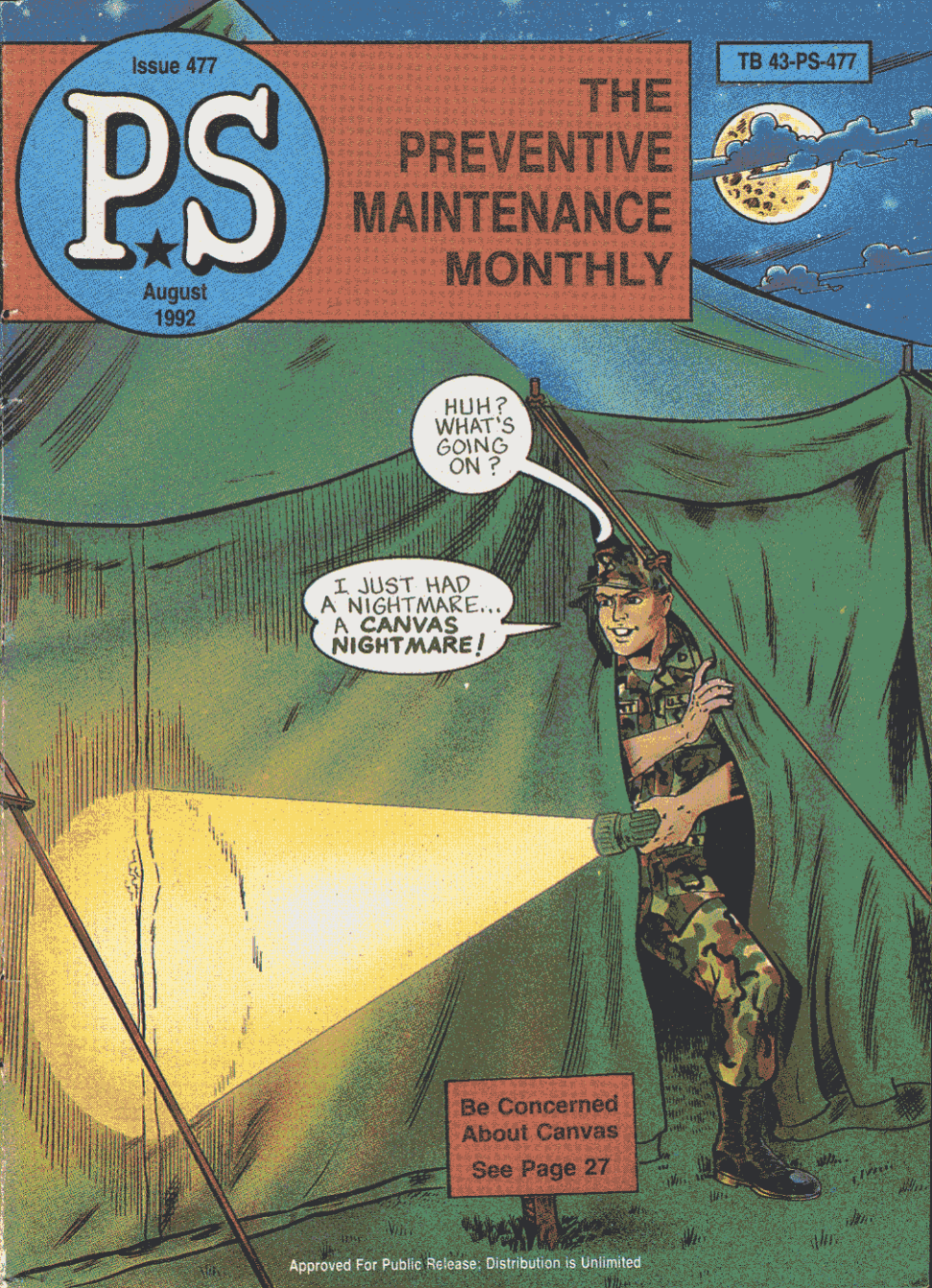
Issue 477

PS

August 1992

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-477



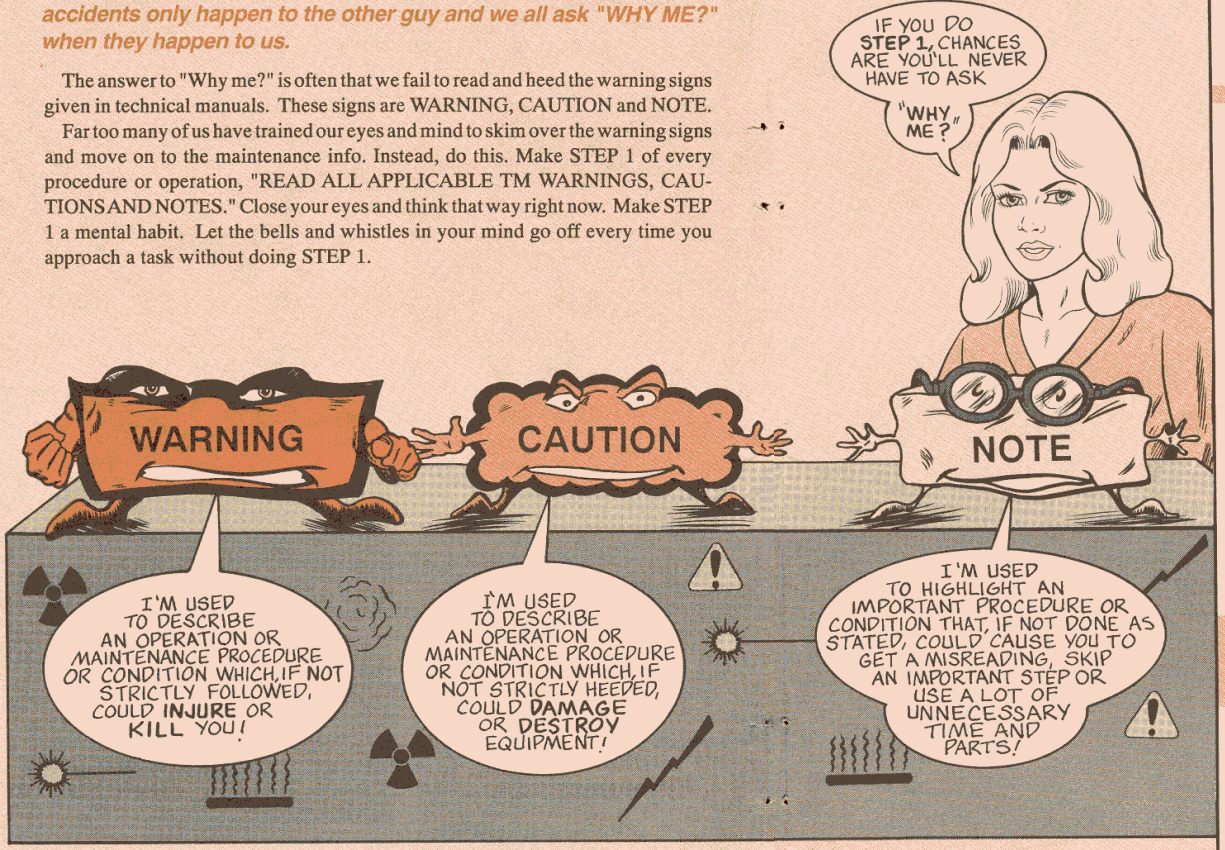
Be Concerned About Canvas
See Page 27

SAFETY SPEAKS

All people have at least two things in common: We all believe that accidents only happen to the other guy and we all ask "WHY ME?" when they happen to us.

The answer to "Why me?" is often that we fail to read and heed the warning signs given in technical manuals. These signs are WARNING, CAUTION and NOTE.

Far too many of us have trained our eyes and mind to skim over the warning signs and move on to the maintenance info. Instead, do this. Make STEP 1 of every procedure or operation, "READ ALL APPLICABLE TM WARNINGS, CAUTIONS AND NOTES." Close your eyes and think that way right now. Make STEP 1 a mental habit. Let the bells and whistles in your mind go off every time you approach a task without doing STEP 1.



PS THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-477, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

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You are invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems, questions or comments on material published in PS. Just write to:

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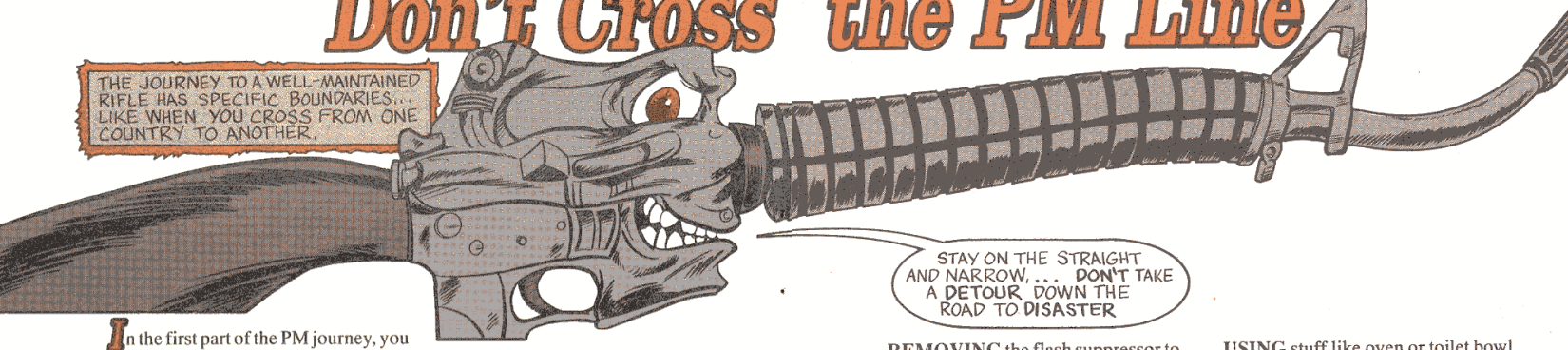
Don't Cross the PM Line

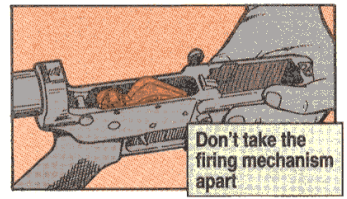


In the first part of the PM journey, you are the driver. You do the basic maintenance on your rifle. But there comes a certain point where you must give up the wheel to your armorer because he has the training and tools needed for the rest of the journey.

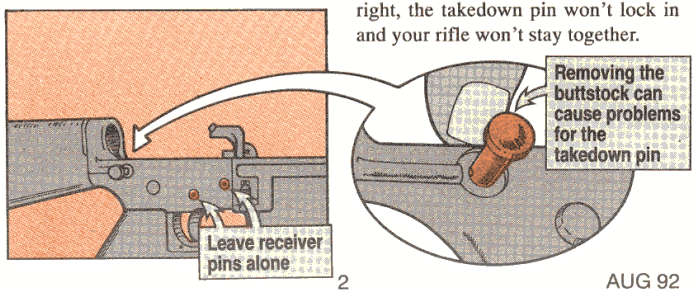
Some soldiers refuse to give up the wheel...and they wreck their M16s. For instance...

DISASSEMBLING the lower receiver and the firing mechanism for better cleaning. If you push out the receiver pins with the wrong tool, you enlarge the holes. The holes can't hold the pins. The receiver's ruined.

If the firing mechanism's put together wrong, the rifle can fire automatic when it's not supposed to.

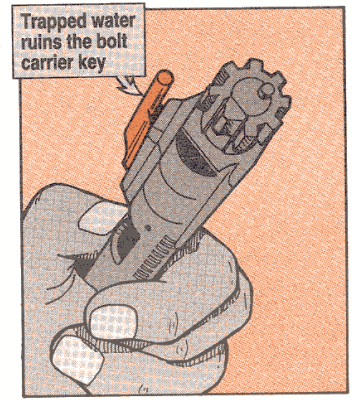


REMOVING the buttstock to clean the lower receiver extension. The takedown pin spring's easily damaged. If the spring and detent are not put back right, the takedown pin won't lock in and your rifle won't stay together.



REMOVING the flash suppressor to clean the barrel. The suppressor must be torqued just right. If it's screwed on too tight, the barrel threads...and barrel...are ruined. If it's too loose, it can vibrate off.

GIVING your M16 a bath. Water trapped in tight places corrodes metal parts like the bolt carrier key and forward assist spring.



USING stuff like oven or toilet bowl cleaners or homemade cleaning tools on your rifle. They will certainly get your M16 spic and span...so clean, it loses its protective coating. There's nothing to stop corrosion.

TAKING off the heat shields for cleaning. You'll never get them back on tight. They will rattle and have to be replaced.

If you want to help your M16 on its PM journey, use as a map TM 9-1005-319-10 for the M16A2 or TM 9-1005-249-10 for the M16A1. But once you get to the boundary of what you should do, stop. It's time for your armorer to take the wheel.

ONCE IS ENOUGH

Some people think there's a three-cleaning rule for rifles and machine guns: After every firing you must clean a weapon not once, but three times.

Untrue.

Once is enough...if you do it right. The operator TMs for small arms say to clean the weapons after so many rounds fired. If you clean and lube a weapon like the TMs show, it's clean—clean enough for firing or for storage.

If the weapon is going to the arms room for storage, it doesn't need to be cleaned again for 90 days unless it's taken to the field or it shows signs of corrosion.

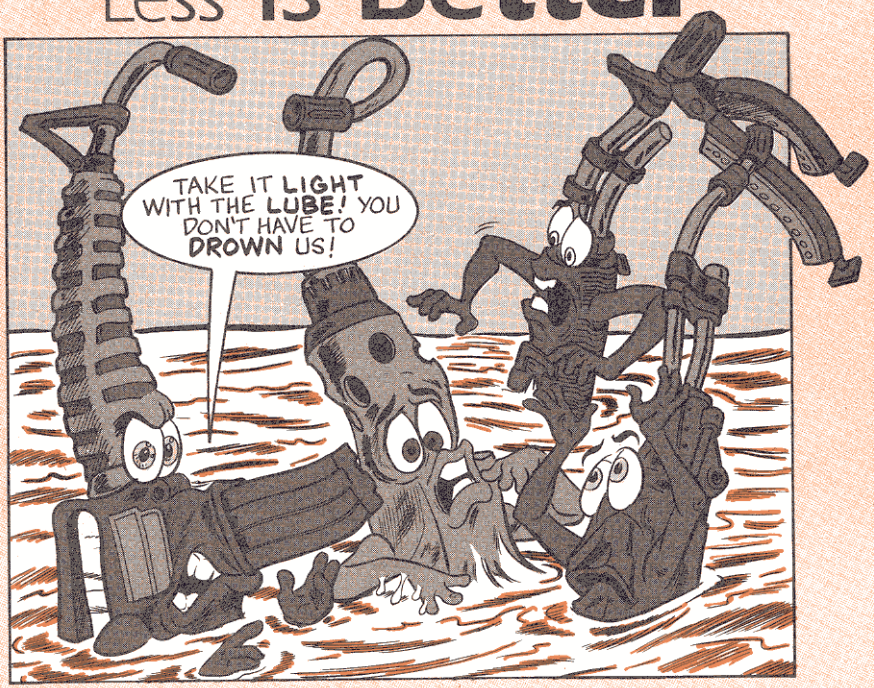
The Facts on Fabrication

As a unit repairman or armorer, you occasionally run into repair jobs that require a fabricated tool...like removing the front sight post on the M16A2 rifle.

So what do you do? Your TM gives you the plans to make the tools. But you don't have the materials or equipment to do the job.

This is a job for your support folks. Fill out a maintenance request, DA Form 2407. In Block 16A, put "Fabricate front sight post removal and installation tool." In the REMARKS Block, put "See Fig E-2 in TM 9-1005-319-23&P for materials and instructions."

Less Is Better



More is not better when it comes to lubing your rifle or machine gun.

Too much lube lets carbon build up faster. Soon moving parts—like the bolt—have trouble moving back and forth. Eventually your weapon sputters to a stop.

In sandy areas, over-lubing is an even bigger danger. Sand mixes with the lube to form a scouring powder that grinds up moving parts.

So how much lube should you use? Your -10 TM is the best guide. It shows specifically what parts don't need much lube and what parts need a bit more.

But remember the difference between light and generous lube...it's important.

A light lubing is barely visible; a generous lubing is heavy enough that you can spread it with your finger. If you spray lube on like it's room freshener, you've crossed the line between generous and too much.

In sandy areas, lightly lube only internal moving parts. Don't worry about the outside of the weapon. Sand is a bigger danger than corrosion in the desert.

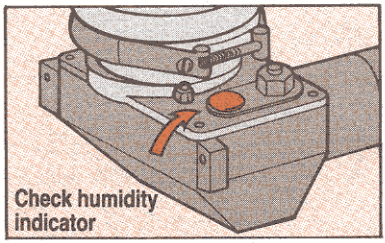
If you think you've put too much lube on, don't be afraid to wipe it off and start again. Your weapon will thank you.

Purge Mirror Fog

Ever try to drive your M901 Improved TOW Vehicle (ITV) or M981 Fire Support Team Vehicle (FISTV) through a heavy fog? It's tough because you can't see anything!

But fog is exactly what you'll be seeing when humidity builds up on the mirrors in the upper and lower sections of the tank periscope.

Avoid this by keeping an eye on the humidity indicators. When they turn pink, have your mech clean the periscope.



