

Issue 503

PS

October
1994

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-503

Read this copy
and pass it on!



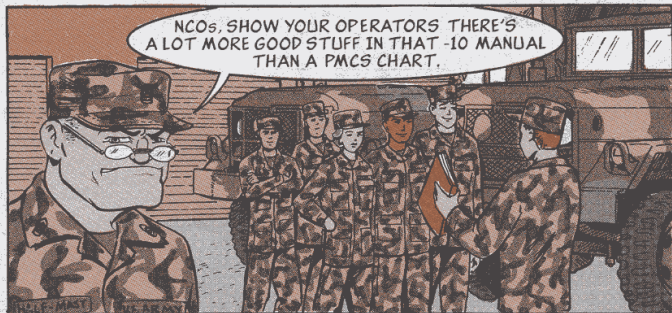
SOLDIER, WE'RE
GOING TO COVER YOUR MK 19
FROM STOCK TO MUZZLE!
SEE PAGE 2...

Approved for Public Release;
Distribution Is Unlimited

Teach PMCS—and the Rest

A -10 manual is more than a PMCS sandwiched between pages of useless information. That little pub is full of information every operator needs.

Most operators are (or should be) good friends with the PMCS chart. They use that each time they use their gear.



- What the equipment looks like.
- How tall, long and wide it is.
- What kind of oil it uses and how much air goes in the tires.
- What each button, knob or switch does when it's used.
- How the equipment works in cold and hot.
- NSNs for needed cleaning and maintenance supplies.



Just as important, it gives all the maintenance information your operators need, plus a step-by-step troubleshooting guide they should use when the gear is acting up.

If your operators know about the troubleshooting guide and can use it, you can keep your maintenance shop working on stuff that is really broke—not making trouble calls to a vehicle that won't start because of dirty fuel, working on a radio with a dead battery, or trying to crank a generator with a dirty air filter.



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-503. The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

ISSUE 503 OCTOBER 1994

FIREPOWER		Night Vision Devices	8-11
MK 19-Series Machine Gun	2-5	Fragmentation Vest	12-14
M16-Series Rifle	6	Avenger Missile System	15
G/LLD	7		
GROUND MOBILITY		Tires	22-25
HMMVV	16-18	Low Sulfur Fuels	26
CUCV	19		
2 1/2-, 5-Ton Trucks	20-21		
AIR MOBILITY		AH-1, AH-1S	39
All Aircraft	35	Avionics	40-41
UH-1	38	Sun Glasses	41
UH-60A	38		
COMMUNICATIONS		Generators	46-47
Commo Shelters	42-43	RT-1402 Receiver-Equipment	47
Mobile Subscriber	44	AS-1729 Antenna	49
Magnesium Batteries	45		
Global Positioning System	45, 48		
TROOP SUPPORT		MK1/MK2 Bridge	57
M17, M40 Protective	27-34	Erection Boat	58
Masks	50-51	Trailer-Mounted Welder	59
D7/F/G Tractors	52	Space Heaters	59
Construction Equipment	53	M996 Adaptor	59
SEE	54-55	Tents	60
130G Graders	54-55		
MW24C Scoop	56-57		
Loader			

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

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

By Order of the Secretary of the Army:
GORDON R. SULLIVAN
General, United States Army Chief of Staff

Official:
Milton H. Hamilton
MILTON H. HAMILTON
Administrative Assistant to the Secretary of the Army
07237

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

Making the MK 19 Work

To keep your MK 19s blasting away, use this advice:

Lubrication



NO CLP FOR YOUR MK 19.

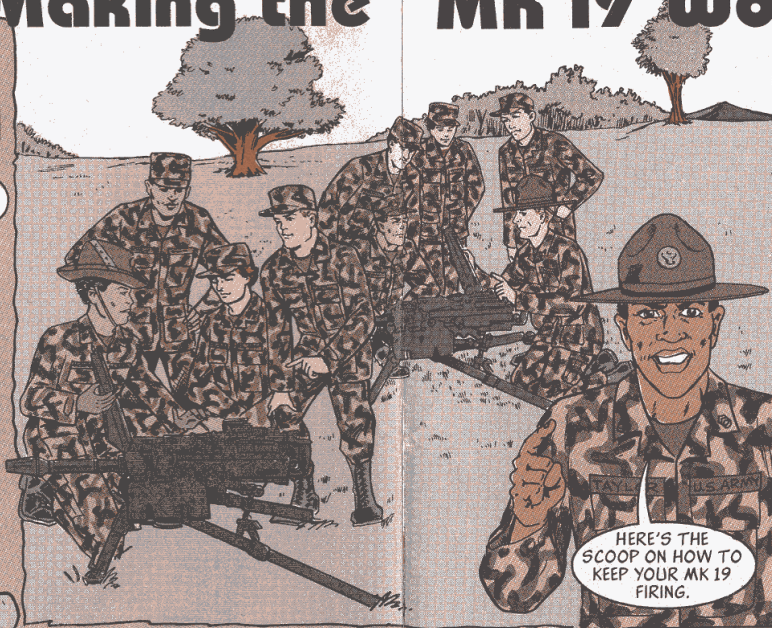
CLP may be fine for your other machine guns, but it's poison for the MK 19. CLP gums up moving parts instead of helping them move smoothly.

Semi-fluid Weapons Lubricant (LSAT) is best for lubing the MK 19. You can get an 8-oz tube with NSN 9150-00-949-0323. Your armorer should order plenty. One tube does not last long.

GMD and LSA are OK for lubing, too. They both come in three sizes:

GMD	NSN 9150-00-
14 oz	935-4018
6 1/2 lb	223-4004
35 lb	965-2003

LSA	NSN 9150-00-
2 oz	935-6597
1 qt	687-4241
1 gal	753-4686



HERE'S THE SCOOP ON HOW TO KEEP YOUR MK 19 FIRING.

Do not mix lubes, though. If you change lubes, completely clean off the old lube before putting on the new.

When you lube, pay special attention to feed pawls, the receiver and cocking lever rails, the pivot posts on the primary drive lever, and all of the bolt. Forget any of these areas and you'll have firing problems.



Give special lubing attention to feed pawls

Cleaning



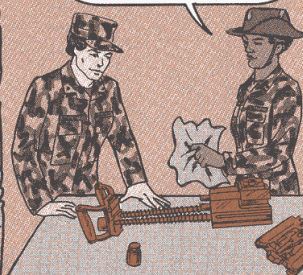
A DIRTY MK 19 MEANS PROBLEMS!

Dry cleaning solvent works great at getting rid of carbon in your MK 19.

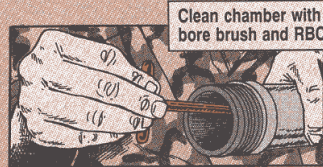
And it's authorized, so use it. But do not dunk the bolt, ogive plunger or sear assembly in solvent. They all have sealed

assemblies and solvent will dilute the grease in the assemblies...and ruin them.

WHEN CLEANING THESE PARTS, USE A BRUSH OR RAG DIPPED IN SOLVENT.



Clean, clean, clean the chamber. Carbon builds up worst there and eventually causes pitting. Soak your bore brush in RBC and run it through the muzzle into the chamber. Resoak the brush and run it through again...and again...until the chamber's clean.



Clean chamber with bore brush and RBC



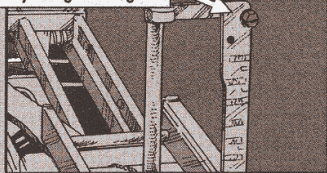
OK, YOU'VE GOT IT CLEAN. NOW, LET'S LOOK AT...

PS MORE

Assembly

After you loosen the rear sight lock nut to adjust the sight, retighten the nut. If it's left loose, the sight flaps up and down and breaks the elevation wheel.

Tighten lock nut after adjusting rear sight



IF YOU CAN'T ASSEMBLE YOUR MK 19, YOU'RE FINISHED BEFORE YOU START!



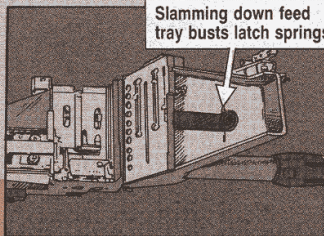
When you install the feedtray cross-pin, make sure the crosspin's prong is pointing straight up so it will fit in the cover's notch. If you force the pin, you break the prong and the cover won't be secure.



Prong goes in facing up and fits through notch

Never slam the feedtray down to lock it. That busts the latch springs. Lower the feedtray until it locks.

Slamming down feed tray busts latch springs

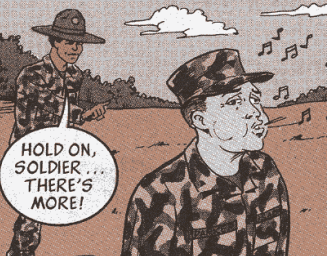


PMCS

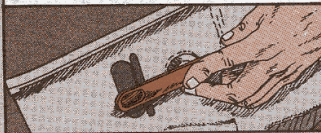
MAKE THESE TROUBLEMAKERS DISAPPEAR.



Ⓞ Bolt burred? Chrome finish coming off? Your MK 19 will jam.

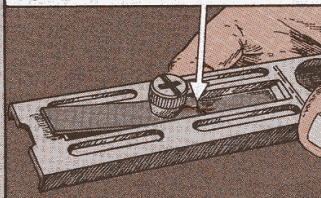


Ⓞ Secondary drive lever won't stay in feed tray cover or won't fit easily in cover?



Something may be wrong with the cover retaining ring. The MK 19 will have feeding problems and the bolt will jam during charging and firing.

Ⓞ Cracks in springs for round alignment guide, especially at pin hole?

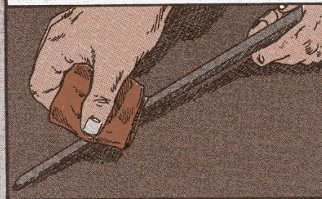


The spring is weak and will cause erratic firing and poor feeding.

Ⓞ Vertical cam assembly scratched or pitted? You'll get erratic firing and the bolt will jam during firing.

Ⓞ Aluminum buildup on the cam? Aluminum buildup can cause a runaway gun.

Your armorer can remove aluminum buildup on cam with crocus cloth or a wooden block



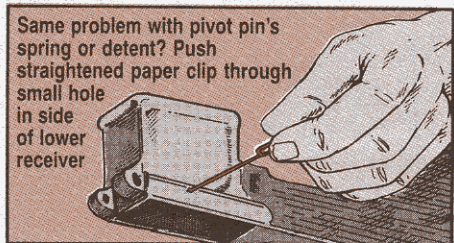
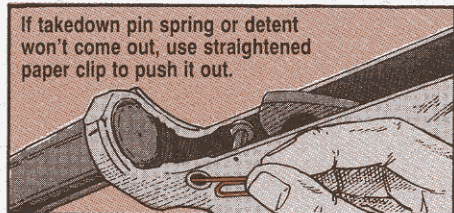
Be extremely careful handling the cam. One tumble to a concrete floor puts the cam out of action.

Report problems to your armorer.

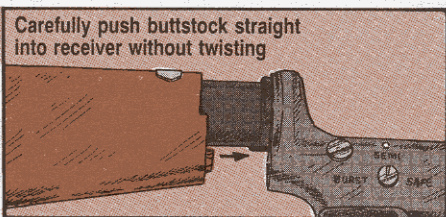


Put Down Takedown Problems

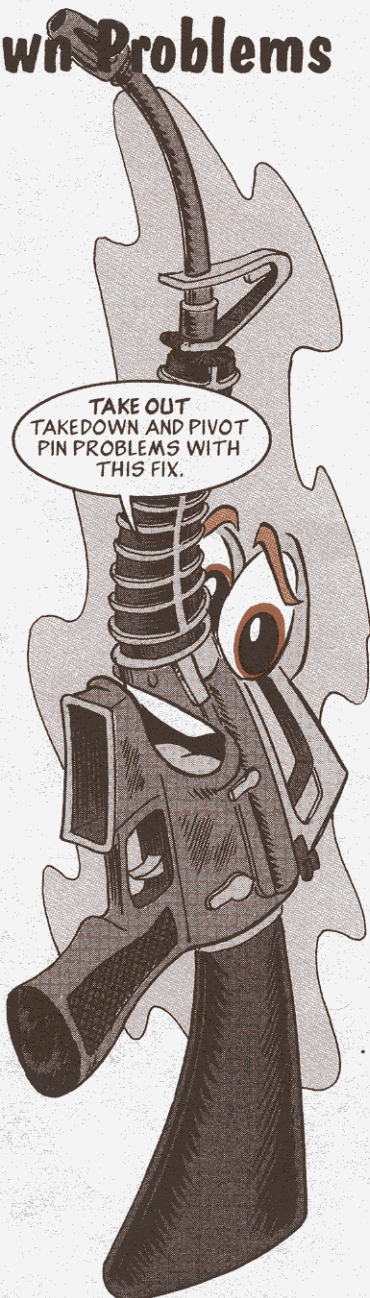
Removing and installing M16 rifle takedown and pivot pin springs and detents can sometimes really take down an armorer's day. Here are a few tips to help you along the way:



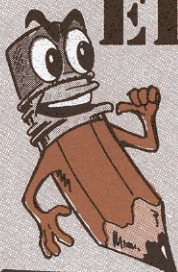
When you put the buttstock back on, the important thing is not to bend the takedown pin's helical spring. If it's bent or kinked, it won't work and it's got to be replaced. That means the takedown pin's more likely to work out.



