

Issue 510

PS

May
1995

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-510

I DON'T
KNOW WHAT
HAPPENED. I WAS
DRIVING ALONG
AND THE DOOR
FELL OFF.

THE
HINGES LOOK
CORRODED
TO ME!

MY MAMA
ALWAYS SAID,
"CORROSION IS
AS CORROSION
DOES."

Approved for
Public Release;
Distribution Is
Unlimited

Corrosion
... See Page 27

Maintenance...

Pitching PM!

PLAY BALL!

OK, KID, IT'S PREVENTIVE MAINTENANCE CHAMPIONSHIP SERIES TIME! PITCH YOUR BEST GAME!

STRIKE ONE!

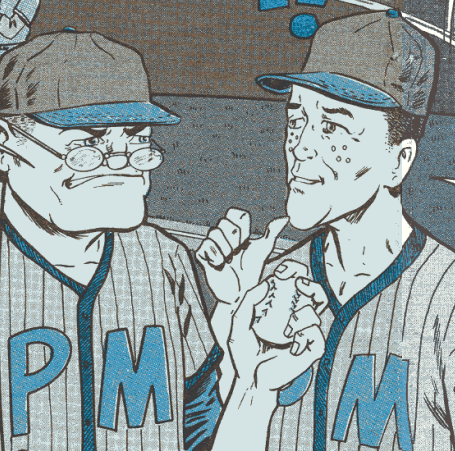
Do all PMCS. It may seem like BEFORE is the most important. After all, it's the only one you do on your POV, right? But all PMCS is important — ALL of it.

Start by reading all the general information in front of the PMCS chart. It tips you off to trouble spots and gives you the guidelines you need to do a good job.

Then, do the checks and services as they come up. There are good reasons they are done at different times.

Your vehicle gives different clues to trouble DURING operation. Many AFTER checks are done instead of BEFORE checks — so if you forget them, your vehicle could be in trouble next time it goes out.

Weekly and monthly PMCS catch other potential maintenance problems. Give them your best effort.



SURE THING, COACH!

STRIKE TWO!

If you find a problem you can fix, do it. If all you need is a light bulb, some coolant, or air in the tires — add them. Never report problems that you can solve.

If you do the job, it's done, and it's one less thing your unit mechanic has to do. He can concentrate on jobs he's supposed to do.

STRIKE THREE!

When you find a problem you can't fix, give your mechanic as much information as possible on the PMCS form.

Put yourself in his shoes. If you're fixing something, you want to know as much as possible before you start.

"Won't start" isn't as helpful as "Won't start — did troubleshooting per operator's manual."

Throw these three strikes at each PMCS and you'll put maintenance problems "out" of the game.



THE PREVENTIVE MAINTENANCE MONTHLY

TS 43-PS-910, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

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

MSG Half Mast
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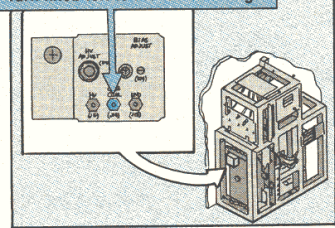
Reminders for Repairmen

Here are a few reminders to help Patriot repairmen do a better job:

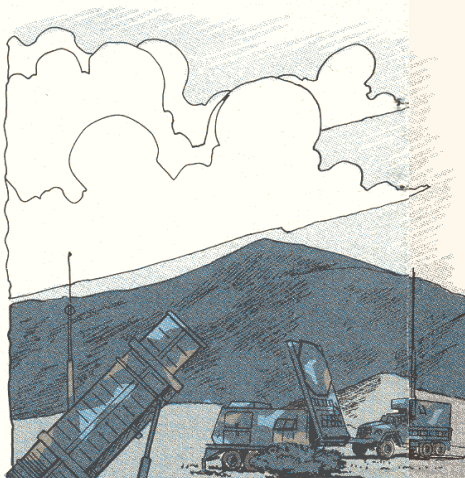
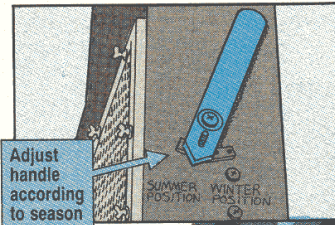
✓ On the AN/MPO-53 radar, you have to do things backwards when you adjust the cathode on the low-level traveling wave tube and the final modulator tank.

To get the needle to the right, turn the current knob to the left — and vice versa.

Turn knob left to move needle right



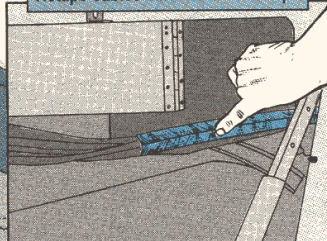
✓ On the vans for the engagement control station (ECS) and the information and coordination central (ICC), there are curbside and roadside handles that control air flow into the vans. When the seasons change, change the position of the handle or the electronic equipment won't get enough air. Below 32° F, put the handle on WINTER; above 32°, SUMMER.



HERE ARE SOME PATRIOT TIPS YOU CAN STAND UP AND SALUTE.

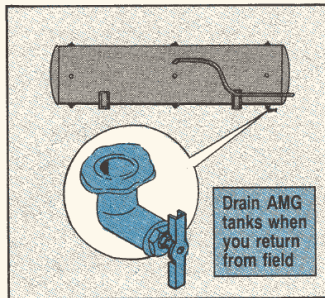
✓ When the antenna mast group (AMG) comes back from the field, first eyeball the tape holding together the commo and power cables. Heat and cold eat up the tape. If the cables aren't taped, they're pinched and damaged when the antennas are stowed.

Retape cables with "100 MPH" tape



Avenger Missile System . . .

Second, drain the compressor air inline filter and the mast air tanks on all the AMGs. Otherwise, water gets in the masts. As the AMGs sit, corrosion builds and damages the masts and their seals.



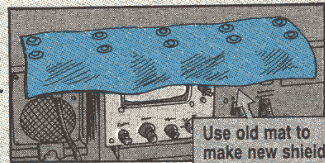
Going to the Mat

Dear Editor,

The sun shield for the Forward Looking Infrared (FLIR) gets broken off a lot. There are no replacements. Without the shield, you can have a problem reading the FLIR screen.

We've found we can fabricate a good replacement shield from an old exercise or sleeping mat, NSN 8465-01-109-3369. Use a good shield as a prototype for the correct dimensions and places to cut the holes for the screws, NSN 5305-00-947-4282. Cut the mat and screw it in place.

SSG Daniel Hunt
Ft Bliss, TX



FROM THE DESK OF THE Editor

We'll go to the mat for your suggestion. Eventually, you will be able to order a new sun shield. Until then, this is a good fix.

Nifty IFTE Ideas

Here are a few minor things you can do for your Integrated Family of Test Equipment (IFTE) that will be a major help:

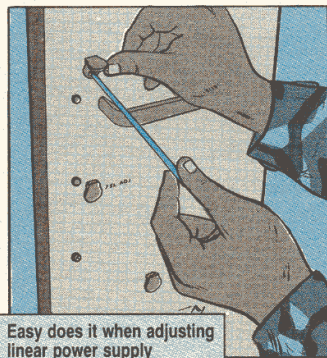
Take it easy and s-l-o-w when you adjust the linear power supply. Its knob is just soldered on, so it doesn't take much to break the knob off.

Plus, if you rapidly twist it, the voltage fluctuations can lock up the entire IFTE. Getting the system back up can take all day.

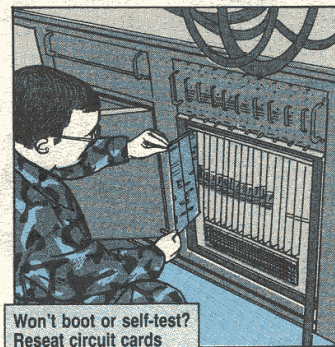
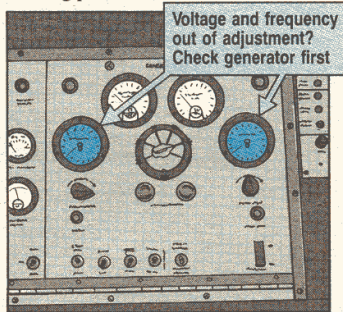


If the AN/USM-632/V fails to boot or self-test after the IFTE's been moved or sitting idle for weeks, try reseating its circuit cards. Movement can jar the circuit cards loose. Idleness causes corrosion that hurts the cards' connection. Reseating can cure both problems.

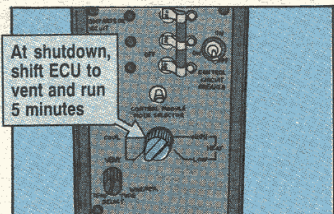
When you're ready to shut down the AN/USM-632/V, shift the environmental control unit (ECU) to VENT and run it for five minutes. That blows out moisture that can cause corrosion in the circuit cards.



Easy does it when adjusting linear power supply



Won't boot or self-test? Reseat circuit cards

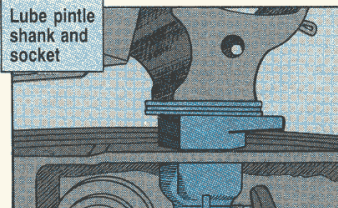


In fact, any time you're operating where there's no NBC threat, leave the ECU on VENT and also open the door vent. Moisture and carbon dioxide will blow out instead of building up inside the van.

Good A-Mount of PM

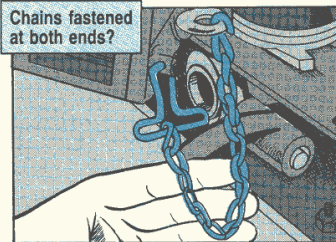
A machine gun with a mount that won't work is like a car without wheels: It may operate OK, but it's not going anywhere. Keep your machine guns on the move with this monthly mount PM:

Use a brush and dry cleaning solvent to clean off grease from the mount. Rub off rust with crocus cloth, NSN 5350-



of PM

each end. No chain soon means no pin. No pins means the mount can't be used.



Your armorer can order new chains with NSN 4010-00-523-6999. In the meantime, use string to tie the pins to the mount.

If M2 machine gun locking pins are missing, your armorer can order new ones with NSN 5315-00-707-0291, NSN 5315-00-704-2932 and NSN 5315-00-707-0292. M60 locking pins come with NSN 5315-00-854-4465.

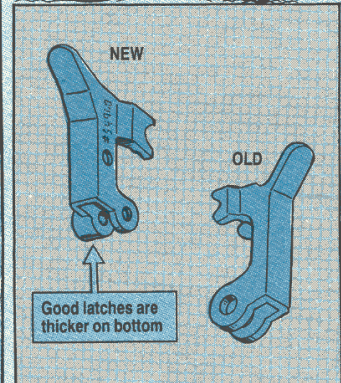


Catch Bad Latch

There are good and bad M2 machine gun back plate locking latches.

The bad latches bend and warp and let the back plate come off.

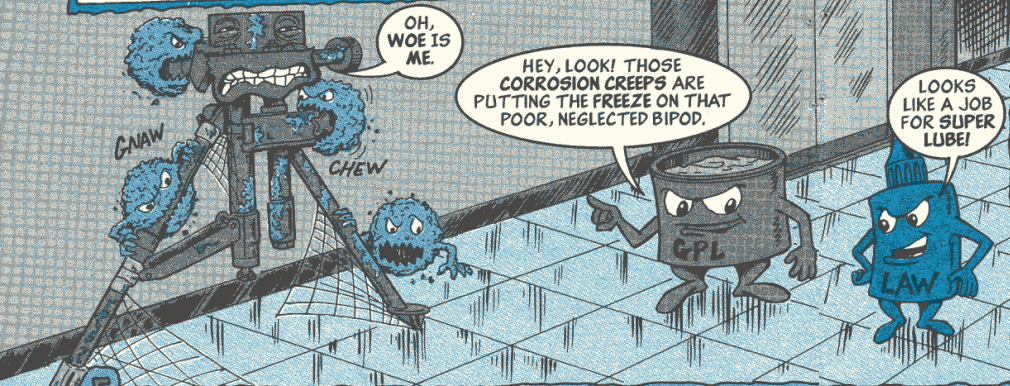
So, armorers, eyeball your M2s for the bad latches. They're rounded on the corners. Good latches are square-cornered, have more metal on the bottom, and have the part number stamped on them.



Find any bad latches? Get support to replace 'em. The M2 is deadlined until it gets a new latch.

LUBE STOPS CORROSION FREEZE

Regular lubing is the key to preventing corrosion lockups.



Follow the lubrication instructions beginning on Page 3-0 in TM 9-1010-223-10. But pay special attention to the bipod, because that's where problems usually occur.

Lube the bipod's unpainted parts weekly with general purpose lubricant (GPL). Fully extend the left leg and run the traversing, cross leveling and elevation mechanisms through their full range so you can lube all unpainted areas with GPL.

Sure, the bipod gets cleaned and lubed at support every 12 months. But if the elevation, cross level or traversing mechanisms bind, they need attention now. The armorer will have to send it to support.

The rest of the mortar needs lube, too.

If the handwheels can be turned more than 1/8th turn without the bipod moving, something's wrong. Report it.

Lube the firing mechanism weekly with LAW through the fitting on top of the handle. Lube the trigger and firing selector with LAW and move the trigger back and forth until it moves freely.

If the trigger binds, your armorer needs to send the M224 to support. Support decides whether to repair or replace the firing mechanism.



Get a Firing Pin Gauge

Armorers, you must gauge the M249's firing pin every time you change a firing pin.

A good firing pin will push the gauge's movable rod into the notched area. If it doesn't push the rod far enough or pushes it past the notched area, replace the firing pin.

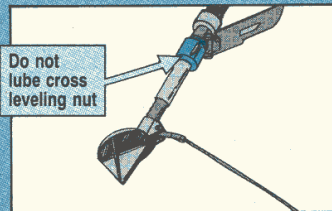
If you don't have a gauge, get it with NSN 5220-01-141-4732. You are authorized two gauges for every 15 machine guns.

Gauging procedures are on Page 3-54 in TM 9-1005-201-23&P.