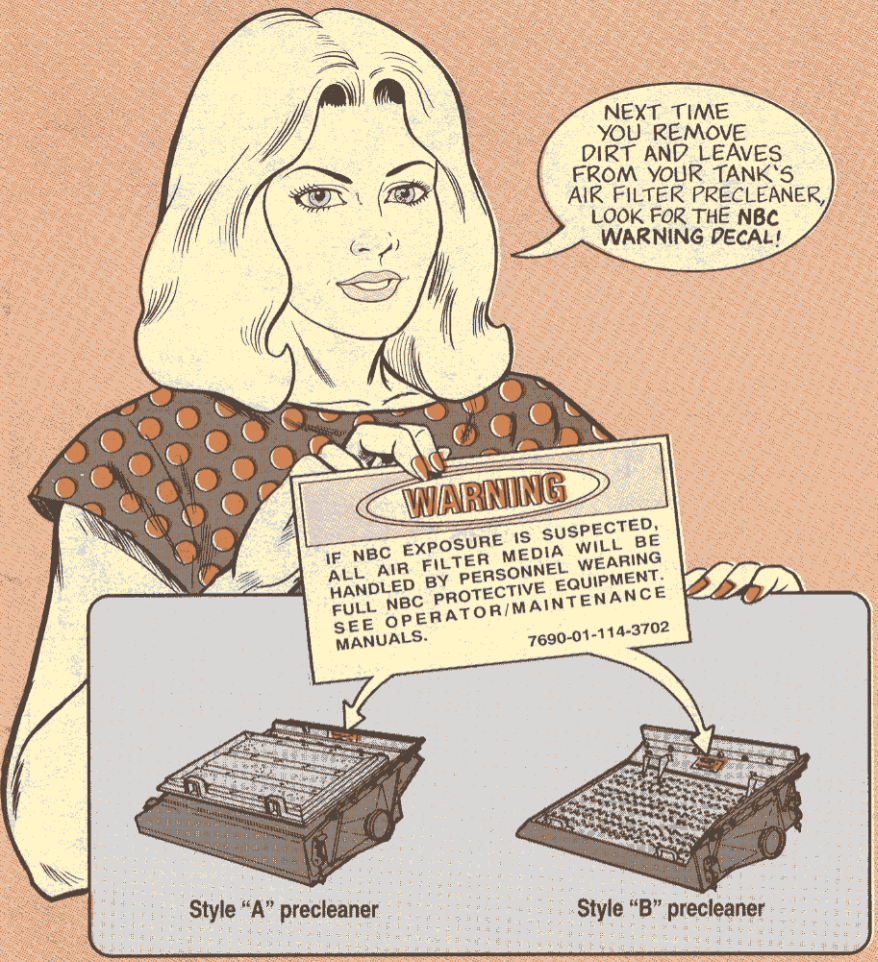
Check humidity indicator

Mechs, the periscope should be cleaned only by purging it with dry nitrogen. Follow the steps in Para 5-92, Steps 1 & 2, of TM 9-2350-259-20 for the M901 ITV and Para 5-105, Steps 1 & 2, of TM 9-2350-266-20 for the M981 FISTV. To do the job properly, you'll need a nitrogen purging kit, NSN 4931-00-065-1110. Make sure you use an advice code of 2A on your requisition, though, or it'll be cancelled.

When you're finished, put in new desiccant, NSN 6850-00-181-7727. That keeps moisture from building up on the mirrors.

Never try to clean the periscope's interior any other way. Wiping away moisture inside — particularly on the mirror — will damage the assembly. And that means depot level repair. If purging doesn't do the trick, turn the periscope in to support for inside cleaning.

Check Precleaner Decal



If the NBC decal's not in place or is so worn that you can no longer read it, get your mechanic to put on a new one.

A new decal comes with NSN 7690-01-114-3702.

The decal warns that all air filter system parts must be handled by NBC personnel if any NBC contamination is suspected.

Only YOU Can Prevent Tank Fires!

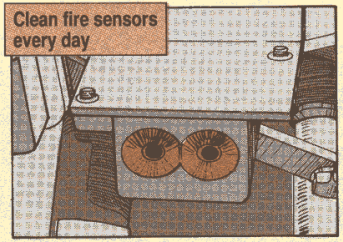
That's because most M1 fires are caused by overlooked or unreported electrical cable damage, fuel leaks and a general lack of good "housekeeping."

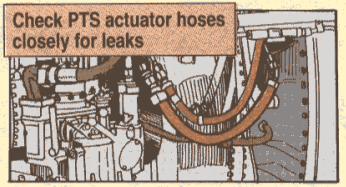
Here are Smokey's tips for preventing tank fires:

Keep the hull floor clean. Dust, dirt, sand and debris can build up and hide fuel spills and leaks. Then you've got a fire that's just waiting for a spark.

Clean off the fire sensors every day. They can't "see" a fire if they're dirty. Use lens cleaner, NSN 6850-00-227-1887, and lens tissue, NSN 6640-00-285-4694, to prevent scratching the sensor lens surface.

Report all fuel leaks as soon as you spot them – all of them, no matter how small. Look closely at fuel, oil, and hydraulic lines, fittings and quick disconnects for leaks. Pay particular attention to fuel filters, PTS actuator hoses, smoke generator lines and the alternator oil lines.





Eyeball all electrical cables for wear and damage from rubbing on sharp metal edges. Arcing or shorting causes most fires to start. Here are the four cable areas most commonly damaged:

– The cables routed through the opening between the battery box and the engine compartment.

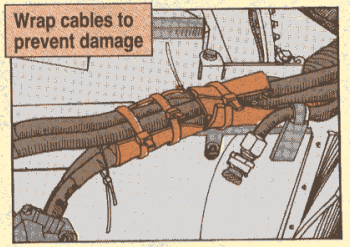
– The cables routed along the top edge of the powerpack.

– The cables that run along the outside edge of the generator.

– The generator's cable harnesses and terminals.

Report any cables that show wear, chafing, melting or other damage. Damaged cables with visible braiding or shielding should be replaced right away.

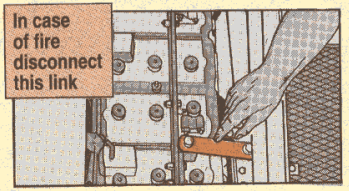
Prevent damage by wrapping cables, either individually or in a bundle, with a section of radiator hose, NSN 4720-00-150-5970. That NSN gets you a 12-ft section of 2 1/2-in ID hose.



Hold the hose in place with plastic ties. Use NSN 5975-00-074-2072 to get 6 1/2-in ties and NSN 5975-00-570-9598 for 10 1/4-in ties.

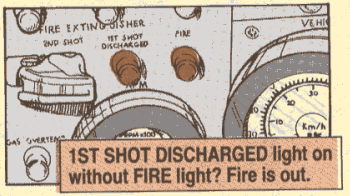
Like Smokey says, "It's too late to pull out your TM once the fire's started." So make sure you study and practice the procedures on pages 2-118 through 2-122 of TM 9-2350-255-10-1 and pages 2-123 through 2-128 of TM 9-2350-264-10-1 until they become second nature.

Pay special attention to the note that tells you to disconnect the negative emergency disconnect link in the battery box. Or, if your tank has a prime power interrupter (PPI) switch, use the master power switch to isolate the battery. Once the fire's out, either will prevent re-ignition.



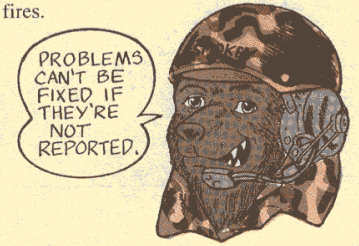
Understand what the various warning lights mean. For example, a first shot discharged light without a fire light means there was a fire, but the automatic fire extinguisher system put it out.

Additional tips are listed in the Crew and Unit Level Fire Prevention Checks and Safety Procedures pocket guides (Mar 91). If you need copies, write to:

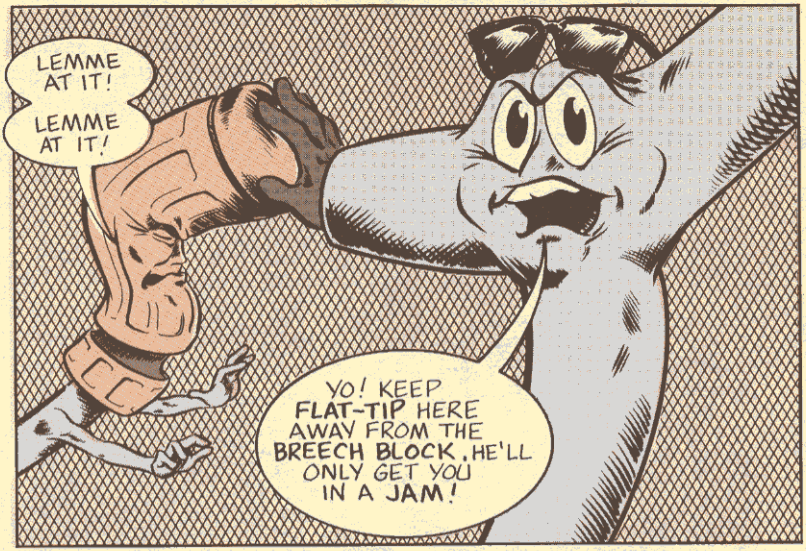


Office of the Program Manager
Abrams Tank System
ATTN: SFAE-ASM-AB-SI
Warren, MI 48397-5000

Finally, file a DA Form 285, US Army Accident Investigation Report on all fires.

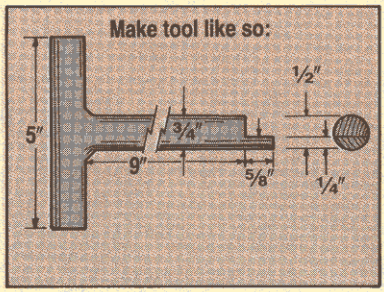


Cool Plunger Tool

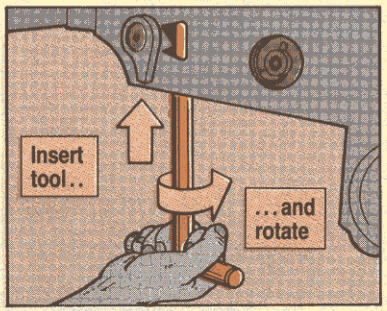


Removing and installing the plunger on the M1A1 tank breechblock is a little tricky if you use a screwdriver like the TM says.

Keep the job simple and safe by making a tool from 3/4-in steel. The handle is 5 inches long and the shaft is 9 inches from tip to handle. There's a 1/2-in section removed at the tip 5/8 inch down.

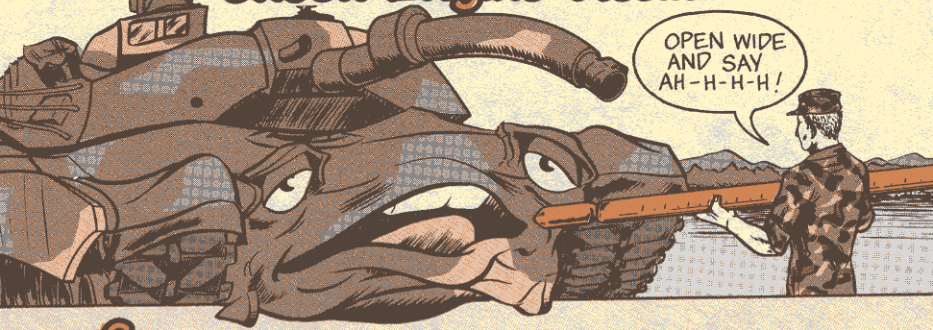


Using this tool, you avoid jamming the screwdriver between the plunger and plunger hole. You can also remove and install the plunger without crawling under the breechblock.



For about seven bucks in material costs, your friendly unit mechanic can make the plunger tool.

Check Engine Health



Cease and desist – **STOP** – using the STE-M1/FVS (1571) engine power test to determine engine power.

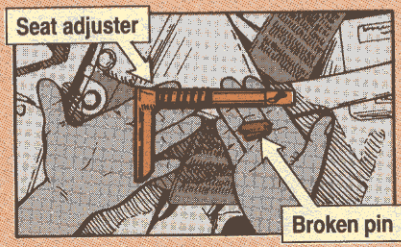
That's a no-no. The old test required stalling the engine. But that test also ruined transmissions. Without proper cool-down, the engine and transmission became super-hot. The end result was overheated oil and seized bearings.

You should now be using the engine health check during semiannual and annual scheduled maintenance. The health check has all the advantages of the engine power test without the danger of engine damage. You'll find the new procedure starting on Page 3-928.2 of TM 9-2350-255-20-1-2 and Page 3-1159 of TM 9-2350-264-20-1-2.

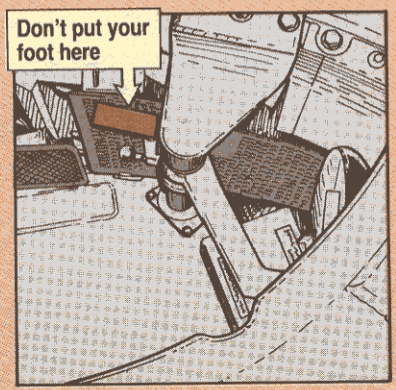
Seat Adjuster Fluster

The loader's seat adjuster on M1-series tanks is used for one thing only – to adjust the loader's seat.

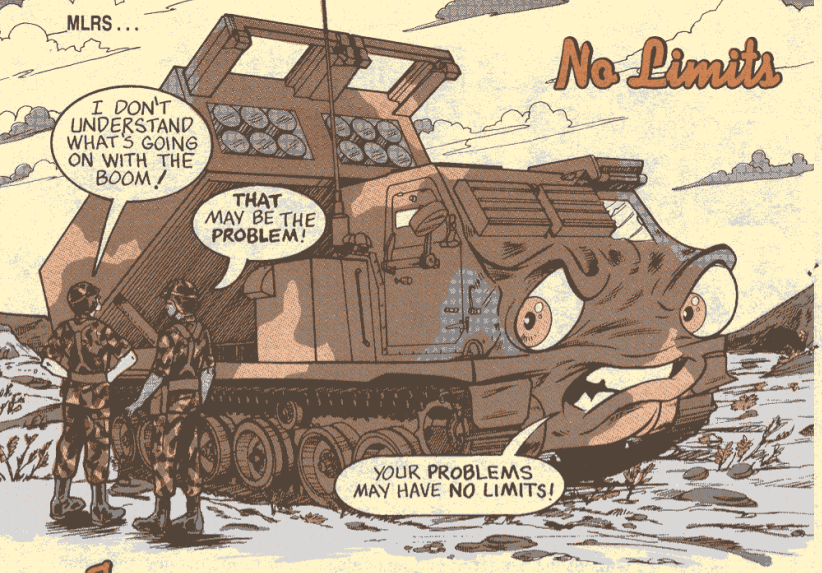
Sure, the seat adjuster makes a convenient spot for you loaders to rest your boot. But guess what? The seat adjuster's pin will strip and break.



So-o-o-o, remember. Keep your big foot off the seat adjuster. It'll break!

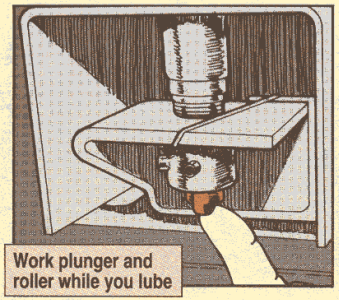


No Limits on Limit Switch PM



There will be no limit to your problems if you don't pay attention to the MLRS' limit switches. At the least, you will get bad prompts or a boom that won't retract completely. Soon you won't be able to fire. Limit those limit switch problems with this PM:

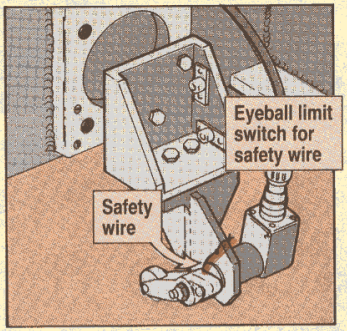
Sand and corrosion freeze the limit switches' plungers and rollers, which stops firing. Push all 10 limit switch plungers in and out after operations to ensure they move freely. Turn the rollers, too.


Work plunger and roller while you lube

If any stick, clean them with a wiping rag. An artist's brush is good for hard-to-get-at places. Spray the switches with silicone lube, NSN 9150-00-823-7860, as you push the plungers in and out and roll the rollers. Wipe away excess lube.

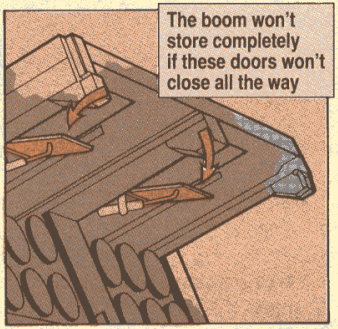
If switches still stick, tell your repairman.

Any time you wash your MLRS, immediately lube the limit switches. Water washes away the lube.



Make sure the limit switches are safety-wired, too. Safety wire keeps the switches from getting out of adjustment. Vibration during travel can break the safety wire. Report switches not safety-wired. Safety-wiring is support's job.

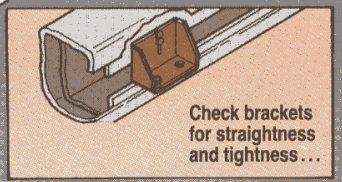
Certain signs tell you the limit switches are out-of-adjustment: The launcher/loader boom extends too far or not far enough or fails to retract completely. Tell your repairman if you spot these signs. He can have support adjust the switches.



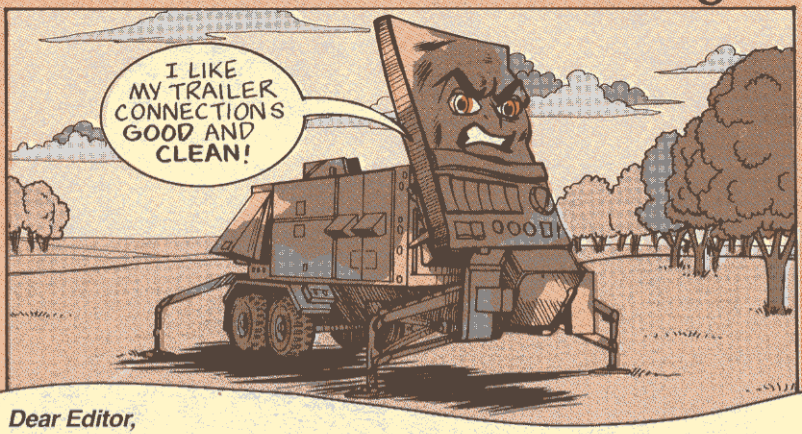
Caging Cage Cable Killers

Loose brackets and sticking reels damage W75 and W76 cage boom cables on the MLRS. The brackets work loose, causing cables to twist. Reels rust up and stop turning and fray or abrade cables.