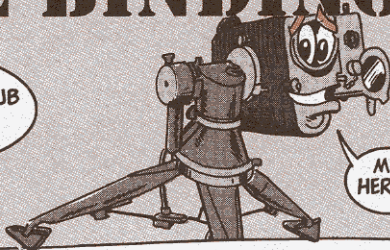
If you accidentally kink the spring, get a new one, NSN 5360-00-992-6655. Then try again.



ERASE BINDING



I'M THE GUY TO HELP RUB OUT BINDING PROBLEMS!



MY HERO!

Dear Editor,

The azimuth gimbal and the leg rails on the Ground/Vehicular Laser Locator Designator's traversing unit (TU) bind when they get dirty. The binding makes it hard to turn the G/VLLD and to adjust the wing nuts on the legs.

Binding help is as close as the nearest pencil eraser. As you rotate the G/VLLD on the TU, erase any dirt on the azimuth gimbal. Do this until the TU moves smoothly.

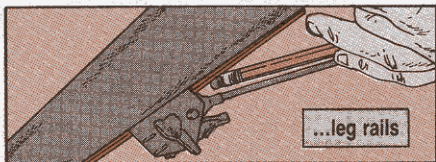
Do the same thing with the leg rails until the wing nuts move easily up and down.

For good measure, spray dry graphite, NSN 9620-00-075-9821, on the gimbal and rails to keep things moving freely.

SGT David Jessums
PFC Michael Maurice
Ft Campbell, KY



Use pencil to clean azimuth gimbal and...



...leg rails

FROM THE DESK OF THE Editor

We will gladly pencil in your suggestion.

G/VLLD Charger Cable Fix

If the charger cable connector for the Ground/Vehicular Laser Locator Designator battery breaks, do not order a new cable. Order a new two-prong connector, NSN 5935-01-206-9992. It's \$100 cheaper.

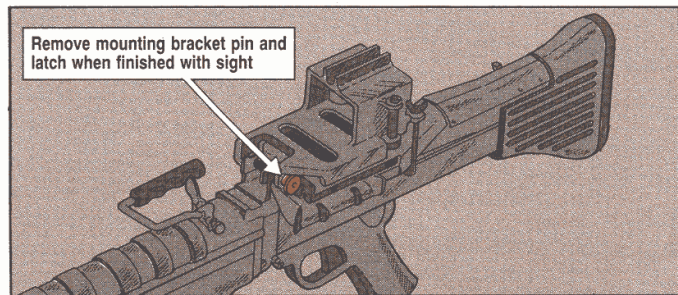
KEEPING IT MOUNTED

Your AN/PVS-4 night sights won't be of much use if they can't be mounted on M60 or M249 machine guns. Here's a good a-mount of advice on keeping the sights mounted:

M60 Mounting Bracket

Lots of M60 mounting bracket straight-headed pins, hinge pin latches, and straight headless pins disappear. Without the pins, the AN/PVS-4 can't be mounted.

The reason they disappear is both pins are often left on the M60 after the sight's removed and not replaced with the M60's hinge pin and hinge pin latch.

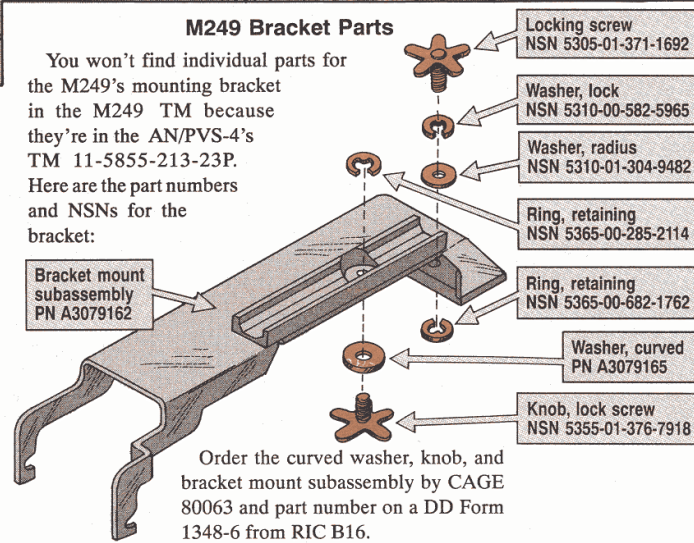


Make sure your unit knows there is a place on the mounting bracket to store the M60 pin and latch while using the sight. And make sure they remove the bracket pins and replace them with the M60 pin and latch when they remove the sight. Check that all pins are present when the sight's turned in.

If the straight headless pin's missing, order a new one with NSN 5315-01-132-3577. Do not substitute the M16 rifle mounting knob assembly. It won't work.

M249 Bracket Parts

You won't find individual parts for the M249's mounting bracket in the M249 TM because they're in the AN/PVS-4's TM 11-5855-213-23P. Here are the part numbers and NSNs for the bracket:



Order the curved washer, knob, and bracket mount subassembly by CAGE 80063 and part number on a DD Form 1348-6 from RIC B16.

Operators, the image intensifier is the heart and soul of your night vision device. It amplifies available light to produce a bright image when you look through the eyepiece.

If the image intensifier gets damaged, you can be in the dark.

Most damage comes from two sources:

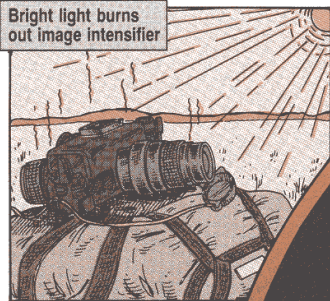
- ▣ Exposure to bright light
- ▣ Rough handling

You need to know how to identify and prevent this damage.

Blinded by the Light

Bright light is the leading threat to the image intensifier. If you directly expose it to sunlight with the night vision device turned on, the viewed image gradually loses its brightness. If the damage is really bad, you'll see no brightness at all.

Bright light burns out image intensifier



Another type of light damage comes from pointing the powered-up night vision device at an

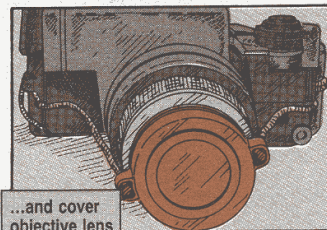
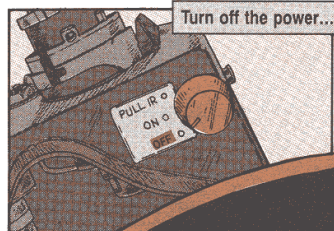
IMAGE IS EVERYTHING

object for a couple of hours in bright light. That can permanently burn a ghost image of the object on the image intensifier. You'll see this ghost image every time you look through the eyepiece.

If you notice any signs of light damage, turn in the night vision device to your unit repairman.

Prevent light damage by following these simple rules:

- ▣ Never turn on the night vision device when you're in bright sunlight.
- ▣ Turn OFF the power, take out the battery and cover the objective lens



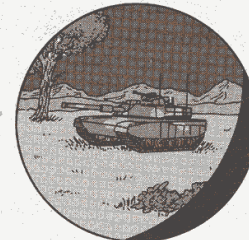
when you're not using the device. Put the daylight cover on the AN/PVS-4 and the AN/TVS-5, and the objective lens cap on the AN/PVS-7 and AN/PVS-5 series night vision goggles.

Beaten and Broken

Rough handling, such as dropping the device or banging it around, also causes damage. Hold on carefully when you operate or carry your night vision device. If it has a sling or neck strap, wear it.

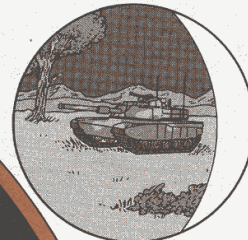
Rough handling can break the seal on the image intensifier, letting air seep into the vacuum of the image tube. Over time the viewed image grows darker and darker.

One of the first signs of a broken seal is shading—a dark shadow along the edge of the viewed image.



Shading always begins at edge of circle and creeps inward

A broken seal can also lead to edge glow—a bright area shaped like a crescent moon along the edge of the circle.



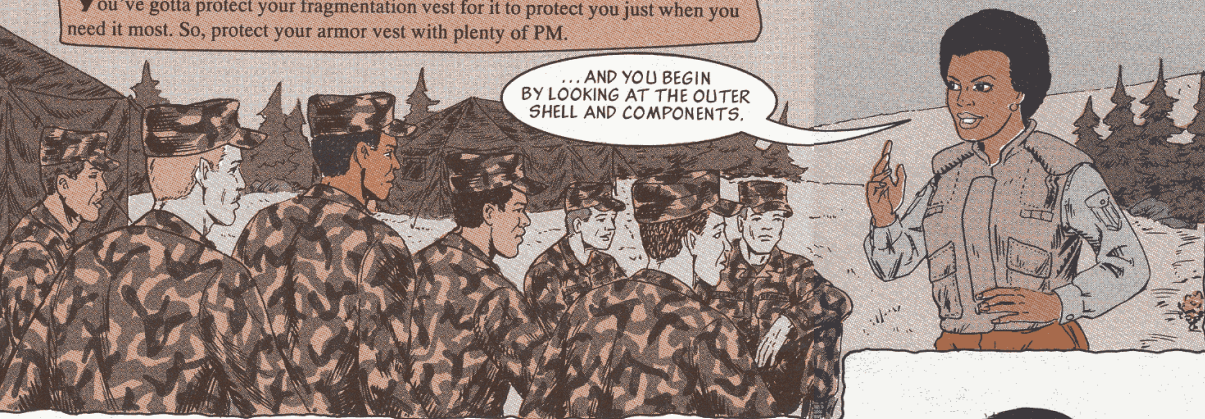
Edge glow results from broken seal

If you see edge glow, shading or a darkening image in your night vision device, call in your repairman.

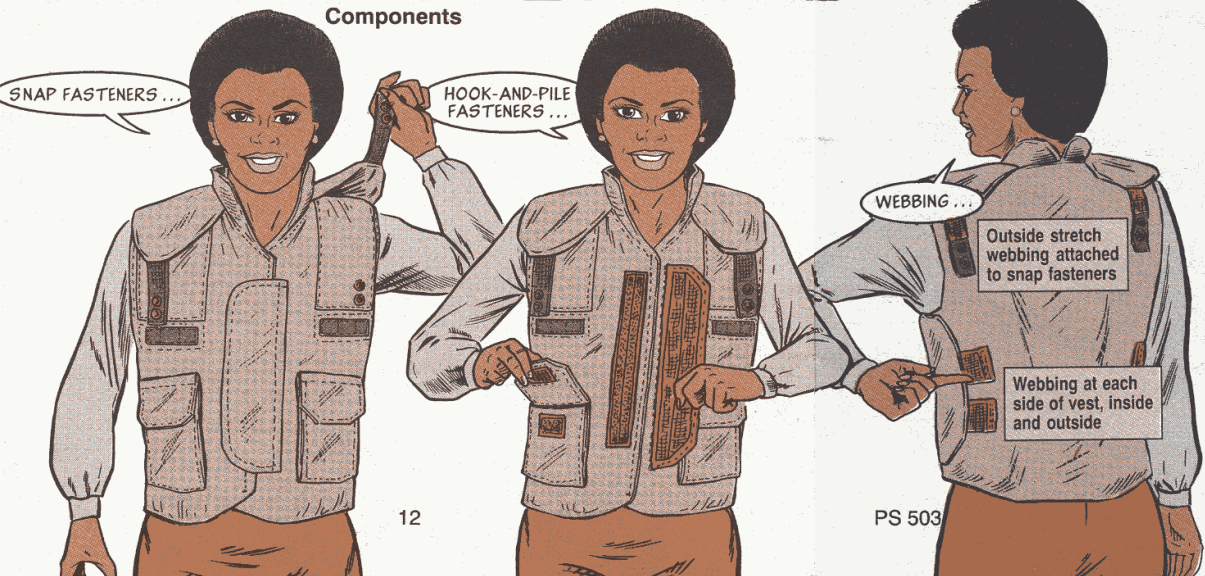


Keep Vest Best with PM

You've gotta protect your fragmentation vest for it to protect you just when you need it most. So, protect your armor vest with plenty of PM.



Components



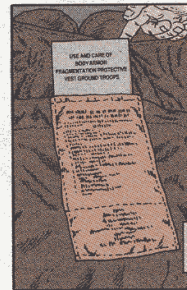
✓ Eyelets



✓ Fabric and Stitches

- Does the vest need cleaning or repair?
- Is it serviceable?
- Pull on the fabric. If it tears, replace the vest.
- You'll need to look for open seams and broken stitches. Hand stitch seams only in an emergency! Turn in the vest for seams to be sewn by machine.

Make sure the ID label is there and that it's tight, and the NSN and size are readable.



Be sure the use and care booklet is attached to the vest's back inner shell and is in good shape.

Booklet attached?

Cleaning

Clean your vest. First, clean off loose dirt from the outside and fastener areas using a cloth or soft brush. No stiff bristle brushes, please!