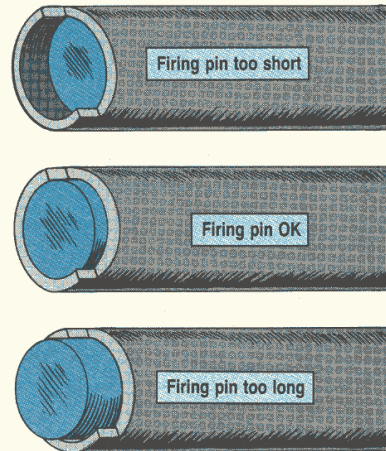
Push the collar shock absorber assembly back and release it. If it doesn't return slowly and smoothly, the shock absorber needs to be cleaned and lubed by support.

Test the M7 baseplate for 360° rotation and the M8 baseplate latch for smooth operation. If they bind, lube them with GPL.

The only thing you should NOT lube is the bipod's cross leveling nut. Lube makes it slippery. A slippery nut can cause the bipod to collapse during firing.



Armorers, if your unit's M224s are just sitting in the arms room, you must make sure this lubing gets done. Otherwise, the M224s will be frozen with corrosion before your mortarists get to do their stuff.



NO-GO Tow



PS
TALENT
SHOW
TONIGHT

First, you'll have to decide whether to use a tow bar or tow cables. Your choice depends on the terrain and what's wrong with the vehicle.

Here's how to decide:



Tow Bar

Towing a Bradley with a damaged transmission will completely ruin the final drives — and vice versa.

Your unit mechanic prevents that by removing the propeller shafts before towing. Unfortunately, that leaves the vehicle with no steering or braking control.

The tow bar gives you back some of that control. Since the bar is rigid, the vehicles won't collide every time you go down a slight hill. In fact, as long as you tow at slow, steady speeds, you should have no problems at all.

Faster speeds, especially over rough terrain, are another matter. That kind of treatment will bend and ruin the tow bar. It can even rip the tow pintle loose from the towing vehicle.

The maximum speed limit for smooth, even conditions is 15 MPH.



Tow Cables

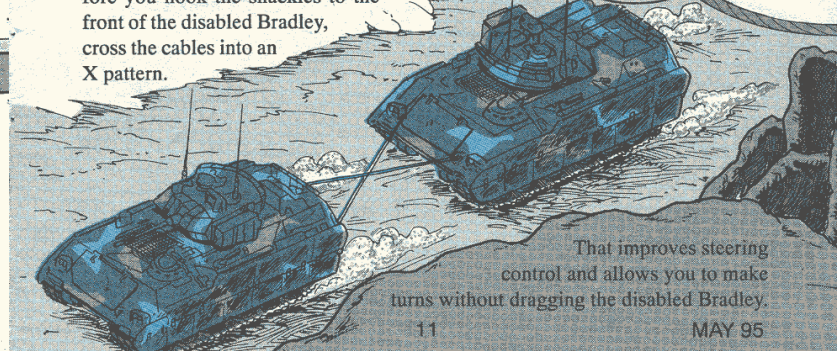
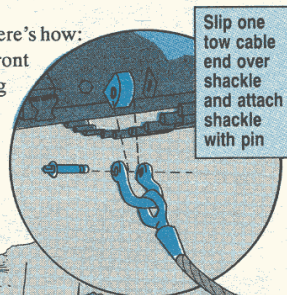
Unless the propeller shafts have been removed, tow cables are the best choice for towing your Bradley.

Again, you need to take it slow and easy. Maximum speed using tow cables is 5 MPH no matter what the terrain.

Because of the Bradley's weight, it's possible for a tow cable to snap. So, keep all hatches closed and make sure all soldiers are out of the immediate area before you start towing.

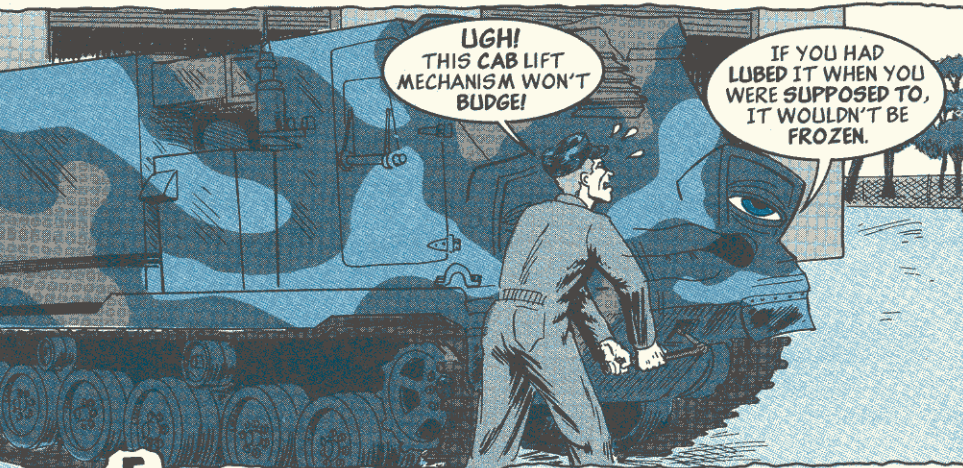
Make sure you hook the cables up right, too. Here's how:

1. Remove the four pins and shackles from the front of the disabled vehicle and the rear of the towing vehicle.
2. Loop one end of each tow cable through a shackle. Use the pins to connect the shackle to the towing eyes on the back of the towing vehicle.
3. Loop the opposite ends of each tow cable through the remaining two shackles. Before you hook the shackles to the front of the disabled Bradley, cross the cables into an X pattern.



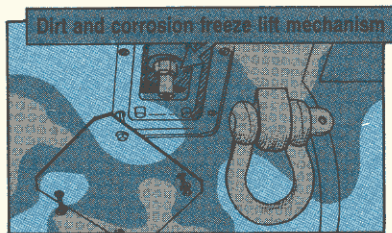
That improves steering control and allows you to make turns without dragging the disabled Bradley.

NOBODY NEEDS A WHAMMY



Forgetting to lube the cab lift mechanism on your MLRS carrier is a double whammy, crewmen.

Whammy #1: With no lube, rust and corrosion take over. The mechanism freezes in place and you can't raise the cab.

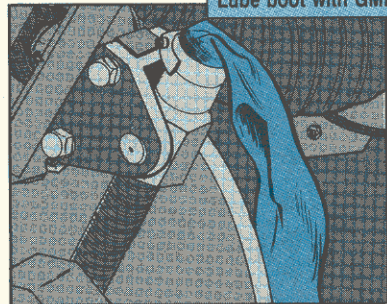


Whammy #2: In order to lube the lift mechanism, you have to be able to raise the cab. But with the cab frozen in place, you're stuck.

You can avoid both whammies by lubing the mechanism semiannually like it says in the LO.

After you raise the cab, remove the clamp and coat the inside of the canvas boot with molybdenum disulfide grease (GMD). That'll keep you going for another six months.

Lube boot with GMD



If the clamp is worn or damaged, replace it with NSN 4730-00-908-3193 before locking the boot back in place.

'Course, if the mechanism is already frozen, you'll just have to call in your mechanic.

MLRS ...

Beat the Knuckle Buster

Dear Half-Mast,

Raising the cab on our MLRS with the socket wrench and extension from our tool kit is difficult at best.

The cab jerks and bounces a lot. Because of the close clearances, it's also pretty easy to bust your knuckles.

Isn't there a better way to do the job while saving our skin?

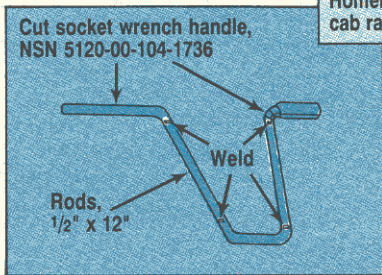
SFC D.B.K.



Dear SFC D.B.K.,

There is, Sergeant, but it'll take a little work on your part.

You'll need to modify socket wrench handle, NSN 5120-00-104-1736, using two 12-in, 1/2-in dia. steel rods like this:



Homemade tool makes cab raising easy

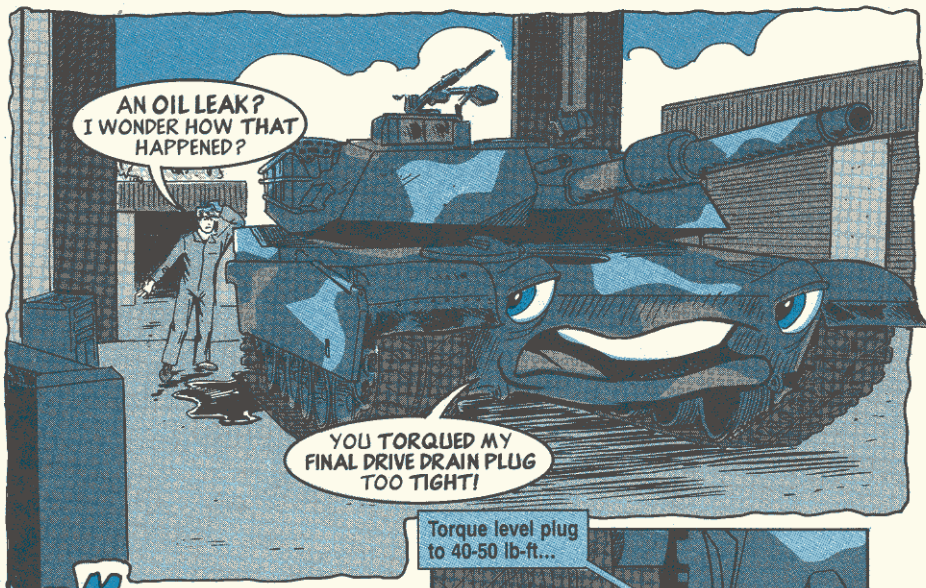


This homemade tool makes lifting the cab a breeze and will save lots of wear and tear on your knuckles.

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

Half-Mast

A PLUG FOR PROPER TORQUING



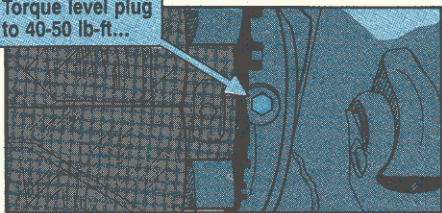
Mechanics, using the LO instructions for the M1's final drive oil level check is a shortcut you can't afford when it's time to change the oil.

The LO gives the torque value for reinstalling the level plug, not the drain plug. Since both plugs look the same, some mechanics make the mistake of using the same torque called out for the level plug — 40-50 lb-ft.

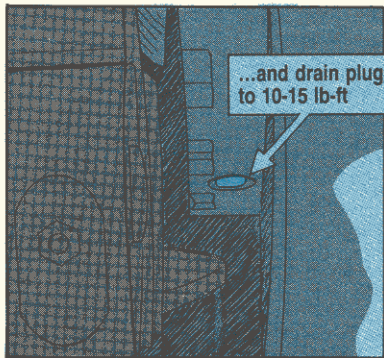
The drain plug can't take that kind of stress. It either cracks — which causes leaks — or shears off altogether.

Head off that problem by torquing the drain plug to 10-15 lb-ft. The step-by-step procedures are spelled out in the -20-1-4 TMs.

Torque level plug to 40-50 lb-ft...



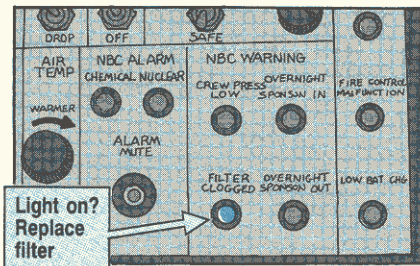
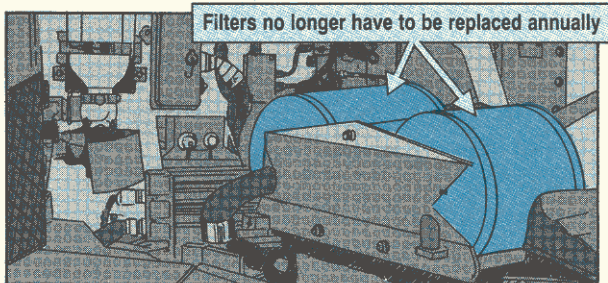
...and drain plug to 10-15 lb-ft



Don't Can That Filter

Mechanics, there's a long list of things to do on M1A1 and M1A2 tanks during annual services. So you'll be happy to hear that the list just got shorter by one.

You can scratch changing the M48 gas particulate filters annually like it says in the -20-1-1 PMCS tables. The tables will be turned next time the TMs are updated, but you can use the info right now.



It turns out that perfectly good filters were being tossed because of the requirement. At more than \$1,600 per tank, that was a luxury most units couldn't afford.

So when do you replace the filters? Only under the following circumstances:

- Physical damage.
- Wet filters.
- Clogged filters.
- Direction by higher authority.
- Use of a chemical agent (AC or CK) is expected.
- After every chemical agent attack.

Give Oil Filter a Punch

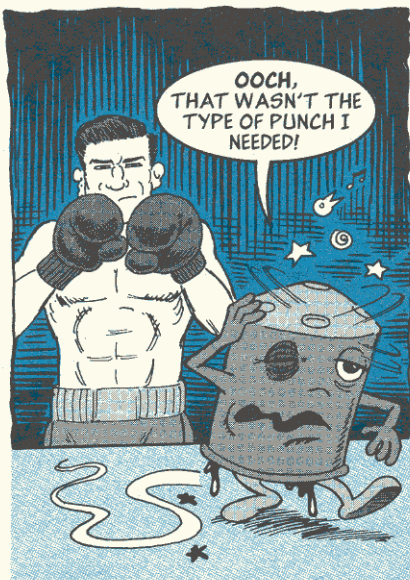
Mechanics, you've seen the mess that comes from removing the oil filter from an M1-series tank engine.

Even after the oil system's been drained, there's enough vacuum pressure left to keep a considerable amount of oil in the filter. When you take off the filter—GLOP—out comes the oil all over the engine and ground.

A center punch, hammer and a few minutes are all that's needed to prevent that messy problem. Use the center punch to poke a small hole in one of the dimples on top of the oil filter. That releases the vacuum and lets the oil drain out normally.

Just make sure you only puncture the outer skin of the filter element. Piercing the inner portion of the element can allow chips to fall into the suction side of the oil pump.