Stop that damage by eyeballing cage boom brackets and reels when you do your PMCS. If you spot a loose bracket or frozen reel, report it.



Connect to Good Cleaning

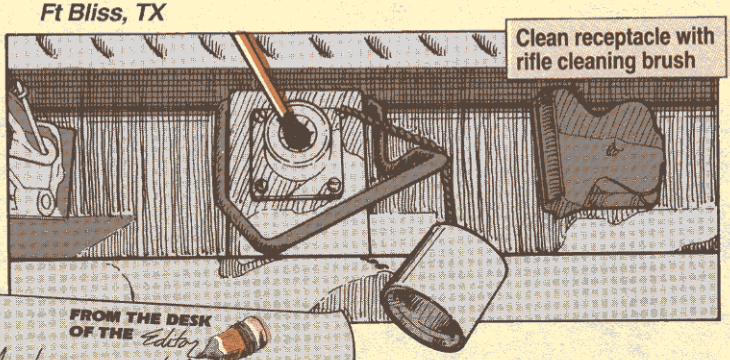


Dear Editor,

We've had trouble with corrosion and dirt causing a poor connection in the M860A1 trailer's NATO slave cable receptacle. There's nothing in the TM on cleaning the receptacle and nothing in the tool kit to use for cleaning.

We've found an old M16 rifle bore or chamber brush works great for cleaning. We just work the brush in and out of the receptacle until all the corrosion and dirt are gone. Then we spray silicone, NSN 9150-00-823-7860, in the receptacle to prevent more corrosion.

SSG Wendell Pruitt
Ft Bliss, TX



FROM THE DESK OF THE *Editor*

You've connected to a good idea. This would work on other trailer receptacles, too.

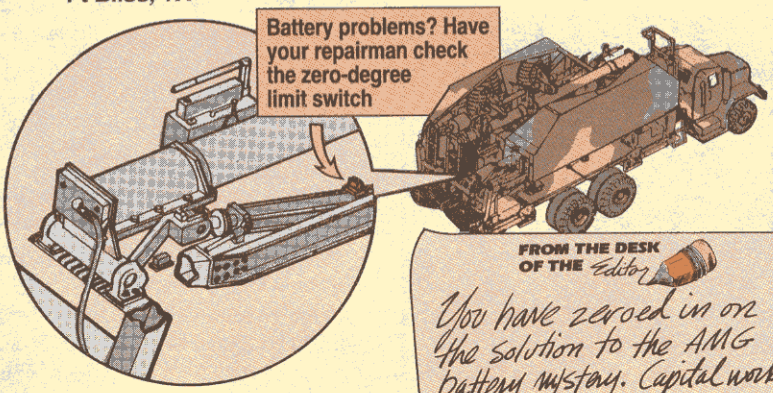
Zeroing in on Battery Mystery

Dear Editor,

We have zeroed in on a Patriot battery mystery that was giving us fits. We were shutting down the Antenna Mast Group (AMG) like the book says, including flipping all the circuit breakers on the Hydraulic Pneumatic Power Distribution Unit. But when we would get ready to operate the next day, we would find the vehicle batteries were drained.

After lots of frustration, we discovered the problem was a faulty zero-degree limit switch. Once we got the switch replaced, no problem. Patriot crews can save lots of time by having their repairman check the limit switch before they troubleshoot for battery problems.

SGT David Lutman
SSG Rafael Rodriguez
Ft Bliss, TX

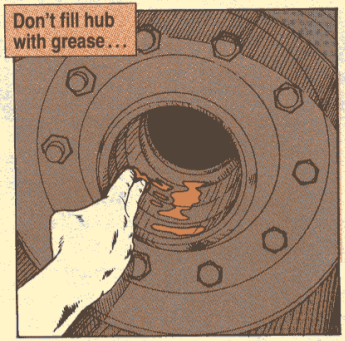


FROM THE DESK OF THE *Editor*

You have zeroed in on the solution to the AMG battery mystery. Capital work!

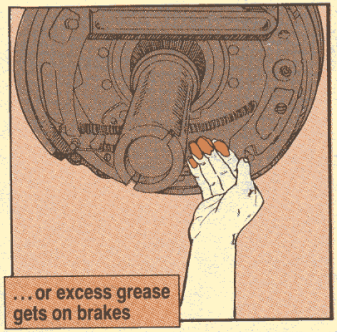
A Dab'll Do Ya

When some mechanics pack wheel bearings, they really pack 'em. They do their best to fill the hub with grease—front to back, top to bottom.



Wrong! That extra grease is thrown all over. Some of it ends up on brake shoes and other parts. That's double trouble, and either way, you lose.

First, the friction from the brakes can set that extra grease on fire. Second,



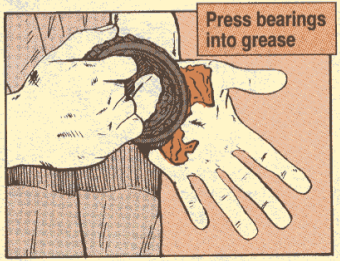
grease keeps brakes from doing their job. When you want to stop, they won't.

What bearings really need is a light, even coat of grease to hold down the friction.

Lube 'em lightly

The fastest, cleanest way to grease them is to use the bearing packer, NSN 4930-00-704-1852, in your No. 1 Common shop set.

If you have to pack the bearings by hand, keep things as clean as you can. Put a wad of grease in the palm of your hand. Push the bearing down into the grease. Turn it as you go until you've packed all the rollers.

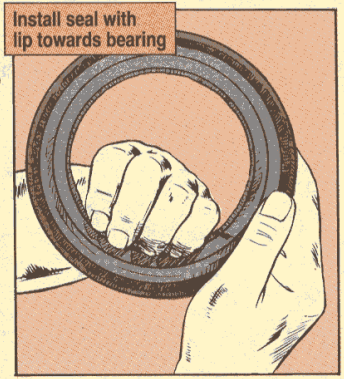


Work the rollers until they're thoroughly coated with lube. Then press more lube into the bearings.

Cleaning Break Shoes

Don't panic if you find grease on brake shoes. You can make them good as new with a degreaser, NSN 7930-01-336-7197 (1-gal) or 7930-01-331-1507 (32-oz spray bottle), for example.

Even if you use the right amount of grease, you still have to remember to install the bearing seals with the lip toward the bearing. If you don't, grease can leak out and hit the brakes.



Finish your lubing thing by properly seating the bearings on the shaft.

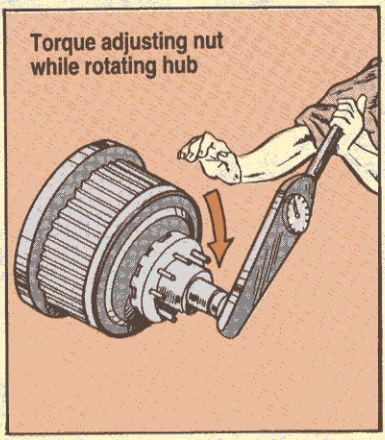
If the bearings are not seated, bad things happen. Bearings burn out, wheels run off the vehicles, axles and hubs are damaged and you have an accident.

PS MORE

The insert keeps oil from washing grease out of the wheel bearings. The cork is pressed into the keyway by the bearing.

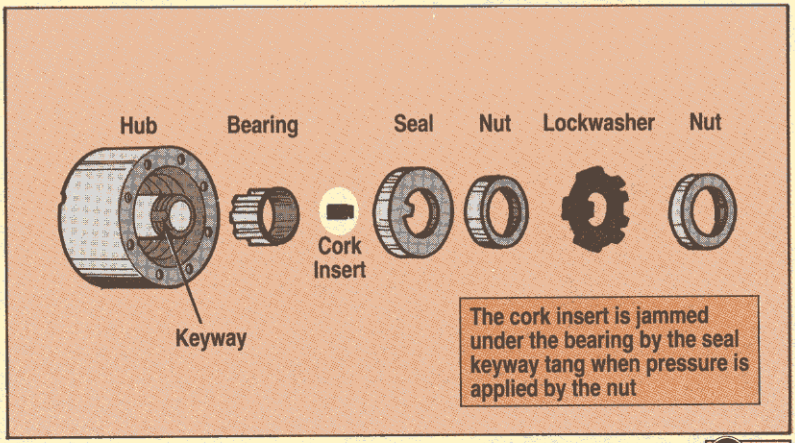
Get the insert for 2 1/2-ton trucks with NSN 5330-00-348-8365 and for M39- and M809-series 5-ton trucks with NSN 5330-01-133-7262.

Always adjust the bearings like your -20 TM says. Rotate the wheel hub back and forth as you torque the adjusting nut.



This makes sure the bearings are seated and have enough play to do their job.

After you've got the right torque, it's important to back off the nut enough to align the key or tab washer or whatever locking arrangement you have. That lets the bearings move freely.



PS END

Low Mileage? No Grease!

Hold the grease on your truck's front wheel bearings if you haven't piled up at least 3,000 miles by semiannual service time.

If you haven't put on that many miles, you can wait to pack the bearings:

- Until the next scheduled service;
- Until you log 12,000 miles;
- or until you do another service that requires you to remove a wheel hub.

M915A1 Light NSNs

Use NSN 6220-00-963-0309 for the dome light assembly and NSN 6220-01-149-4170 for the map light assembly for the M915A1 truck tractor. The NSNs listed as Items 3 and 5 of Fig 41 in TM 9-2320-283-24P are wrong.

Heat Resistant Paint

The NSN for heat resistant paint on Page 20 of PS 471 is wrong. Green comes with NSN 8010-01-235-4164; brown with NSN 8010-01-235-2695; and black with NSN 8010-01-235-4166.

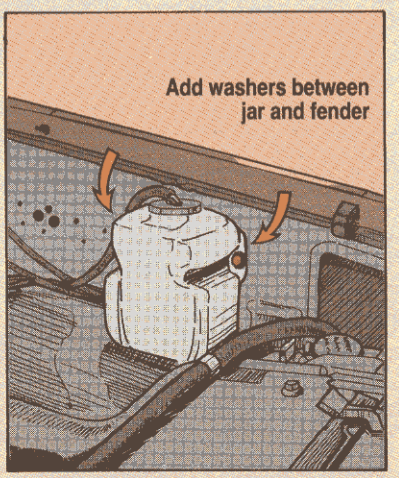
Windshield Washer Jar Ajar

Your CUCV's windshield washer jar can crack from vibration during cross-country ridin'.

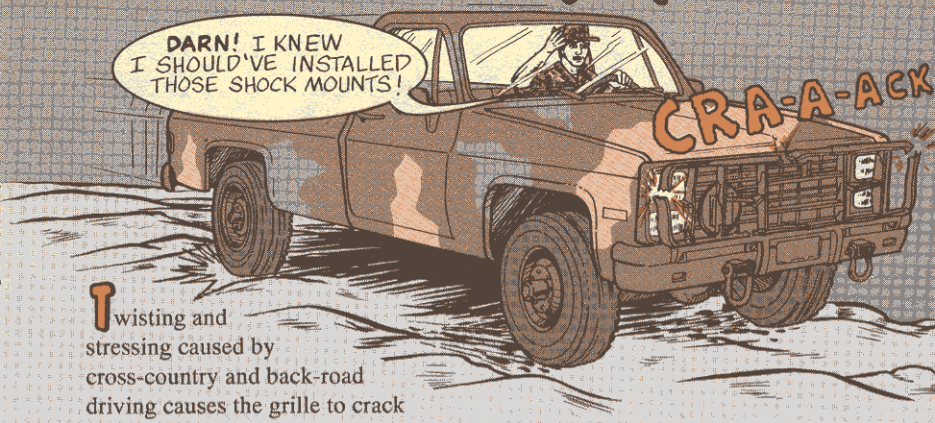
But you can give it a comfort zone by adding some rubber washers behind the screw mounts.

Here's the lowdown:

- ✓ Remove the washer jar.
- ✓ Cut two quarter-size washers from an old innertube.
- ✓ Cut a small hole in the middle of each washer — enough for the mounting screw.
- ✓ Add the rubber washers between the jar and inner fender wall before putting the washer jar back in place.



Now That's a Grilling Experience



Twisting and stressing caused by cross-country and back-road driving causes the grille to crack on those CUCVs.

You can add shock mounts under the grille mounting bolts to reduce shock damage.

Cut quarter-sized shock mounts out of an old innertube. Cut an X slit in the center of the mount for each mounting screw. Install rubber washers on both sides of the grille.

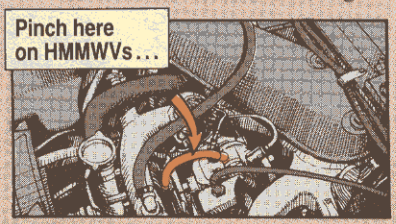
CUCV/HMMWV . . .

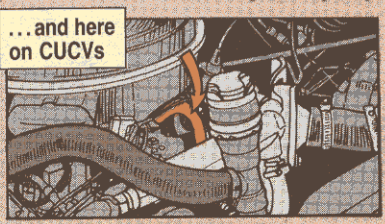
Stop Engine Run-On

What do you do, drivers, when the engine in your CUCV or HMMWV doesn't stop when the key's turned off?

Pinch the fuel return line with your fingers or a pair of pliers. That stops the fuel, stopping the engine.

Then, you tell your mechanic what happened. He'll replace the faulty fuel shut-off solenoid that caused run-on, or get support to check out the fuel injection pump.





Parking Brake PM

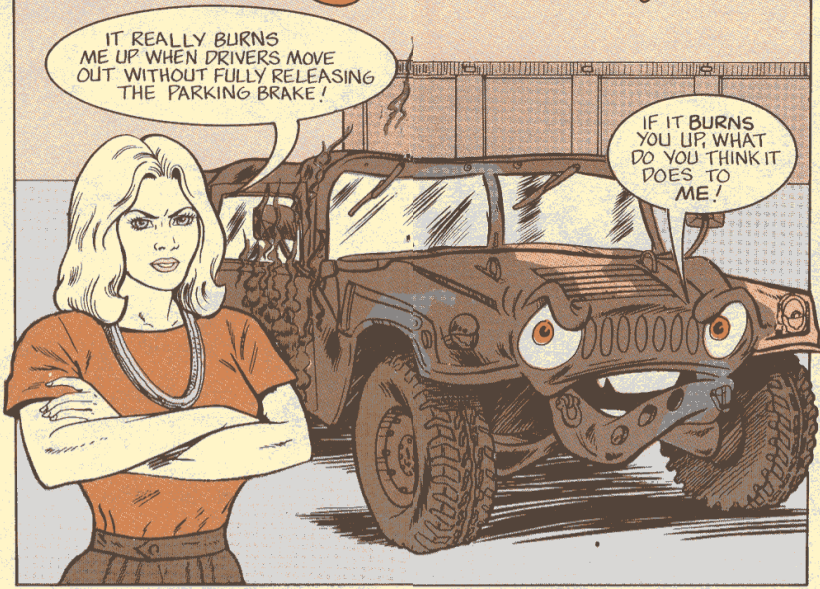
Drivers, fully release the parking brake before you get under way. Otherwise, friction between the rotor and the brake pad will burn them up.

Completely releasing the brake is especially important if you drive an older model HMMWV. Those trucks have the parking brake mounted on the rear propeller shaft, near the plastic fuel tank. Heat from an unreleased brake could blister the tank or even ignite the fuel.

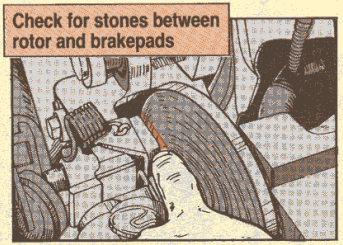
If you drive an older vehicle with a shaft-mounted brake, these PM tips will keep your brake cool:

Before Operation

Releasing the brake completely is tough if debris and corrosion have built up around the push pin or the caliper guide.



Keep exposed brake parts free of sand, mud, and stones. Check for stones lodged between the rotor and the brake pad, especially after fording a stream.



They can wear out a rotor in no time flat.

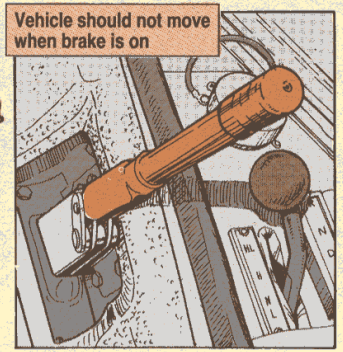
If the brake is sticking, have your mechanic spray it with aerosol lubricant, NSN 9150-01-064-6511. The lubricant works its way into the moving parts of an assembled brake. It's a handy way to keep the brake lubricated between scheduled services.

If corrosion has already done its dirty work, have your mechanic clean the push pin and guide pin. He'll take apart the brake assembly, clean the pins, and lube them according to the LO. That'll keep 'em moving freely.

During Operation

During operations, you'll want to test the parking brake:

- While the truck is stopped, apply the parking brake.
- Idle the engine and shift the transmission into drive (D). The vehicle shouldn't move. If it does, have your mech check out the brake.

