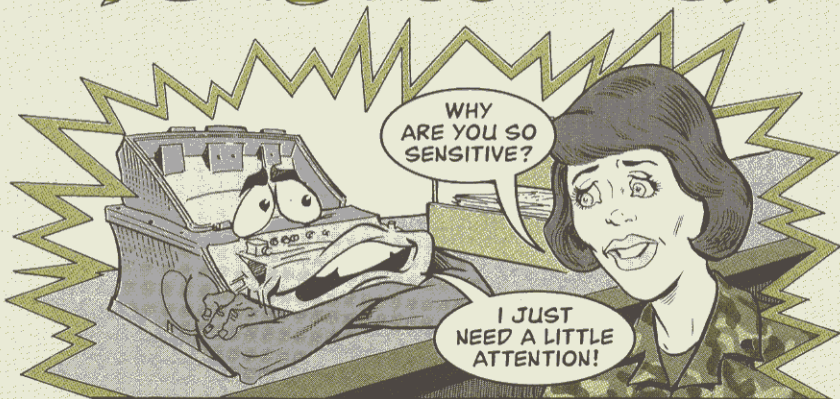
If your radio is an AN/VRC-12-series, the power surge could burn up your comm—or it could merely trip the main receive circuit breaker on the RT-524 or RT-246.

Once the breaker is tripped, the radio's not getting power.

No BA-3030s for TA-312

TM 11-5805-201-12 says to use BA-3030 batteries in the TA-312 telephone set if you're operating in extreme cold. But don't bother to look for BA-3030s. They've been replaced by commercial D cell batteries, NSN 6135-00-835-7210.

Facts About Fax



Attention to the little things makes all the difference when you operate your AN/UXC-7 lightweight digital facsimile.

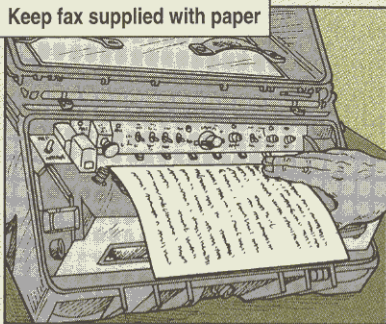
Here are two fax facts to keep in mind:

One, always make sure you have paper loaded in your fax before printing. Obviously, you need paper to get a hard copy of an incoming message. But the paper also cushions the stylus as it prints. Without paper, the stylus hits the metal roller directly. That can wear out the stylus before its time.

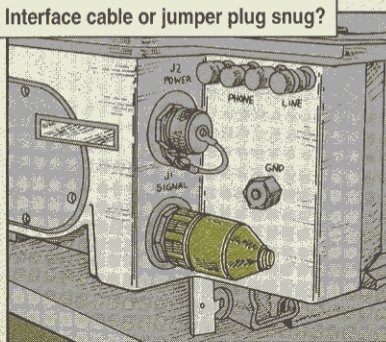
Two, when you hook up the interface cable or the jumper plug on the J1 SIGNAL connector, make sure it's on snug. That means screwing it on until you can no longer see the red line on the J1 connector.

If the interface cable is not snug, transmission suffers. If the jumper plug's not snug, it could interfere with running a self-test.

Keep fax supplied with paper



Interface cable or jumper plug snug?



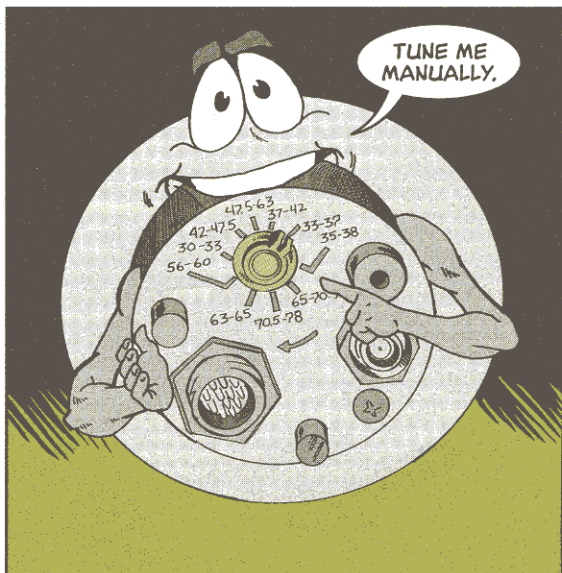
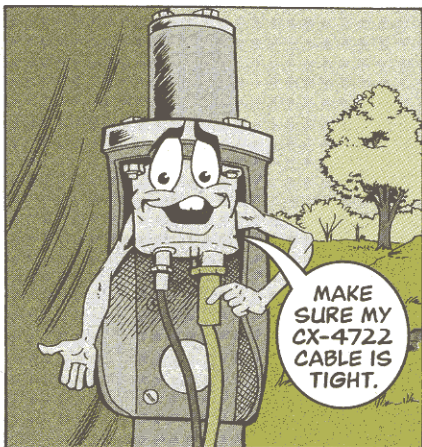
Got A Match?

When the tuning switch on the MX-6707 antenna matching unit matches your radio's operating frequency, you're ready to communicate.

When they don't match, you get high reflected RF power that'll burn up circuits in your receiver-transmitter (RT).

The matching unit should automatically switch to the right frequency range when you tune the RT. If it doesn't, check that control cable CX-4722 is hooked up tight. If the matching unit still won't automatically switch, select the frequency range manually. Here's how:

1. Unhook control cable CX-4722 from the matching unit.
2. Tune the RT to the frequency you want.



3. Look for the tuning switch at the bottom of the matching unit. Turn the switch clockwise to the frequency range that includes the radio's operating frequency. That should put you back in the communicating business.

Once your mission is over, ask your unit maintainer to look at your radio system. He'll troubleshoot it to find out why the automatic switching's not working.

Straight Talk

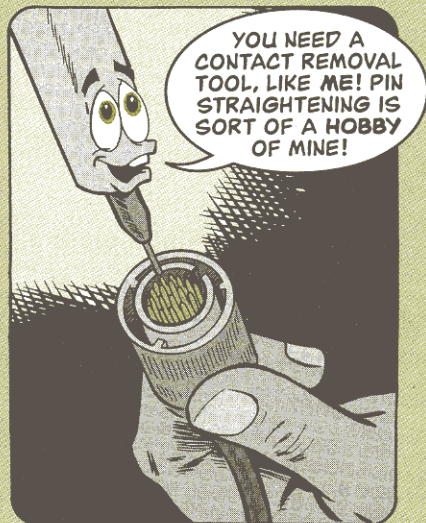
Yeah, I know. You were in a hurry. You wanted to get your commo gear cabled real fast, so you didn't take the time to line up the connector pins. But all you got for your haste was a connector with bent pins.