If that happens, you'll soon be buying a new pump.



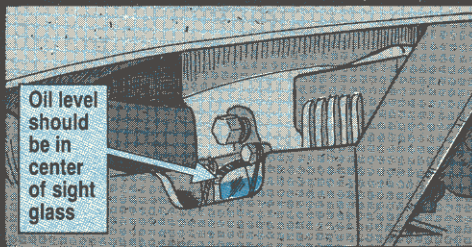
Don't Forget Fan Gearbox

Tie a string around your finger. Write yourself a note. Do whatever you have to do, but don't forget to check the oil level in your carrier's fan gearbox.

Since the gearbox is so far back out of the way, it's an easy check to forget. When the oil level gets low enough, the bearings seize up and the gearbox is ruined.

Your vehicle is NMC until the gearbox comes back from support.

Oh, another thing to remember: The fan gearbox is a monthly check — not daily like the pointer says on Card 18 of LO 9-2350-261-12.



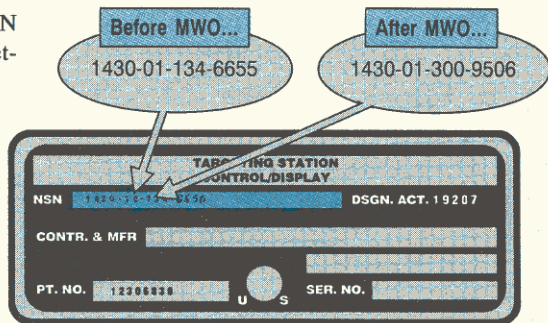
TEST THOSE TRIGGERS

If your M981 FISTV fails the trigger light test listed as Item 27 in the PMCS tables of TM 9-2350-266-10, the reason could be because an MWO was not installed.

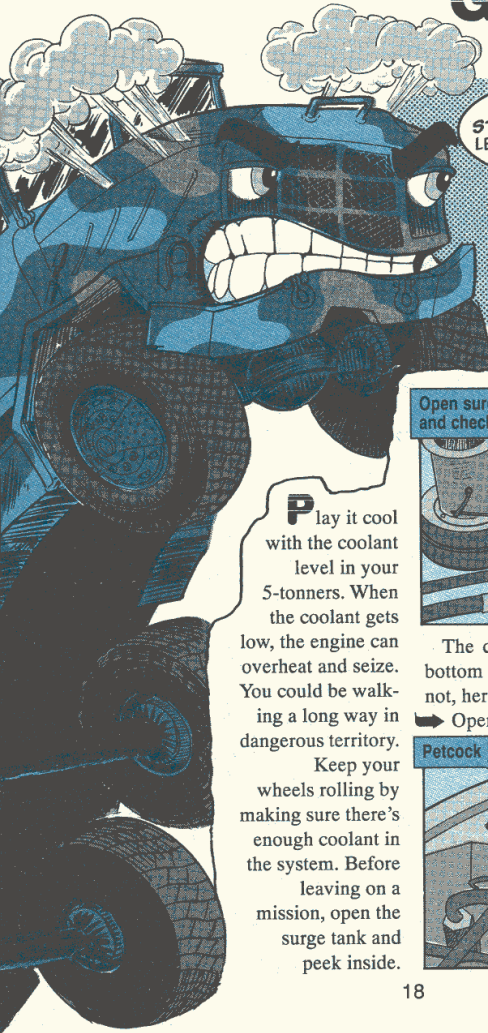
Without MWO 9-2350-266-50-1, a short in one or both of the turret hand control triggers could give you a false lasing from the ground/vehicular laser locator designator (G/VLLD).

A quick look at the NSN and part number on the targeting station control and display (TSCD) ID plate will tell you whether or not the vehicle has been modified.

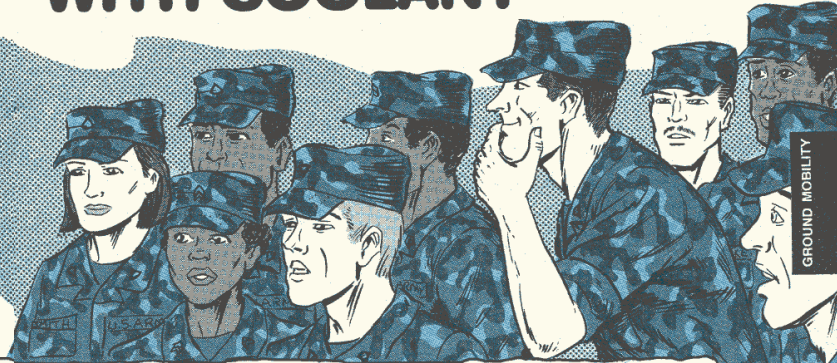
MWO not applied? Notify your local MWO coordinator or get your support to apply it as soon as possible.



GET LEVEL WITH COOLANT



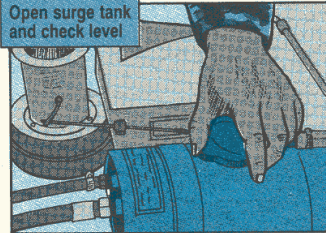
ON THE LEVEL, SOLDIERS, IT REALLY STEAMS ME WHEN MY COOLANT LEVEL IS TOO LOW, AND IT'S UP TO YOU TO CHECK IT!



GROUND MOBILITY

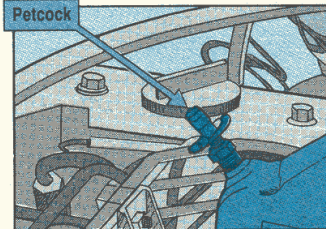
Play it cool with the coolant level in your 5-tonners. When the coolant gets low, the engine can overheat and seize. You could be walking a long way in dangerous territory.

Keep your wheels rolling by making sure there's enough coolant in the system. Before leaving on a mission, open the surge tank and peek inside.

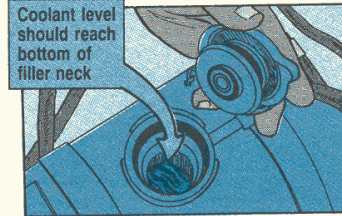


The coolant level should be at the bottom of the tank filler neck. If it's not, here's what to do:

➔ Open the petcock on the aftercooler.



➔ Add coolant to the surge tank until it runs out of the petcock. Close the petcock and continue to fill the surge tank until coolant reaches the bottom of the filler neck. Close the surge tank.

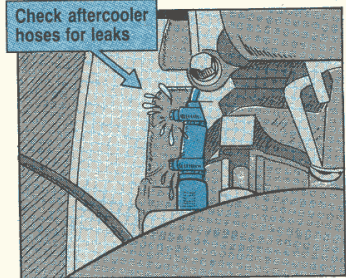


➔ Start the engine and let it warm to 185° F. Open the filler cap slowly until the pressure is gone. Eyeball the coolant level in the surge tank again. If the level is low, add coolant until it reaches the bottom of the filler neck.

How to Check

Every time you have to add coolant, eyeball those aftercooler hoses

mounted on the back of the engine cylinder head. Use a flashlight for both hot and cold inspection.



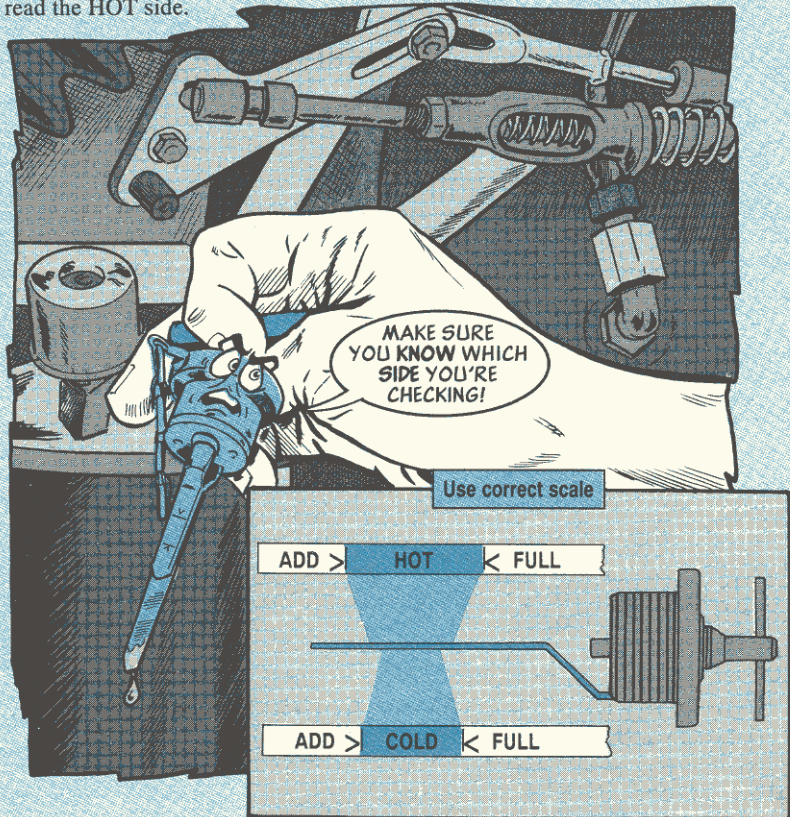
Look for rust or odd-colored stains where coolant has leaked. Then later, when you've got the engine running at operating temperature and pressure, eyeball those places again for wetness.

Also, feel the hoses near the worm-screw clamps. Any wetness means you need to get your mechanic to tighten the clamps.

Hot or Cold?

When you pull the dipstick on your 5-ton truck's power steering reservoir, make sure you read the right scale. It could save your unit a big repair bill.

The fluid expands when it heats up, so readings will change. If the engine is cold, read the COLD side of the dipstick. If the engine's at normal operating temperature, read the HOT side.



If you check it cold and fill it to the HOT scale's FULL mark, you haven't given the fluid enough room to expand when the engine warms up. That blows seals.

If you accidentally overfill the reservoir, use an AOAP vampire pump to remove the excess fluid.

HMMWV ...

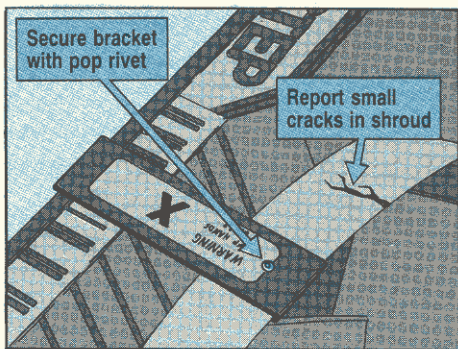
CRACKDOWN ON FAN SHROUD CRACKS

Now, courtesy of Change 4 to TM 9-2320-280-10, when the HMMWV's fan shroud is cracked, broken or loose, the vehicle is deadlined. It's a NOT MISSION CAPABLE fault in the operator's PMCS chart.

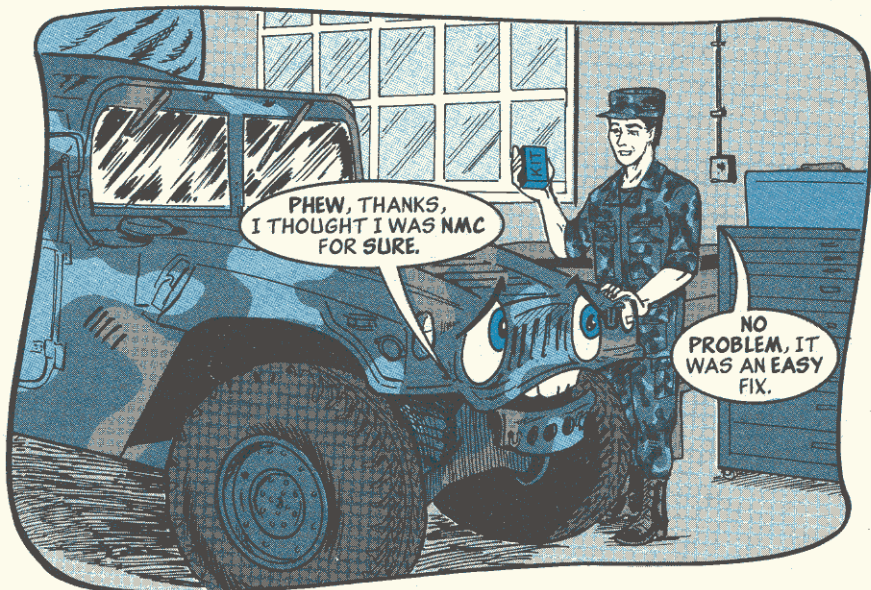
That's bad news since the fan shroud bracket has a tendency to loosen and fly off. Then the fan hits the shroud and damages it.

So, keep a close eye on the bracket. If it's loose, get your mechanic to rivet it to the shroud. All it takes is the blind rivet gun from the HMMWV special tool kit and pop rivet, NSN 5320-01-151-1061.

Your mechanic can fix small cracks in the shroud with fiberglass repair kit, NSN 2090-00-372-6064. Instructions come with the kit.



GROUND MOBILITY

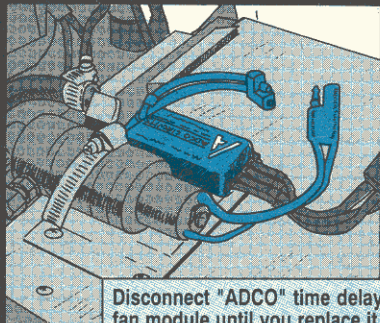


HMMWV . . .

Fan Module Disconnect

Bum fan time delay switches on HMMWVs don't let the radiator fan kick in at 190° F like they're supposed to. The engine can't keep cool without circulating air.

To find out if your truck's got a bum switch, take a walk through the motorpool. Eyeball the HMMWV's module switch and the vehicle's serial number. On vehicles serial numbered 100000 through 112867, and 68555 through 72541, look for ADCO stamped on top of the switch. Replace the ADCO switch with a better one, NSN 5945-01-193-7175.



Disconnect "ADCO" time delay fan module until you replace it

Until you install the new switch, disconnect the ADCO module from the control valve connector. That way, the fan will continue to run, no matter what the temperature is.