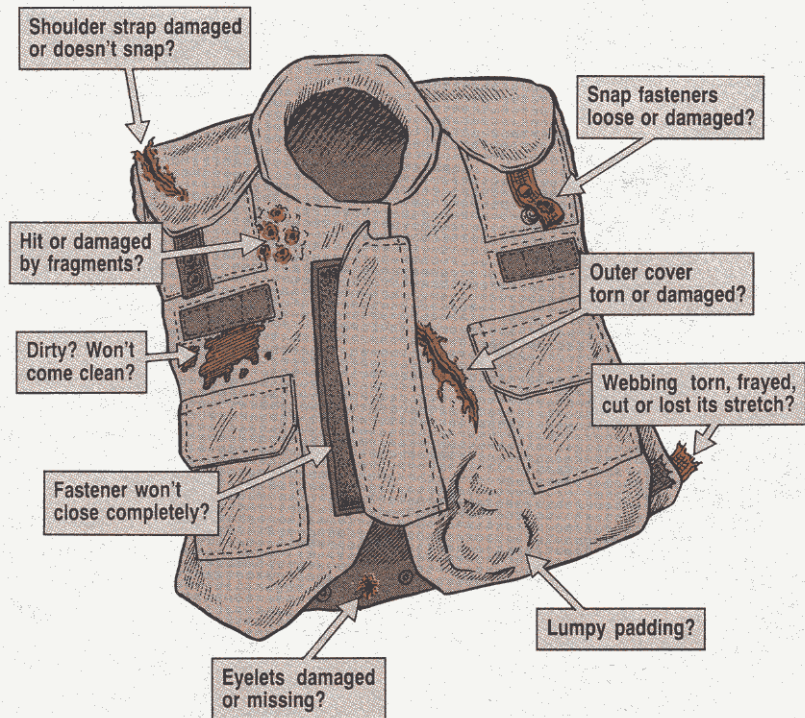
Next, put the vest in warm (not hot) water or wet it in the shower. Then apply bar soap or bleach-free detergent to grimy areas and scrub them with the brush just long enough to remove soil.

NEVER use dry-cleaning solvents, gasoline, or similar products to clean the vest! These petroleum-based products will damage the nylon and Kevlar materials and make the vest flammable.

Rinse the vest with warm water until suds are all gone. Hang the vest to dry away from open flames or heat. In the field, hang the vest by placing a stick or pole through the armholes.

Serviceability

Turn in your vest for repair or replacement if...



Finding Covers for Finder

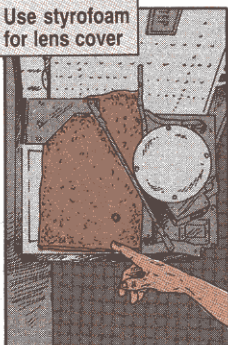
Dear Editor,

The Avenger's laser range finder has no protective cover for its lenses. So, as you barrel down the road, any gravel or tree limbs have a free shot at the lenses. Soon, an expensive lens is damaged and has to be replaced.

We cracked down on cracked lenses with a simple piece of styrofoam. Cut 1-in thick styrofoam to 12 by 18 inches. Punch a hole in it for the boresight guide pin cover. Stick it in front of the range finder lenses so that the range finder support bracket holds it in place.

SSG Chris Huffman
Ft Campbell, KY

Use styrofoam for lens cover



FROM THE DESK OF THE Editor 

You've covered that problem nicely.

Thanks.

Scratch Clamp Scratching

Dear Editor,

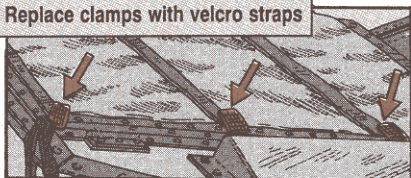
The tarp used by Avenger crews to protect the canopy from scratches does more scratching than protecting.

When the crew throws the tarp over the canopy, its metal clamps scratch the canopy. Soon you can't see through the canopy. There are currently no replacements.

We scratched scratching by having our canvas shop replace the clamps with 6-in velcro straps. We thread the straps through the canopy buckles and the cover is just as secure as it was with the clamps.

SSG Carlos Sanchez
Ft Bliss, TX

Replace clamps with velcro straps



FROM THE DESK OF THE Editor 

You have a solution we can stick with, but get your CO's approval before you replace clamps. There are no replacement tarps, either. If a tarp is torn, get your canvas shop to fabricate a new one.

Coolers Need PM



Keep Coolers Clean

You can keep them clean by getting rid of leaves, dirt and trash between the coolers.

There's not much room for you to get at the gunk, so try this cooling solution:

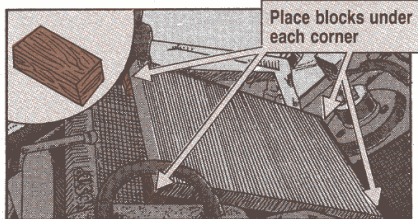
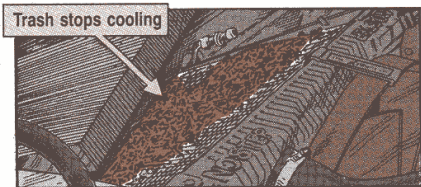
Remove the four sockethead screws and washers that hold the oil cooler to the radiator. Move the power steering cooler out of the way.

Raise the oil cooler carefully and place a 2x4x2 1/2-in block under each corner.

Clean between the coolers using only low-pressure water and low-pressure air.

Remove the wood blocks and secure the cooler in place.

Take care when handling the cooler so that you don't bend cooling fins. Wear gloves to protect your hands, too.

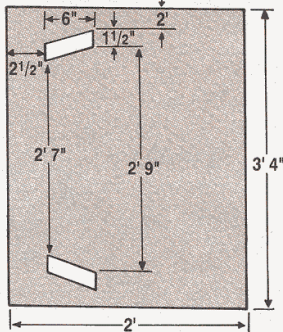


Make Fin Protector

You keep the fins straight by keeping feet, tools and other weighty things off them.

Bent fins stop air flow through the oil cooler and radiator and can cause both the engine and transmission to overheat.

Since you have to work in the engine compartment to pull services or do repairs, make a fin protector to put over the cooler. You need a piece of 3/4-in plywood, cut like so:



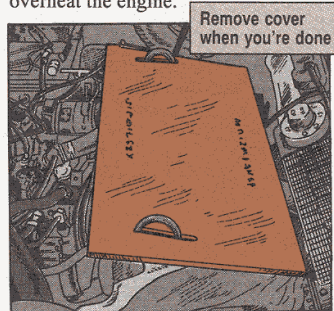
These measurements are approximate. Measure your Humvee and make adjustments if necessary.

Round off the edges and paint the board to prevent splinters.

To use it, remove both eye-hook seals and slip the cover over the two lifting rings. Lay it flat on the oil cooler frame.

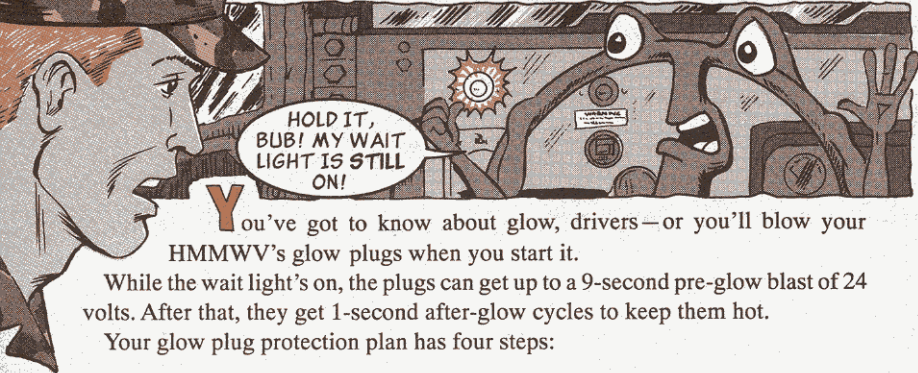
The rings will keep it from sliding into the raised hood.

Don't undo your good work by forgetting to remove the board when you're done or running the engine when it's in place. The board will stop airflow and overheat the engine.



After use, replace the eye-hook seals and check for bent cooler fins. A fin-straightening tool, NSN 5120-00-157-2180, is being added to both common shop sets.

Watch Your Wait



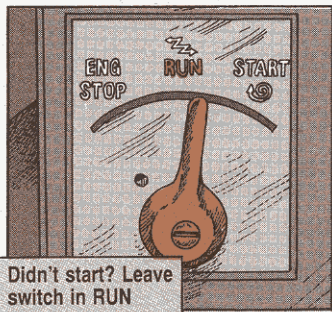
You've got to know about glow, drivers—or you'll blow your HMMWV's glow plugs when you start it.

While the wait light's on, the plugs can get up to a 9-second pre-glow blast of 24 volts. After that, they get 1-second after-glow cycles to keep them hot.

Your glow plug protection plan has four steps:

1. Wait for the WAIT light to go out before you try to start the vehicle.
2. Don't hold the switch in START for more than 20 seconds.
3. If your HMMWV doesn't start, leave the switch in RUN and wait 10–15 seconds before trying again.
4. If you turn the rotary switch to ENG STOP, wait 90 seconds before trying to start the Humvee again.

If you don't wait, the glow plug controller, thinking this is a new start, gives the plugs a new pre-glow cycle. Since the plugs are already hot, they'll get hotter, and burn out.

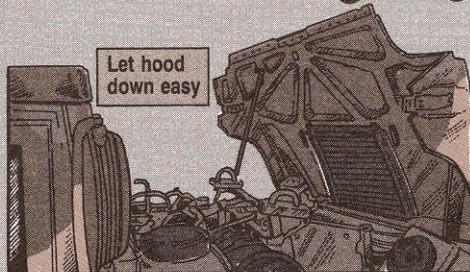


Hold HMMWV Hoods



When you release the hood support rod to close up your Humvee, do it the safe way . . . let the hood down easy.

If you let it drop, you can break a headlight. Headlights cost \$12 a copy.



CUCV ...

AMBULANCE BATTERY BLUES

Seems the factory goofed when they wired the M1010's charging system. That keeps the front battery from being charged.

TACOM came out with a kit a few years ago, but not everyone got the word. So some M1010 ambulances are still out there with a bum battery hook up.

If you have an ambulance that always has a dead battery, get your support to put it right. They'll find the word in Para 3-7 of TACOM's EIR digest, TB 43-0001-39-8 (Mar 94). If they need a copy, the local TACOM LAR has it. If not, write to Half-Mast.



GROUND MOBILITY

CUCV Tiedown Shackle

The tiedown shackle, NSN 4030-00-542-3183, listed in Figs 114 and 115 of TM 9-2320-289-20P won't fit your CUCV. Order NSN 4030-01-316-2554 instead. This shackle is also used on M939-series 5-ton trucks.

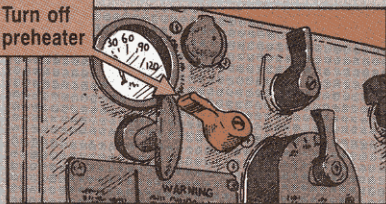
7 Kill the Switch, or...

Here's more than one way to shut down a 2 1/2- or 5-ton truck — but there's only one way to head off battery drain or electrical damage.

The M809- and M939-series trucks have both a battery and an ignition switch, either of which will stop the engine. If you leave the battery switch on, it will drain the truck's batteries. If you leave the ignition switch on, you can zap the alternator. Turn off both, in order . . . ignition first, battery switch next. Reversing the order damages the alternator.

If you used the preheater to help start your M809-series truck, turn it off, too, or your batteries will drain.

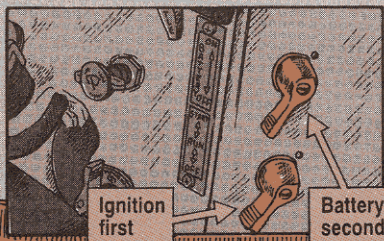
Turn off preheater



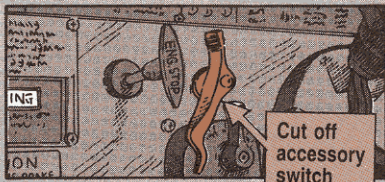
You shut off your M44-series trucks only with the engine stop control. But you still have to cut off the accessory power switch to stop battery problems.

Ignition first

Battery second



Cut off accessory switch



HEY, SOLDIER!
GET BACK HERE AND
SHUT ME DOWN
RIGHT!

COLORED CARGO COVER KITS

Dear Connie,
My mission calls for operation
in the desert. The green cover
just doesn't cut it. Is there a
desert colored cover available
for my 5-ton cargo truck?
SSG B.D.

Dear Sergeant B.D.,
Here's what's available for soldiers
who operate in the desert or snow
fields:

Color	NSN 2540-
Standard Bed (14ft)	
Tan/sand	01-368-9848
White	01-369-1392
Color	NSN 2540-
Extra Long Bed (21 ft)	
Tan/sand	01-365-2936
White	01-365-2937

You can't get just the cargo cover, though. You must get the entire tarp and bow kit, even though all the bows and straps are the same as those listed in the -20P TM for the olive green cover kit. And you can't get a tan and sand or a white cover for the 5-ton dump truck or a different colored canvas cover for the cab.

Connie

YOU'RE IN
LUCK. HERE'S THE
COVER YOU'RE
LOOKING
FOR!

PM Starts at Ground Level



GOOD TIRE
PM IS THE BOTTOM LINE
FOR VEHICLE SAFETY.

MAN, MY FEET
ARE KILLIN' ME!

GROUND MOBILITY

Watch the Wear

Take a look at the tire tread. Uneven wear is your tipoff to trouble. An out-of-balance tire and wheel assembly, bad shocks, poor alignment, bum brakes, loose ball joints and other problems in the suspension system cause rapid and uneven tire wear.

Report uneven tire wear to your mechanic. He can find the cause before tires are ruined.

Uneven wear is a danger signal



Getting to the bottom of things, that's the secret of a good PM program. For a driver, the bottom is where the rubber meets the road — the tires.

Remember, it's not just tires that suffer if you forget to do PM. Tires affect several mechanical systems on your vehicle, like the brakes, wheels, suspension, and steering.

If one of these systems fails, you and your passengers or cargo could be damaged, too.