Now you're trying to straighten those pins in a tiny space with an oversized pair of needlenose pliers. Chances are, you'll bend or break more pins. Then you'll have to replace the whole connector.

Do yourself a favor and use a tool that straightens pins instead of breaking them. Get the contact removing tool kit, NSN 5120-00-765-3688. Even though it's designed to remove contact pins, it also makes a great pin-straightener.

The kit comes with four tips for different-sized pins. To straighten a pin, fit a tip over a pin and bend it back into shape.

Appendix A of CTA 50-970 is your ordering authority.

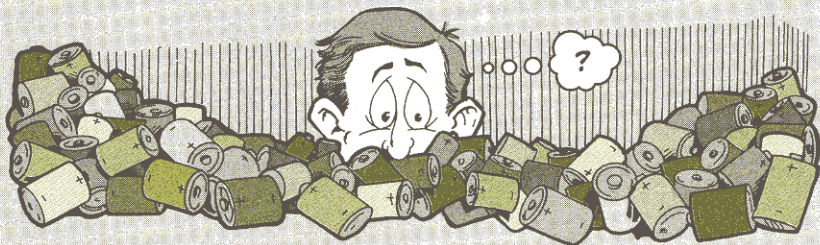


Battery UI Change

By now you know that the BA-5372 lithium battery, NSN 6135-01-214-6441, has replaced the BA-1372 mercury battery, NSN 6135-00-801-3493, in your SINGGARS and KY-68.

What you may not know is the BA-5372 has a different unit of issue (UI). The UI for the BA-1372 was each (EA). The UI for the BA-5372 is package (PG), with 10 batteries per package.

If you miss the UI change, you could end up getting 10 times the batteries you want. Don't laugh. It's happened to people who didn't read the AMDF carefully.



BA-5598 Lithium Battery ...

Live Long and Prosper

Some BA-5598 lithium batteries, NSN 6135-01-034-2239, are getting a new lease on life.

The headshed recently tested BA-5598s with manufacturing dates of 10/89, 11/89, 12/89, 1/90, and 4/90. It turns out they still have plenty of power left. So their shelf lives were extended two years.

Here are the battery contract numbers, manufacturing dates and old and new expiration dates:

Some BA-5598s have been marked with the new expiration date. If yours still carry the old date, add the new one to the battery boxes.

Contract number	Mfg date	Old exp date	New exp date
DAAB07-88-C-C045	10/89	10/94	10/96
DAAB07-88-C-C007	10/89	10/94	10/96
DAAB07-88-C-C045	11/89	11/94	11/96
DAAB07-88-C-C007	11/89	11/94	11/96
DAAB07-88-C-C045	12/89	12/94	12/96
DAAB07-88-C-C045	1/90	1/95	1/97
DAAB07-88-C-C045	4/90	4/95	4/97

DUFFEL-BAGGIN' IT



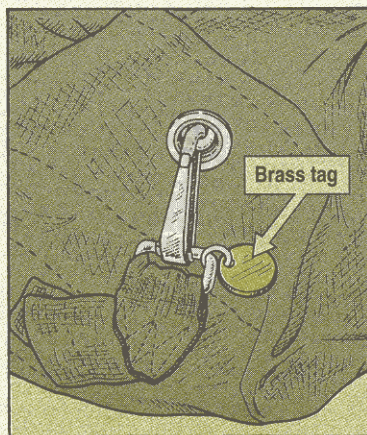
Your duffel bag holds everything you take to the field. But once it's thrown on the truck with all those other duffel bags, it can be hard to find.

Stenciling your name and SSAN on the side of the bag was once the way to mark it. No more. Stenciling—and hard-painting areas to make a surface for stenciling—both make the bag unserviceable.

Instead of stenciling, order brass tag, NSN 9905-00-473-6336, and stamp your information on the tag with a hammer and die.

If you don't have a die set, here are some you can order:

NSN 5110-00-	Size, (inches)	Type
289-0005	1/16	Alpha
289-0006	1/8	Alpha
293-1904	3/16	Alpha
289-0007	1/4	Alpha
289-0008	3/8	Alpha
293-1905	3/16	Alpha
289-0001	1/16	Numeric
289-0002	1/8	Numeric
289-0003	1/4	Numeric
289-0004	3/8	Numeric



Attach the marked tag to one of the bag's grommets or snap hooks.

TM 10-8400-203-23 has other care and repair instructions for your duffel bag.

IM-93 FACTS

HERE ARE SOME RADIAC FACTS YOU NEED TO REMEMBER.



Charge your IM-93 dosimeters before every use. Charge it to an initial on-scale reading at zero, or as near to zero as you can get. If it's not at zero, record the value so you can subtract it from your reading to get the true exposure.

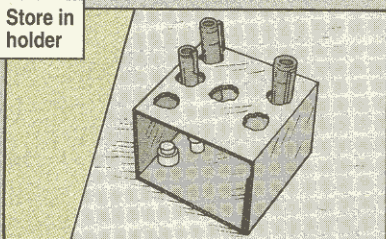
If you can't charge the dosimeter, don't use it. Turn it in to your NBC NCO and get one that is charged.

One good way to keep IM-93s accurate is to protect them. You can make a holder for your IM-93s from a cardboard box. You can use the box the M8 alarm test paddles come in. Here's what one looks like:

Charge to zero



Store in holder

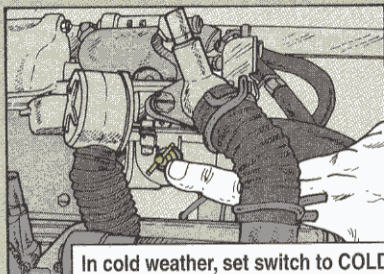


Just turn the box upside down and cut a circular hole in the box for each IM-93 to stand in. Make sure you tape the bottom so the IM-93s don't slip out when you lift the box.

Primed to Pump

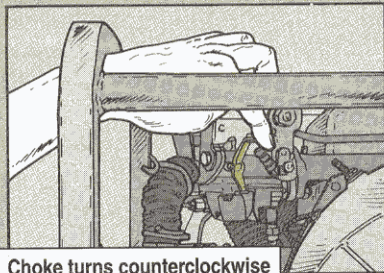
Here are a few ways to keep your 125 GPM water pump primed to pump:

Remember the gasoline pumps have a COLD/WARM starting switch. If you forget to set the switch to COLD in winter, your arm will fall off before the pump starts.