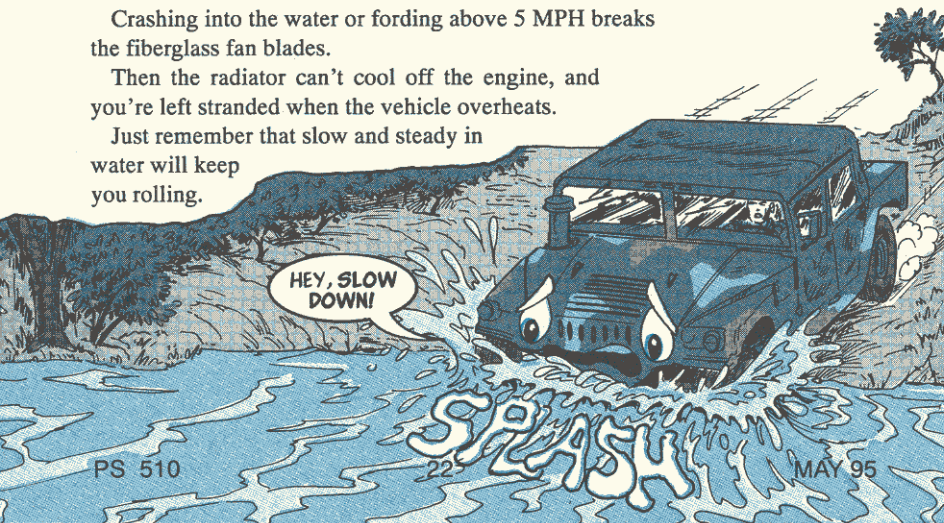
Go Slow When Fording

Operators, keep your HMMWV's speed slow and steady entering and fording water obstacles.

Crashing into the water or fording above 5 MPH breaks the fiberglass fan blades.

Then the radiator can't cool off the engine, and you're left stranded when the vehicle overheats.

Just remember that slow and steady in water will keep you rolling.



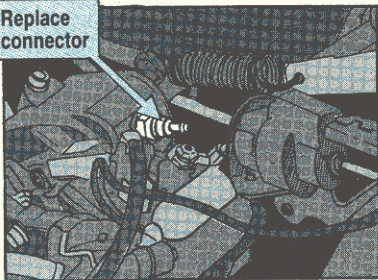
CUCV...

Hard Start? Easy Fix!

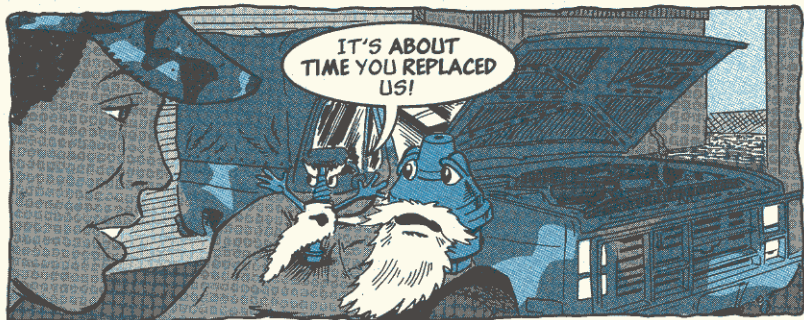
A pair of major players in the CUCV's fuel system are showing their age, making the truck hard to start.

If you have a hard-starting CUCV, and have already ruled out a glow plug problem, replace the fuel supply pump, NSN 2910-01-331-3614, and the in-line check valve connector, NSN 4820-01-385-4473, on top of the fuel injection pump. The SMR code is being changed on the connector so it can be replaced at unit level.

Replace
connector



GROUND MOBILITY



M149A2 Trailer...

Forget the Rear Faucet

Your new M149A2 water trailers have a plug where the rear faucet used to be.

The headshed removed the faucet because it was getting broken during shipping. It's not needed to operate the trailer and does not make the trailer NMC.

PMCS Item 10b in TM 9-2330-267-14&P will be updated during the next revision or change to remove the NMC requirement.



MAY 95

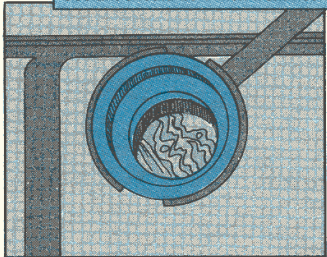
SERVE A MIXED DRINK

Water served plain is good for you, your pet and your lawn. But it can be murder for your vehicle's cooling system. A cooling system needs a mixed drink—water and antifreeze.

This mixture keeps your engine cool in the hot months, keeps it from freezing in cold months and heads off corrosion all year round.

eyeball your vehicle's coolant level. If the vehicle has a surge tank, the coolant should be at the cold fill or cold normal line.

Coolant should be 1 inch from neck



No surge tank? Coolant should be within an inch of the filler neck.

When the level's low, add a mixed drink—at least 60 percent antifreeze.

Without coolant, rust and corrosion build up in the engine. Freeze plugs are a favorite location for them.

Water is double trouble for an engine's freeze plugs. The freeze plugs are supposed to pop out when the water in the block freezes. That keeps the block from cracking.



Without coolant to head off corrosion, the freeze plugs rust in place. They stay in when they should pop out. *Cra-a-ack* goes the block and the vehicle needs a new engine.



So, when it's time to add coolant, fight the urge to grab a water hose. Always use the proper mix of water and antifreeze. It'll save you trouble down the road.

Other cool tips:

➔ Add coolant only when the engine is cool. Cold liquid in a hot engine can crack a block, too. It can also burst a radiator seam.

➔ Never overfill the cooling system. When the liquid heats, it will expand and overflow.

➔ Always use at least a 60-40 antifreeze/water mix, except when extended temps of -40°F are expected. Then use undiluted arctic-type antifreeze (MIL-A-11755). NSN 6850-00-174-1806 brings 55 gallons.

That 60-40 goes for summer too. Antifreeze also raises the point at which coolant will boil.

Empty the Cans

If you've got 5-gal cans of diesel fuel left over from a field exercise, use them right away. Never try to save fuel until the next exercise.

Where are you going to store them? Store the cans outside, and rain gets in. Inside or outside, heat and cold creates condensation in the can.



Either way, the fuel is contaminated. Use it, and you can ruin an injector pump.

Storage is also dangerous. A spark could blow up the can, the shed and anyone nearby.

Put the leftover fuel into any vehicle that needs it right away. Saving it may cost you an injector pump.

an engine or your life.

Not a good trade-off.

KEEP ME EMPTY UNTIL YOU GO TO THE FIELD.



Switch to Radials

The bias tires on your M172- and M870-series semitrailers are being replaced by a radial tire, NSN 2610-01-325-1934.

The new radial replaces both NSN 2610-00-294-4804 and NSN 2610-00-878-3225. The bias tires aren't available any more.

So, if you change even one bias tire on your trailer to a radial, change them all. NEVER mix radial and bias tires on the same trailer.

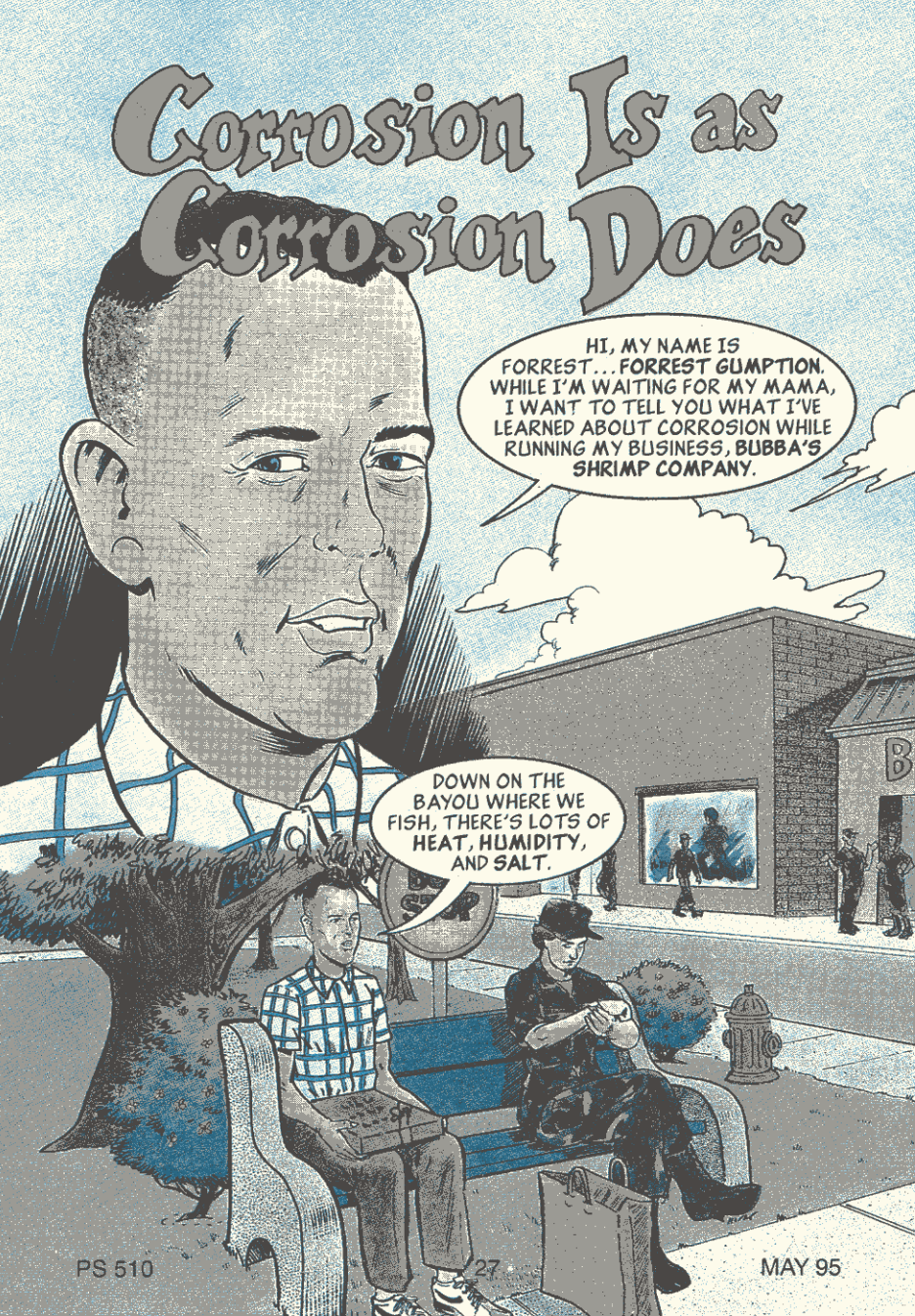
Always use radial flaps and tubes, too. Your trailer's unsafe without them. Flaps, NSN 2640-01-254-5392, come with new tires. Radial tubes are NSN 2610-00-052-7969.

WHEN YOU SWITCH TO RADIALS, THE RECOMMENDED AIR PRESSURE CHANGES, TOO. CORRECT TIRE PRESSURES (IN PSI) FOR BOTH THE BIAS AND RADIAL TIRES ARE ...

IF YOU CHANGE ME, YOU'VE GOT TO CHANGE ALL OF US.

	Highway	Secondary/ Gravel	Off Road/ Cross Country
M172			
Bias	85	45	35
Radial	80	80	NA
M172A1			
Bias	100	60	45
Radial	90	90	NA
M870			
Bias	85	45	35
Radial	80	80	NA
M870A1			
Bias	90	NA	NA
Radial	80	85	NA

Corrosion Is as Corrosion Does




HI, MY NAME IS
FORREST... FORREST GUMPTON.
WHILE I'M WAITING FOR MY MAMA,
I WANT TO TELL YOU WHAT I'VE
LEARNED ABOUT CORROSION WHILE
RUNNING MY BUSINESS, BUBBA'S
SHRIMP COMPANY.

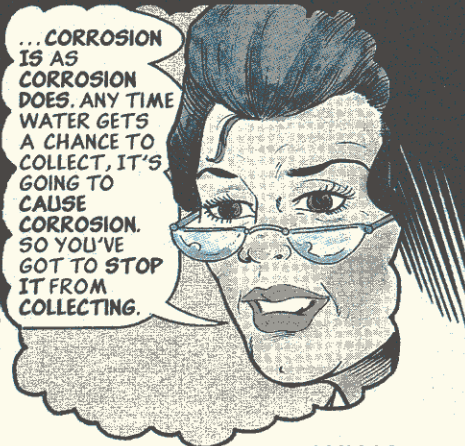
DOWN ON THE
BAYOU WHERE WE
FISH, THERE'S LOTS OF
HEAT, HUMIDITY,
AND SALT.



THOSE ARE CONDITIONS
THAT MAKE CORROSION SIT UP
AND TAKE NOTICE.



OUR FLEET WAS ABOUT TO BE
RUSTED OUT OF THE WATER. SO I DID
WHAT I ALWAYS DO WHEN I'VE GOT
PROBLEMS ... I ASKED MAMA.
SHE SAID, "FORREST ..."

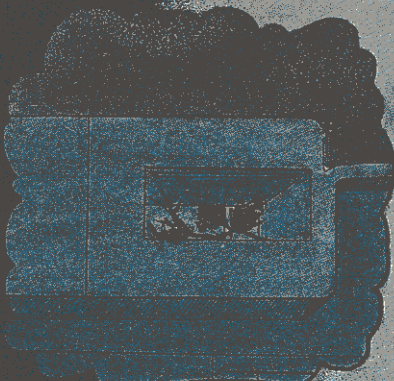


... CORROSION
IS AS
CORROSION
DOES. ANY TIME
WATER GETS
A CHANCE TO
COLLECT, IT'S
GOING TO
CAUSE
CORROSION.
SO YOU'VE
GOT TO STOP
IT FROM
COLLECTING.




MY
MAMA SAID...

"MOST EQUIPMENT HAS
DRAIN HOLES THAT LET WATER
DRAIN OUT. BUT THOSE DRAIN HOLES
GET PLUGGED WITH DIRT AND LEAVES
AND SUCH. AND THEN WATER CAN'T
DRAIN AND YOU GET THAT
COLLECTING PROBLEM."



"SO ONCE A MONTH
AT LEAST, YOU NEED TO MAKE
SURE THOSE DRAIN HOLES ARE CLEAR.
REMOVE LEAVES. THEY REALLY
CLOG THINGS. PLUS THEY
ABSORB MOISTURE."