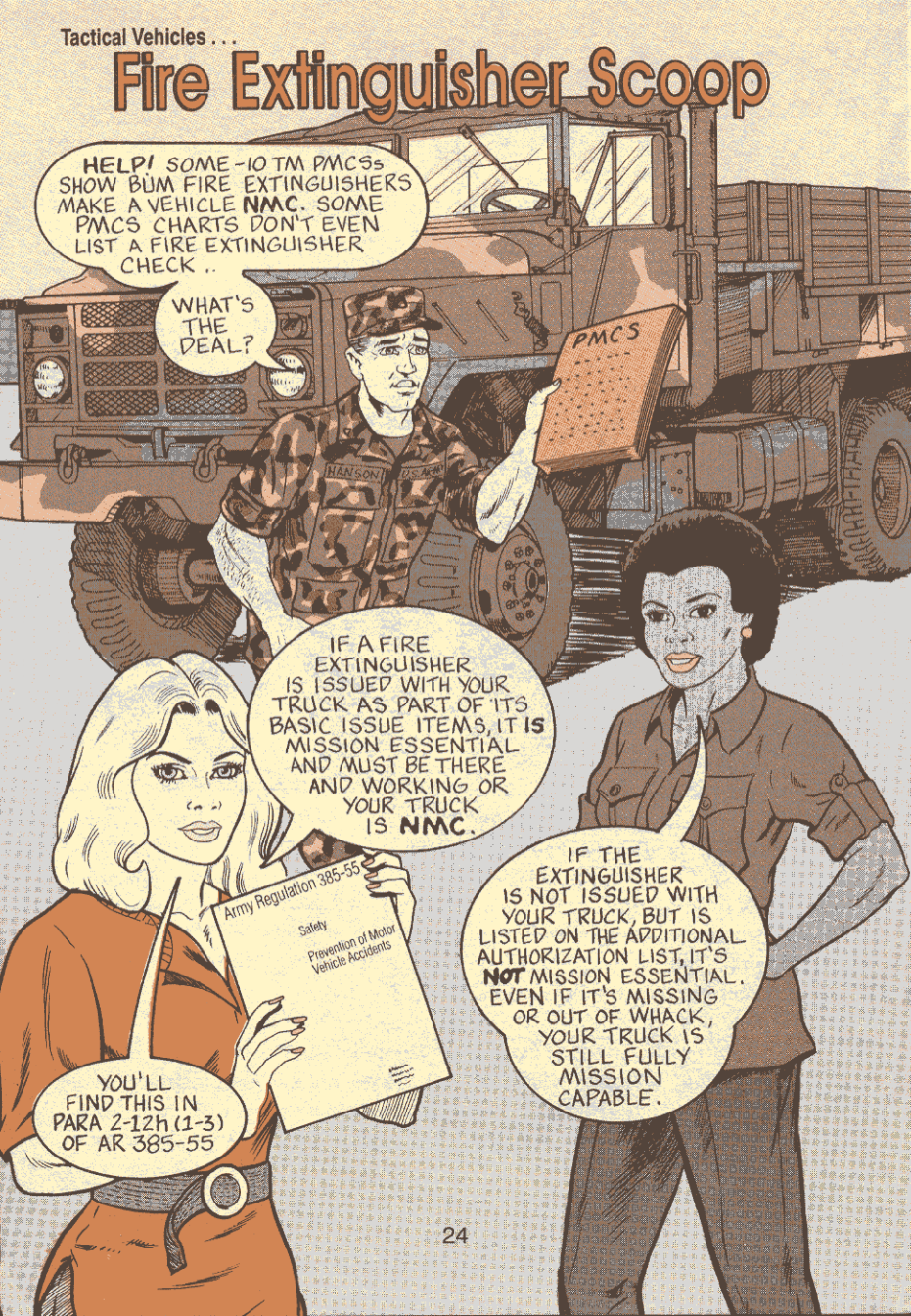


- With the transmission still in drive, release the parking and service brakes.
- Lightly tap the accelerator pedal.
- If your truck doesn't move, or if it hesitates or drags, have the mechanic take a look.

When Driving

Stop the truck right away if it drags when you put it in gear, makes unusual noises, or vibrates. Make sure the parking brake is fully released. If that's not the problem, get help from your mechanic.

Fire Extinguisher Scoop



2 1/2-Ton Trucks . . .

Fittings Giving You Fits?

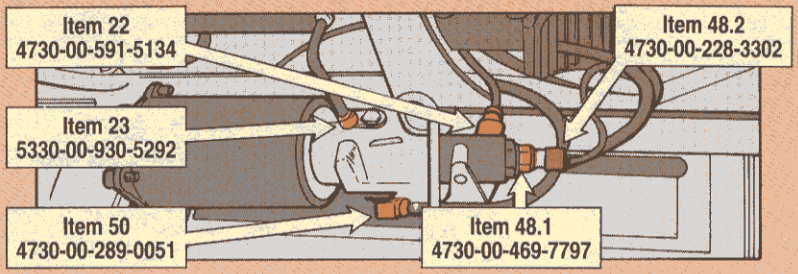
TM 9-2320-209-20P

You search. . .and you search. . .and you search. . .but you still can't locate the five fittings for the 2 1/2-ton's air-hydraulic cylinder in TM 9-2320-209-20P.

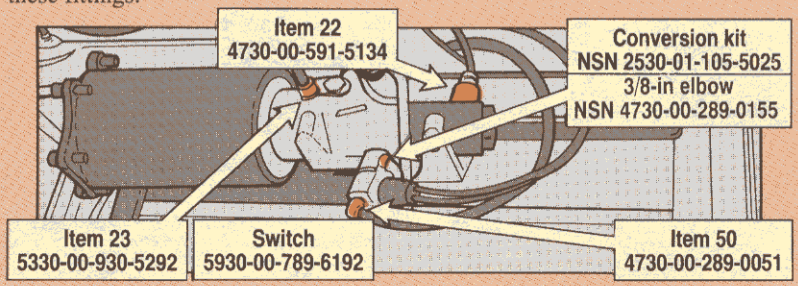
Some of the fittings are not even called fittings. The TM lists part of them in Fig 117 and the rest in Fig 122.

Also, the brake light switch hooks up two different ways.

1. If your truck has the original hookup (shown on Page 13-121 of TM 9-2320-209-20-3-2), order these fittings:



2. If the brake light switch has been changed to the air line on your truck, order these fittings:



Get a pipe plug, NSN 4730-00-221-2136, from the fitting box in the No. 1 Common shop set. The pipe plug replaces Items 48.1 and 48.2.

Items 22 and 23 are in Fig 117 of TM 9-2320-209-20P. Items 48.1, 48.2 and 50 are found in Fig 122.

This is a selected list of recent pubs of interest to organizational maintenance personnel. This list was made from a computer printout produced by the Adjutant General's Office.

TM 1-1270-476-23P-1 Apr RPSTL TADS AN/ASQ-170

TM 1-1270-476-23P-2 Apr RPSTL TADS AN/ASQ-170

TM 1-1427-779-20 Mar Control/display subsystem (CDS)

TM 1-1427-779-23P Mar RPSTL OH-58D controls/displays system

TM 1-4920-450-13&P RPSTL shop set, machine, airmobile

TM 5-3805-237-20P May 440 HA road grader

TM 5-3805-254-20P Apr F5070 20-ton dump truck

TM 5-3810-289-24P Apr Model 22BM crane-shovel, Bucyrus-Erie

TM 9-1005-200-20&P May M242 gun

TM 9-1430-600-24P-1 Feb AN/MSQ-104 engagement control station (Patriot air defense guided missile system)

TM 9-1430-601-20-3 Feb AN/MPQ-53 radar Volume 3 (Patriot air defense guided missile system)

TM 9-1440-600-20-1 Mar M901 launching station (Patriot)

TM 9-2330-246-14 Mar Semitrailer, van: electronic, 6-ton

TM 9-2350-284-24P-2 Apr M2A2 and M3A2 Bradley

TM 9-4935-780-13 Mar Test support system AN/TSM-173 (TSS)

TM 10-3835-219-14 Apr Hoseline outfit, fuel handling

TM 10-3835-219-24P Apr Hoseline outfit, fuel handling

TM 10-3930-222-24P May Forklift, gasoline, Hyster Model H150C and Hyster Model H150F

TM 10-3930-638-24P Apr Truck, forklift, 4,000 lb capacity

TM 10-4610-215-24 Mar Water purification unit, 600 GPM, reverse osmosis

TM 11-5840-377-12 May Radar surveillance central AN/FPN-66

TM 11-5840-377-20P Jan Radar surveillance central AN/FPN-66

TM 11-5865-231-20-1 Jan Target acquisition subsystem AN/TSQ-132(V)2 and AN/TSQ-132(V)3

TM 11-5895-1218-12 Mar Communications terminal AN/TRC-179(V)1 and communications terminal AN/TRC-179(V)3

TM 11-5895-1218-20P Jan Communications terminal AN/TRC-179(V)1 and AN/TRC-179(V)3

TM 11-5895-1304-24 Jan Amplifier, power AM-7296/G

TM 11-5895-1357-23P Jan Satellite network control subsystem AN/FSC-96

TM 11-5895-1433-12-2 Sep 91 Satellite communications terminals AN/TSC-85B(V)1 and AN/TSC-85(V)2

TM 11-6625-3231-24P Mar Sweep generator SG-1206/U

TM 11-6625-3233-13-1 Jan Laser detecting test set TS-4321/AVR-2

TM 11-6910-263-23&P Jan Electronic information delivery system (EIDS) AN/GSH-55(V)5 and AN/GSH-55(V)6

TM 11-7010-213-12 May Tactical Army combat service support computer system AN/TYQ-33(V)

TM 11-7025-275-10 Jan FED forward observer/fire support team (FO/FIST) (AN/PSG-7 software)

TM 55-1520-248-23-9 Mar OH-58D

TB 1-1500-346-20 Apr Night vision goggles

TB 1-1520-243-20-20 Mar Main rotor extension sleeve AH-1/UH-1M

TB 10-4610-232-24 May 3,000 GPH ROWPU Model WTA-060

TB 11-7025-295-12 Oct 91 Fire support AN/PSG-7 forward entry device (FED) interconnection configurations

TB 11-7440-283-15 Mar Warranty program for computer group, gun direction OL-200A/GYK-29(V)

LO 10-4610-240-12 Nov 91 600-gal ROWPU, Models WPES-2 and WPES-3

SB 38-101 Apr Spare/repair part to end item applications

Maintenance Advisory and Safety-of-Use Messages

AMCCOM SOU MSG 92-07 — Advisory, M825 projectile, AMSMC-DSM 011716Z May 92.

AMCCOM SOU MSG 92-11— Operational, M101A1 howitzer, AMSMC-MA 042000Z May 92.

AMCCOM SOU MSG 92-12— Advisory, M109 Self-propelled howitzers, AMSMC-MA 061800Z May 92.

AMCCOM Maintenance Advisory MSG 92-16—M1, IPM1 and M1A1 tanks, AMSMC-MA 041200Z May 92.

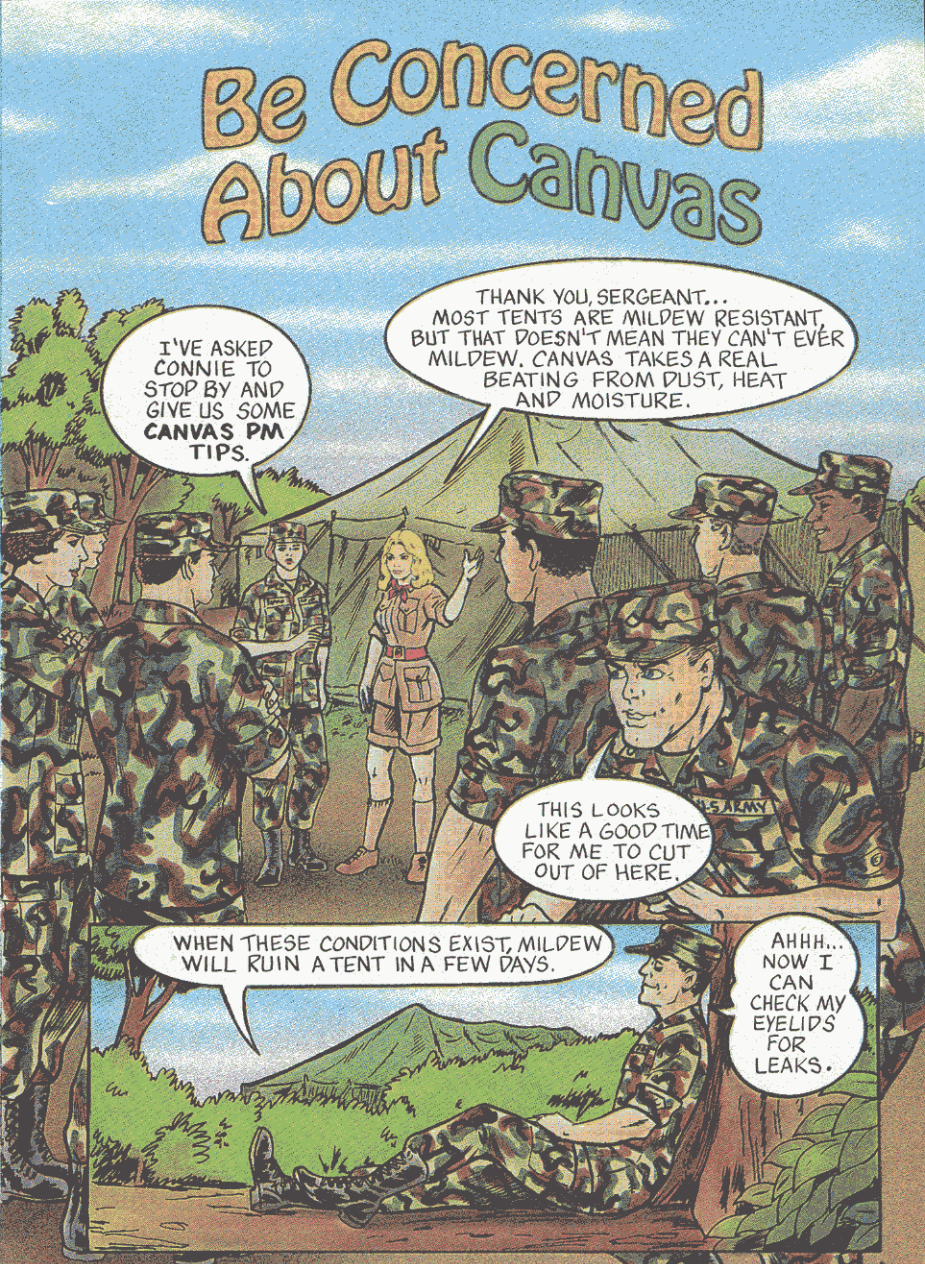
AMCCOM Maintenance Advisory MSG 92-18—M1A1 tank, AMSMC-MA 201559Z May 92.

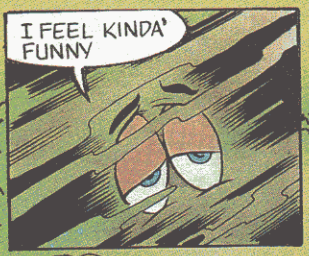
CRDEC APG Maintenance Advisory MSG 92-11—M12A1 and M17 decon equipment, SMCCR-MA 081630Z May 92.

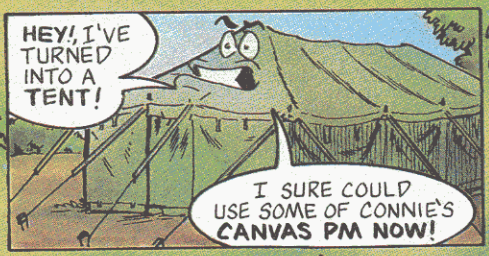
TACOM SOU MSG 92-08—Limited One Time Inspection, Chevrolet and GMC 1985-86 model P30 and P3 commercial trucks with 350 cubic inch displacement (CID) gas or 6.2L diesel engines, 1985-86 Model G30 and G3 vans with 350 CID gas or 6.2L diesel engines and all 1985-86 Model C30 and C3 trucks, AMSTA-M 071615Z May 92.

Your Direct Support or Logistics Assistance Office (LAO) can provide you with more information.

Be Concerned About Canvas





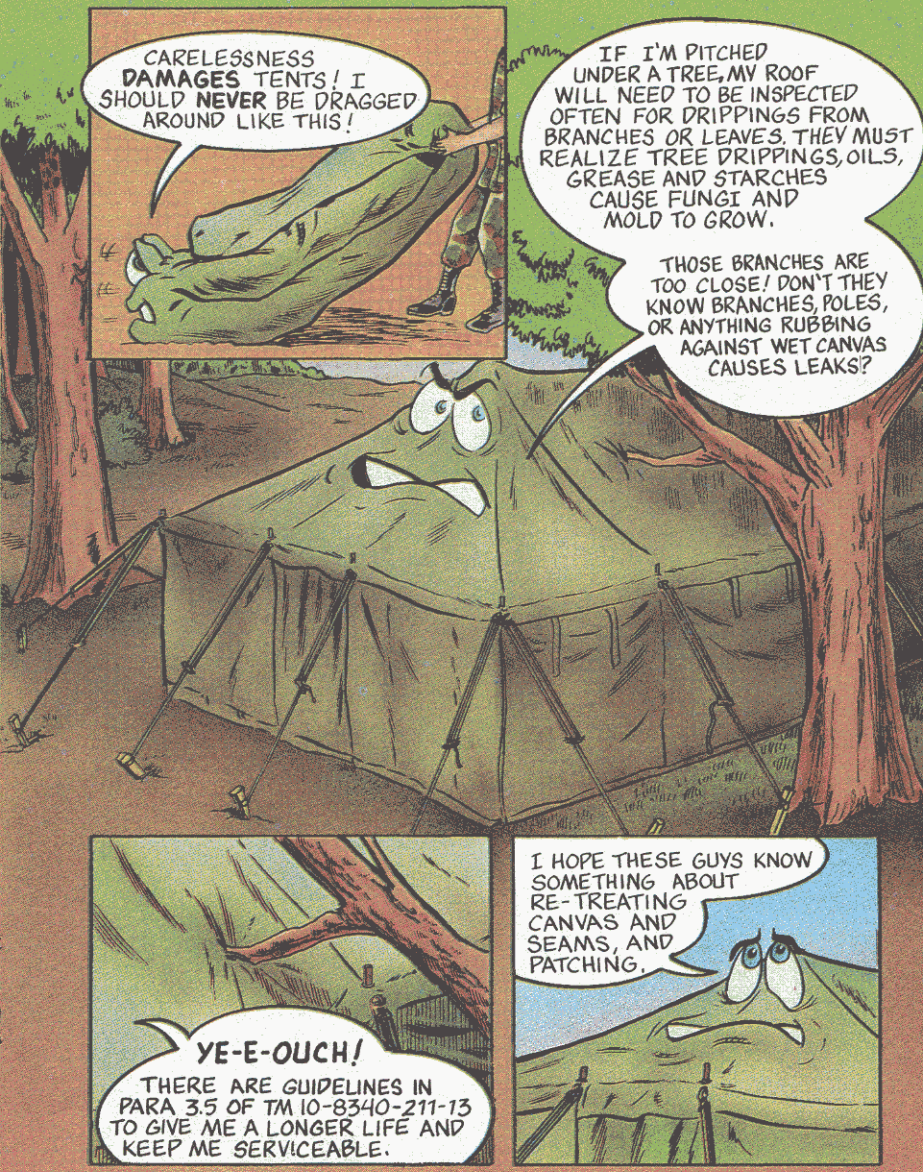


Keep Canvas Clean and Dry

Use a soft-bristled brush and a solution of mild soap and water to clean away dirt, mud and grime. Rinse with clean water and wipe dry.