In cold weather, set switch to COLD

Direction makes a difference on gas pumps. The choke turns **counterclockwise**. Get things backwards and the engine will be hard to start.



Choke turns counterclockwise

Never run the pump more than two minutes without water in the system. If the pump runs longer, the seals in the pump blow.

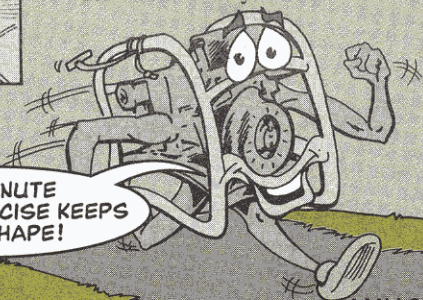
It's OK to steam clean the pump if you cover the exhaust pipe with a plastic bag. Otherwise, moisture works its way through the pipe to the exhaust manifold and into the cylinders. If the pump sits idle long enough, the pistons rust tight.

Seal the pipe with a bag. When you're finished cleaning, remove the bag, prime the pump with water and run it five minutes. That will evaporate any moisture in the system.



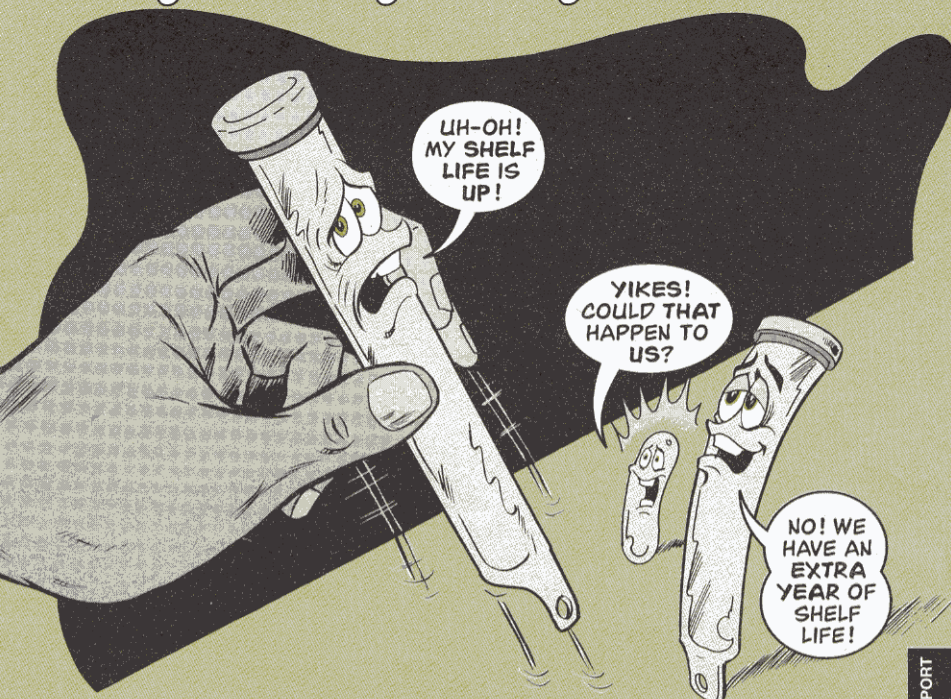
Plastic bag over exhaust will keep water out

Eliminate most starting problems simply by running the pump weekly for 15 minutes. A pump that sits idle for weeks is very hard to start.



A 15-MINUTE WEEKLY EXERCISE KEEPS ME IN SHAPE!

Longer-Lasting Chemlights Available



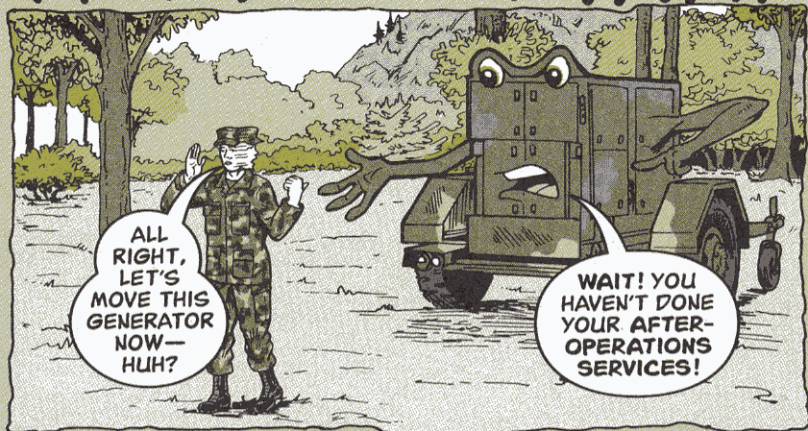
Infrared chemlights now come with a three-year shelf life—a full year more than the old ones. Here's what's available:

NSN 6260-01-396-	Chemlight	Qty
1704	6-in standard	10
1705	3-in circle	10
1706	flexband	12
1707	1½-in mini	50
1708	15-in standard	5
1709	15-in impact	10
1710	4-in mini	10

You flex all the lights to activate them except for the impact light. It activates when you drop it. All glow for up to eight hours.

The circle chemlight has an adhesive back and is mostly used on glass or windshields during night ops. Mini lights can go in helmet bands. The flexband bends around the wrist, for ID purposes.

Drain Sediment, Water

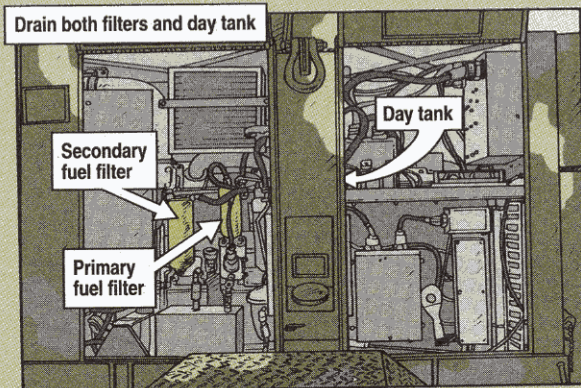


The mission's over. You've shut down your 30-KW diesel generator, NSN 6115-00-118-1240. Now it's time to move on, right?

Wrong! You're not done until you've done your AFTER operation services!

If you forget to drain the sediment and water from the day tank and from the primary and secondary fuel filters, you're asking for trouble. That's because temperatures below freezing will turn any water in the system into ice and stop fuel flow.

Ice or solid debris in the fuel can clog and damage injectors, rupture components, and score the injectors and injector pump.



The bottom line is, if any of this happens, the generator will not work.