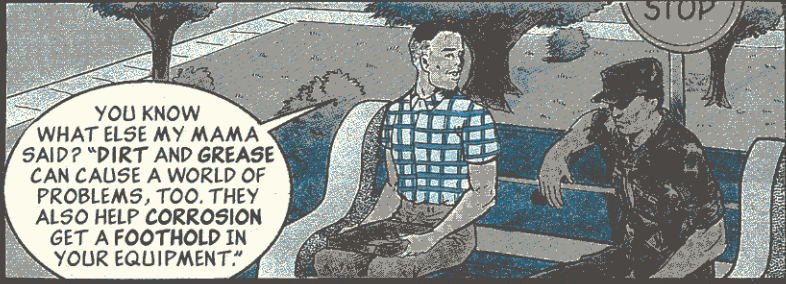
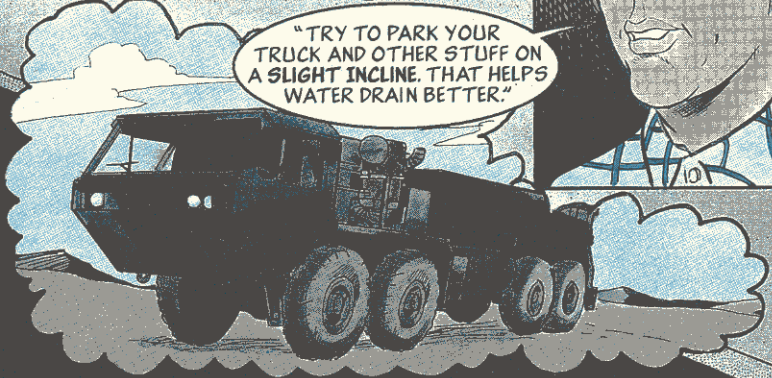
"STRAIGHTEN OUT A COAT
HANGER AND RUN IT THROUGH
THE DRAIN HOLES UNTIL YOU'RE
SURE THEY'RE CLEAR."




WHAT'S THAT, FORREST?




"TRY TO PARK YOUR TRUCK AND OTHER STUFF ON A SLIGHT INCLINE. THAT HELPS WATER DRAIN BETTER."




YOU KNOW WHAT ELSE MY MAMA SAID? "DIRT AND GREASE CAN CAUSE A WORLD OF PROBLEMS, TOO. THEY ALSO HELP CORROSION GET A FOOTHOLD IN YOUR EQUIPMENT."



"SO YOU'VE GOT TO KEEP YOUR EQUIPMENT CLEAN."



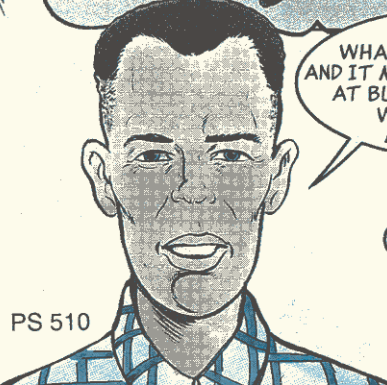
DOWN AT BUBBA'S, WE'VE FOUND A GOOD WATER HOSE AND A MILD DETERGENT WORKS WONDERS ON DIRT AND GREASE.



BUT MY MAMA SAID, "FORREST, ALWAYS STAY AWAY FROM STEAM CLEANERS. THEY TAKE OFF THAT PROTECTIVE COATING THE MANUFACTURER PUTS ON TO PREVENT RUST. IF THAT COATING GOES, SON, CORROSION COMES RIGHT BEHIND."




HEY, YOU CAN'T USE THAT!




WELL, WE DID WHAT MAMA TOLD US AND IT MADE A BIG DIFFERENCE AT BUBBA'S. YOU KNOW WHAT ELSE MY MAMA SAID?




I CAN'T IMAGINE, FORREST.




FORREST, CORROSION'S LIKE A COLD. NO MATTER HOW HARD YOU TRY TO PREVENT IT, YOU'RE GOING TO GET ONE ONCE IN A WHILE.




SO AT LEAST ONCE A MONTH, WE GO OVER ALL OF OUR EQUIPMENT AND LOOK FOR RUST SPOTS. IF YOU CATCH CORROSION EARLY, YOU CAN KNOCK IT OUT 1-2-3.




ALL YOU GOTTA DO IS USE A WIRE BRUSH OR SANDPAPER TO RUB AND RUB UNTIL ALL THE CORROSION IS GONE.




ONCE YOU'RE DOWN TO CLEAN, BARE METAL, YOU CAN PAINT THE SPOT SO CORROSION WON'T COME BACK.



WHEN I WAS A SOLDIER, THE -20 MANUAL WAS A GOOD PLACE TO FIND INFO ON PAINTING.



DOWN AT BUBBA'S, WE'VE FOUND YOU SOMETIMES GOTTA LOOK WHERE YOU CAN'T SEE.



LIKE WHERE?



LIKE UNDER
BATTERIES IN
BATTERY BOXES.
BATTERY ACID
BOILS OUT AND
EATS AWAY
PAINT.

PRETTY SOON CORROSION'S
KICKED THE HECK OUT OF THE BATTERY BOX AND
STARTED WORK ON WHATEVER'S UNDERNEATH.
FIRST THING YOU KNOW, IT LOOKS LIKE A COTTON
FIELD AFTER BOLL WEEVILS HIT IT. SO EVERY THREE
MONTHS, WE PULL THE BATTERIES, CLEAN OUT ANY
RUST, AND PAINT THE BOXES. MY OLD LIEUTENANT—
HE WORKS WITH ME AT BUBBA'S— GIVES THE
BOXES A COATING OF RUST PROOFING,
NSN 8030-01-127-3683.

HE SAYS
THAT STUFF WORKS
WONDERS.

AND ON TRUCKS, WE
DROP THE SIDES ALONG THE
TRUCK BED EVERY FEW MONTHS.
THAT'S A FAVORITE PLACE FOR
CORROSION TO HIDE. YOU JUST
HAVE TO FIGURE OUT WHERE
CORROSION COULD BE HIDING
—AND GO AFTER IT!



WELL, THAT'S PRETTY MUCH ALL I KNOW ABOUT CORROSION. SAY, THERE'S MY MAMA NOW.



C'MON, FORREST. I'VE GOT TO GET BACK TO THE OFFICE. I'M TEACHING A CORROSION CLASS TONIGHT.

WHY DO YOU SPEND SO MUCH TIME SITTING ON BENCHES TALKING TO PEOPLE? I JUST DON'T KNOW ABOUT YOU, FORREST.

WELL, LIFE'S LIKE A...

I KNOW, I KNOW... LIKE A BOX OF CHOCOLATES, YOU NEVER KNOW WHAT YOU'RE GOING TO GET.

Backing Off!



PUT A
CAUTION
SIGN
HERE.

**CAUTION—DO NOT
BACK WITH VEHICLE**

Dear Windy,

Almost everyone who has worked with the aviation ground power unit (AGPU) has worked with one that has a damaged drawbar or tongue assembly, or even a broken pivot bolt.

Some say the damage comes from vehicle turns made at less than the prescribed radius. Others say the pintle of the tow vehicle is too tall and it holds the drawbar at too sharp an angle. I've also heard of some complicated fixes to solve these problems.

But the truth is, both the problem and solution are simple.

The problem is backing up the AGPU with a vehicle.

The solution is to never back the AGPU with a vehicle!

The AGPU is self-propelled and is made to be maneuvered and positioned by an operator using on-board power. When the AGPU must be backed, the operator should do it using that power.

To remind troops of this, I recommend stenciling **CAUTION—Do Not Back with Vehicle** on the front, upper left of the AGPU on the opposite side from the fire extinguisher.

Mark B. Wadman
ATCOM

A little time and a little effort could produce big savings. Thanks, Mark. When you stencil, one inch is a good size for the word "Caution" and 1/2 inch for the rest of the letters.

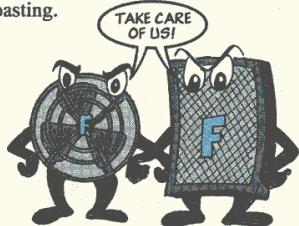
Windy



1. The F & F Boys: Fans and Filters

If a fan doesn't turn, it doesn't cool. If it doesn't cool, build a house around your bird, 'cause it isn't going anywhere.

Nothing stops a fan faster than sand. A few grains wedged in the right place and you can get out the marshmallows, because a fire will soon be ready for toasting.



Filters in a desert do a great job. They stop the sand before it gets to your vital equipment. Unfortunately, they do such a good job, they clog quickly.

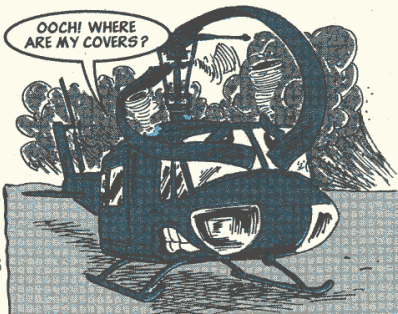
A clogged filter means no air flow. Add a porch to that house, because you'll be on the ground for a while.

2. The Big Coverup

Aircraft covers are to sand like an umbrella is to rain. With an umbrella, you stay dry. Without one, you get drenched. With covers, your aircraft sheds sand just like water. Without covers, your aircraft ingests sand like a big dog eats red meat.

Use all approved covers, all the time. If you don't have approved covers, make your own. Just make sure you have a "Remove Before Flight" streamer attached.

Windshield covers must be sealed. Even a small opening will let sand get

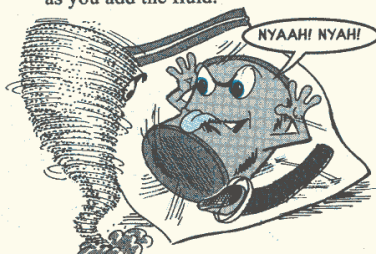


between the cover and the windshield. If sand gets in, your cover becomes a big piece of sandpaper that will grind into your windshield.

3. It's In the Bag

As soon as you've popped the top on a can of oil or hydraulic fluid, airborne sand zooms in. The solution is to stick the can or bottle in a plastic bag along with an opener, if needed. Seal the bag. Now open the container.

Remove the bag at the fluid add point on your aircraft. Make sure the area around the add point has been wiped clean. Shelter the area with your body as you add the fluid.



4. To Bathe or Not to Bathe

Giving your aircraft a bath in the desert is a call you make based on conditions at the time. Your bird needs to be clean, but adding water to sand and dust might make mud.



Bathe your bird when airborne sand is at a minimum. Wipe it down before you hit it with water. Use only potable water. The gunk in nonpotable water will foul a transmission, gearbox, or electrical connector.

5. Flush It

Do engine flushes by the book and by any supplement your unit has written to combat local conditions. Again, though, only use potable water.



6. Easy Access

Your aircraft's access doors have the welcome mat out for sand and dust.



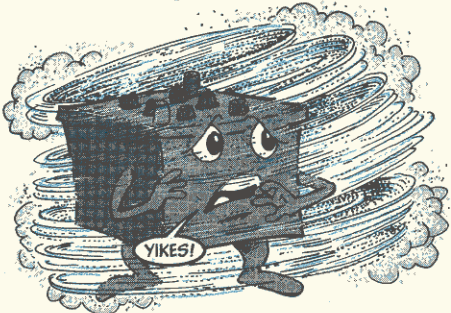
Even when closed, access doors just don't seal tight enough to keep out that penetrating sand. So seal 'em.

Make a gasket from RTV. Run a bead of RTV around the access door opening. Stretch some plastic wrap over the RTV and shut the access door gently. When the RTV has cured, open the door and remove the plastic. Bingo, you've got a seal.

PS 510

7. It's Always Batteries

Seems like no matter what the conditions, batteries need special attention. In the daytime heat, the nighttime cold and the constant blowing sand of the desert, electrolyte levels and connections need frequent checks.



Make sure any changes in your maintenance procedures or intervals have your commander's blessing. Keep in mind, though, that maintenance by the book and by schedule is just a part of maintenance in the desert. Checking and rechecking your aircraft is a full-time job.


PS END



38

UH-1...

Inspection Interval Change



IF YOU PULL
MY GEARBOX YEARLY,
YOU'RE DOING ME A
DISSERVICE!

Dear Mr. Fernandez,
Good job, Charlie.

Windy

Dear Windy,
Pulling the 90° gearbox
every 12 months to
inspect for corrosion is
just too often.

Pulling out gearboxes
that often does more
harm than good.

I sent in a DA Form
2028-2 and ATCOM
changed the interval for
Area No. 6 on Page 1-109
of TM 55-1520-210-23-1
from 12 months to 24
months.

I thought I would let you
guys spread the word.

Mr. Charles F.
Fernandez
FLARNG

AIR MOBILITY

AH-1P, E, F...

New Test Set NSNs

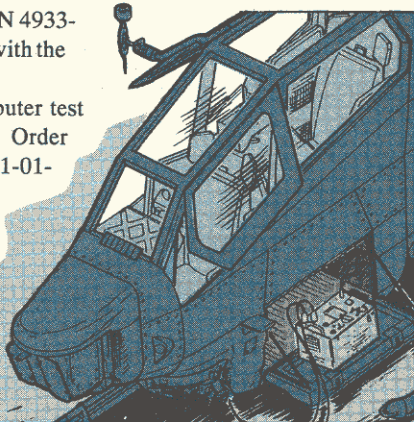
Trying to get the M137 turret test set with NSN 4933-01-063-7678? Give up? Order the turret test set with the new NSN, 4933-01-244-9779.

Say you can get the M141 fire control computer test set with NSN 4931-01-074-3377? Forget it. Order the upgraded set, now M161, with NSN 4931-01-237-9313.

Use these new NSNs to get test sets when you have old ones to turn in. If you're short sets for initial issue, call PM Cobra, DSN 693-2081/2082 or Commercial (314) 269-2081/2082.

PS 510

39



Riveting Questions

Question: When is work a bad thing?

Answer: When it's being done by rivets.

Working rivets are loose rivets, and loose rivets can lead to structural failures.

Today, while you're servicing your bird, look for working rivets.


Is there discoloration around the rivet's edges? Perhaps a tell-tale gray ring? Does your rivet have a tail? Maybe a light lube stain or water mark?