Then hang it out in the sunshine to dry thoroughly. Never dry canvas on the ground. Dew causes canvas to mildew.

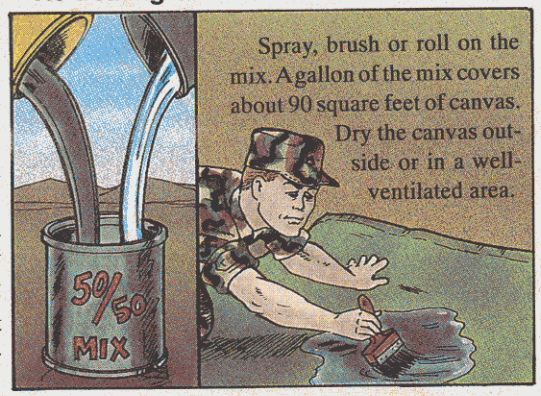
If you fold a wet tent for storage, it'll mildew in a hurry — even if it's just damp from dew. If you have to fold a wet tent, be sure to mark it. Then open and dry it as soon as possible. Once it's dried completely, it's ready to be stowed.


CARELESSNESS DAMAGES TENTS! I SHOULD NEVER BE DRAGGED AROUND LIKE THIS!
IF I'M PITCHED UNDER A TREE, MY ROOF WILL NEED TO BE INSPECTED OFTEN FOR DRIPPINGS FROM BRANCHES OR LEAVES. THEY MUST REALIZE TREE DRIPPINGS, OILS, GREASE AND STARCHES CAUSE FUNGI AND MOLD TO GROW.
THOSE BRANCHES ARE TOO CLOSE! DON'T THEY KNOW BRANCHES, POLES, OR ANYTHING RUBBING AGAINST WET CANVAS CAUSES LEAKS?
YE-E-OUCH!
THERE ARE GUIDELINES IN PARA 3.5 OF TM 10-8340-211-13 TO GIVE ME A LONGER LIFE AND KEEP ME SERVICEABLE.
I HOPE THESE GUYS KNOW SOMETHING ABOUT RE-TREATING CANVAS AND SEAMS, AND PATCHING.

Re-treating Canvas

If the tent's leaking but you can't find any holes, re-treat it with water-proofing preservative. Para 4-19 of TM 10-8340-211-13 has the instructions.

Use a mix of 50 percent preservative, NSN 8030-00-281-2346 (5 gallons), and 50 percent solvent, NSN 6850-00-264-9038 (5 gallons).



Re-treating Seams

Moisture collects in tent seams and makes a warm, wet, dark place for fungus to grow and eat up both canvas and stitching. To re-treat seams, follow the instructions in Chapter 14 of FM 10-16.

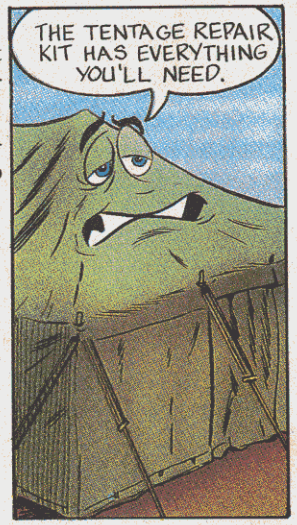
Patching

First, clean and dry the area around the tear. Cut patches from the cotton duck in your tentage repair kit, NSN-8340-00-262-5767.

You only patch small holes (no bigger than 4 3/4 inches) that are not on a seam edge, or close to grommets.

To make the patch stick to the canvas, use adhesive, NSN 8040-00-264-3848.

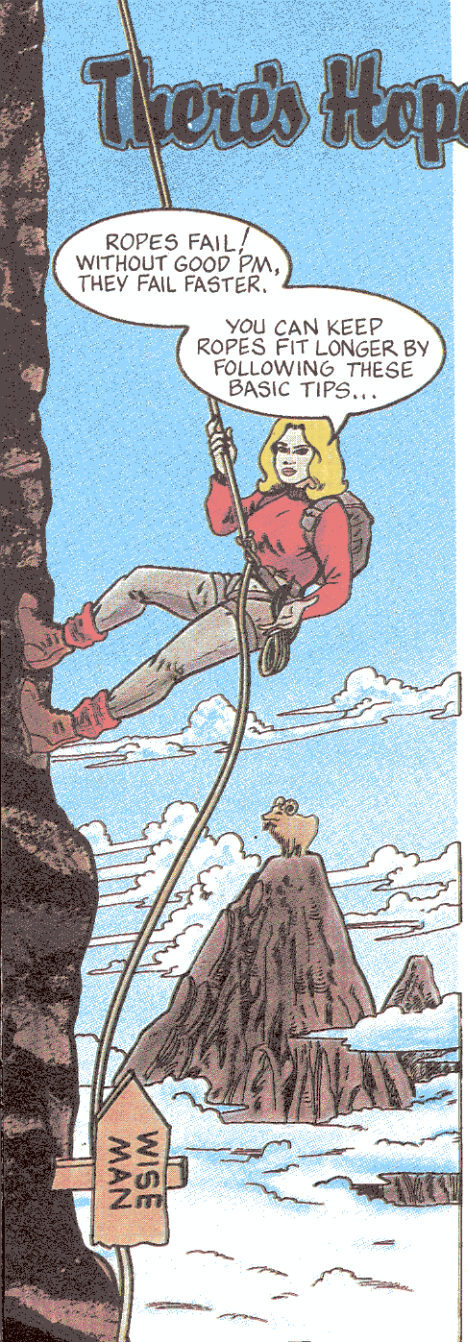
For reinforcing, hand sew on grommet support patches.



Solution for Stiff Zippers

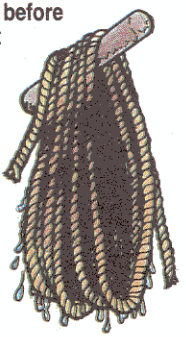
Use lube, NSN 9150-00-999-7548, on each side of the track. Run the zipper up and down a couple of times until it glides along smoothly.

There's Hope for Rope



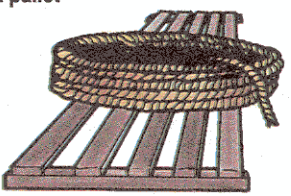
- Clean rope with water to get sand and grit out of it. Don't spray high pressure water on rope. A strong gush of water will cause the dirt to dig further into the fibers.
- Always dry rope before storing it and be sure to store in a dry place.

Dry rope before storing it



- Store rope on a grating or a pallet—any place where air can flow through. Never store synthetic ropes where they can come into contact with acids, oils or fuels.

Store coiled rope on a pallet



Eyeball the Rope

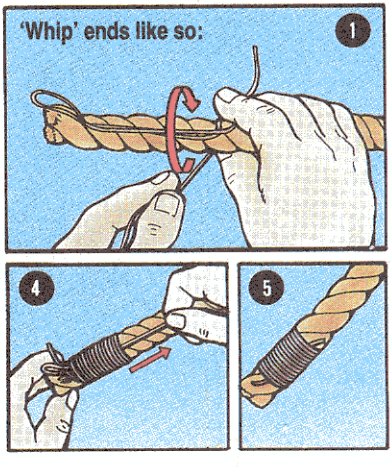
The outside of the rope may look good, but be too weak for heavy work. Untwist some strands and check for these danger signs:

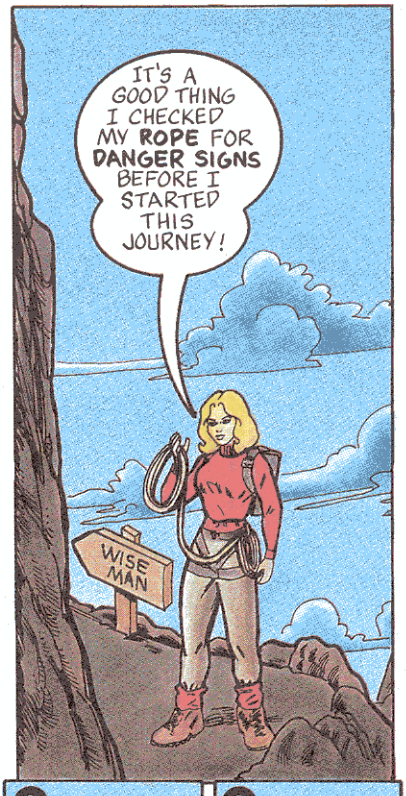
- Musty smell or dark stains. This means mildewed rope.
- Dirt and sawdust-like stuff inside. That means the rope's deteriorating.
- Broken strands. A sure sign the rope's weak.

Bind the Rope

The cut end of the rope will unravel easily if it's not bound. Some ropes come with metal end clips. But these clips are not in the supply system.

- On natural fiber rope (manila, hemp or cotton) use a small cord and whip the rope ends together.



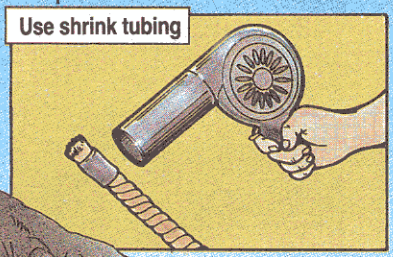


Or wrap the ends with reinforced nylon tape:

Width	NSN 7510-00-
1/2 inch	582-4771
3/4 inch	802-8311
1 inch	582-4772

- On synthetic rope (nylon or polypropylene) use a heat gun, match or torch flame to melt the ends together.

- Use shrinkable insulation tubing on either the synthetic or natural fiber rope.



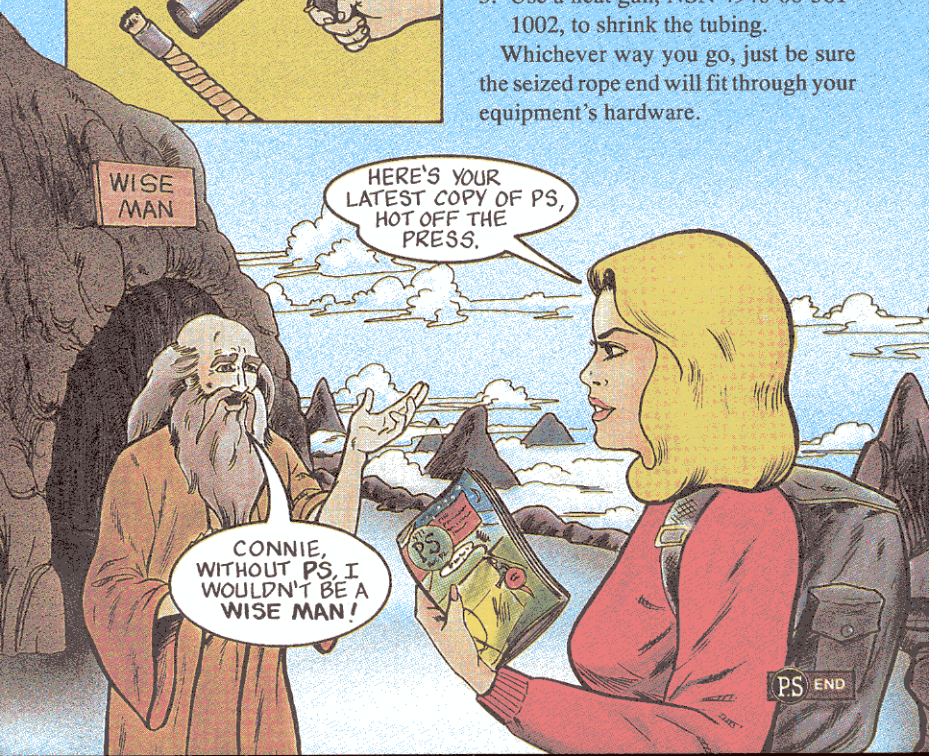
Don't forget that tubing shrinks to about one-half of its original size. You'll need to order a size that easily slips over the rope end. Order the tubing by the foot.

Size	NSN 5970-
1/4 inch	00-815-1295
3/8 inch	00-954-1624
1/2 inch	00-812-2967
3/4 inch	01-169-1723
1 inch	00-815-1300

Here's how to apply the shrink tubing:

1. Cut a 3/4- to 1-in piece of tubing.
2. Slip the tubing over the rope. Leave some of the end of the rope showing.
3. Use a heat gun, NSN 4940-00-561-1002, to shrink the tubing.

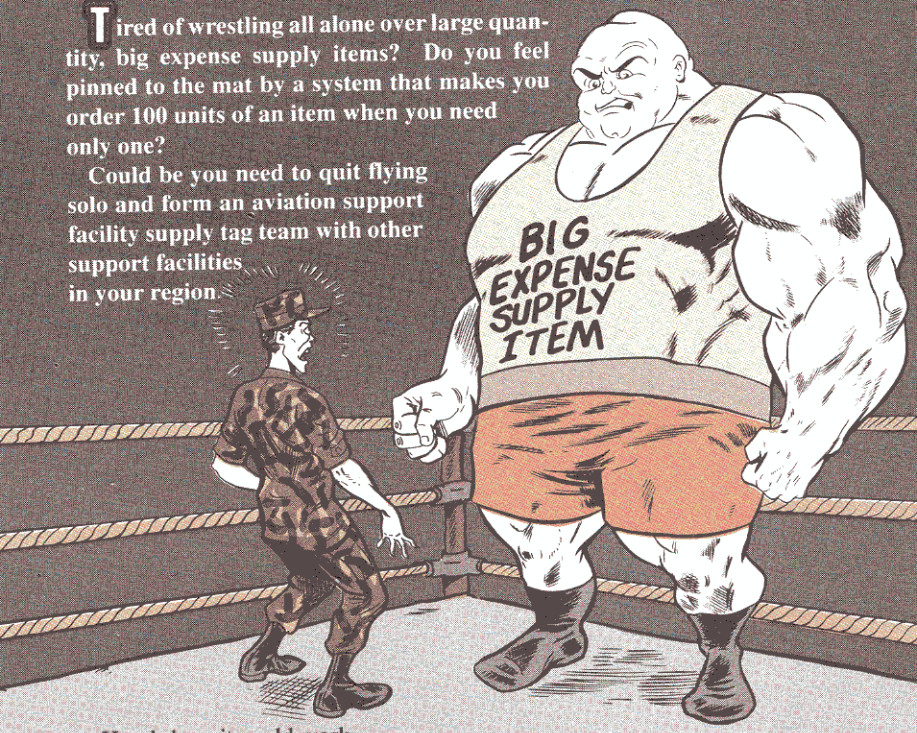
Whichever way you go, just be sure the seized rope end will fit through your equipment's hardware.



JOIN A SUPPLY TAG TEAM

Tired of wrestling all alone over large quantity, big expense supply items? Do you feel pinned to the mat by a system that makes you order 100 units of an item when you need only one?

Could be you need to quit flying solo and form an aviation support facility supply tag team with other support facilities in your region.



Here's how it could work.

Suppose you need to replace the weather stripping on a Huey's cargo door. Figure D-369 of TM 55-1520-210-23-3 says to fabricate it from seal material, NSN 8305-00-205-2735. To do the job, you figure you'll need six yards of material. But, it's a local purchase item and the minimum order is 100 yards!

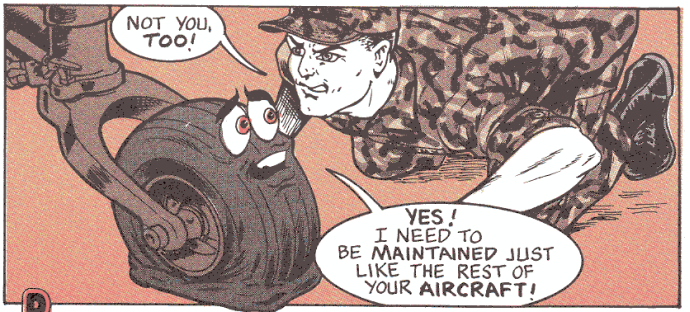
Now it's time to make a tag to other members of your team.

First, see if anyone has the material on hand. If not, decide collectively what your future needs for the seal material are. The one with the greatest need buys the material and becomes the local purchase supplier for those with future needs.

Once his quantity is expended, some other unit may become the source when a new need is identified.

There are budget-cutting, lean days ahead and **waste-not, want-not** will be an important motto to live by. Start the process by forming your own supply tag team.

Maintenance Under Pressure



Preventive maintenance of aircraft tires (including ground handling wheels) means two main things: Keeping the right air pressure and monitoring the wear.

The Pressure

Tires lose air pressure through valve leakage, punctures, bead-to-wheel seepage and even through the wheel structure and rubber.

Use pressure gage, NSN 4910-00-204-3170, to measure pressure in tires that take 50 PSI or less. Use remote tire inflator assembly, NSN 6685-00-124-4336, to check tires that take more than 50 PSI.

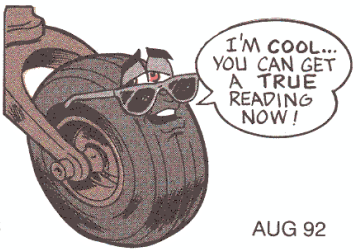
If the tire is mounted on your aircraft, use the remote tire inflator with a 10-ft air hose to inflate it. Stay forward or aft of the tire being serviced, outside the wheel failure danger zone and wear goggles to protect your eyes.