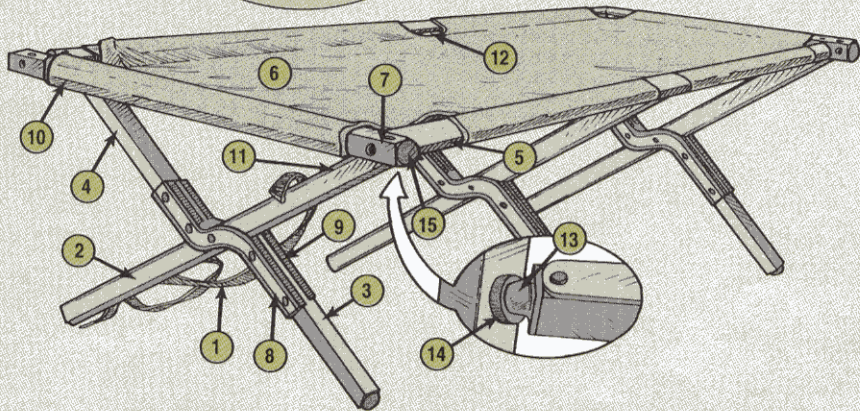
Remember, your AFTER operation PM is not complete until you drain the day tank and fuel filters. TM 5-6115-465-12 tells how.

Aluminum Cots ...

REPAIR PARTS RUNDOWN



USE
THESE NSNs TO
REPLACE WORN OUT OR
MISSING ALUMINUM
COT PARTS.



1 Folding cot strap,
NSN 7105-00-113-0003

2 Folding cot leg, NSN
7105-00-935-0425

3 Lower half leg, NSN
7105-00-935-0427

4 Upper half leg, NSN
7105-00-935-0426

5 Side rail, NSN
7105-00-935-0423

6 Cover, NSN
7105-00-935-1845

7 End stick, NSN
7105-00-935-0424

8 Cross leg support, left,
NSN 7105-00-935-0428

9 Cross leg support, right,
NSN 7105-00-935-0429

10 Top leg support, left,
NSN 7105-00-935-0431

11 Top leg support, center,
NSN 7105-00-935-0432

12 Top leg support, right,
NSN 7105-00-935-0430

13 Dowel plug, NSN
7105-00-935-0433

14 Spacing plug, NSN
7105-00-935-0434

15 End plug, NSN
7105-00-935-0435

SOLDIER SUPPORT

ICE CHEST PARTS

HERE ARE THE REPAIR PARTS FOR YOUR FIELD ICE CHESTS, NSN 4110-00-142-2445 (200 POUND CAPACITY) AND 4110-00-640-1941 (400 POUND CAPACITY).

Item	NSN or CAGE/PN
Gasket, door seal	5330-00-672-8738
Handle, bail	5340-00-682-1502
Chain, safety	4010-00-720-4467
Stopper, drain	4510-00-242-4358
Hinge	81337/5-13-2344-13
Nail, screw grip (11 gauge x 7/8-in aluminum)	81337/5-13-2341-37

Order the hinge and nails from S9G on a DD Form 1348-6 using the CAGE and part number.

There are several manufacturers for these 200-lb and 400-lb ice chests. Stay assemblies and other ice chest parts not listed here are in each manufacturer's service manual.

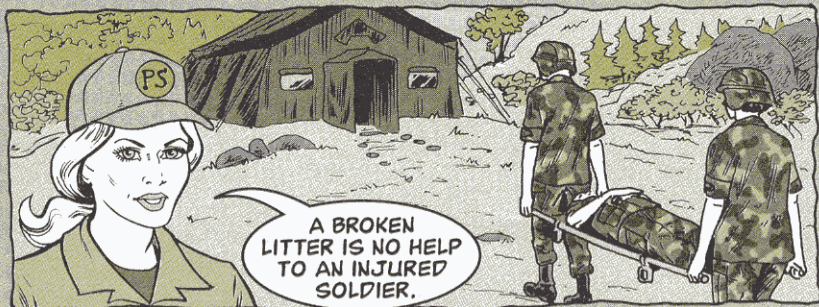
HERE ARE THE MANUALS AVAILABLE FROM S9G...

Manufacturer	Size Chest	TM-DGSC-4110-
Brenner Metal Products Corp.	200/400-lb	554
Morton Manufacturing Co.	200/400-lb	681
Auto Skate Co, Inc.	200/400-lb	425
Taltech International, Inc.	200/400-lb	711
MGR Equipment Corp.	400-lb	508
R.S.P. Industries, Inc.	400-lb	522

TO GET THESE MANUALS, WRITE...

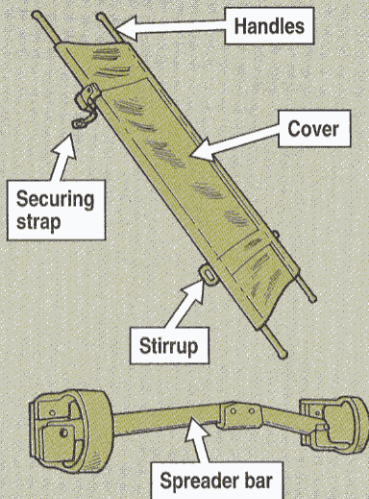
Defense Supply Center, Richmond
ATTN: DSCR-SDA
Richmond, VA 23297-5000

REPLACEMENT PART NSNs



Need replacement parts for your medical litters, NSN 6530-00-783-7205 and -7905? These parts are used on both litters:

Part	NSN
Handle	6530-01-247-7157
Headless nail	5315-01-318-5716
Spreader bar and stirrups	6530-00-784-3450
Litter pad	6530-00-137-3016
Patient strap, securing	6530-00-784-4205



Some components for the two litters are different. Here are the differences:

Litter, NSN 6530-00-783-7205	
Part	NSN 6530-00-
Cover, cotton	784-1035
Securing strap, litter (This litter has no traction appliance)	784-4105

Litter, NSN 6530-00-783-7905	
Part	NSN 6530-00-
Cover, nylon	784-1250
Securing strap, litter	784-4335
Traction appliance	926-4732
Backrest	299-8353

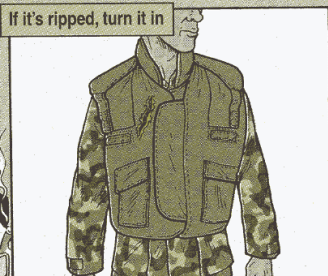
Take a Vested Interest in PM

If you've still got the old armored vest, NSN 8470-00-823-7370 through -7373, turn it in. It doesn't have the Kevlar ballistic filler. It won't protect you as well as the Kevlar vest.