Working rivets are a sign of problems to come.

Make checking for them part of your PM routine. Use Para 7-5 of TM 1-1500-204-23-10 as your guide.



MAN,
I'M BEAT!



YOU SHOULD
QUIT WORKING
AT ALL.


Slippage Marks That Don't Slip

Applying slippage index marks to nuts, bolts and surfaces can be messy, especially if you don't have a very small brush and a steady hand. The lacquer called for in Para 7-66 of TM 55-1520-236-23-2 is too thin and runs everywhere.

One way to solve this problem is to use sealant, NSN 8030-01-077-7674. It comes in a small squeeze tube. It's white so it's easy to see and it won't run or drip.

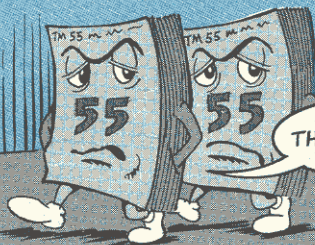


Use sealant to make marks

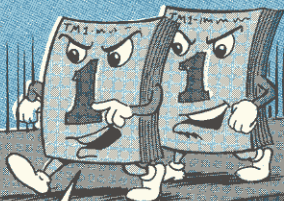


A LITTLE TOUCH
OF ME WILL TELL IF YOUR
"SLIP" IS SHOWING.

Catch the Big '1's



C'MON, IT'S
THE RECYCLING BIN
FOR US.



YOU 55- TM'S
HAVE OUTSTAYED
YOUR WELCOME.
VAMOOSIE!

When a high fly soars within the reach of a major league outfielder, it's a good bet that he'll catch the ball. But, sometimes he drops it.

When a new TM replaces an outdated one, it's a good bet the new one will land in your pubs room. But, sometimes the ball gets dropped there, too.

Some units did not get the initial distribution of TM 1-1500-204-23. It's 10 volumes of maintenance info that replaces the general aircraft maintenance manual, TM 55-1500-204-25/1. If you don't have the new TMs, sound the alarm with your pubs clerk. While you're there, check on other new TM 1- volumes, like the ones for the Apache and Black Hawk. The TM 55- books on both these aircraft should be in your recycling bin and the 1s safely in your "glove" on the shelf.

How to Be CARC Smart

ALSE techs, when you touchup a flight helmet with CARC or when you use any paint, knowledge is king.

Here's how to be CARC smart:

Order DA Poster 750-90, "When Proper Procedures Are Followed, Painting with CARC Can Be a Snap." Put the poster near your helmet repair area.

Now grab a 3 x 5-in note card and jot down these pubs:

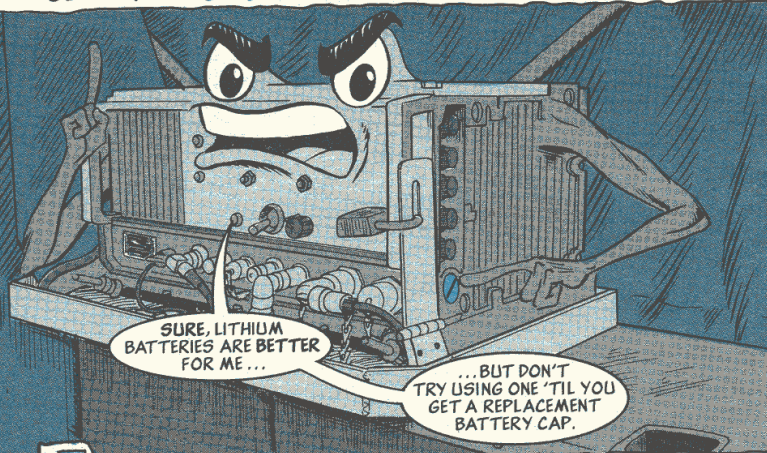
If you don't have these pubs, get your pubs clerk to order them.

Staple the 3x5 card to the edge of the poster. It's a constant reminder of what you must know in order to be CARC smart.

PS 510

TM 43-0139—Painting Instructions for
Army Materiel
TB 43-0242—CARC Spot Painting
TG 144—Guidelines for Controlling
Health Hazards in Painting
Operations (soon to be replaced
by TB MED514)

Go with the Lithium Battery

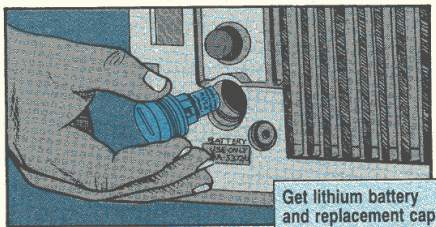


There's a new fill battery for the mobile subscriber equipment (MSE) RT-1539 receiver-transmitter (RT) and the C-11865 group logic unit (GLU). It's the BA-5372/U lithium battery, NSN 6135-01-214-6441, which replaces the BA-1318/U mercury battery.

The lithium battery is longer-lasting, safer to use and less harmful to the environment than the mercury battery. Any requisition for the mercury battery will be cancelled.

The problem is, the lithium battery won't fit in the RT or GLU with the battery cap that comes with the equipment. If you try to force the lithium battery into the RT or GLU with this cap, you'll damage the battery compartment.

You need to get a replacement cap to use with the BA-5372/U. The replacement cap is deeper, allowing the longer lithium battery to fit in the battery compartment.



To get one, contact the Project Manager, Joint Tactical Army Communications Systems (PM JTACS). Here are their phone numbers and addresses:

DSN 992-0848/2682
Commercial (908) 532-0848/2682

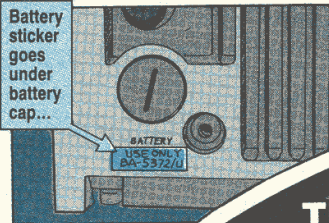
Project Manager, Joint Tactical Army Communications Systems
ATTN: SFAE-CM-JTC-RMD-F
Ft Monmouth, NJ 07703-5000

Email otani%doim6@monmouth-emh3.army.mil

You'll need to provide the serial number on the RT's or GLU's ID plate. That helps PM JTACS keep track of what gear has received the replacement battery cap.

PM JTACS will also give you a yellow battery advisory sticker to put below the battery compartment. And they'll provide a new ID adhesive label for updating the ID plate.

If you need more help, contact your CECOM LAR.



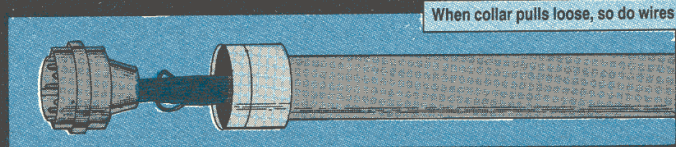
KY-57 COMSEC Equipment . . .

Tighten Your Collar

A loose collar may look stylish and feel good on you, but a loose collar can be downright damaging to the KY-57's CX-12991/U cable.

That collar screws into the connector head and keeps the cable wiring firmly in place. Each time the cable is connected and disconnected, the collar loosens a little bit. When it gets loose enough, the collar pops off and rips loose the wiring.

You can prevent that by making a habit of hand-tightening the collar each time you connect and disconnect the cable.



Lock Before You Move

Shipping or handling can be hazardous to the health of your AN/UXC-7 fax. A loose carriage assembly and end-of-message assembly will move around and wind up getting damaged.

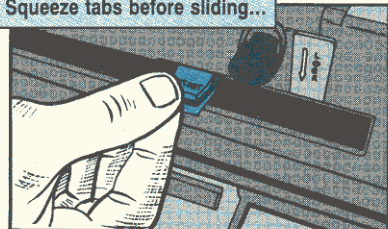
So, before moving your AN/UXC-7 fax to a new location or into storage,

slide and lock the START and STOP handles. That'll keep the carriages fastened in place. Here's how:

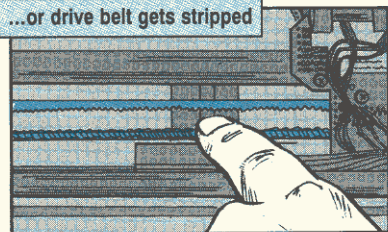
● Squeeze the tabs on the START handle and slide it to the far right. Make sure you squeeze the tabs or you'll strip the drive belt.



Squeeze tabs before sliding...



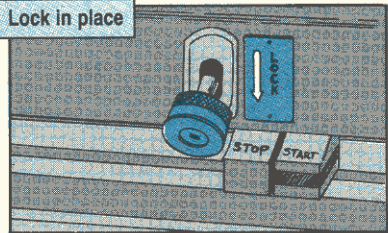
...or drive belt gets stripped



● Slide the STOP handle over beside the START.

● Pull the LOCK knob out and down. Now you're locked and ready to move out.

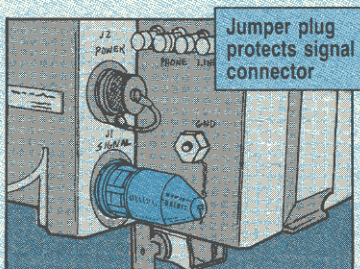
Lock in place



Get a Jump on Dirt

The jumper plug, NSN 5935-01-079-9296, on the J1 signal connector of your AN/UXC-7 facsimile does more than just recycle data back into the fax during a self test. It also protects the signal connector from moisture, dirt and sand when the signal cable's disconnected.

So, any time you unhook the signal cable, put the jumper plug on the signal connector.



Commo ...

In the Bag



We've all used plastic self-sealing bags to keep food fresh. Now use those handy bags to keep dirt, dust, sand and moisture off small commo parts when you head to the field.

The plastic bags protect small items like connectors, cables, fuses, o-rings, handsets, microphones, batteries and the like.

Because the bags are clear plastic, you can tell at a glance what's inside.

Here's a list of available sizes:

Size (inches)	Qty	NSN 8105-00-837-
4 x 4	1000	7753
6 x 6	1000	7754
8 x 8	1000	7755
10 1/2 x 11	500	7756
12 x 12	500	7757

Your ordering authority is Appendix A, of CTA 50-970.

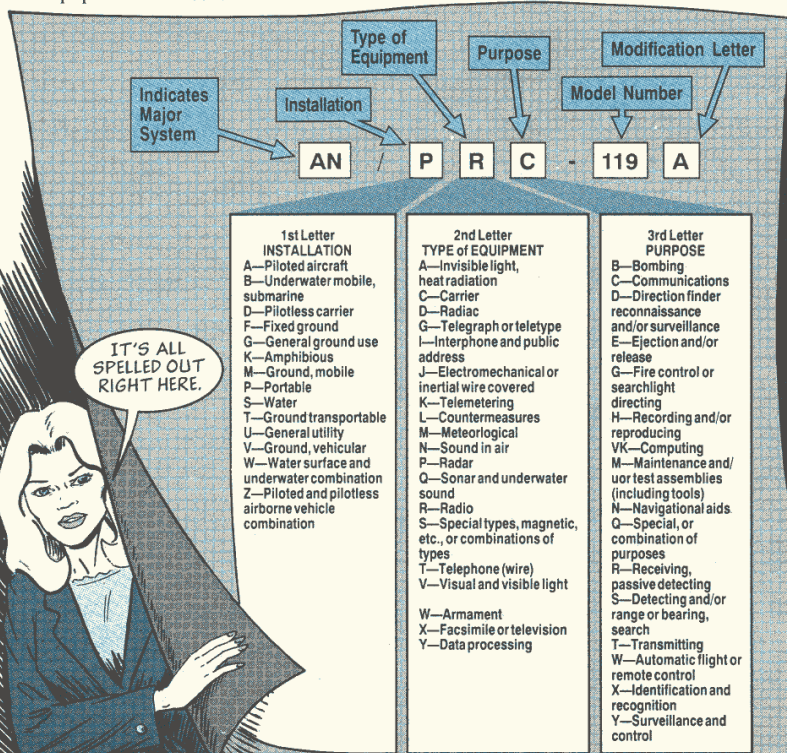
Just remember, plastic bags have a high static charge. Never use them to store circuit cards, transistors, resistors, or any other device sensitive to electrostatic discharge (ESD).

Like Reading Alphabet Soup

VRC, PRC, PU, LS, UXC, CP, TRC, PVS, RT. The letter combinations go on and on. When it comes to communications-electronics nomenclatures, it's like alphabet soup.

But unlike letters floating in broth, these letters identify your commo equipment: systems, subsystems, sets, groups and units. Understanding equipment nomenclature is simply a matter of knowing what each letter means.

Get the Meaning: Take, for example, the nomenclature for the SINGGARS manpack radio: AN/PRC-119A. After the AN (Army-Navy) prefix, each letter stands for a characteristic of the equipment. The number refers to the model of equipment. Like so...



IT'S ALL SPELLED OUT RIGHT HERE.

SOME GEAR HAVE ONE OR TWO LETTER CODES THAT DON'T USE THE AN PREFIX. HERE'S THE KEY TO THOSE CODES.

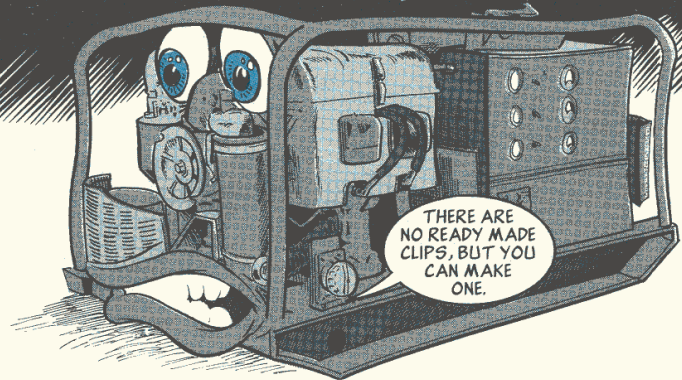
AB—Supports, antenna
AM—Amplifiers
AS—Antennas, simple and complex
BA—Battery, primary type
BB—Battery, secondary type
C—Controls
CG—Cable assemblies, RF
CP—Computers
CU—Couplers
CV—Converters (electronic)
CW—Radomes
CX—Cable assemblies, non-RF
CY—Cases and cabinets
DA—Load, dummy
DT—Detecting heads
F—Filter units
G—Generators, power
H—Head, hand, chest sets
HD—Environmental equipment
ID—Indicator units, non-cathode ray tube
IM—Intensely measuring devices
IP—Indicator units, cathode ray tube
KY—Keying devices
LS—Loudspeakers

M—Microphones
MD—Modulators, demodulators, discriminators
ME—Meters
MK—Miscellaneous kits
MT—Mountings
MX—Miscellaneous
PL—Plug-in units
PP—Power supplies
PU—Power equipment
R—Receivers
RL—Reeling machines
SA—Switching units
SB—Switchboards
SG—Generator, signal
T—Transmitters
TA—Telephones
TD—Timing devices
TH—Telegraph equipment
TK—Tool Kits
TS—Test units
TT—Teletypewriters and facsimiles
ZM—Impedance measuring devices

To learn more about communications-electronics nomenclature, read MIL-STD 196D, Joint Electronics Type Designation System (Jan 85).