Use compressed air in all aircraft tires except those on the Black Hawk and Apache. Use nitrogen in Black Hawk and Apache tires.

Adjust tire pressure to meet requirements in your aircraft maintenance manual. Then, be sure to check it daily for a few days for leaks. If a tire loses more than five percent of its minimum operating pressure in 24 hours, take the corrective action spelled out in Table 3-1 of the tire manual, TM 55-2620-200-24.

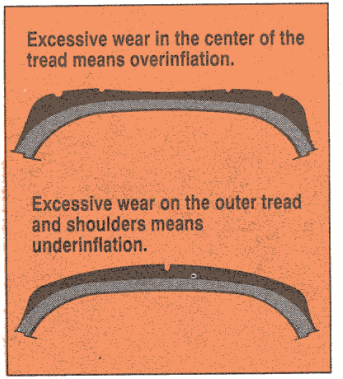
For example, if your aircraft's tires take 50 PSI and one of them loses 3 PSI or more within 24 hours, get it repaired.

Always gage tire pressure when the tire is cool or you won't get a true reading. This is because pressure varies with temperature.



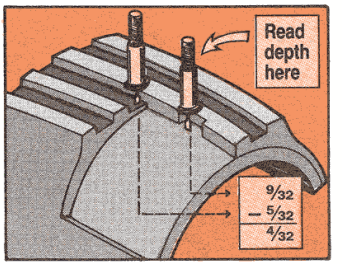
The Wear

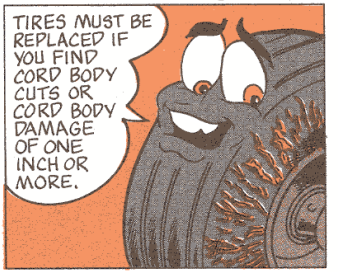
Tread wear patterns show whether a tire is overinflated or underinflated.



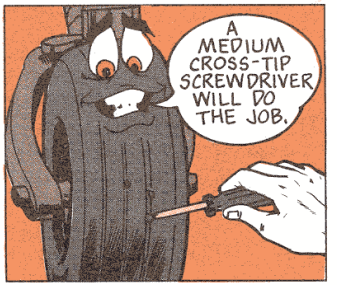
While you're doing your 10-day/14-hour PMS, look for tire damage. Use a tread depth gage, NSN 5210-00-357-5951, to measure the depth of cuts.

First measure the depth of the remaining tread. Then measure the depth of the cut. Subtract the depth of the remaining tread from the depth of the cut. If the difference is more than the cut limits, replace the tire. Fig 3-12 of TM 55-2620-200-24 shows how to measure cuts, cracks and holes. Table 3-3 tells how to evaluate the damage.





While you're checking for tire damage, take time to remove rocks, nails or other objects stuck in the tire tread.



Be sure to clean the tires regularly, too. Wipe off oil and grease with a cloth moistened with drycleaning solvent. Then wash off the solvent with mild soap and water.

Remember, never take your tires for granted. They must be maintained and serviced just like other components of your aircraft.

Washing Windshields . . . AGAIN!

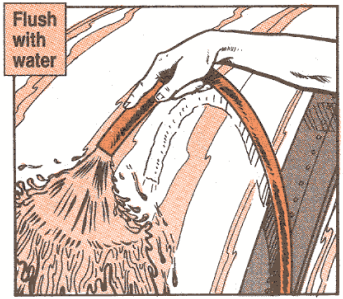
"I've told you a thousand times" is one of a mother's favorite expressions. It's usually followed by her shaking her head and mumbling, "That boy just won't listen."

Since the Kiowa first landed, the word's been told a thousand times how to wash the plastic windshield to prevent scratching. And yet, maintenance folks are shaking their heads and mumbling, "Those boys just won't listen," as they look at windshields so scratched you can't see through them.

So here once again is how to wash the OH-58 windshield. Cut out the steps and post them prominently. Make sure they're read and reread before a windshield cleaning job takes place.

STEP ONE: Remove your rings and watches and keep your hands bare.

STEP TWO: Flush the windshield with running water and loosen the dirt with your bare hand.

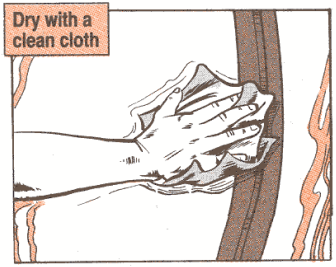


STEP THREE: Wash the windshield with a mild detergent and water solution. NSN 7930-00-880-4454 gets a gallon of detergent. NSN 7930-00-281-4731 brings a 50-lb box.

Carry the solution from the bucket to the windshield with flannel cloth, NSN 8305-00-641-5606, or chamois.

NEVER USE THE CLOTH OR CHAMOIS ON THE WINDSHIELD UNTIL YOUR HAND TELLS YOU THERE IS NOTHING ABRASIVE, SUCH AS SAND OR DIRT, LEFT TO SCRATCH THE SURFACE.

STEP FOUR: Rinse off the suds thoroughly with the hose, then dry the windshield with a clean, damp chamois or a soft, clean cloth, NSN 8305-00-656-1259.

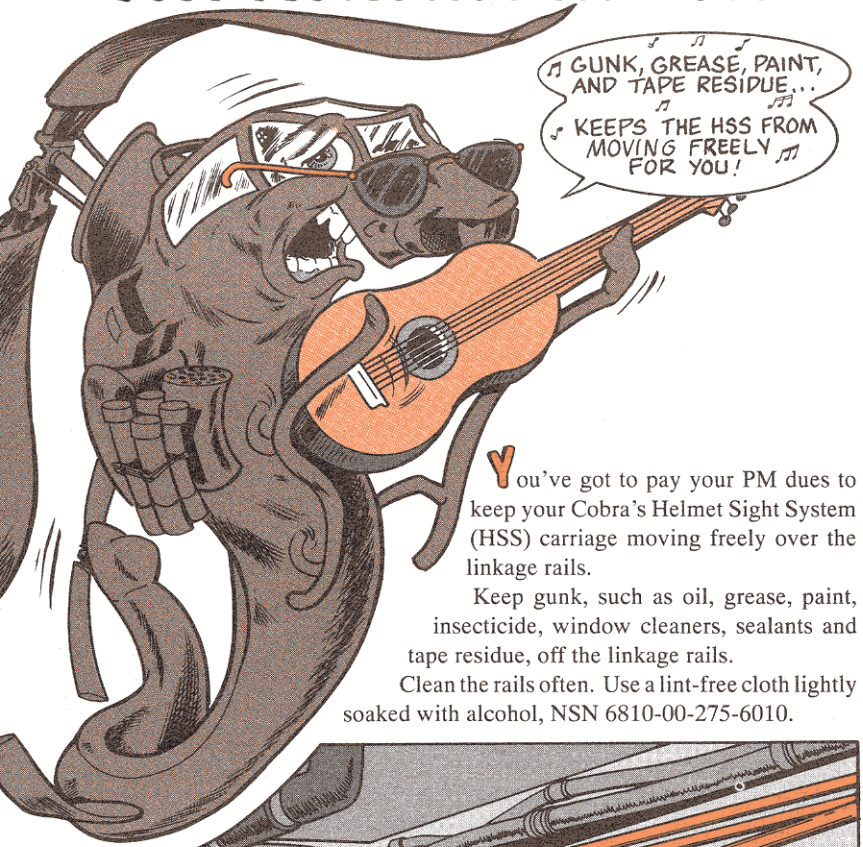


STEP FIVE: Check closely for minor scratches and crazing. Polish them out with polishing kit, NSN 1560-00-450-3622.

STEP SIX: Gently pat the windshield with a clean, damp chamois to remove electrostatic charge.

Cleaning the Kiowa windshield is not a hard job, but it is a very precise one. Follow the above steps with no shortcuts and change a mother's comment to, "My boy did that!".

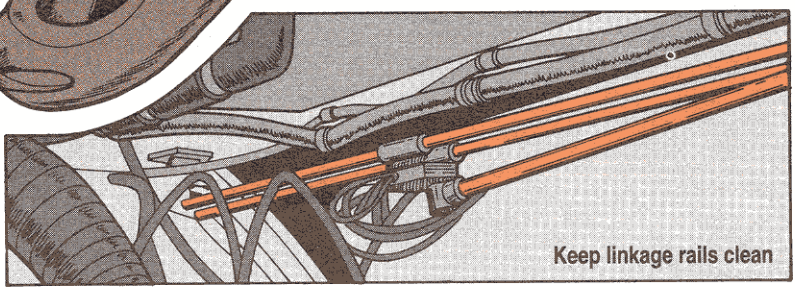
Free Movement Isn't Free



You've got to pay your PM dues to keep your Cobra's Helmet Sight System (HSS) carriage moving freely over the linkage rails.

Keep gunk, such as oil, grease, paint, insecticide, window cleaners, sealants and tape residue, off the linkage rails.

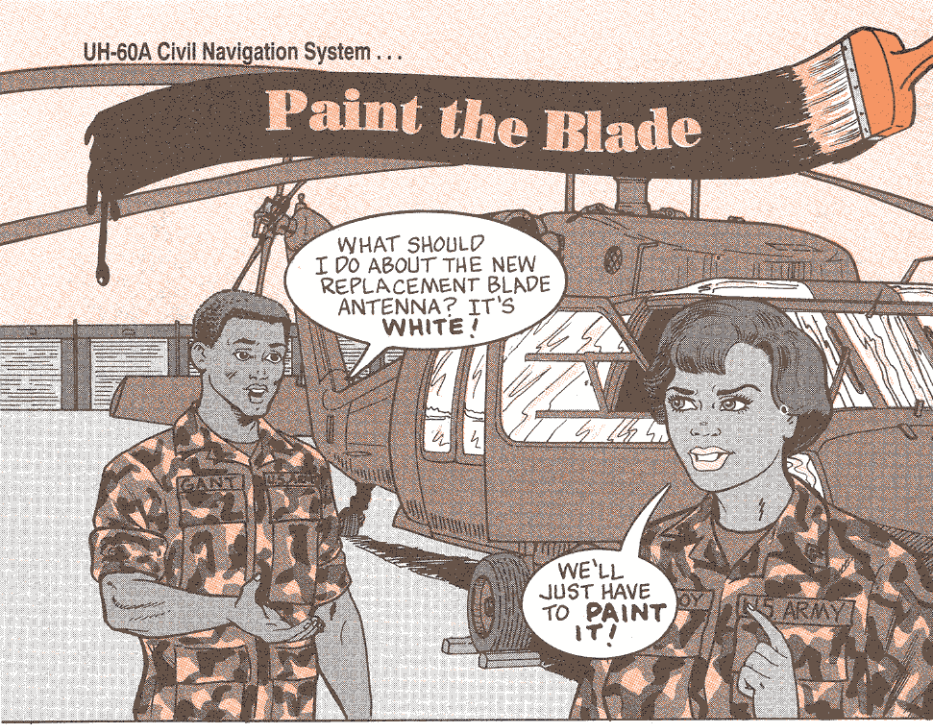
Clean the rails often. Use a lint-free cloth lightly soaked with alcohol, NSN 6810-00-275-6010.


Keep linkage rails clean

Remove small nicks and light damage by rubbing the rails with crocus cloth. Wipe the rails clean with your lint free cloth and alcohol after using the crocus cloth.

Keep your hands off the rails. They're not a handhold for leaving the cockpit. You'll bend 'em and they'll have to be replaced.

Paint the Blade

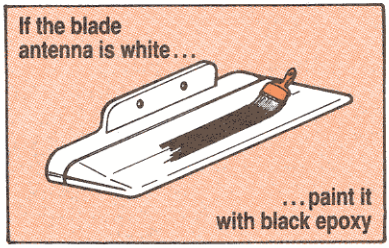


Some replacement blade antennas, Item 16 of Fig 120 in TM 11-1520-237-23P, for the Black Hawk's civil navigation system come in white.

If you get a white antenna, paint it.

First, scuff the blade lightly with a fine-grain sand paper to ensure a good surface.

Then, use black epoxy paint, NSN 8010-00-432-7130.



Finish the job by coating it with chemical conversion coating, NSN 8030-00-065-0957, Item 408 on Page D-27.

Aviation Goggles . . .

Test Set Available

Ever wish your unit had a test set to make sure your AN/AVS-6 or AN/PVS-5 aviation night vision goggles were operating properly?

Well, wish no more. The TS-4348/UV hand-held test set is what your unit needs.

This little jewel can be used to check the low and high light resolution of your night vision goggles at their 90-day PMCS.

The test set can also be used by the pilot before each flight to check the resolution of the image intensifier tubes.

Initial fielding will be by free issue. Replacement will be by requisition using NSN 6625-01-323-9584.

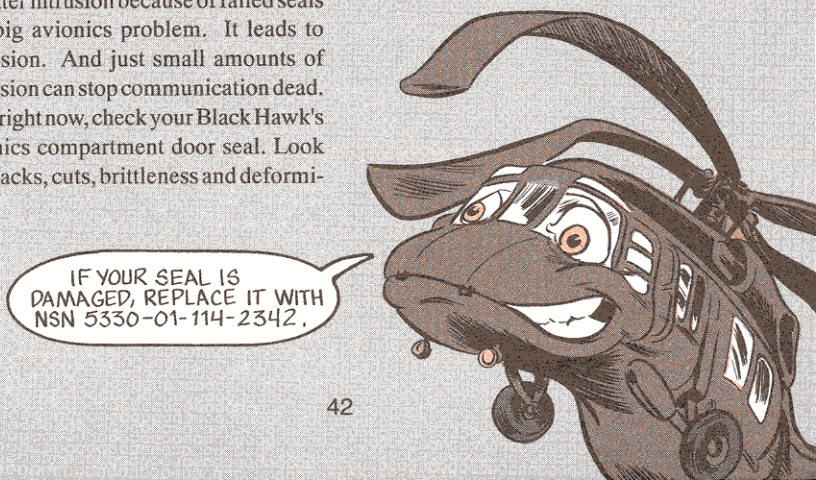
Remember, though, that your goggles have to be sent to AVIM every 180 days for a PMCS with the TS-3895 test set.

UH-60A Avionics . . .

Seal Out Moisture

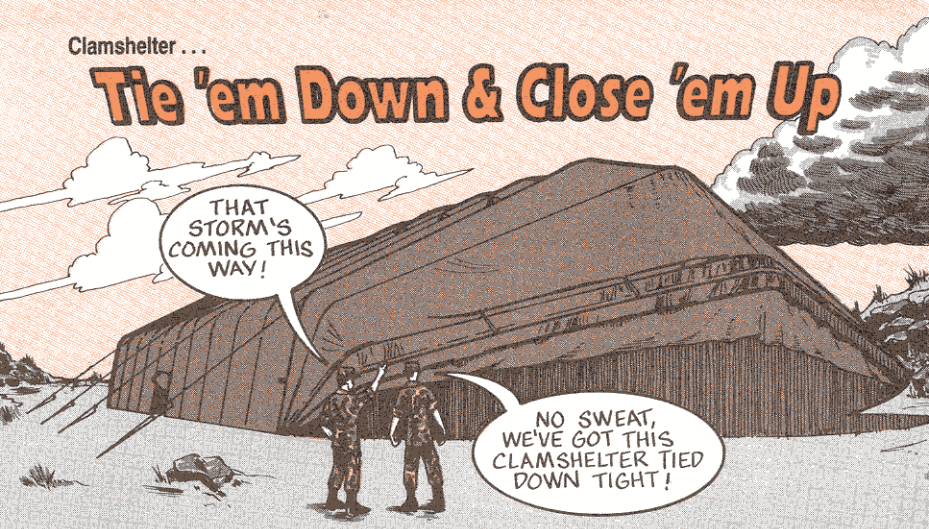
Water intrusion because of failed seals is a big avionics problem. It leads to corrosion. And just small amounts of corrosion can stop communication dead.

So right now, check your Black Hawk's avionics compartment door seal. Look for cracks, cuts, brittleness and deformities.



Clamshelter . . .

Tie 'em Down & Close 'em Up



When you erect the Portable Aircraft Maintenance Shelter (Clamshelter), NSN 5410–01–334–3158, you must use the hurricane tiedown kit.

Without tiedowns, shelters will not survive high winds.

Remember, close the shelter doors during high winds. Winds can lift an open shelter and turn it into a kite. Make sure that when severe weather is forecast, all doors are closed.

Aviation Messages

CAT 1 EIR Phone:
DSN 693-2066
(24 HOURS)

If your unit has not received a message you have an interest in, check with your next higher headquarters.

AH-1-92-ASAM-10, Maint Mand, One time inspection of centrisep particle separator assembly inner gasket for proper sealing and inactivate bypass door, 060006Z May 92.

UH-60-92-ASAM-02, Maint Mand, All even serial numbered H-60A/L Black Hawk aircraft, one time inspection for engine output shaft bolt torque and vibration level, 071700Z May 92.

C-12-92-ASAM-01, Operational, All C-12 and RC-12 models, flight limitations in icing conditions, 121900Z May 92.

AH-64-92-ASAM-04, Maint Mand, Procedure to inspect/replace 45 degree bulkhead elbow fitting for APU fuel and NIU system, 131800Z May 92.

C-12-92-ASAM-02, Operational, C-12 and RC-12, windshield anti-ice operating instructions, 181800Z May 92.

OH58-92-ASAM-13, Maint Mand, OH-58A/C and H-6 series with T-83-A-700/720 engines for inspection of fuel system, 201730Z May 92.

OH-6-92-ASAM-04, Maint Mand, OH58A/C and H-6 series with T-63-A-700/720 engines for inspection of fuel system, 201730Z May 92.

AH-1-92-ASAM-11, Maint Mand, AH-1E and F series modified per MWO 55-1520-236-50-12 revision to one time inspection of the centrisep particle separator assembly inner gasket for proper sealing and inactivate bypass door, 282000Z May 92.