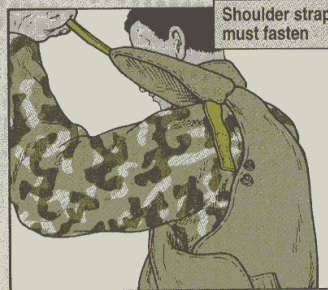
If you've got one of the Kevlar vests NSN 8470-01-092-8497 through -8500, take care of it so it **will** protect you. Here's how:

If the outer shell is torn or ripped, turn it in. That shell covers the ballistic insert material. If the insert material gets holes in it, you lose your protection.

If it's ripped, turn it in



If the ballistic material gets bunched and can't be smoothed out, if the vest doesn't close, or if the shoulder strap is torn or doesn't fasten, turn in the vest, too.



To clean the vest, brush off dirt with a soft to medium bristle brush or soft cloth. If you need to completely wash the vest, wet it in the shower or a sink full of warm—not hot—water.

Using mild soap or detergent, scrub the vest by hand only long enough to remove dirt. Then rinse the vest with warm water until the suds are completely gone.

Let it air dry away from heat or open flame by placing a stick or pole through the armholes.

Never use gasoline, petroleum-based solvents, or dry cleaning solvents to clean your armored vest. They will ruin it.

M2 Compass ...

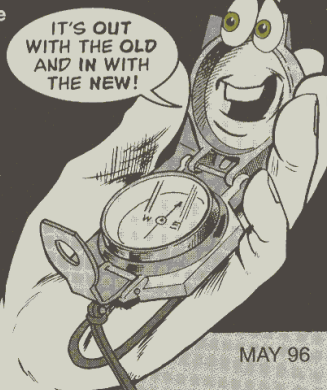
Change of Direction

Your old M2 compass, NSN 6605-00-151-5337, has been condemned because some were leaking the radioactive material which made them luminous.

If you still have the old compass, turn it in as radioactive waste per AR 385-11 and order a replacement with NSN 6605-01-196-6971.

The old compass was aluminum, and graduated in degrees from zero to 360, and in mils from zero to 6400.

The new compass is made of plastic, and graduated in degrees and mils, also. Tritium makes it luminous.



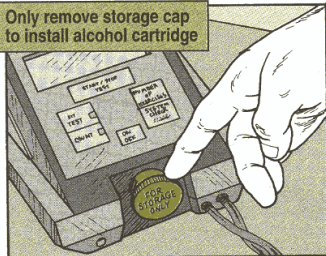
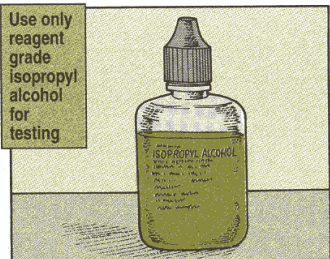
SOLDIER SUPPORT

Getting It Down PATS

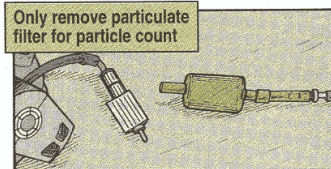


There are a few things you NBC NCOs need to get down pat to ensure your new M41 protection assessment test system (PATS) tests masks accurately.

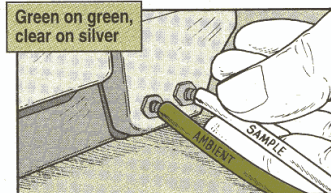
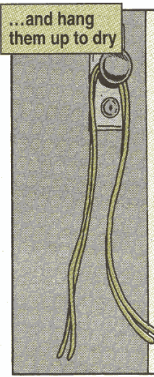
Think purity. It doesn't take much contamination to cause PATS to give bad readings. So keep it as pure as possible by using only reagent grade isopropyl alcohol, NSN 6810-01-382-2904. Any other alcohol is not pure enough and will clog the PATS' optic system. If the system gets too clogged, it must go all the way back to the manufacturer for repair.



Take off the storage cap only to install the alcohol cartridge. While using the cartridge, put the cap on the alcohol capsule to protect the alcohol from contamination. And as soon as you're through with the M41, put the cap back on. If the cap's left off, outside air contaminates the PATS.



Before installing the twin tube assembly on the PATS, eyeball it for drops of condensation, especially in humid weather. Condensation can throw off PATS readings. Shake out the tubes and hang them up to dry. If the spare tubes are dry, use them instead.



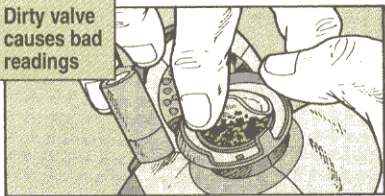
SOLDIER SUPPORT

**BEFORE
THE TEST...
PMCS!!**



Before testing, have each soldier do a complete PMCS of his mask and clean it if necessary. Things like a loose cannister, a poorly adjusted head harness, or a dirty outlet valve or valve will cause it to fail.

**Dirty valve
causes bad
readings**

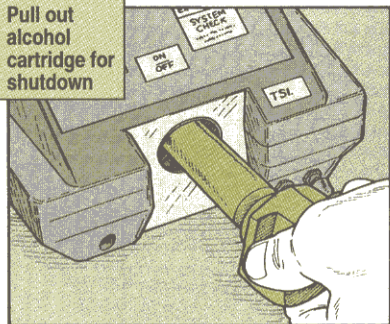


With the sampling adapter attached to the mask, have each soldier blow out the drink tube, too. Moisture or dirt in the drink tube causes false results.

One final check: Look through the mask eyelenses and make sure the drink tube extension is not pressing against the soldier's forehead. That closes off the air sampling path. If the extension is against the forehead, re-adjust the extension so you can see its opening.

When you're ready to store the PATS, make sure the alcohol cartridge has been removed. If the PATS sits with the cartridge inside it, alcohol saturates the counting mechanism. The PATS is damaged.

**Pull out
alcohol
cartridge for
shutdown**



**YOU
PASSED!**



**ALL
RIGHT!!**

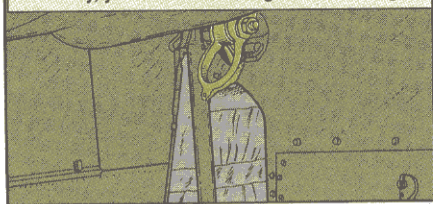


IT'S A MOORING STORY

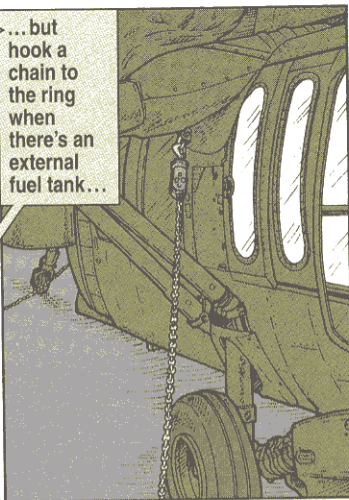


Got Hawks with external fuel tanks on the flight line?
If they're moored like 60s without external fuel tanks, they're moored wrong!