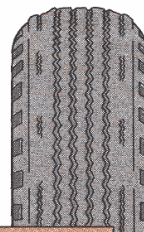
Your eyes and some simple tools are all you need to keep tires and vehicles out of danger.

How's the Air in There?

Too much or too little air pressure is the biggest cause of uneven tread wear.

Underinflated tires flex more than properly inflated tires. This causes heat, which ruins tires. Underinflation shows itself as worn tread on both edges of the tire.

Overinflated tires don't flex enough. The center of the tire takes all the weight, causing rapid wear.



Underinflation



Overinflation

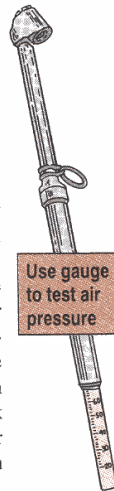
When an overinflated tire hits a large rock or rut, the cords inside can snap and break, weakening the tire.

Overinflated tires are also hard on the suspension system. They lead to a hard ride, creating vibration, which can loosen bolts, snap springs, etc.

Tires with extra wear on the center of the tread are probably overinflated.

Proper tire pressure for your vehicle is listed in the operator's manual.

Measure tire pressure every week. Ask your mechanic for the tire pressure gauge to measure the pressure in all tires — even the spare. You can ask your CO to get you your own gauge. It comes with NSN 4910-00-204-3170.



Use gauge to test air pressure

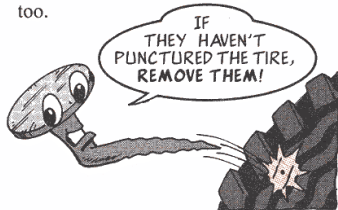
Always gauge pressure when the tires are cold. A short drive heats the tire, causing air pressure to rise. You'll get a bum reading if you check the tires when they're hot, and can end up running the tires with too little air. Eyeball the tread depth each time you gauge the tires. Minimum tread depth for most tactical vehicles is 4/32-inch.

The tread depth for your truck should be listed in the -10 or -20 TM's PMCS. If it's not, see Para 2-16d(2) of TM 9-2610-200-14, Care, Maintenance, Repair, and Inspection of Pneumatic Tires and Inner Tubes.

If you think your tires have less than the minimum tread depth, have your mechanic measure them with a tread depth gauge, NSN 5120-00-019-3050. It's in both Common shop sets.

While you're looking at the tread, remove any bits of glass or rock stuck in the tire. Remove stones or debris stuck between dual tires.

Naturally, you're looking for nails, too.



Alignment Out?

A sure sign of bad alignment is wear on one edge of the tire or the other (not both—that's probably underinflation). Tires worn on the edges have caster-camber problems. Report it so your mechanic can make the adjustment.

Look for Damage

When making your tire checks, look for some common problems:

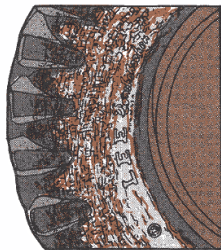
FLAT TIRES: Never drive on a flat tire—unless the tactical situation calls for it, or you have runflat tires. Even running for a few feet can ruin a tire and tube.



PUNCTURES: Small punctures lead to big damage if they're not repaired. Eyeball cuts, cracks or gouges closely. Call in your mechanic if you see white cord in the puncture. He'll take the tire off and look it over to see if it can be repaired.

CRACKS: Low tire pressure leads to sidewall cracks. Make sure cracks don't go to the fabric cord. Weather cracking that covers large areas of a tire should be reported.

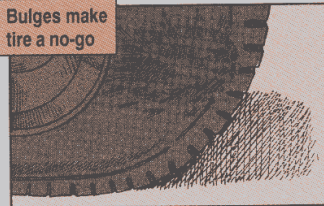
Report weather cracking



ABRASIONS: Abrasions that go through to the cord call for a new tire.

BULGES: Any bulge in the sidewall or tread makes a tire unserviceable. Get it replaced.

Bulges make tire a no-go



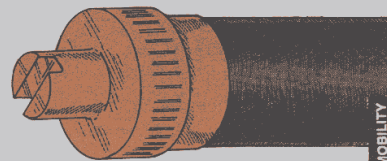
More than Rubber

Look at the wheel lug nuts, studs, rims and side rings for damage, too. If lug nuts are loose or missing, tighten or replace them. Look closely at the rim. If it's cracked, have your mechanic replace it. It can't be repaired.

During your inspection, don't forget the valve stems and caps. Check valve stems for cracks, scrapes and cuts.

A damaged valve stem is often the cause of slow leaks that damage tires. Also make sure all valve stems have caps and that they are screwed on tight.

Use caps on ALL valve stems



Caps keep out dirt and moisture and provide a second seal for the valve core. It also keeps the valve core from being accidentally pushed. That lets air out of the tire.



SEEK OUT LEAKS

The new low sulfur diesel fuel may shrink seals, which means fuel leaks. So, once you start using it in your vehicles, operators and mechanics, you've got to watch for leaks.

If you spot a leak, fix it or report it. New seals will not be affected by the low sulfur fuel.

Never ever use additives in your low sulfur fuel.

If you are having fuel problems other than leaks with your diesel equipment, the fuels and lubs folks at Ft Belvoir want to hear about them. Send any seals affected by the low sulfur diesel fuel to them, too.



I THINK THAT
NEW FUEL IS CAUSING
LEAKS!

WE'LL
NEED TO REPLACE
SEALS.

Call them at DSN 654-1819,
or commercial (703) 704-1819.

Write to them at:

Fuels and Lubricants Division
Mobility Technology Center Belvoir (TACOM)
ATTN: SATBE-FL (Mr Lepera)
10101 Gridley Rd, Ste 104
Ft Belvoir, VA 22060-5818

The PM Health Care Plan

I HOPE THIS
PM HEALTH CARE PLAN
DOES THE TRICK FOR
YOU TWO!

DOCTOR RODD
WILL HAVE YOU WELL
IN NO TIME!

PM
HEALTH CARE
PLAN

CONNIE RODD

DR. PM-TOLOGY

COME IN.

**KNOCK
KNOCK**

SO, WHAT SEEMS TO BE THE PROBLEM?

WELL, THEY BOTH FEEL JUST AWFUL. THEY HAVE TROUBLE BREATHING, THEY DON'T SEE WELL, AND THEY HAVE A HARD TIME SWALLOWING.



IS THERE ANYTHING YOU CAN DO, DR. RODD?



LET'S GO INTO THE EXAMINATION ROOM AND HAVE A LOOK!

THANKS, DR. RODD.



HM-M-M... THESE FELLOWS ARE IN BAD SHAPE, BUT I THINK I CAN CURE THEM!



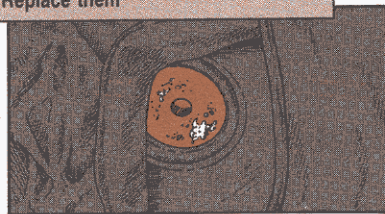
HERE AT THE PM HEALTH CARE PLAN, WE STRESS PREVENTIVE HEALTH CARE. LET'S LOOK AT WHAT YOU CAN DO TO PREVENT THESE PROBLEMS, BEGINNING WITH THE M17.



After washing the M17, wait for it to dry completely. Otherwise, mildew may result during storage.

Dry the mask by swinging it briskly to shake out water. Wipe it thoroughly inside and out with cheesecloth. Let the mask air-dry for at least one hour.

Eyeball disks. If they're curling, torn, creased or dirty, disks are no good. Replace them

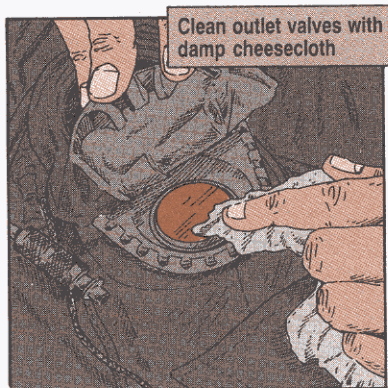


Help inlet valves breathe by cleaning them with a toothbrush. Lightly brush the valves' matting, but not too hard or you'll tear the matting off. Tap—don't bang—the disk side of the valve against

a medium hard surface like your canteen. Brush away any gunk with your fingers.



Keep the outlet valves clean. Remove dust and debris with a damp cheesecloth. Never use a paper towel or tissue, they can tear off and clog the valve.

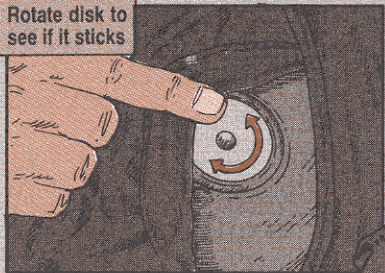


READ ON. THERE'S MORE INFO ON THE NEXT PAGE.



Rotate both outlet and inlet disks with your finger to see if they stick to the valves. Sticking disks make it hard to inhale and they fog lenses. If they stick, get new disks.

Rotate disk to see if it sticks



For tough cleaning on the faceblank, use alcohol. It will save you lots of rubbing. It's part of the M17's expendable supplies.

Use only clean cheesecloth and plastic polish, NSN 7930-00-935-3794, or optical lens cleaning compound, NSN 6850-00-592-3283, to clean eyelenses.

COARSE CLOTH SCRATCHES EYELENSES, MAKING THEM HARD TO SEE THROUGH.

AH-HH, THAT FEELS GOOD.

NOW LET'S SEE WHAT WE CAN DO FOR THE YOUNG M40.



A
LITTLE CARE
WHEN CLEANING
YOUR M40 GOES
A LONG WAY.



Be careful when cleaning sand out of the inside of the M40. If you use a stiff brush or wet cloth around the inner lens rims, the lenses will be scratched.

Blow out sand and dirt with an air hose. No hose? Shake out as much of the sand as you can. Then wipe out the rest with a dry, clean cloth.

Blow
out
dirt
with
air



Easy does it with the hood and hood straps. Rough handling will rip them. Hold the hood by the facepiece when putting it on and taking it off.

Hold hood
by facepiece



Loosen the straps as much as possible before putting on the hood. Use the buddy system, if possible, to tighten the straps. Never jerk them.

Get a buddy to
adjust straps



Keep track of outlet valve disks. No disk means no protection. Check the disk frequently and keep the disk and its seat clean.

Keep track
of outlet
valve disks



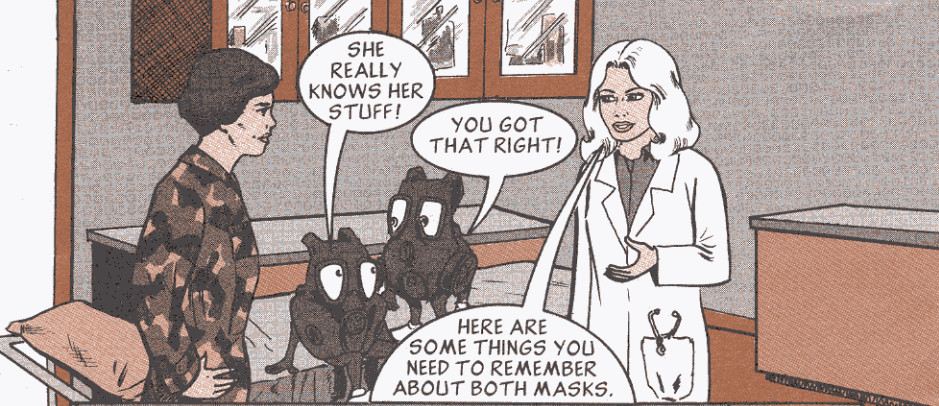
Your NBCNCO should order extra disks, NSN 4820-01-260-8709, to take to the field.

If you have trouble installing the air-flow deflector, try putting in the prong closest to the nosecup first. That makes the job easier.

I'VE
NEVER FELT
BETTER!

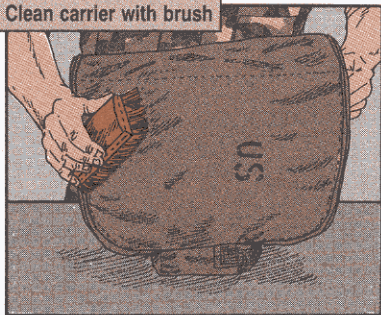
STICK
AROUND.
THERE'S MORE
FOR THE BOTH
OF YOU!





Same thing happens if you wash the carrier in hot water, bleach, detergent, or a washing machine. They ruin the carrier's protective coating. So does marking the carrier. Clean the carrier with a brush and cool water. If that doesn't scrub out stuff like oil spots, you need a new carrier.

Clean carrier with brush



Drink nothing but water through the drinking tube. Anything with sugar causes slime to form in the tube. A slimy tube can only be replaced, not cleaned.



If the hood sticks together, sprinkle it with talcum powder. Make sure the hood is completely dry before packing it in the carrier. If the hood zipper sticks, put a couple of drops of zipper lubricant, NSN 9150-01-112-9412, on the zipper and work it up and down. Bar soap or candle wax is also good.



Clean the mask and carrier when you come back from the field, even if you never took the mask out. Sand, silt and moisture get in the carrier even when it's snapped shut. They lead to mildew, dry rot and the bone yard.





I THINK YOU'LL FIND
BEING A FAITHFUL MEMBER OF
THE PM HEALTH CARE PLAN WILL
MAKE A TREMENDOUS DIFFERENCE
IN HOW YOUR M17 AND
M40 MASKS FEEL.

YOU'RE THE
DOCTOR!



Reflection on Detection

The Aqua-Glo Series III water detector kit, may be for you. It's used to measure water in JP-8 jet fuels. It is available as a local purchase item with NSN 6640-00-244-9478.