Besides the nomenclature already discussed, the MIL-STD also lists definitive groups. Those are gear with two letter codes beginning with O, such as OE (antenna groups) or OP (power supply groups).

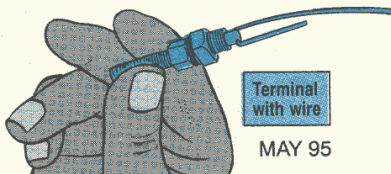
Make Terminal Safety Clips



You won't find ready-made safety clips for the load and ground terminal nuts on 10-KW and smaller generators in the TM! But you can make your own. First, pick the wire you need from this chart:

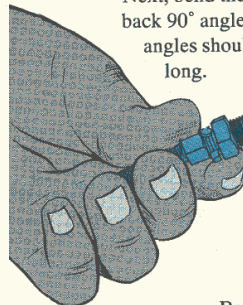
NSN 9505-	002A	003A	015A	016A	017A	018A	021A	022A	023A	025A	026A	112A
00-804-3814 .042 inch	G	G	L-G	L-G			L-G			G	G	
01-049-0144 .050 inch	L	L				L			L	L	L	L
00-596-1668 .051 inch					L-G	G		L-G	G			
L= Load Terminal			G=Ground Terminal									

Now, cut off about three inches of the wire. Be sure the wire is short enough to keep the clips from touching another terminal or the generator frame in the open or closed position. Put the wire through the hole in the terminal.



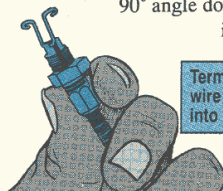
Hold the terminal so you can bend both ends of the wire straight up. Try to keep the wire in as straight a line as you can with the terminal body.

Next, bend the wire into back-to-back 90° angles. The legs of both angles should be about 1/2 inch long.



Terminal with wire bent at 90° angle

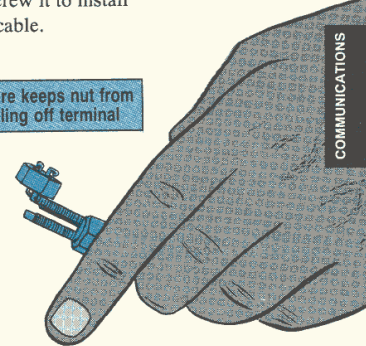
Bend the ends of each 90° angle down and around into a U-shape.



Terminal with wire ends bent into U-shape

The homemade clip should hold the nut when you unscrew it to install the cable.

Wire keeps nut from falling off terminal



To make safety clips on larger generators, use wire, NSN 9505-00-596-1662. No wire available? As a temporary fix, you can straighten an ordinary paper clip to make the safety clip.

Get ASL/PLL

Listing from LOGSA

If your unit has a large number of different end items, preparing your ASL/PLL can take a huge amount of time. Save some of that time by getting a listing from the Logistics Support Activity (LOGSA) that identifies support parts for all your end items. The list is in support item NIIN sequence and shows nomenclature, AMDF unit price, and stockage quantity. The list connects the support item NIINs to the end item NIINs. The list looks like this:

LOGSA PROJECT CODE: P0085 DATE: 10/31/94 PAGE: 2 PCN X143HR4084W
 UNIT IDENTIFICATION CODE: VVH2AA
 REQUESTING UNIT IDENTIFICATION: 739 E C
 LEVEL OF MAINTENANCE: ORGANIZATIONAL
 DAYS OF SUPPLY: 030

SUPPORT ITEM NSN	SOURCE OF SUPPLY	SUPPORT ITEM NOMENCLATURE	UNIT OF ISSUE	MATERIEL CAT CODE	STRUCT CODE	RECOMMENDED STOCKAGE QUANTITY	UNIT PRICE	E C	ED ITEM QOE	END ITEM APPLICATION CODE	END ITEM APPLICATION
2510 004898005	A4	TIRE	EA	K21PP		1	125.00	1	CC	000893866	
2940 305523842	59C	FILTE	EA	J2100		1	83.30	1	BF	000508970	
5315 005591551	A12	PIN,C	EA	822UT		5	.02	1		001031246	

THIS LIST MAKES CREATING AN ASL/PLL A SNAP!

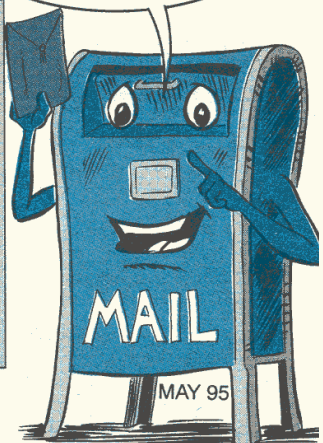
To get your list, just write to:

USAMC
 Logistics Support Activity
 ATTN: AMXLS-RC
 Redstone Arsenal, AL 35898-7466

IF YOUR UNIT IS UNDER THE STANDARD PROPERTY BOOK SYSTEM (SPBS) AND YOUR PROPERTY BOOK IS STORED ON FLOPPY DISK, JUST SEND A COPY TO LOGSA.

BE SURE YOUR REQUEST INCLUDES ...

- Your unit identification code (UIC)
- Level of maintenance performed (unit, DS or GS)
- Days of supply required in 15-day increments
- Your unit point of contact
- End item NSNs from your property book
- Quantity of each on-hand end item
- Line item number (LIN) for each end item NSN submitted



If your unit's not under SPBS, you can still send the info on a floppy disk. Here's how to set up the information:

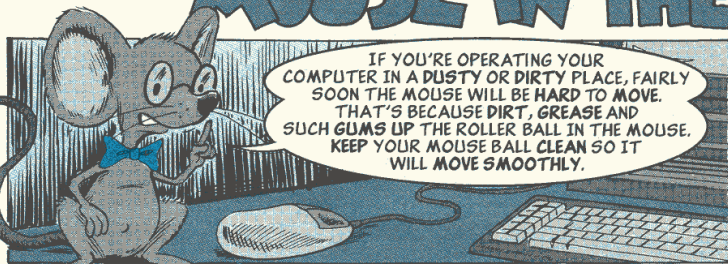
- 1 Unit Identification Code – positions 1–6
- 2 End item NSN – positions 7–19
- 3 End item quantity – positions 20–22, right justified within the field.

Here's an example of the floppy disk setup:

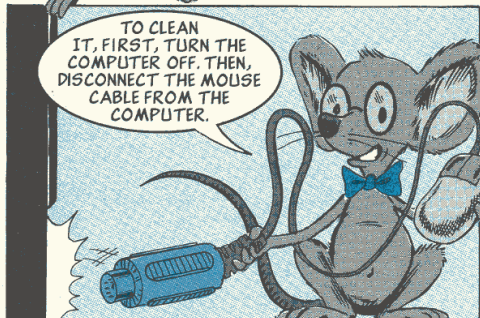
UIC	NSN	QTY
WAZBTO	6665-00-935-6955	010
WAZBTO	1010-00-179-6447	004
WAZBTO	1005-00-322-9715	002



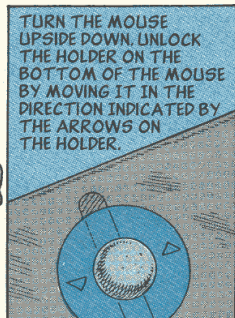
MOUSE IN THE HOUSE



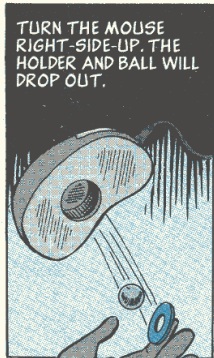
IF YOU'RE OPERATING YOUR COMPUTER IN A DUSTY OR DIRTY PLACE, FAIRLY SOON THE MOUSE WILL BE HARD TO MOVE. THAT'S BECAUSE DIRT, GREASE AND SUCH GUMS UP THE ROLLER BALL IN THE MOUSE. KEEP YOUR MOUSE BALL CLEAN SO IT WILL MOVE SMOOTHLY.



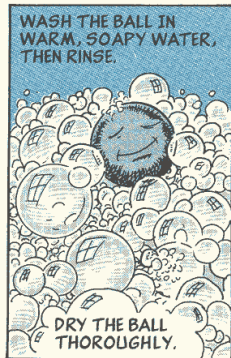
TO CLEAN IT, FIRST, TURN THE COMPUTER OFF. THEN, DISCONNECT THE MOUSE CABLE FROM THE COMPUTER.



TURN THE MOUSE UPSIDE DOWN. UNLOCK THE HOLDER ON THE BOTTOM OF THE MOUSE BY MOVING IT IN THE DIRECTION INDICATED BY THE ARROWS ON THE HOLDER.

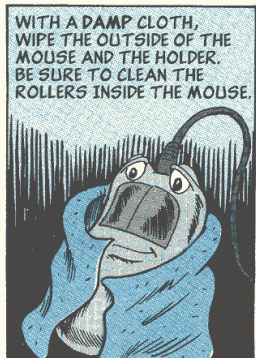


TURN THE MOUSE RIGHT-SIDE-UP. THE HOLDER AND BALL WILL DROP OUT.



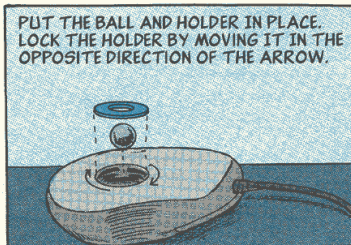
WASH THE BALL IN WARM, SOAPY WATER, THEN RINSE.

DRY THE BALL THOROUGHLY.

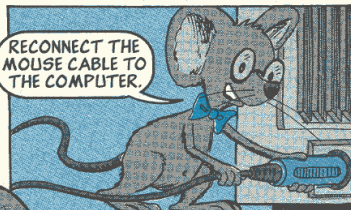


WITH A DAMP CLOTH, WIPE THE OUTSIDE OF THE MOUSE AND THE HOLDER. BE SURE TO CLEAN THE ROLLERS INSIDE THE MOUSE.

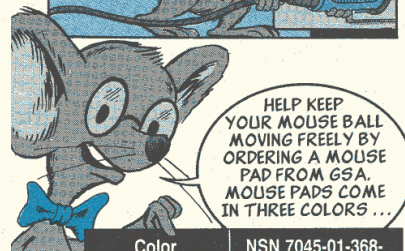
HOUSE



PUT THE BALL AND HOLDER IN PLACE. LOCK THE HOLDER BY MOVING IT IN THE OPPOSITE DIRECTION OF THE ARROW.



RECONNECT THE MOUSE CABLE TO THE COMPUTER.



HELP KEEP YOUR MOUSE BALL MOVING FREELY BY ORDERING A MOUSE PAD FROM GSA. MOUSE PADS COME IN THREE COLORS ...

Color	NSN 7045-01-368-
Red	4808
Blue	4809
Gray	4810



OR, YOU CAN GET A PRICE BREAK BY ORDERING A PACKAGE OF THREE WITH NSN 7045-01-368-4811.

TACCS ...

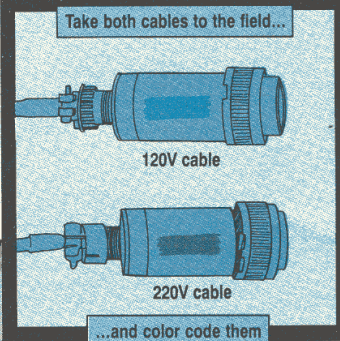
Take Both Cables

The AN/TYQ-33(V), Tactical Army Combat Computer System (TACCS), comes with two power cables. They look the same on the outside, but appearances are deceiving.

One power cable, NSN 5995-01-238-9609, is for 120V operation and shows part number A3052019 or 2696-4064 on the cable. The other cable, NSN 5995-01-238-9610, is for 220V operation and has part number A3052057 or 2696-4288 on it.

If you pack the wrong cable when you go to the field, your TACCS will be powerless. The best solution is to pack both cables. That way the TACCS is ready for either hookup.

Or if you know which power cable you'll need, you could put a dab of different colored paint on each cable connector. Then you can tell at a glance which power cable you need.



IT'S CARC FOR CANS

The confusion is over about painting mess cans.

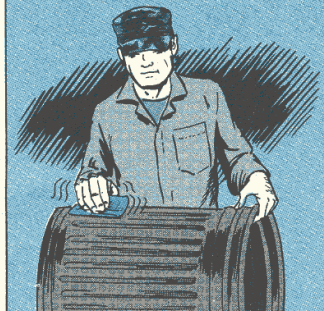
Leaded paint is out and CARC is in. CARC paints and primers that do not contain lead or chromates must be used to paint the outside of your cans.

Here's how:

1. Scrub the outside of your cans with soap and water to remove any oil or grease. Rinse with fresh water, and let dry.



2. Sand off any rust.



3. Move the cans to a well-ventilated area.



4. Use an approved paint vapor respirator to avoid problems with paint fumes. Wipe down the can with thinner, NSN 8010-00-181-8079.



5. Immediately coat the can with coating compound, NSN 8030-00-850-7076. Use a sponge to apply it to get the thin, even coating you need.



6. After the coating is dry—at least 30 minutes but no more than 24 hours—apply primer. NSN 8010-01-309-0329 gets a quart kit, NSN 8010-01-309-0328 gets a gallon kit, and NSN 8010-01-309-0327 gets a 5-gallon kit. Mix the two parts of the primer in a 4-to-1 ratio and let stand 30 minutes before using.

GET OFF YOUR CANS AND FOLLOW THIS PRIMER ON CARC PAINTING.