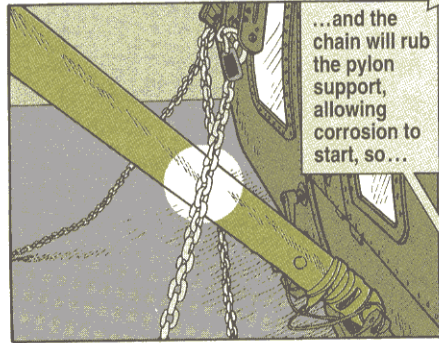
Normally, you use the fuselage tiedown ring ...



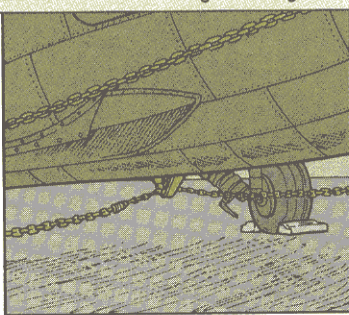
...but hook a chain to the ring when there's an external fuel tank ...



...and the chain will rub the pylon support, allowing corrosion to start, so ...



...run the chains through the cargo hook



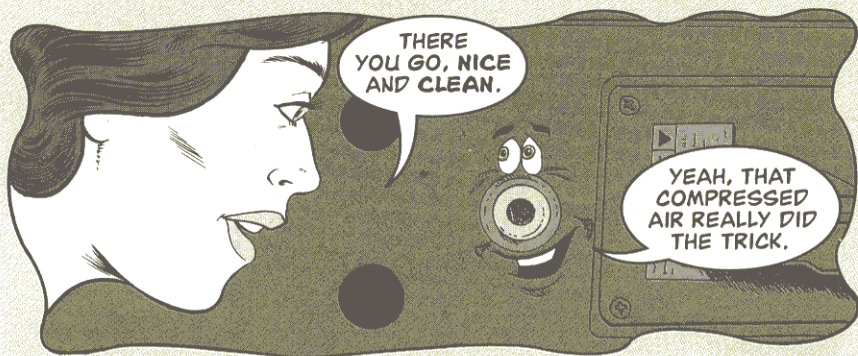
Normal mooring procedures use the fuselage tiedown ring. Hook a chain to that ring when an external fuel tank is attached and it will rub the pylon support.

Won't be long until the paint is gone and corrosion has found another home.

So don't use the fuselage tiedown rings when your UH-60s are using external fuel tanks.

Instead, unhook both chains from their tiedown rings. Then, run them to the cargo hook and connect them to each other.

A Clean Tube



A clogged air inlet, anti-ice temperature sensor tube on your Black Hawk engine means engine damage... and maybe worse.

The sensor tube lets air flow to the anti-icing valve. If it's clogged with sand or insects or gunk, the anti-ice valve won't work.

Ice forms in the inlet and gets sucked into the engine!

Keep the air flowing by cleaning the tube **often**.

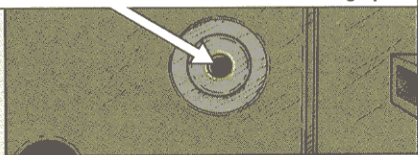
For a good cleaning, remove one end of the temperature sensor tube from the ice detector cover and the other end from the anti-icing valve.

How you do this depends on the sensor tube you have. If you have sensor tube, AE7012G0114-080, disconnect the tube from the fitting on the cover, and then from the anti-icing valve.

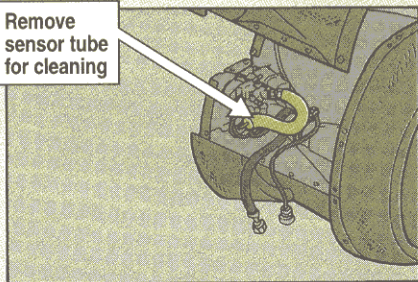
If you have sensor tube, 70306-10019-041 or 70306-10019-042, you must slip the tube out of the grommet on the cover and then disconnect it from the anti-icing valve.

Once the tube is off, blow it out with compressed air. If compressed air won't clear it, replace the tube. Replace tube, AE7012G0114-080, with tube assembly, NSN 4720-01-112-8516; replace tube, 70306-10019-041, with NSN 4710-01-157-8026; and replace tube, 70306-10019-042, with NSN 4710-01-159-4661.

Dirt and debris enter sensor tube through port



Remove sensor tube for cleaning



W An Open and Closed Case

What does it take to break a bad habit?

No matter how much it's stressed, people still fail to close the latches on the APU and transmission oil cooler access doors.

Here's what happens.

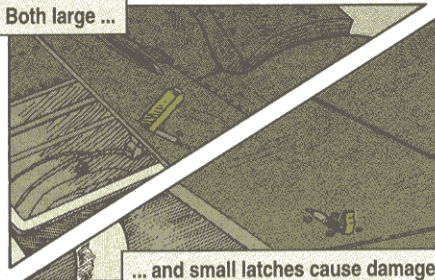
It's time to work on the oil cooler.

You pop open the access doors, swing 'em back and let 'em fall.

Bam!

Just like spears, the open latches pierce the engine cowling.

Both large ...



... and small latches cause damage

Everyone knows to lock the latches back in place after they open the doors, but it's still not being done.

Why?

What does it take to make closing the latches a habit?