Before you buy the \$1,000 kit, though, you may want to find out more about it. If so, write to the Gammon Company and ask for Aqua Glow Water Detector Bulletin 82-86 and Operating Procedure Manual Bulletin 80-76. These two publications will help you decide if the kit is for you.

Write to:

Gammon Technical Products, Inc
PO Box 400
2300 Hwy 34
Manasquan, NJ 08736

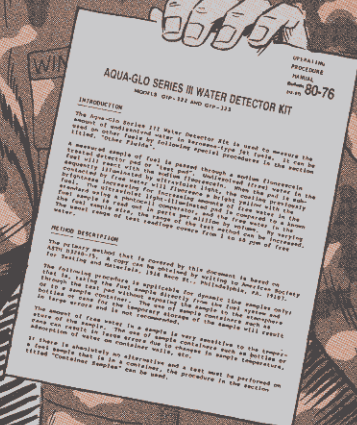
Or call:

Commercial 908-223-4600

Or fax:

Commercial 908-223-5778

THESE
BULLETINS GIVE YOU
THE LOWDOWN ON WATER
DETECTION!



AIR MOBILITY

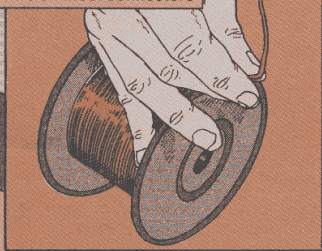
Lockwire Lowdown

How to use lockwire while doing aircraft maintenance is common knowledge, but lockwiring electrical connectors requires some extra know-how.

Here are some DOs and DON'Ts for lockwiring electrical connectors:

DO: Use only lockwire, NSN 9505-01-303-8185, unless your TM says to use something else.

Use 0.020-in diameter wire on most connectors



DO: Use only new wire — never reuse old wire.

DO: Twist wire under tension about 9 to 12 turns per inch with wire twister pliers.



Twist wire 9 to 12 turns

DO: Twist wire so that the wire will be under tension if the part loosens, but do not overstress the wire.

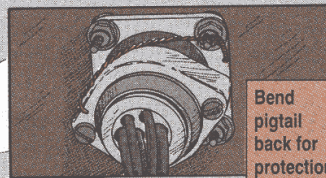
DO: Use the double-twist — not single-twist — lockwire method.

DO: Twist wire clockwise so it will have a tightening effect.

DO: Replace wire if it gets kinked or nicked during twisting.

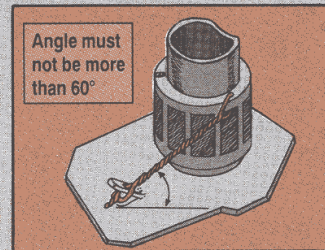
DO: Form a pigtail of 4 to 8 twists with pliers.

DO: Bend the pigtail back toward the body of the connector to keep it from stabbing someone.



Bend pigtail back for protection

DON'T: Anchor wire to a screw or other object that creates an angle of more than 60 degrees.

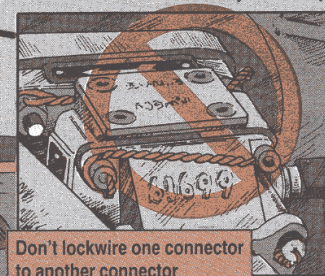


Angle must not be more than 60°

DON'T: Back off mounting head screws to align holes for lockwiring. Instead, if the holes don't align, tighten the screw head to the next hole that does align properly.

DON'T: Lockwire electrical connectors to fuel, oil, hydraulic or oxygen lines.

DON'T: Lockwire one connector to another unless it's absolutely necessary.



Don't lockwire one connector to another connector

DON'T: Lockwire connectors which have a mechanical lock, because the wire will act against the lock.

WHAT'S THE MATTER? I'M JUST GOING TO LOCKWIRE YOUR CONNECTORS.

NOT UNTIL YOU GET THE LOWDOWN ON LOCKWIRING!



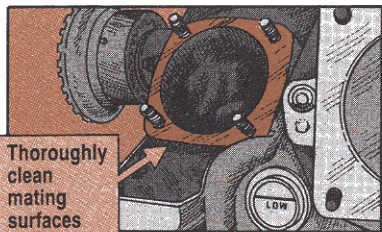
UH-1 ...

Changing Trans Gasket

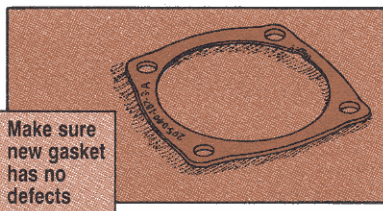
The transmission oil filter gasket replacement instructions in your Huey's TM are a bit skimpy.

Follow the TM, but use these two extra tips when replacing the gasket, NSN 5330-00-107-5393.

1. Make sure you clean all the old gasket material off the mating surfaces. Leftover material causes leaks. Wipe surface dry.



2. Check the new gasket closely. If you see indentions, creases or even the smallest of nicks, toss it. You'll quickly get leaks. Instead, get another gasket.



UH-60A ...

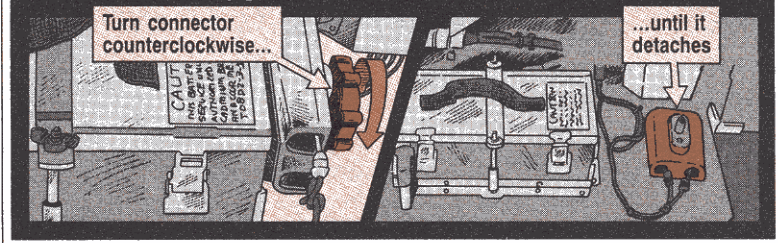
Save Battery Power

Some Black Hawk crews forget to turn off the cockpit utility lights after a mission. Others forget to switch off the battery.

If you forget to do either, the result is a discharged battery that won't start the APU's electronic sequence unit (ESU) next time.

So if it's not already part of your unit's SOP, make it a habit to disconnect your bird's battery at the end of each day by turning the battery connector counterclockwise until it detaches.

You'll save battery power and a lot of headaches.



AH-1...

Gun Solenoid Saver

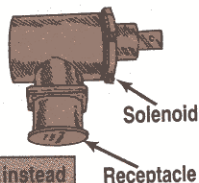
Dear Editor,

When the feeder on the AH-1's 20-MM machine gun won't work, most units fix the problem by having support replace the solenoid, NSN 5495-00-921-5129, which costs more than \$150.

We've found that simply replacing the solenoid's connector receptacle often does the trick. It comes with NSN 5935-01-150-8755 and costs around \$15.

Bob Nelson
Ft Bliss, TX

Replace
receptacle...



...instead
of entire
solenoid

FROM THE DESK OF THE Editor 

We're receptive to your receptacle idea. AH-1 crews can prevent feeder problems by not setting the feeder down on its solenoid.

AH-1S...

Wrap the Light Screws

Dear Windy,

Far too often, when a mechanic rushes to change a landing light in the field, one of the retaining ring screws is dropped and lost.

Save that screw and the time it takes to replace it by putting a 3/8-in strip of shrink wrap, NSN 5970-00-812-2968, around the base of each of the three screws.

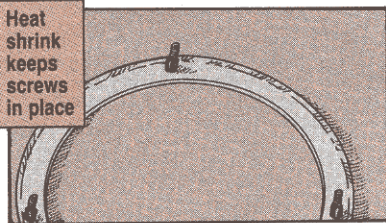
Put the wrap on while the screws are through the retaining ring.

Then use a heat gun to shrink it in place.

You'll still be able to tighten the screws, but they won't fall out from the retaining ring when you replace a landing light.

1SGT Andy L. Bolinger
OHARNG

Heat
shrink
keeps
screws
in place

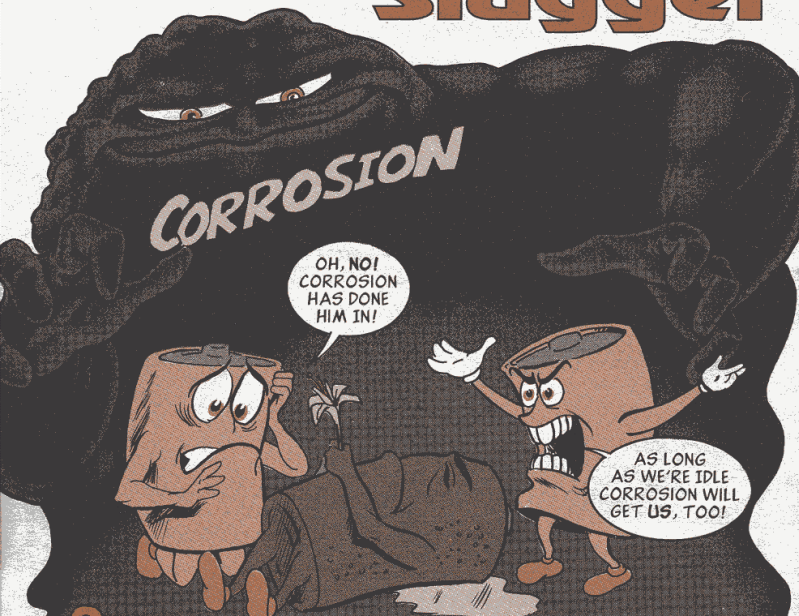


Dear First Sergeant Bolinger,

Thanks for the tip! Shrink wrap may not be the only way to go, though. A few wraps of tape might do the job, too.

Windy

Sluggo Battery PM



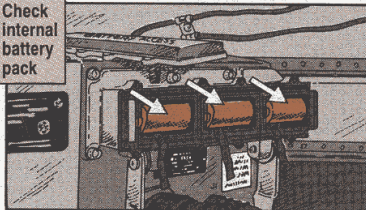
Out-of-sight and seldom used, the batteries in your AN/PSN-10 small light-weight global positioning system receiver (SLGR) are good candidates for corrosion.

The mounted SLGR is powered by the aircraft electrical system, but it can be removed and operated with its own internal battery pack. While this battery pack sits idle, the batteries corrode.

If you're using AA alkaline batteries in your SLGR in hot weather, then check frequently for battery leakage. Some units check their batteries as part of their 120-day PMCS, but a 60-day check would be better.

If you spot leaks or even a hint of corrosion replace the batteries and inspect and clean the pack.

Check internal battery pack



Here are a few extra tips:

- ⊕ Before installing batteries, look for defects. Corrosion starts with a leak from a cracked battery.
- ⊖ Use batteries of the same age and manufacturer if possible and replace all the batteries in the pack at the same time.
- ⊕ Never use a battery that's not authorized. Authorized batteries include the BA 5800 lithium battery, NSN 6665-99-760-9742, used with the BA 5800 battery pack; AA alkaline battery, NSN 6135-00-985-7845, used with the AA battery pack, NSN 6135-01-333-2540; and the NICAD rechargeable battery pack, PN 13829-00, CAGE 65457, RIC B16.
- ⊖ For now, continue to use GPS TBs even though the pub dates make them obsolete. The info is still good and they are the only pubs in the system on the GPS.

Aircraft	TB	Date
AH-64A	1-1520-238-20-15	15 Mar 92
CH-47D	1-1520-240-20-1	15 Mar 91
OH-58A	1-1520-228-20-60	01 Mar 91
OH-58C	1-1520-228-20-56	15 Jan 91
OH-58D	1-1520-248-20-9	01 Mar 91
UH-1H/V	1-1520-210-20-17	01 Jan 91
UH-60A/L	1-1520-237-20-121	01 Feb 91
AH-1F	1-1520-236-50-34 (MWO)	01 Feb 93

Aviator Sunglasses ...

You've Gotta Wear Shades

Non-prescription sunglasses are available from S9T. Use CTA 50-900 as your ordering authority to get these "shades":



Aviator chrome - NSN 8465-01-114-1488



Aviator gold - NSN 8465-00-751-6261

Write in the REMARKS block of your requisition whether you want the wrap-around-the-ear comfort temples or the straight, bayonet temples.

FORMULA FOR STAYING DRY

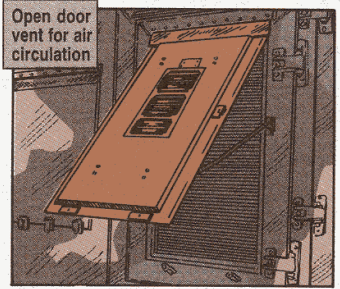


I'M A LEAKY, MILDEWED MESS, PROFESSOR. WHAT'S YER SOLUTION?

HMMM ... ACCORDING TO MY FORMULA, IF YOU TAKE THE SQUARE ROOT OF THE BAROMETRIC ISOBAR, THEN FACTOR IN THE HUMIDITY VARIANT BY THE BLAH-BLAH, BLAHDY-BLAH ...

HERE'S AN EVEN BETTER FORMULA ... GOOD PM EQUALS A DRY SHELTER.

Keep things dry by opening the door's vent cover. Also turn on the ventilating fan and open the fan vent covers. That'll get fresh air flowing through the shelter and across the gear. The airflow helps keep your commo dry. When the weather permits, open the shelter's door for an hour or so each day to get rid of moist air.



Open door vent for air circulation

Moisture is the mortal enemy of commo gear. Whether it comes from rain or humidity, moisture in your shelter corrodes gear and knocks out communications.

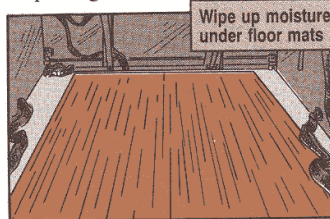
Staying dry is a matter of regular PM.