Stand Up to Dirt and Moisture

Dear Editor,

Since we take our equipment to the field in all kinds of weather, it's almost impossible to keep our AN/GRA-39 radio control group and DR-8 wire reel clean and dry.

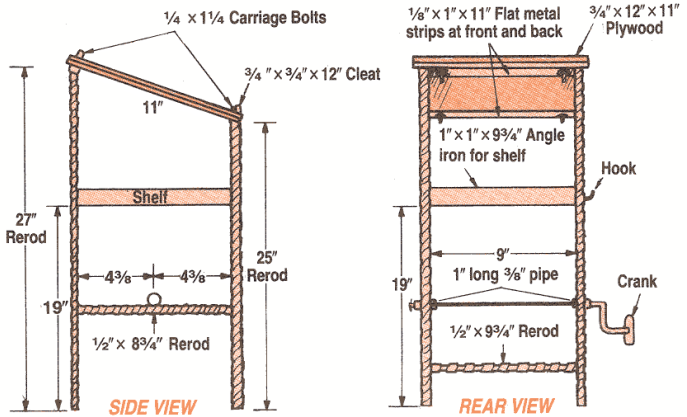
Not only do dirt and moisture ruin our commo, it takes a considerable amount of time to clean and maintain the equipment.

I've solved the problem by building a stand for our AN/GRA-39 radio control group and DR-8 wire reel. Using this stand helps cut down on equipment problems and maintenance time.

HERE'S WHAT YOU'LL NEED TO BUILD THE STAND:

Item	Qty
Plywood, 3/4" thick x 12" wide x 11" long for top	1
Flat metal, 1/8" thick x 1" wide x 11" long to attach to legs	2
Bolt, carriage 1/4" diameter x 1 1/4" long to bolt plywood and metal together	4
Angle iron, 1" thick x 1" wide x 9 3/4" long to make shelf	4
Reinforcing rod, 1/2" diameter x 27" long for back legs	2
Reinforcing rod, 1/2" diameter x 25" long for front legs	2
Reinforcing rod, 1/2" diameter x 9 3/4" long for front and back	2
Reinforcing rod, 1/2" diameter x 8 3/4" long for sides	2
Pipe, 3/8" diameter x 1" long to hold crank	2
Wood strip, 3/4" thick, 3/4" wide x 12" long to use as cleat	1
Hook for microphone holder	1
Crank, NSN 5340-00-127-0999	1

WELD THE STAND TOGETHER LIKE THIS:



The plywood top serves as a portable desk for the operator. Be sure to give the finished stand a light coat of paint to protect it from corrosion.

SSG BRADLEY J. PRAHL
MNARNG

FROM THE DESK OF THE Editor

Sounds like you found a way to stand up to dirt and moisture. Thanks for the suggestion.

PM Tackles TACFIRE Problems

The best football teams are those with great offense, hard-hitting defense and good coaching.

Those qualities fit your TACFIRE perfectly. But even TACFIRE can be sidelined by injuries.

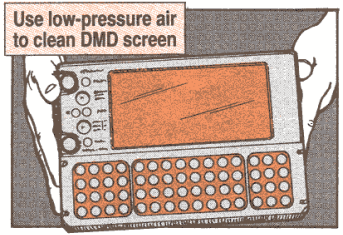
Teaming up with PM will keep your TACFIRE headed for the Super Bowl:

Digital Message Device

The Digital Message Device (DMD) is TACFIRE's offensive squad. It can score from anywhere on the field—as long as it stays healthy.

Keep the DMD tossing touchdowns like this:

- Avoid using sharp objects—like pencils—to type out messages. The keyboard is protected by a plastic membrane. Any cuts can let in damaging moisture.
- Blow off dust and dirt on the DMD's display screen with low-pressure air. The screen's anti-glare coating is sensitive. Wiping off dirt with a cloth can scratch and ruin the surface.



- Store the DMD away from sources of heat. Heat will warp the display screen, allowing the gas (which creates the display) to escape. Leave the DMD in its canvas case to increase protection.

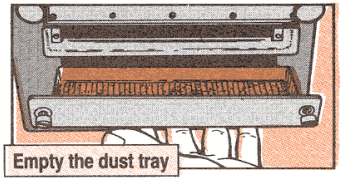
Electronic Line Printer

The Electronic Line Printer (ELP) is TACFIRE's defensive team. But life in the trenches can be dirty work. The ELP can get bogged down with carbon dust without proper PM.

Keep the ELP chewing quarterbacks like this:

- Place a clean cloth between the helix and circuit cards before cleaning. That'll help protect the cards from dust.
- Remove heavy accumulations of carbon from the helix, bearings and drive mechanisms with a dry toothbrush.
- Shine the helix with isopropyl alcohol, NSN 6810-00-753-4993. Give the helix time to cool down, though. Alcohol on a hot helix will crack it.

- Remove the cloth carefully to avoid spilling anything on the circuit cards.
- Empty the dust tray each time you clean the ELP. Be sure to turn off the power, though, or you may get a shock from the ELP's high voltage.

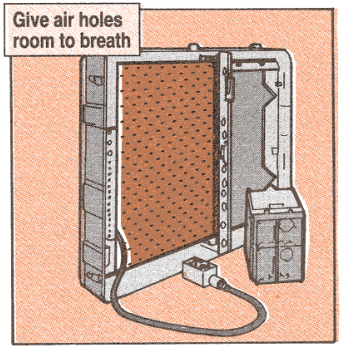


Digital Plotter Map

Good coaching is needed to bring out the best in the TACFIRE's offense and defense. That's the job of the Digital Plotter Map (DPM).

A lack of PM can leave the DPM short-winded, though. Here's how to keep it breathing easy:

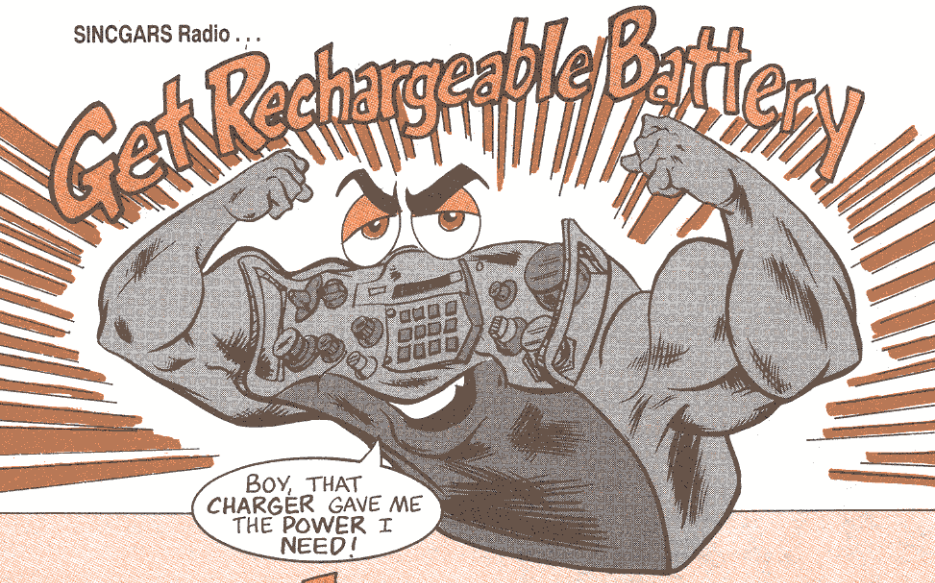
- Keep tape off the DPM's air holes. Tape gums up the holes and keeps the vacuum from holding the map in place.



- Clean clogged air holes with a straightened paper clip.
- Use a clear plastic overlay big enough to cover the air hole surface to prevent future tape buildup.

SINCGARS Radio . . .

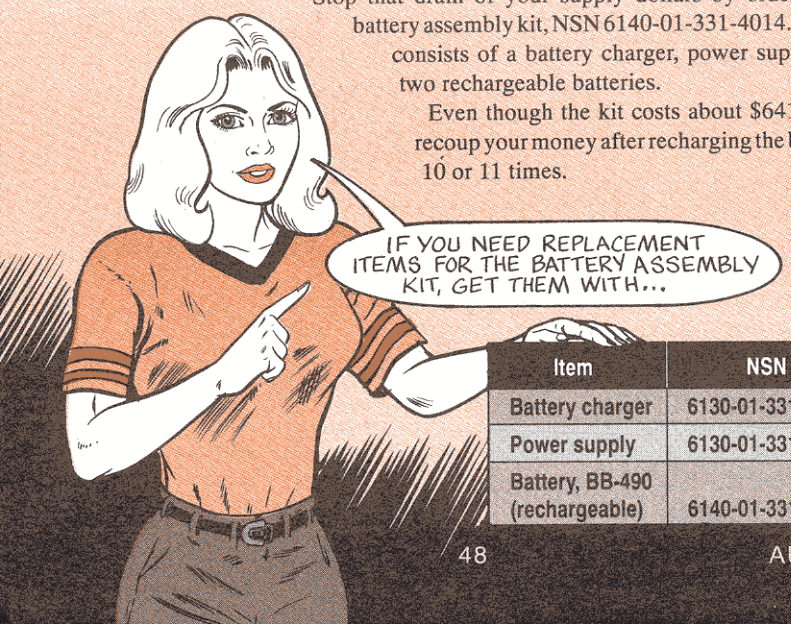
Get Rechargeable Battery



The BA-5590/U nonrechargeable batteries used in the AN/PRC-119 SINCGARS radio cost about $59. Heavy use of the radio means a heavy drain on your unit's pocketbook.

Stop that drain of your supply dollars by ordering the battery assembly kit, NSN 6140-01-331-4014. This kit consists of a battery charger, power supply, and two rechargeable batteries.

Even though the kit costs about $641, you'll recoup your money after recharging the batteries 10 or 11 times.



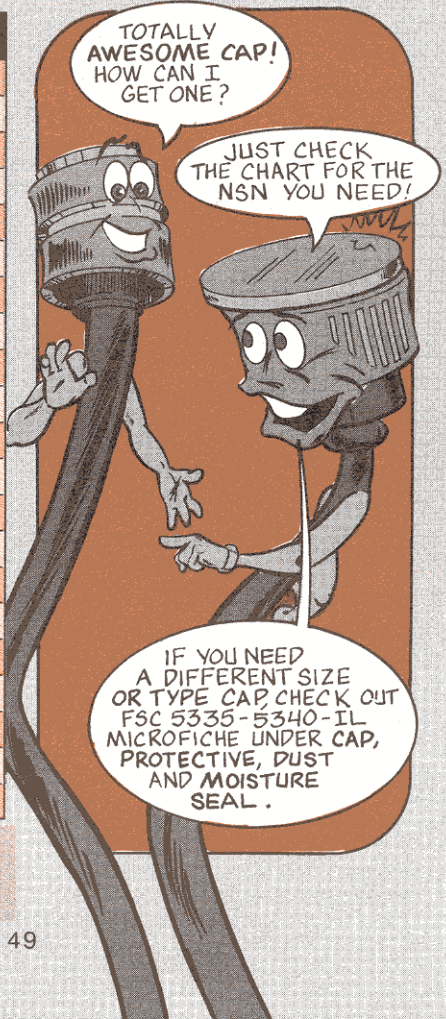
Item	NSN
Battery charger	6130-01-331-4015
Power supply	6130-01-331-4016
Battery, BB-490 (rechargeable)	6140-01-331-4013

Caps Help Stop Corrosion

Unprotected cables and connectors on your commo gear attract corrosion like a magnet attracts nails. It's up to you to provide the defense they need against dirt, dust and moisture.

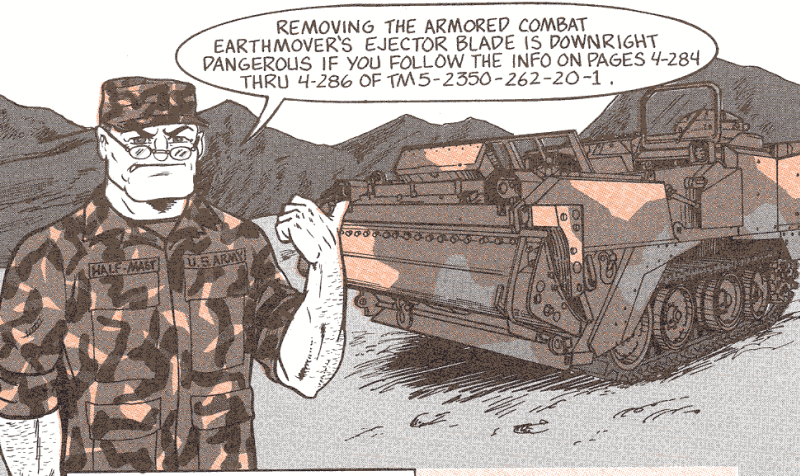
That defense is protective caps. You should use those listed in the RPSTL when available, but here are NSNs for a few of the more common sizes (in inches) if you need a substitute:

Diameter	Length	NSN 5340-
1/4	3/16	00-395-2969*
1/4	1/4	00-806-6664
1/4	11/32	00-845-5162*
1/4	1/2	01-107-7559*
5/16	3/8	00-998-3204*
5/16	1/2	01-265-6389*
5/16	5/8	01-273-4686*
5/16	3/4	01-183-0961*
5/16	7/8	00-777-4620
3/8	3/8	00-616-5693*
3/8	5/8	00-848-6768*
3/8	3/4	01-170-6662
7/16	3/4	00-813-4193
1/2	3/4	01-187-8957
9/16	7/16	01-240-8292*
11/16	1/2	00-514-2434*
11/16	3/4	00-930-0839
3/4	1/2	01-268-5897*
3/4	3/4	01-044-2675
13/16	7/8	00-993-4185
7/8	2 1/2	00-491-7583



*Order on DD Form 1348-6 from RIC S9I. State in the Remarks block, "NSN is not on the AMDF."

Stand Clear!



The procedure can allow the ejector blade to fall once it clears the hull. That will break the blade arm or crush any feet or toes in the way.

There is a safer way of doing business — thanks to USAREUR's SFC Alan Matsumoto.

Here's the lowdown:

① Raise and lock the apron.

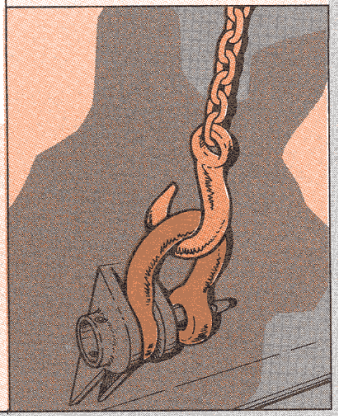
② Move the ejector forward.

③ Unhook the ejector cylinder from the blade. Step A on Page 4-284 in the -20-1 TM tells how.

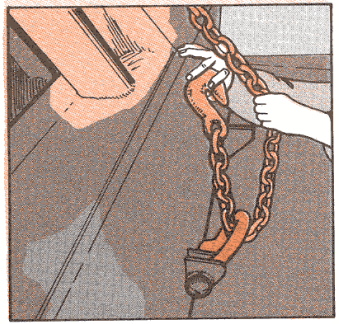
④ Unload the storage box.

⑤ Remove two tiedown shackles and pins from the back of the ACE and attach them to the ejector blade's front and rear brackets.

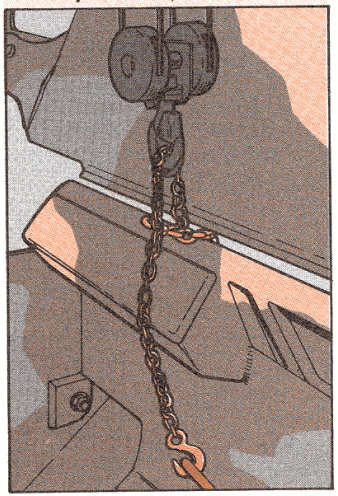
⑥ Take one end of the hoist chain and hook it to the front of the ejector blade's shackle.



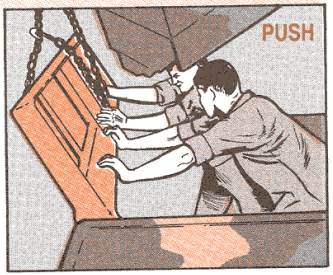
⑦ Take the other end of the chain and route it through the rear shackle from the bottom up, like so.

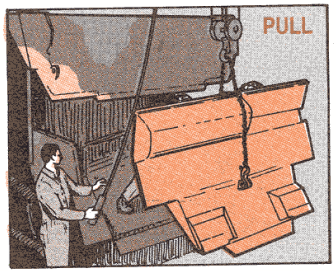


⑧ Hook the chain back up at the top of the ejector blade, like so.



⑨ Two mechanics are needed to help push the ejector blade forward as it's being pulled out by the hoist.

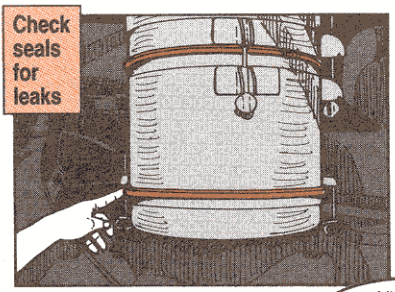




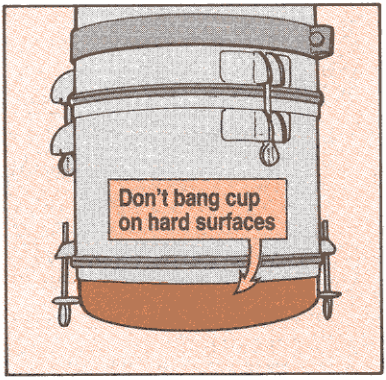
This new hookup procedure keeps the ejector blade rolling out level, so it won't fall over.