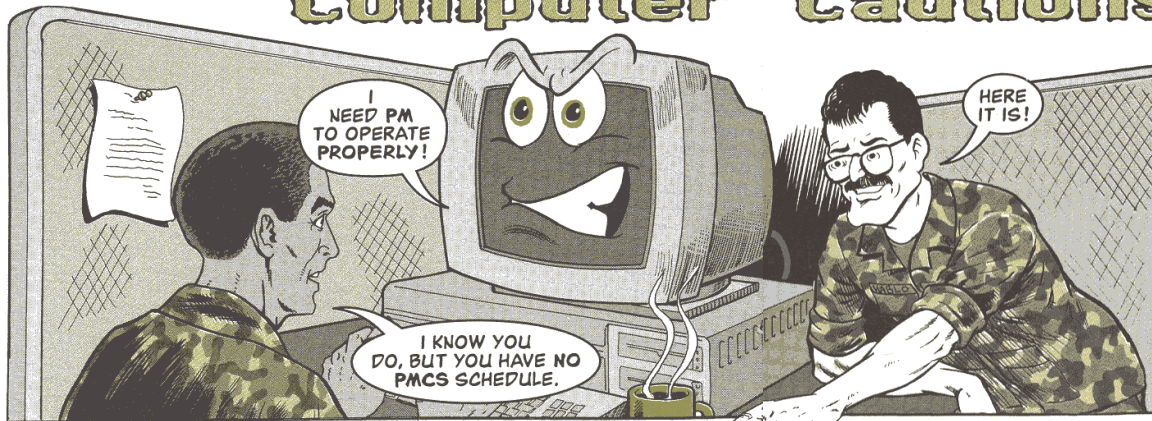
The answer is you have to want to! Nothing gets done unless you want to do it.

Next time you pop the latches to open access doors, stare at the latches a minute. Now close them and open them several times. You'll be amazed how quickly your mind will make the two actions, opening and closing, one action.

Next time you open the access doors, you'll immediately close down the latches.



Computer Cautions



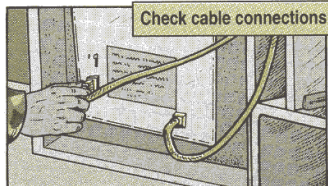
Your Unit Level Logistics System (ULLS) computer needs regular doses of PM to keep operating.

Since the commercial computer which operates your ULLS has no TM, follow this PMCS schedule. Before starting, make sure the power is OFF.

Daily

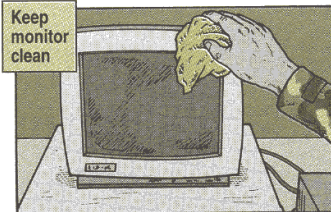
- Make sure computer and printer vents are not blocked. These components over-heat if they don't get enough air.

- Feel the monitor, printer and CPU cable connections to be sure they are firmly connected. Tighten loose connections with a small screwdriver. Use a light touch or you'll damage the cable connectors.



Weekly

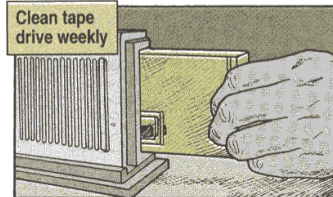
- Clean the computer's outer casing and monitor with a clean cloth dampened with water. Never use sprays or liquids directly on computer equipment. Never pour cleaning solutions while holding them over the keyboard or monitor. Liquid destroys them if it gets inside.



- Use a disk cleaning kit to clean disk drives. These kits usually come with a cleaning disk or pad and cleaning solution. For 5.25-in disk drives, order NSN 7035-01-154-1315. Order the 3.5-in disk drive cleaning kit on DD Form 1348-6 using NSN 7045-01-309-3489. In the Remarks block, put "NSN not on AMDF."



- Clean tape drives with a tape cartridge kit. Order the 60 meg tape drive cleaning kit with NSN 7035-01-373-5972 on DD Form 1348-6. Put "NSN not on AMDF" in the Remarks block. The 40 meg tape drive is NSN 7035-01-395-9174. These kits come with instructions.



If cleaning kits are not available for the disk or tape drives, use isopropyl alcohol, NSN 6505-00-655-8366, and foam swabs, NSN 4920-01-243-0571. Never use cotton swabs or other non-medical swabs. They leave lint on the tape heads.

- Hold the keyboard upside down and use a soft bristle brush to get things from between the keys. If you don't have a brush, gently tap the bottom of the keyboard while it's upside down.

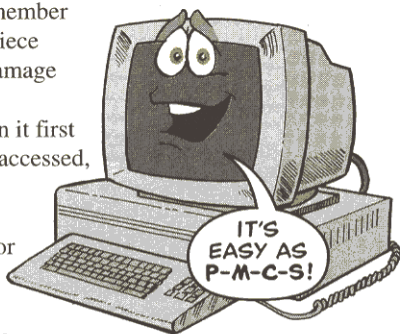


Turn On

Now that you've completed the PMCS, remember that the equipment should be turned on one piece at a time to prevent voltage surges that can damage files and equipment.

The system must read and access files when it first comes on. If a surge occurs as these files are accessed, the data in those files can become unusable.

Turning on your equipment is as simple as remembering PMCS—"P" for printer, "M" for monitor, "C" for computer (CPU), and "S" means the system is operational.



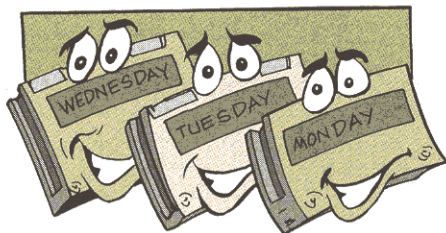
Other Tidbits

Your computer needs to be at least six inches from the wall. That way air can circulate and keep the computer cool.

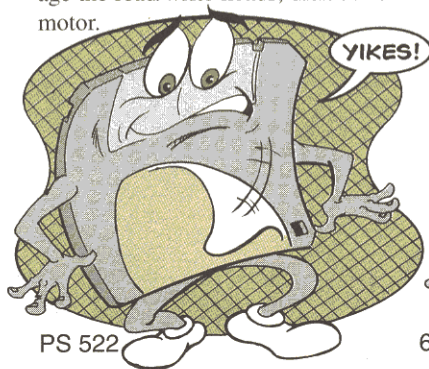


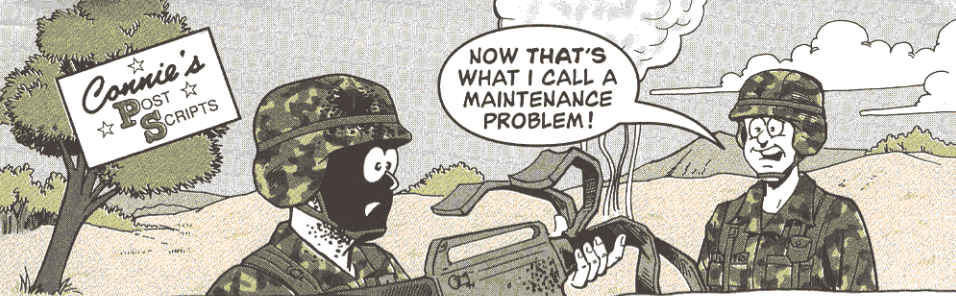
Keep paper clips, thumbtacks, and rubber bands away from your computer. Those small objects can get into small openings and cause damage.