7. The primer will dry in 30 to 90 minutes and you can add the topcoat.

There's no three-color pattern for the cans, so paint them a solid color. Use green, NSN 8010-01-229-7546, or brown, NSN 8010-01-229-7543.



8. The topcoat will dry to your touch in 30 minutes or so. It'll take six to eight hours to cure enough to withstand impact, but give the coating about a week to completely cure before you stack the cans.

You can temporarily camouflage cans in the field using mud or by draping canvas over them. Make sure the canvas does not touch the immersion heater.

Get Rid of

SCALE!


When your immersion heaters are used to heat hard water, mineral deposits—scale—build up on the heater. If too much scale gets on the heater, it stops heating the water.

To remove the scale, use a scale-removing compound. NSN 6850-00-637-6142 gets a 100-lb drum. Here's how:

- ✓ Set up the heater in a 32-gal can and fill the can with water.
- ✓ Add five cups of the descaling compound and stir until dissolved.
- ✓ Fire up the heater and heat the solution for 30 minutes.
- ✓ Look at the color of the solution. If the solution is yellow and there's still scale on the heater, add five more cups of the compound and heat another 30 minutes.

When the solution remains red or pink and the scale is gone, turn off the heater and pour out the solution.

- ✓ Rinse the can and heater thoroughly with fresh water.



CLEAN OFF SCALE
BEFORE HEATING
WATER!

Repair Parts NSNs

Cover, woodland pattern
 X-Sm/Sm 8415-01-092-7514
 Med/Lg 8415-01-092-7515

Camouflage band
 8415-01-110-9981

IF YOU'RE HAVING TROUBLE
 FINDING KEVLAR HELMET REPAIR
 PARTS NSN'S, LOOK NO FURTHER.
 HERE'S WHAT IS AVAILABLE . . .

Cover, desert pattern
 X-Sm/Sm 8415-01-103-1349
 Med/Lg 8415-01-103-1350

Cover, white
 X-Sm/Sm 8415-01-144-1860
 Med/Lg 8415-01-144-1861

Cover, chemical protective
 8415-01-111-9028

Chin strap assembly
 8470-01-092-7534

Headband assembly
 X-Sm 8470-01-092-8492
 Sm/Med/Lg 8470-01-092-8493

Post, chin strap
 8470-01-144-5367

Screw, chin strap
 8470-01-144-2811

Washer, chin strap
 8470-01-144-2812

Screw, suspension mounting
 8470-01-144-2813

A-nut, suspension mounting
 8470-01-144-5368

Clip
 8470-01-144-2814

Headband, ground troop
 X-Lg 8470-01-303-8946
 Suspension assembly
 X-Sm 8470-01-092-7516
 Sm 8470-01-092-7517
 Med 8470-01-092-7518
 Lg 8470-01-092-7519

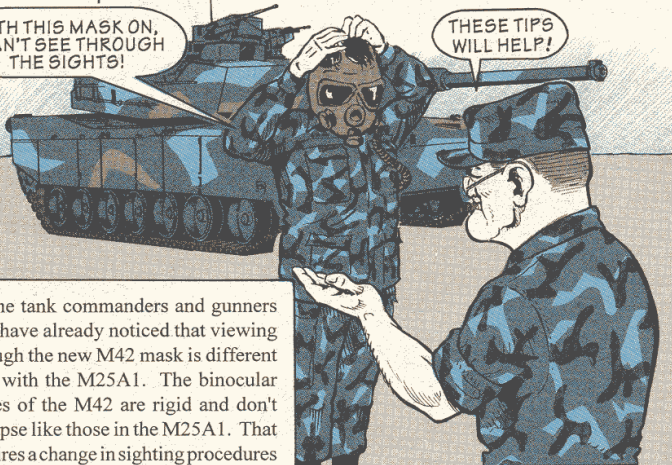
Parachutists: Get the foam impact pad with NSN 8470-01-092-8494 and the retention strap with NSN 8470-01-092-7524.

You'll find repair and maintenance procedures in Chapter 19 of TM 10-8400-203-23.

Help Is Here

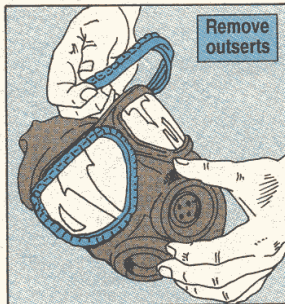
WITH THIS MASK ON, I CAN'T SEE THROUGH THE SIGHTS!

THESE TIPS WILL HELP!



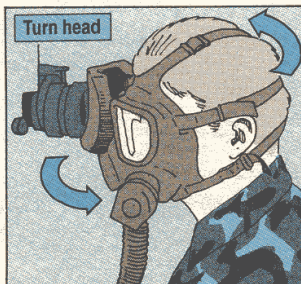
Some tank commanders and gunners may have already noticed that viewing through the new M42 mask is different than with the M25A1. The binocular lenses of the M42 are rigid and don't collapse like those in the M25A1. That requires a change in sighting procedures to get a good picture.

Here are some things you can do to see better:



Remove the mask's eyelens outserts. That lets you get your eye closer to the sight. The outserts protect the eyelenses

from being scratched, but most sights have rubber guards that protect against scratching.

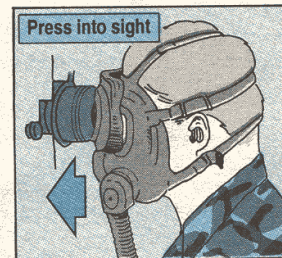


Turn your head slightly to look through the sight. That gets your eye slightly closer to the sight.

When you gunners are ready to engage a target and lay the main gun, press your head into the sight to get your eye closer to the target image. Adjust and bend the brow pad as necessary to get as close as possible for a better image and to read the symbols. Relax when you can because continuous pressure could cause a sore neck or a headache.

These techniques should help you see through the sights. But you'll need to experiment and practice.

In training, both gunners and tank commanders should practice gun sighting wearing their M42s, but not at the



same time. While one wears his mask, the other should not wear his. That way, the unmasked soldier can evaluate the masked soldier's accuracy. Then they switch roles.

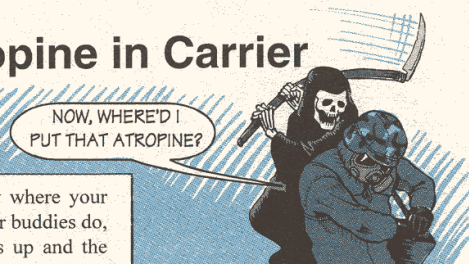
NBC...

Carry Atropine in Carrier

It's important you know where your atropine is—and that your buddies do, too. If the balloon goes up and the chemical clouds come down, you have to be able to grab that atropine right now—or someone will be cashing in your life insurance.

And if you're disabled, your buddy has to know where to find your atropine . . . right now. He doesn't have time to search.

Solution: Keep the atropines in your M40 mask carrier. Put two in the pocket with the TM and one in the pocket with



the waterproof bag. That way you and your buddy know exactly where to look.

The only exception is if the temperatures are below freezing. Frozen atropine is useless. Put the atropine in a pocket of your uniform so body heat can keep it from freezing. As a unit, agree what pocket each of you will use. That way everyone knows where to look in case of emergency.

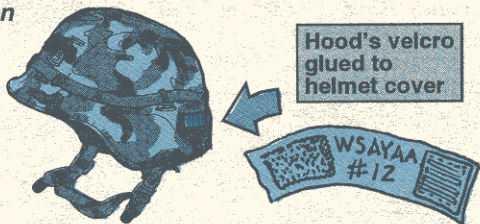
Velcro for Every Occasion

Dear Editor,

Normal use eventually ruins M17 mask hoods. Most NBC NCOs simply pitch the hoods and order new ones.

Before we pitch our hoods, though, we cut off the hoods' velcro. We've found it works great for ID for masks, chemical protective overgarments (CPO), camouflage helmet covers, sleeping bags and duffle bags. Just write the ID number on the velcro strip and attach it to a mask or bag strap, or glue it on a CPO or helmet cover.

SFC Wayne S. Melton
Hays, KS



(Editor's note: I think we can ID your suggestion as a good one. Thanks.)

M17-, M40-Series Masks...

By the Book



SEE HOW PRETTY
MY OWNER REALLY
MADE ME SHINE
WITH THIS SPECIAL
CLEANER!

UNFORTUNATELY,
HE RUINED YOU, TOO!



There's only one way to clean your M17 or M40 protective mask—by the book.

The book is the -10 TM for either mask. It gives very clear, precise instructions on exactly what you need to do to clean and protect the mask and its carrier. If you do what the -10 says, you'll be doing your mask a favor.

You won't be doing your mask face piece a favor if you try to give it a little extra shine with one of those commer-

cial products you use on car tires. That stuff strips off the mask's protective coating.

Once the coating's gone, dry rot can't be far behind. Soon the only thing your mask is good for is Halloween.

If water won't get oil and dirt off your mask face piece, use isopropyl alcohol. If that doesn't do the trick, use your NBC NCO's expert knowledge. You've done all you can do.

Connie's
☆ POST ☆
☆ SCRIPTS ☆

MMM...
I JUST LOVE
CHOCOLATE.

YOU NEVER
KNOW WHAT YOU'RE
GOING TO GET,
CONNIE.

Water Absorber Video

You can get a free 8 1/2-minute video on the in-tank water absorber mentioned on Page 2 of PS 509 just by calling the manufacturer at (800) 368-3835. Or you can see Para 8-9 of TACOM EIR Digest, TB 43-0001-39-2 (Sep 94) for more information and instructions.

AMDF Price Challenge

Here are four ways you can challenge AMDF prices that seem out of line:

1. Write to USAMC Logistics Support Activity (LOGSA), ATTN: AMXLS-LCF, Redstone Arsenal, AL 35898-7466.
2. Call LOGSA's 24-hour hotline at 1-800-878-2869. During duty-hours (0730-1600 CT), you can also use DSN 779-6029/6515 or commercial (205) 313-6029/6515.
3. Send the challenge over DDN using E-MAIL address: price-ch@logsa-emh3.army.mil
4. Fax information using DSN 645-6880 or commercial (205) 955-6880.

TMs on CD-ROMs!

Did you get caught by surprise when the identification lists (ILs), master cross-reference lists (MCRLs) and other products came out on CD-ROMs rather than microfiche? Well, don't get caught by surprise when your unit maintenance TMs go to CD-ROMs! If you need more information on what TMs are being converted to CD-ROM, call the Logistics Support Activity's technical pubs people at DSN 645-9833 or commercial (205) 955-9833.

RDD IS Important!

Let's go over this one more time! You must put a RDD (required delivery date) on your high-priority supply requisition unless you don't mind waiting up to 21 days to receive your item. If you don't use an RDD, the Defense Logistics Agency transportation folks will treat it as a routine requisition. That means they have up to 21 days to ship your repair part!

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

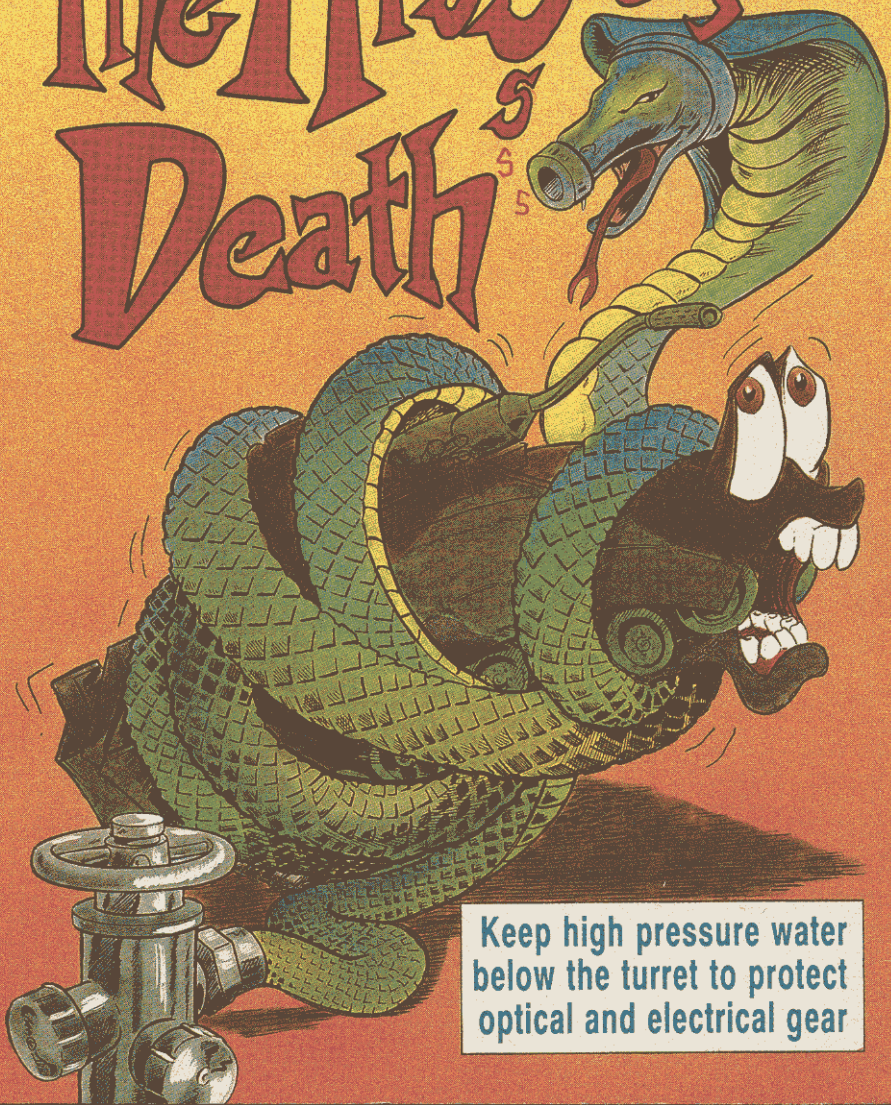
Would You Stake Your Life *right now* on
the Condition of Your Equipment?

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For sale by the Superintendent of Documents, U.S. Government Printing Office Washington, DC

Don't let your vehicle fall prey to...

The Hiss of Death



Keep high pressure water below the turret to protect optical and electrical gear