Airing Out

Closing the door to your commo shelter makes it practically airtight. If the outside temperature changes, condensation forms in the closed shelter.

Mats Matter

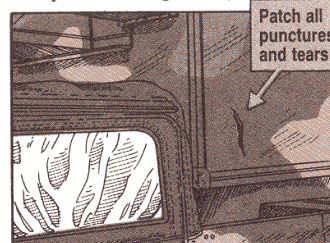
If your shelter has rubber floor mats, take a peek underneath. Moisture has a way of collecting under them and forming mold and mildew. If you find moisture, pull up the mats and hang them out to dry. Wipe the shelter floor dry with a mop or rag.



Wipe up moisture under floor mats

Save Your Skin

Punctures in the shelter's skin are an open invitation to leaks. Look for punctures and tears during operator PMCS. If you find any, have your unit repairman patch them right away.



Patch all punctures and tears

TB 43-0124, Maintenance and Repair Procedure for Shelters, tells what unit maintenance can repair, as well as the tools and materials needed. You'll

also want to check out TM 10-5411-205-13 for the S-250 shelter and TM 10-5411-207-14 for the S-280 shelter. They'll give you additional tips on saving your skin.

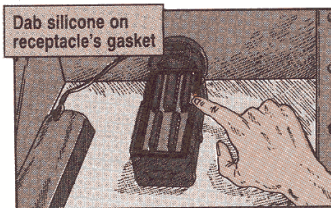
Dry Receptacles

Cable receptacles, like those used with 26-pair cables, are easy prey for moisture and the corrosion it brings.



Covers protect receptacles from moisture

When you're not using the receptacles, keep the covers on them. If the receptacle gets wet, dry it immediately with a clean cloth. Corrosion on the contacts? Clean it off with isopropyl alcohol, NSN 6810-00-753-4993. Apply a light coat of silicone, NSN 6850-00-880-7616, on the receptacle's gasket. The silicone helps preserve the gasket, which makes for a tight, waterproof connection.



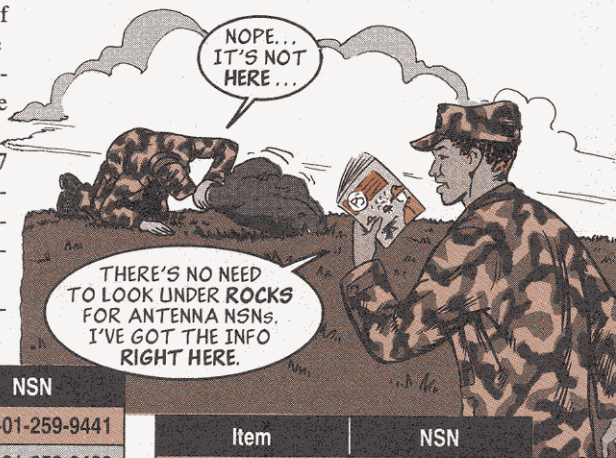
Dab silicone on receptacle's gasket

Need Antenna Parts?

Here's the full range of details for ordering the AS-3885/TRC-191 vehicular antenna for your mobile subscriber equipment.

NSN 5985-01-253-6137 gets you the entire antenna—upper antenna element, lower antenna element and the base.

Individual parts are available with these NSNs:



Item	NSN
Tip	5985-01-259-9441
Upper element	5985-01-259-9439
Lower element	5985-01-259-9440
Base	5999-01-261-6328

Item	NSN
Horseshoe contact	5999-01-298-6340
Screws for horseshoe contact	5305-00-054-5635

Batteries Galore


So, you've got your new mobile subscriber equipment (MSE). Now you'll need to order all the different batteries used in the various pieces of equipment.

Not sure what batteries you need? Check out this list:

HERE ARE THE NSNs FOR MSE BATTERIES...

Equipment	Battery	NSN
RT-1539	BA-1318 (mercury)	6135-00-295-2619
RT-1539	BA-5372 (lithium)	6135-01-214-6441
AN/PSM-45 or KG-94A or KY-90	9-volt	6135-00-900-2139
KYK-13 or KY-68	BA-5372	6135-01-214-6441
KGX-93A	PS-610	6140-01-111-6379

Test Before Disposal



HEY, IT SAYS
HERE WE SHOULD
BE TESTED
BEFORE BEING
DISCARDED!



SO
WHAT?

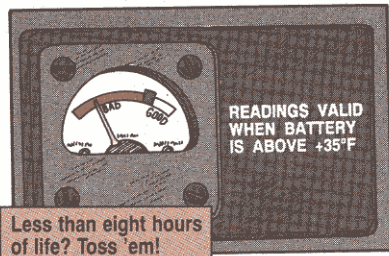


BATTERY
GRAVEYARD

Before you get rid of any BA-4386/PRC-25 magnesium batteries, test them with the AN/PSM-13 test set and the U-410 adapter. You'll find the "how to" poop in TM 11-6625-823-15.

Batteries with less than eight hours of life left and batteries that test less than 1.8 milliamps can be classified as nonhazardous solid waste. That saves disposal costs for other magnesium batteries.

Contact your local Environmental Office and Defense Reutilization and Marketing Office to make sure you're complying with all environmental regulations for battery disposal before you get rid of any.



Global Positioning System . . .

Locate the Answers

Lost and forlorn? Don't know where to turn when you have a question about the operation, maintenance, training or support for your global positioning system (GPS) equipment?

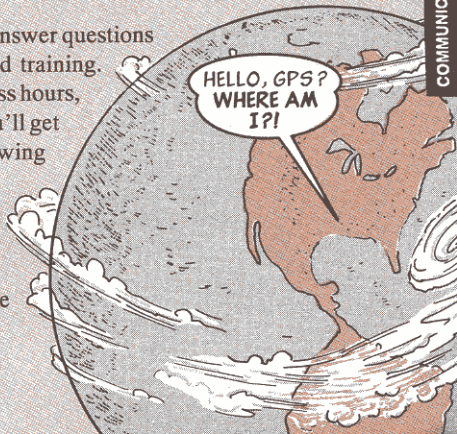
Get on the right path by calling the GPS Help Line at DSN 992-4729 or commercial (908) 532-4729.

The Help Line is open 24 hours a day to answer questions about operations, maintenance, supply and training. The phone is manned during normal business hours, 0730 to 1700 ET. If you call after hours, you'll get a recorded message. Please leave the following information:

- Ⓒ Your name
- Ⓒ Unit and Location
- Ⓒ DSN or commercial phone number
- Ⓒ Your question or a description of the problem.

PS 503

45



Give 'em a Breather



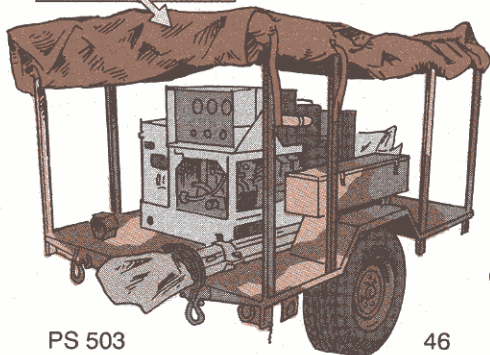
Heat can cripple your generator. Oil thins out, the engine knocks, internal parts wear rapidly. Soon the overheated engine shuts down and you lose power.

So, you must be careful—especially when you place a generator in a revetment— that lots of cooling air can circulate over, under and around it.

Just as a sandbag, log or earthen revetment cuts down noise and shields the generator from dust, it can also shield cooling air. If the revetment's too small with too little airspace, the generator will suffocate and overheat. Make sure there is at

least four feet of space between the generator and the walls.

Roll up canvas cover



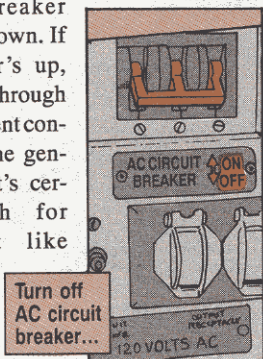
Put no more than one operating generator in each revetment. The extra engine causes added heat buildup.

Look at your operator's TM for other instructions on building and using a revetment.

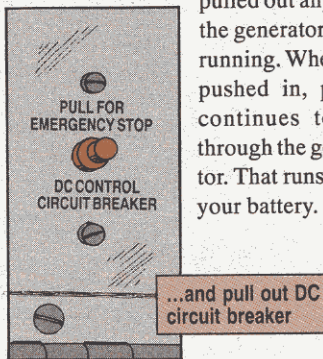
If your generator's on a trailer, roll up the canvas cover high enough so plenty of air gets in.

MAKE THE RIGHT SWITCH

Operators, to prevent power surges when you start your generator, the AC circuit breaker should be down. If the breaker's up, power runs through the equipment connected to the generator. That's certain death for equipment like computers.

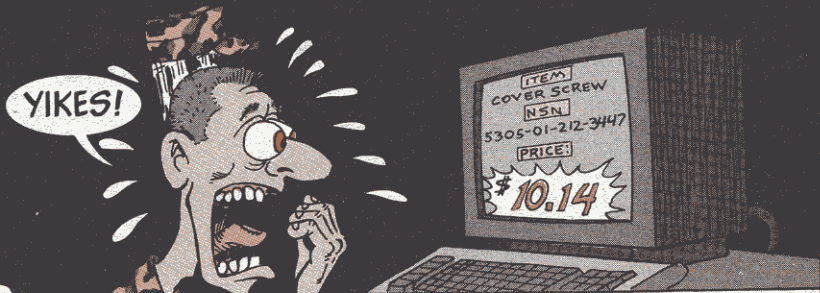


When you shut down, make sure you pull out the DC circuit breaker. Keep it pulled out any time the generator is not running. When it is pushed in, power continues to run through the generator. That runs down your battery.



RT-1402 Receiver-Transmitter . . .

Save with Substitute Screw



If you've ever lost or broken a cover screw for your RT-1402 receiver-transmitter, you're familiar with the feeling of panic that comes when you look up the replacement on the AMDF.

Replacing that screw, NSN 5305-01-212-3447, will cost you a hefty \$10.14. Of course, that'll get you a package of 100, but you're still out more than 10 cents per screw.

Save yourself a panic attack as well as some big bucks by substituting cover screw, NSN 5305-00-823-5826. That screw, which is used for the RT-524, costs only \$1.54 for a package of 100. That's less than two cents per screw.

Tracking Down GPS Pubs

SCRATCHIN' YOUR HEAD TRYING TO FIND PUBS FOR THE MOST COMMON GLOBAL POSITIONING SYSTEMS?

YEAH . . .

SCRATCH NO MORE! HERE WE ARE!

AN/PSN-10 Small Lightweight GPS Receiver (SLGR)

Operation and Maintenance Guide. This pocket-size manual describes the SLGR and identifies controls and indicators. It also explains basic operations and operator maintenance.

TRIMPACK Specification, Installation and Reference Manual. Describes installation procedures, as well as the physical and functional characteristics of the SLGR.

AN/PSN-11 Precision Lightweight GPS Receiver (PLGR)

TM 11-5825-291-13 Operations and Maintenance Manual, Satellite Signals Navigation Set AN/PSN-11.

TM 11-5825-291-10 Satellite Signals Navigation Set AN/PSN-11 Quick Reference Guide.

The PLGR manuals are not in the Army publications distribution system at this time. Manuals do come with the PLGR when it's fielded. The Army has no plans to publish Army technical manuals for the SLGR. Only commercial publications are available.

Order these GPS publications by writing to:

PS 503

Project Manager, Global Positioning System
ATTN: SFAE-CM-GPS-RMD
Bldg 915
Ft Monmouth, NJ 07703-5502

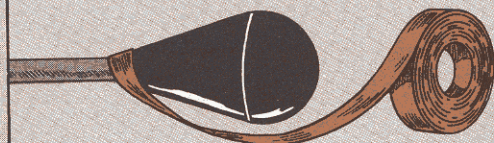
Tip-Top Shape

Protect your AS-1729 whip antenna — and anyone who gets in its way — by making sure the tip cap, NSN 5820-00-437-2353, is on tight. Here's how:

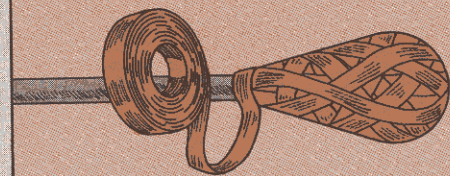
- Wrap 1/2-in pressure sensitive tape, NSN 7510-00-582-4771, six times around the whip two inches from the top.



- Push the tip cap down over the tape. Starting just below the bottom of the cap, wrap the top antenna element and the cap with 1/2-in tape. Cover it completely.



- Finish up by covering the cap with 3/4-in electrical tape, NSN 5970-00-419-4291.



The pressure sensitive tape holds the two shells of the cap together, cushions the cap against impact and holds the cap firmly on the top element. The electrical tape protects against sunlight and moisture.

Replace the tape when it becomes badly scuffed or worn out.

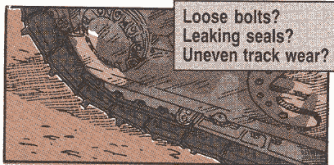


CAT TRACKS

Operators, your Cat dozer works in a tough environment that demands tough PM. Just a few ounces of TLC will help your dozer move tons of dirt.

Each morning before the day's run, keep your Cat making tracks with these PM tips.

🔧 Eyeball track shoes and other track hardware before you start moving dirt. Look for loose bolts, leaking seals, oil on the roller or uneven track wear. If you find any of that, report it on the DA Form 2404 or DA Form 5988-E.