Make sure labels are firmly on the disks. If they're loose, they could get stuck in the floppy disk drive and damage the read/write heads, disk drive or motor.



Swap the backup tapes for new ones every six months. Dust and dirt get on the tape and the computer cannot read it. If the area is extremely dusty, change tapes every three months.





Patriot Antenna Elements

Patriot repairmen, wait until you've got a full box of 60 used antenna elements (PN 11455763) before you send them to the depot for overhaul. Half-filled boxes slow down the supply system and mean you don't get full turn-in credit.

M4K Forklift Tire

The 14-ply tire used on your 4,000-lb forklift is being replaced. NSN 2610-01-320-0460 gets the new 8-ply tire. The headshed is making the switch because the new tire goes on and comes off the rim easier. Always use old tires until they are no longer serviceable and never mix 8- and 14-ply tires on the same axle.

NBC Bulletin Board

The US Army Chemical School now has a computer bulletin board that gives the latest info on NBC equipment, training, and doctrine. You can also get answers to your NBC questions. Access the bulletin board at (205) 848-4921. For more info write:

**Commandant
USACMLS
ATTN: ATZN-CMN-B (BBS)
Ft McClellan, AL 36205-5000**

Call (205) 848-4122/7317, or fax (205) 848-4022. The DSN prefix is 865.

CUCV Nylon Tailgate

If your mission does not require a metal tailgate (and its \$140 price tag) for your M1008 or M1028 truck, get a universal tailgate net instead. With your commander's OK, order the nylon net with CAGE 7E570 PN 12VY8050T from RIC S9G. It costs about \$20.

SEE Tire Pressure

Mechanics, there are still SEEs out there with the wrong tire pressure—45 PSI—marked on the fenders. The SEE needs just 40 PSI per tire for both highway and cross-country driving. More air than that leads to sidewall damage. So, paint "40 PSI" on each fender as a reminder to your operators.

WD-40 Replacement

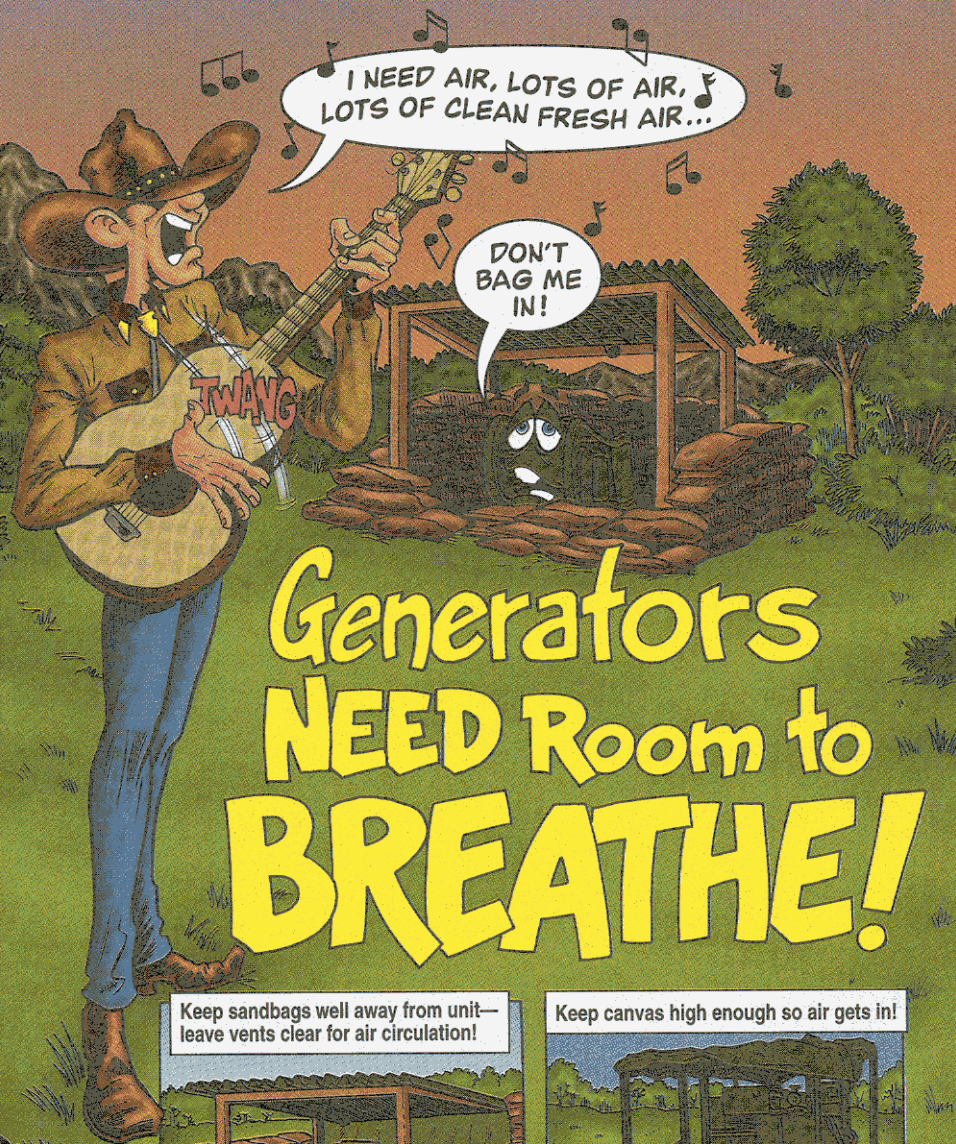
WD-40 lubricant is no longer available. As a substitute, get a 16-oz aerosol can of corrosion preventive and lubricant with NSN 8030-00-938-1947.

RAU Antenna Field Fix

If your MSE's radio access unit (RAU) omnidirectional antenna is damaged, use an OE-254 antenna feedcone and elements on top of the mast. That'll keep you talking until you can replace the RAU antenna.

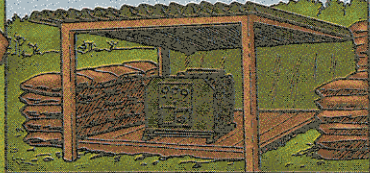
Distribution: To be distributed in accordance with DA Form 12-34-C-R, for TB-43-series.

**Would You Stake Your Life ¹/_{night now} on
the Condition of Your Equipment?**



Generators NEED Room to BREATHE!

Keep sandbags well away from unit—
leave vents clear for air circulation!



Keep canvas high enough so air gets in!