🔧 No slam-bang driving over ground, obstacles or rough 'n' tumble terrain. That smashes the tractor's weight back and forth from one roller to another. This shortens roller life—particularly the front rollers.

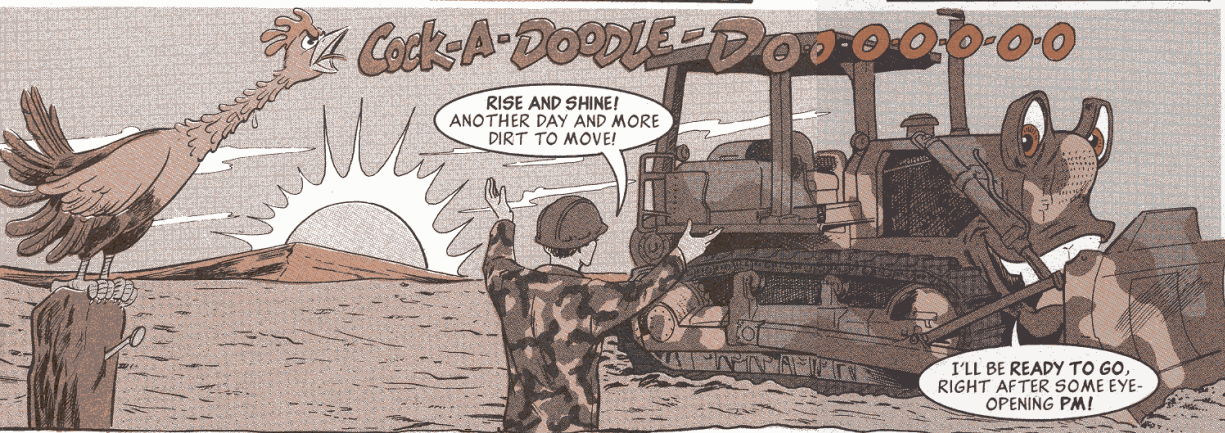


🔧 Never park your dozer on the side of a hill overnight. Besides being unsafe, this puts a strain on the roller seals...and they leak.



Next day, it takes a while before the seals get back to the right shape. Meanwhile, you'll lose more oil. Rollers hold only a pint. Without oil, the roller grinds itself up in a few hours.

🔧 Stop your Cat dead in its tracks before you shift in or out of reverse. Shifting into reverse puts pins and bushings under their greatest strain. High speed reverse shifting just means faster wear 'n' tear on gears and bearings.



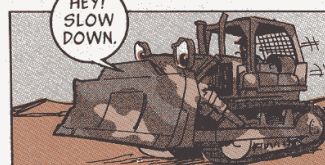
🔧 Look at the tracks on the ground behind the Cat. Crooked tracks—snake tracks—are caused by too much wear on internal pins and bushings. Snakiness speeds up wear on all track parts—rollers and idlers must work harder to keep the tracks in line—and link wear is quicker and uneven.



Sprocket, rollers and idlers are lead your tractor along a straight line. If anything's out of line, new parts won't last.

Besides daily doses of PM, your tractor's track life depends on how you work with equipment.

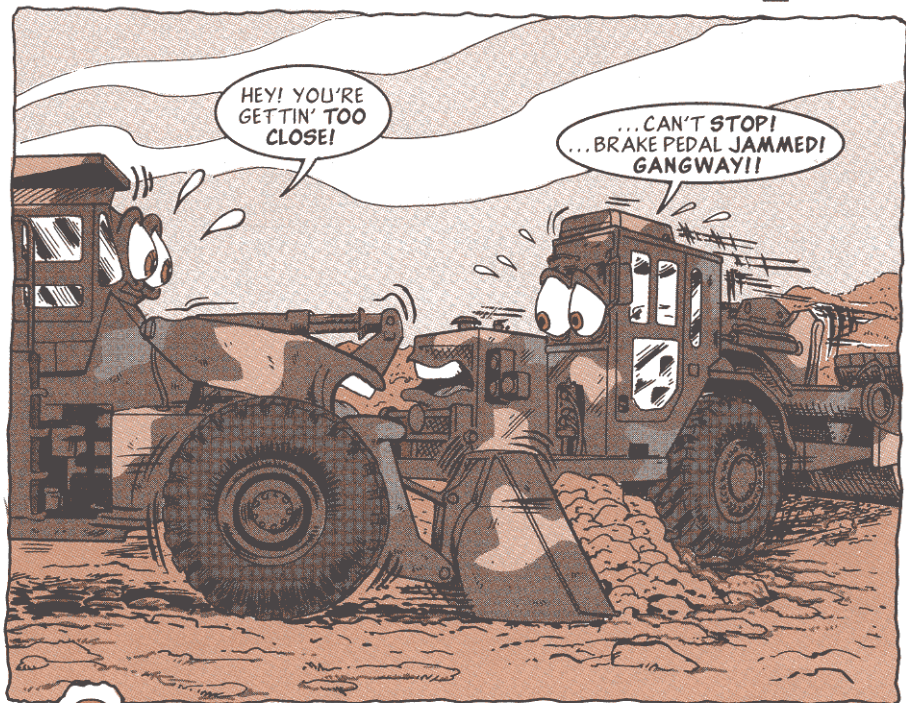
🔧 Keep speed down. High speed over rough ground damages the front track and idlers. It knocks them out of line, too.



🔧 Never take cuts so deep that the track starts slipping. Too much down pressure on the blade raises the front of the track off the ground. All the force is on the rear and the track wears shoes fast!

🔧 Got a big job that calls for constant right or left-hand turns? This wears one track faster than the other. Change your pattern now and then for balanced track wear.

Cab Floor Cleanup



Operators, you live on the seat from sunup to sundown . . . grading roads, moving dirt, and such — none of which is exactly clean work.

It's no surprise then, that stones and dirt end up on the floor. And it's no big surprise that tools, rags, chains and other handy items end up there, too.

But any piece of this trash can get in your way or get stuck under a control pedal. Then the controls won't work when you need 'em.

So before starting each day's run, do a little housekeeping. Get rid of anything on the floor that can get in the way of the controls.



SEE ...

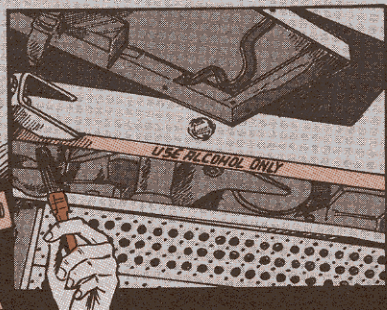
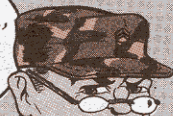
Use Alcohol Only

Dear MSG Half-Mast,
Several of our SEEs have "ANTIFREEZE" stenciled on the side of the reservoir tank for the air brake system's automatic defrosting pump. But the TM says to use alcohol.

Is using antifreeze something new? Should we use it or alcohol?

SGT W.C.S.

USE ALCOHOL,
NOT ANTIFREEZE,
IN YOUR SEE'S
AUTOMATIC
DEFROSTING
PUMP!



Dear SGT W.C.S.,

Ethylene glycol monomethyl ether, commonly known as antifreeze, should NEVER be used in the reservoir tank. Antifreeze plugs up hoses and corrodes lines.

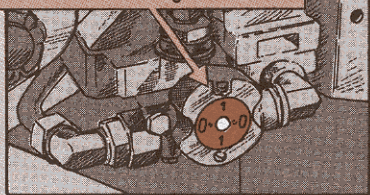
Paint over any antifreeze stencils on your SEE's reservoir. If the reservoir is already filled with antifreeze, drain it and refill with alcohol. No flushing is necessary.

To prevent future problems, stencil "USE ALCOHOL ONLY" on the side of the reservoir tank.

You also need to remember that the pump has two different settings — one for winter and one for summer.

The setting knob can be a little confusing, so here's the straight scoop: Turn the knob to 1 during the winter and 0 during the summer.

Set knob to 1 during cold weather

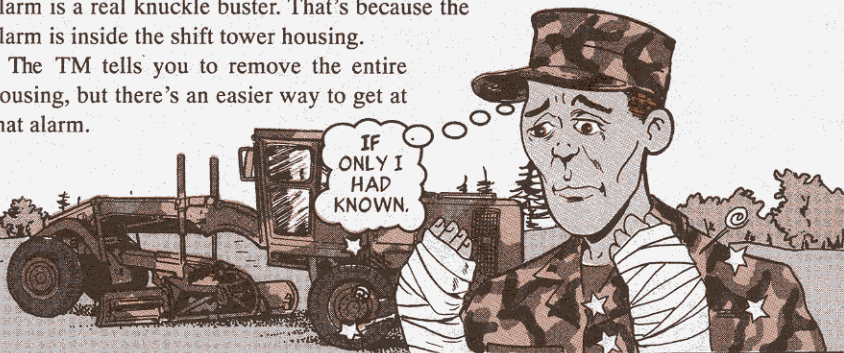


Half-Mast


Save Your Knuckles

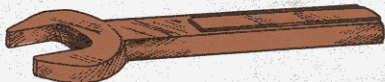
Mechanics, getting to the M130G grader's backup alarm is a real knuckle buster. That's because the alarm is inside the shift tower housing.


The TM tells you to remove the entire housing, but there's an easier way to get at that alarm.

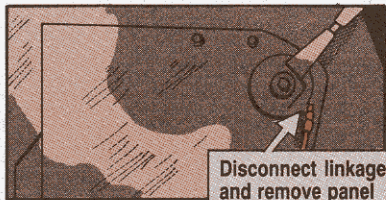


Here's how:


 Cut a 7/8-in open end wrench to 4 3/4 inches long. File away any burrs.




 Remove the cotter and clevis pins from the throttle linkage on the curb side of the operator's console. Move the linkage rod to the side.




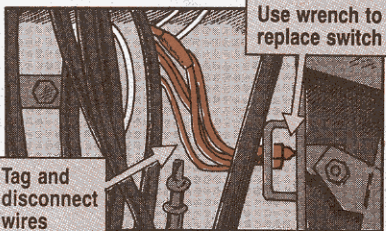
Disconnect linkage and remove panel

 Remove the bolts and washers that hold the panels in place. Remove both panels.

 Tag and disconnect the wires.

 Use the shortened wrench to remove the nut that holds the backup alarm switch in place.

 Replace the backup alarm switch assembly.



Tag and disconnect wires

Use wrench to replace switch

When you put it all back together, it's ready to go beep-beep.

SAVE THAT STEP

Operators, the cab steps get banged up when you cut a V-ditch or raise or turn the grader's blade for travel. This is because the end of the blade is under the cab where you can't tell when it's about to hit the step.

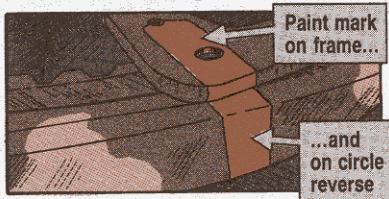
To solve the problem, get your mechanic to paint a "danger zone" on the circle reverse. That way you'll have a visual reminder to know when the blade's about to hit the steps.

Mechanics, here's what to do:

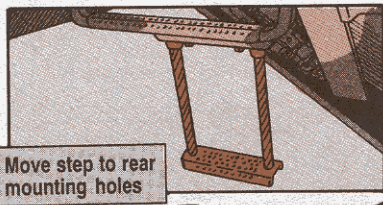
- 1. Raise and rotate the blade so it's set for travel.
- 2. As you turn the blade, have a buddy tell you when the blade is a few inches from the step.
- 3. Paint a black stripe on the circle reverse and another on the circle's frame, just above and back about eight inches.

Be sure you can see the stripes from the driver's seat.

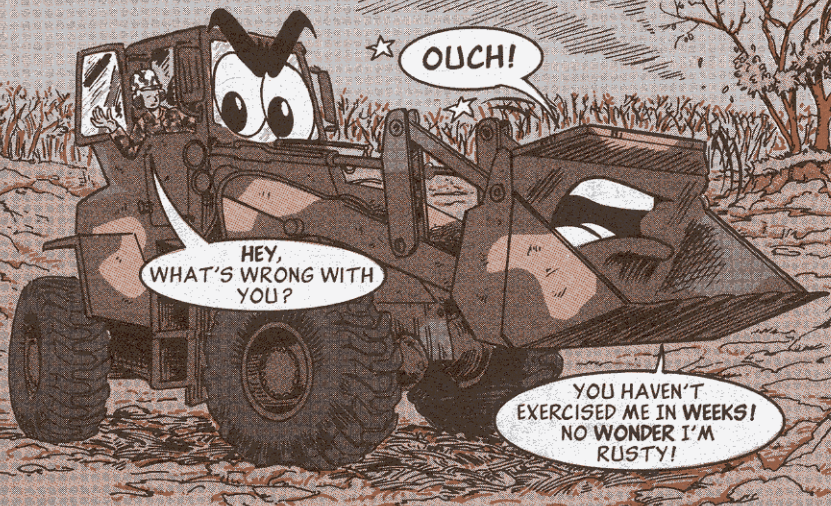
Do the same thing on the other side.



You can also move the lower wire rope steps to the rear holes. That way the lower step is further from the blade.



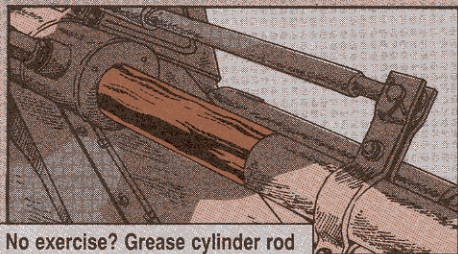
Exercise Hydraulic Cylinders



You need to exercise your scoop loader bucket at least once a week to keep rust off the hydraulic cylinder rod. Rust scrapes and cuts rod seals when you use the loader's bucket.

Once a week, fully extend the loader's bucket. This spreads a thin coat of oil on the cylinder rods.

If you absolutely can't exercise the loader each week, smear a light coat of GAA grease on the cylinder rods.



No exercise? Grease cylinder rod

Before a loader sits idle longer than a month, coat the polished cylinder rod with grease, then wrap it with waterproof paper, NSN 8135-00-753-4662. Hold the paper in place with preservation sealing tape, NSN 7510-00-852-8180.

MW24C Scoop Loader...

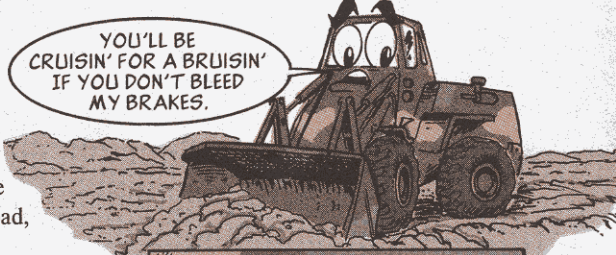
BLEED THE BRAKES

Operators, you've got to bleed your scoop loader's air brakes after each use.

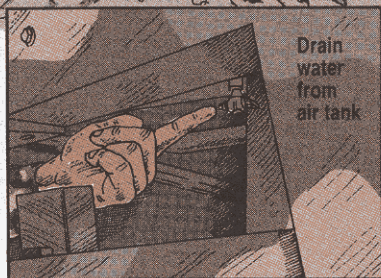
Not draining the water will leave you with some real problems down the road, including brake failure.

That's because air in the brake system causes condensation. Moisture leads to rust . . . and corrosion, which plugs up brake valves and cylinders. Corrosion leads to brake failure.

So, drain the water from the air tank after the day's run. Just open the valve until no more water comes out. Then close the valve tightly when you're done.



YOU'LL BE
CRUISIN' FOR A BRUISIN'
IF YOU DON'T BLEED
MY BRAKES.




MK1/MK2 Bridge Erection Boat...

A Perfect Fit

TRYING TO GET THE CORRECT FRONT WINDOW GLASS FOR MK1 OR MK2 BRIDGE BOATS LEFT LOTS OF SOLDIERS UP A CREEK WITHOUT A PADDLE.

BUT NO OAR-UH-MORE!
HERE ARE THE FRONT
WINDOWS THAT FIT...

 For the MK1, use NSN
2040-01-120-4496.

 For the MK2, use NSN
2040-01-312-6908.



NSNs for Cylinders & Gases

Welders, the Department of Transportation requires gas cylinders to be shipped to you empty.

To get empty cylinders for different gases, use these NSNs:

GAS	NSN 8120-00-
Argon	282-8077
Acetylene	268-3360
Oxygen	357-7992
Carbon dioxide	181-8082
Helium-argon	282-8077

(Argon and helium-argon use the same NSN for empty bottles.)

Once you fill a cylinder, the NSN changes so that you can keep track of both empty and filled cylinders.

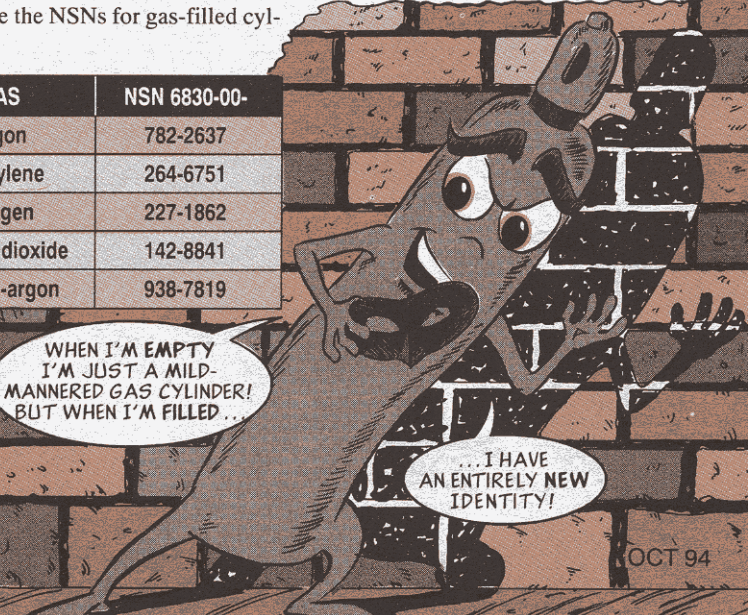
Here are the NSNs for gas-filled cylinders:

GAS	NSN 6830-00-
Argon	782-2637
Acetylene	264-6751
Oxygen	227-1862
Carbon dioxide	142-8841
Helium-argon	938-7819

The gases before they're put in cylinders have NSNs, too:

GAS	NSN 6830-00-
Argon	169-0779
Acetylene	290-4730
Oxygen	169-0805
Carbon dioxide	292-0142
Helium-argon	938-7819

Now that you have your cylinders and gases, make sure your Hobart trailer-mounted welder is in good shape. You'll need two TMs for that job. TM 9-2330-205-14&P is for the M200A1 trailer, NSN 2330-00-331-2307. TM 9-3431-272-13&P is for the trailer mounted weldshop, NSN 3431-01-341-6232.



WHEN I'M EMPTY
I'M JUST A MILD-
MANNERED GAS CYLINDER!
BUT WHEN I'M FILLED...

... I HAVE
AN ENTIRELY NEW
IDENTITY!

It's About Time!

To replace the M1941 and Yukon space heaters, that is.

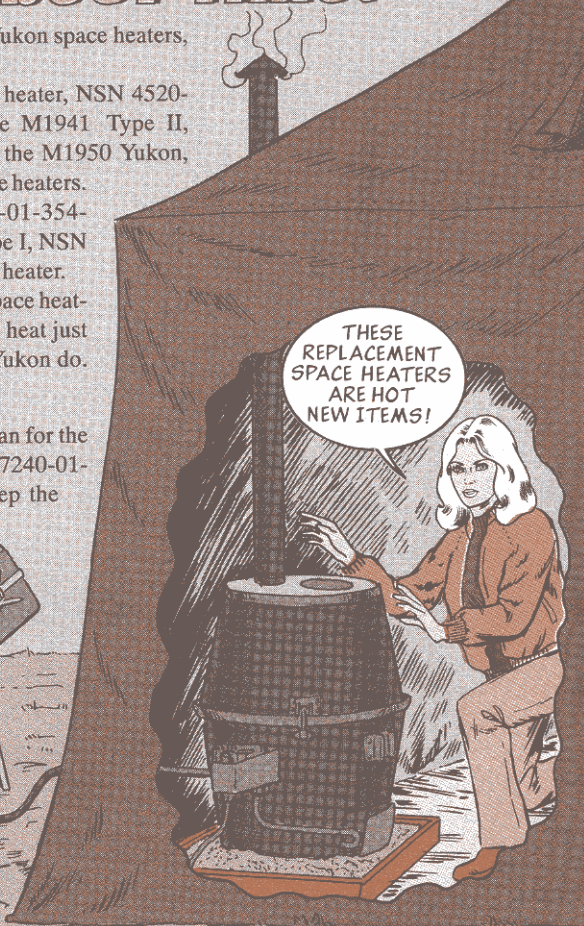
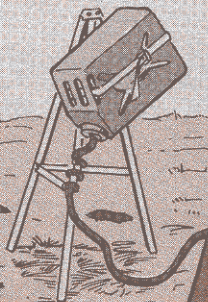
And now's the time. Space heater, NSN 4520-01-329-3451, will replace the M1941 Type II, NSN 4520-01-927-4214, and the M1950 Yukon, NSN 4520-01-287-3353, space heaters.

Space heater, NSN 4520-01-354-1191, replaces the M1941 Type I, NSN 4520-01-257-4877, solid fuel heater.

Both new ones are radiant space heaters, which means they put out heat just like the old M1941s and the Yukon do.

'Nuther Topic

To get a cradle for the fuel can for the space heater, order with NSN 7240-01-318-5222. That dude will keep the fuel high 'n' dry 'n' out of the snow.



M996 Adapter NSN

NSN 4730-00-270-4606 gets the adapter for the personnel heater fuel shutoff valve. The adapter is not shown in Fig 276 of TM 9-2320-280-20P. It connects the fuel line (Item 8) to the shutoff valve (Item 9).

Expandable Frame Tent . . .

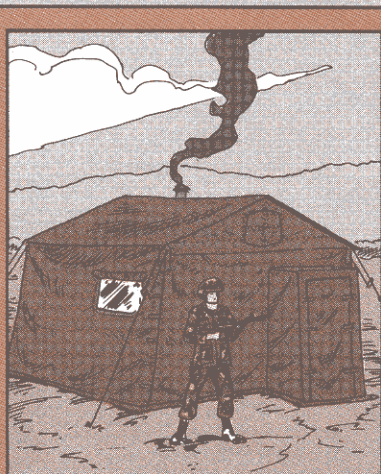
Order by Components

The NSN for the lightweight expandable frame tent is 8340-00-782-3232. But that NSN is for accounting only.

Use it to identify the tent, including all its parts, on your property book/hand receipt. But ignore it and the listed price when ordering.

Use the component NSNs to order your tent. The components are:

QTY	ITEM	NSN 8340-00-
1	End frame section	234-4708
1	Expandable frame section	234-4712
18	9-in aluminum tent pins	261-9749
6	12-in steel tent pins	823-7451
10	16-in wood tent pins	261-9750
1	Tent canvas w/cover	782-3425



MCPS Replaces SICPS Tent

You can't get repair parts for your Standardized Integrated Command Post System Tent (SICPS). That tent was for training and testing only.

When your SICPS is shot, shoot for a new command tent — the Modular Command Post System (MCPS) tent replaces the SICPS tent.

To get a green tent, use NSN 5410-01-323-2454. NSN 5410-01-334-7529 gets a tan tent. TM 10-5410-229-13&P covers the MCPS.

Connie's
POST
SCRIPTS

CONNIE'S
PM HEALTH CARE
PLAN HAS ME IN TOP
CONDITION.



THAT'S THE
PRESCRIPTION.



NBC Address Change

The NBC National Maintenance Point has been changed from Edgewood, MD, to Rock Island, IL. That means you now need to send DA Form 2028s and 2028-2s, Changes to TMs, to:

HQ, TACOM ACALA
ATTN: AMSMC-MAS-L
Rock Island, IL 61299-6000

The only exceptions are the 07157 smoke generator, the CAM and the M40/M42/M43 masks. They still take the Edgewood address.

Heater Drive Belt NSN

Use NSN 3030-00-528-3954 to get the correct drive belt for portable heater, NSN 4520-01-136-2139. The NSN listed in TM 9-4520-251-24P is wrong.

Hazardous Materials Substitutes

Some cleaning/lubricating compounds are no longer available because they are environmentally hazardous.

TACOM msg AMSTA-M 171157Z May 94 has a list of substitute NSNs and the vehicles to use 'em on. No message? See your TACOM LAR or write to MSG Half-Mast.

Small Arms Parts Security

Pay attention to the blue page in the front of the Unit Supply Update Issue Number 14. This sheet authorizes small arms repair parts with a controlled inventory item code (CIIC) of "J" to be stocked as bench stock. But, you still need to keep these easily-stolen repair parts under double lock and key security like it says in AR 190-51.

Bradley Roadwheel Nuts

Use NSN 5310-00-982-6809 to get the correct roadwheel nuts for your M2/M3-series Bradley. Item 5, Fig 66 and 69 of TM 9-2350-252-24P-1 and Item 5, Fig 63 and 68 in TM 9-2350-284-24P-1 list the wrong NSN. Make a note until your TMs are updated.

Gasket for 5-KW DED Generator

Item 2 of Fig 45 in TM 5-6115-584-24P lists the wrong NSN for the engine oil filter gasket on the 5-KW DED generator, NSN 6115-00-465-1044. The right NSN is 5330-00-351-6377.

CUCV Dash Cover Correction

Uh-oh! We got it wrong on Page 19 of PS 502 for the NSN for the vinyl dashboard cover. The correct NSN is 2590-01-386-0676, not -0876. Make a note.

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?

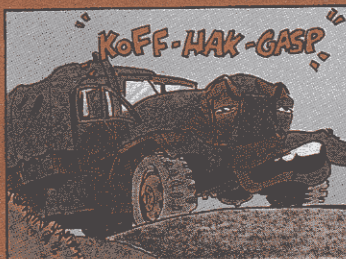
☆ U.S. GOVERNMENT PRINTING OFFICE: 1994 — 550-058/10009

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

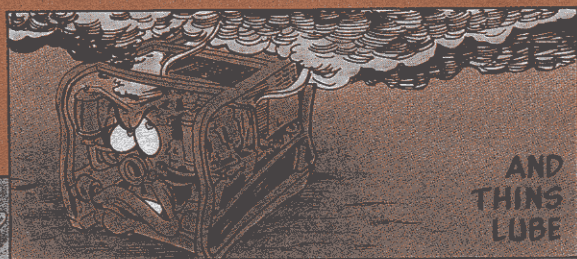
**W
A
T
E
R**

**IS THE ONLY
UNIVERSAL
SOLVENT!**

**IT ROTS
EQUIPMENT**



**CHOKES
ENGINES**



**AND
THINGS
LUBE**

**ONLY YOU CAN PREVENT
WATER DAMAGE!**