Good Seals = Good Air

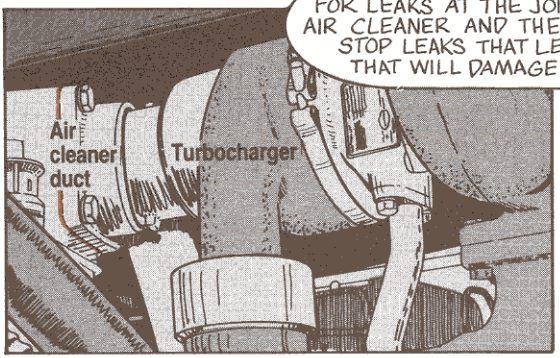
Before you start your day's job, eyeball the air cleaner seals to see that they're tight. Look for nicks, breaks or tears. If the seals are bad, replace them.

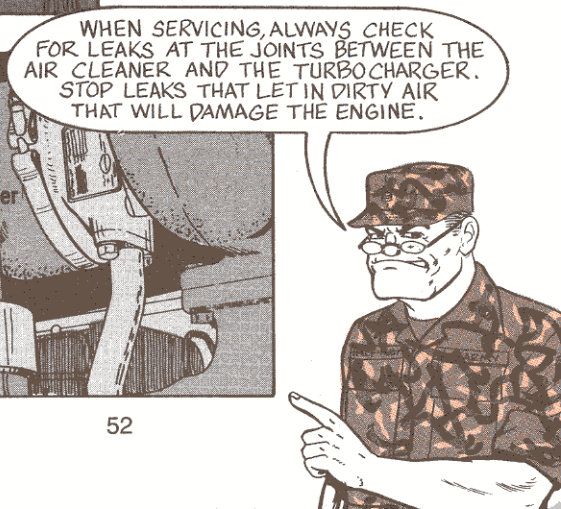


Handle the dust collector cup carefully. Never bang the cup on the track to empty the dust. You'll bend the cup lip. Then the seal won't seat tight.



Gently tap the cup against the palm of your hand to clean it. Use a rag or brush to remove the dust and dirt that has collected.





Inclinometer Parts, Adjustment

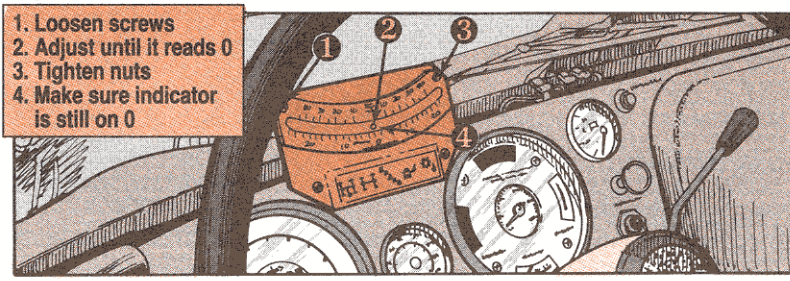
Item	NSN	Qty
Inclinometer	6610-01-304-3226	1
Screw (attaches inclinometer)	5305-01-301-7934	2
Nut, self-locking (attaches inclinometer)	5310-00-811-3494	2
Mounting plate	5340-01-298-0260	1
Screw, self-tapping (attaches plate)	5305-01-299-6589	2

To Adjust

Adjustment is needed if the inclinometer indicator doesn't point to 0 when the SEE is on level ground.

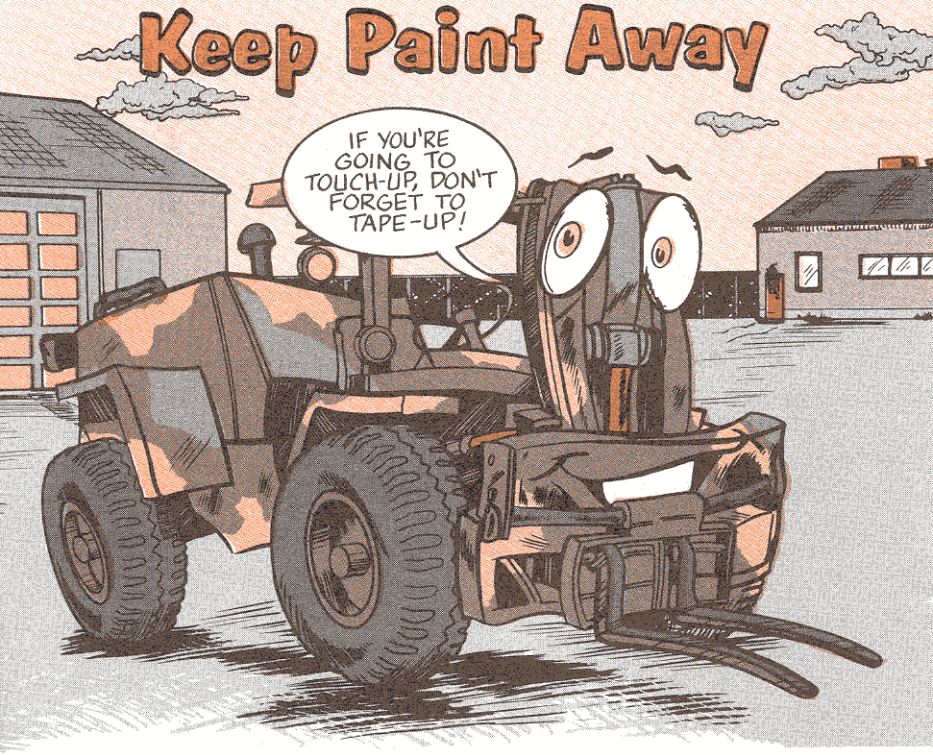
Before adjusting, BE SURE the vehicle is parked on a level surface, then make adjustments like this:

1. Loosen screws
2. Adjust until it reads 0
3. Tighten nuts
4. Make sure indicator is still on 0



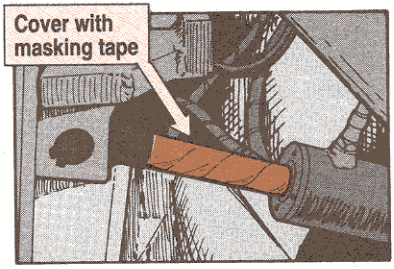
Hydraulic Cylinders . . .

Keep Paint Away



Dried paint on hydraulic cylinder rods can destroy a good seal. When the rod moves in and out of the cylinder, paint rubs against the wiper seal and eventually wears it out. Then you get leaks.

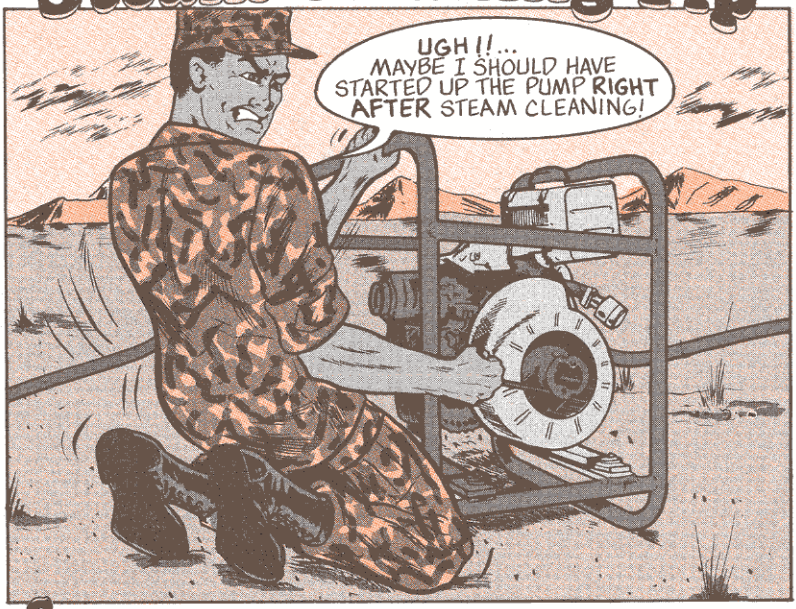
So before you touch up paint, cover the rods with masking tape. That'll keep 'em clean.



And when you get a new vehicle or component, or one just returned from the depot, check out the rods for any stray paint. Even a small spot can do big damage.

Use solvent, methyl ethyl ketone, NSN 6810-00-281-2785, to dissolve paint. Wipe it off with a soft cloth. Never use a knife, wire brush or sandpaper to remove paint. They'll chip or scratch the cylinder rod.

Steam Cleaning Tip



Steam cleaning works fine for sprucing up your 125 GPM water pump, NSN 4320-00-542-3347. Just make sure you keep the steam out of the engine's exhaust pipe. Here's why:

During cleaning, moisture builds up inside the pipe and trickles into the muffler. From there it works its way to the exhaust manifold and finally to the cylinders.

Then the real trouble begins. Moisture rusts the cylinder walls, especially if you let the pump sit idle for a few weeks. When you finally get around to using the pump again, it refuses to start. The pistons are rusted tight. It's enough to make you steamed.

Luckily, there are two simple steps you can take to prevent rust.

Before cleaning, tape a plastic bag over the exhaust pipe to keep moisture out.

Plastic bag over exhaust will keep water out

After cleaning, prime the pump with water. Start the engine and run it for five minutes. That will boil off any moisture that sneaked into the exhaust system.

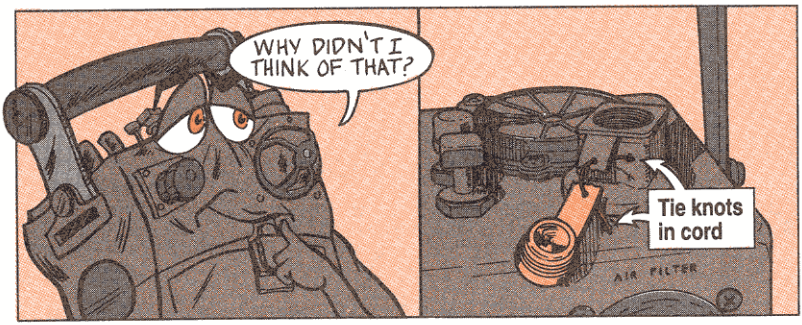
Through use, the strap on the M8A1's air inlet cap tears. You NBC NCOs know the first time an M8A1 goes to the field with a broken cap strap it will come back without a cap. And the cap has to be replaced by support.

If the strap's torn, you can fix it with a piece of nylon cord, NSN 4020-00-262-2019.

Drill a 1/8-in diameter hole 1/4 inch from each end of the two strap pieces.

Cut off a 2-in piece of cord. Put the cord ends through the two holes and knot them.

Melt the end of both knots with a match. Mash them flat with a knife blade to keep them from unraveling.



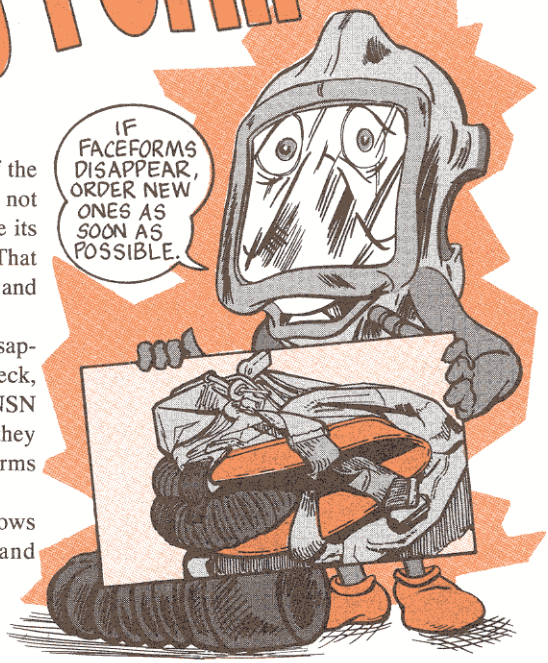
If the strap is fraying, reinforce it by wrapping electrician's tape around the frayed area. Then order a new strap and cap, NSN 6665-01-115-1926, and replace it.

Good Form

If the faceform's left out of the M24/M25A1 mask when it's not being worn, the mask will lose its set or shape after a few weeks. That means the mask will not fit right and won't provide protection.

Since faceforms seem to disappear quicker than your paycheck, get replacement faceforms, NSN 4240-01-032-6050, as soon as they disappear, NBC NCOs. Faceforms are cheap. Masks are not.

And make sure your unit knows the faceforms are needed and shouldn't be thrown away.



M17 Decon . . .

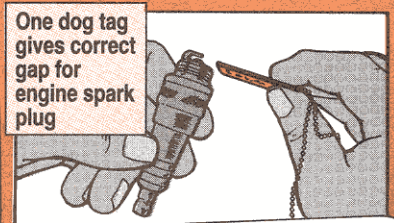
Tag Gage Problem

Dear Editor,

If you get to the field and find your spark plug gap gage missing, you're wearing a good field replacement . . . dog tags.

Use one tag to check the gap on the engine spark plug. It will get the gap close enough that you can operate. Ask for a new gage when you get back from the field.

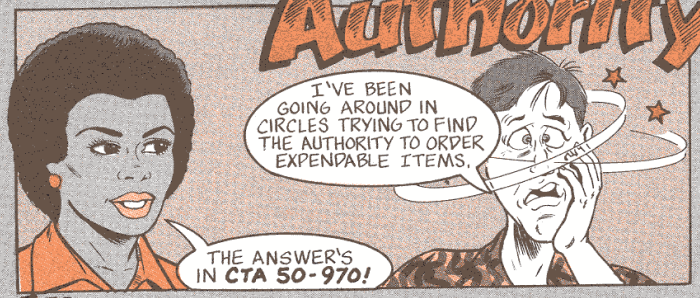
SP Edward Jones
Ft Campbell, KY



FROM THE DESK OF THE Editor

You've tagged onto an idea that shows a real spark of imagination.

Authority As Needed



When you need an authority to order expendable or durable supplies, chances are CTA 50-970 is your answer. It authorizes such things as nuts, bolts, cleaners, glue and other things that are needed for a unit's day-to-day operations.

CTA 50-970 authorizes items two ways. The first is by NSN in Section II. The second is by the Federal Supply Class (FSC) in Appendix A. The FSC is the first four numbers of an NSN.

Section II shows the specific NSN when an item has a set basis of issue.This means it's authorized only for particular units or missions or in limited numbers.

Section II of CTA 50-970

D 5110-00-595-8490	PLIERS DIAGONAL CUTTING 7 IN L SHORT NOSE PER AMMUNITION SUPPLY POINT ARNG	EA	0004
D 5120-00-239-8251	PLIERS LINEMANS (WITH SIDE CUTTER) 8 IN L STYLE A10 PER UNIT OPERATING RATION BREAKDOWN POINT	EA	0001
5120-00-595-8551	PLIERS RETAINING RING STYLE A75 SNAP (HORSE SHOE) RING FORMED TIPS PER TMP MAINTENANCE SHOP TYPE A, B, C, D	EA	0001
5120-00-223-7397	PLIERS SLIP JOINT STRAIGHT NOSE (COMBINATION WITH CUTTER) 8 IN L STYLE A77 PER CENTRAL IDENTIFICATION TEAM GRAVE REGISTRATION ACTIVITY PER TROOP DINING FACILITY	EA	0001 0002
D 5120-00-240-8217	PLIERS SLIP JOINT STRAIGHT NOSE (COMBINATION WITH CUTTER) 8 IN L STYLE A77 NONMAGNETIC AND NONSPARK HAZARD PROTECTION PER AMMUNITION SUPPLY POINT ARNG	EA	0004 0001
6605-00-806-9159	PLOTTER AIRCRAFT SURFACE PER INDIVIDUAL DESIGNATED AS PILOT, STUDENT TRAINING AS PILOT	DZ	0.03
7530-00-656-0613	PLOTTING SHEET PLASTIC GRID 1,000 METER GRID SYSTEM 1 TO 25,000 SCALE RATIO 41.5 IN L 30 IN W PER 100,000 INDIV PER MO	PG	
7530-00-656-0711	PLOTTING SHEET PLASTIC GRID 1,000 METER GRID SYSTEM 1 TO 25,000 SCALE RATIO 30 IN L 22.5 IN W 24 SHEETS		

Other expendable or durable items are authorized by Appendix A based on the FSC and a footnote. These items are authorized as required.

Look up the FSC for the item you need. Match the number beside the FSC with a footnote.

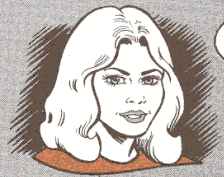
When there's a "1" next to the FSC, go to Section II. If the NSN is in Section II, look at the Basis of Issue and Remarks for that item.

Sometimes you're limited to a certain number or the type of unit that can order the item. If your outfit or needs don't match the Basis of Issue, you'll need command OK to put it on order.

Usually there's no problem ordering the NSNs in Section II. Just put CTA 50-970 on your request under Pub Data and forward it.

But, there's a possibility that you might not find your NSN in Section II. That means a little more work.

Go to the Army Master Data File (AMDF). For FSC with footnote 2, go straight to the AMDF. You won't find those NSNs in Section II.



- Acquisition Advice Code (AAC)
- Accounting Requirements Code (ARC)
- Supply Categories of Materiel Code (SCMC)

First, see if the AAC gives your request the go-ahead. Some AACs–like F, fabricate, or M, major overhaul–affect how a request goes through or who can order the item.

Now, look at the other two columns. These columns need the right codes.

Appendix A of CTA 50-970 is your supply authority if:

- The ARC is X (expendable) or D (durable) and
- The first position of the SCMC is 2, 3, or 4.

If the ARC is N and/or the SCMC's other than 2, 3, or 4, you'll need other authority, such as another CTA, your MTOE/TDA, or a parts manual.

APPENDIX A

FEDERAL SUPPLY CLASSES WITH AUTHORIZATION REMARKS

This appendix contains table A–1 which provides guidance pertaining to authorization of expendable/durable items in instances where it is impractical to compile meaningful Bases of Issue. When the table is used as authority to requisition expendable components, that when assembled are a nonexpendable end item, procedures provided in AR 710–2 will be used to establish the required property book accountability.

Table A–1
Authorization of expendable/durable items

FSC	Note	FSC	Note	FSC	Note	FSC	Note	FSC	Note	FSC	Note	FSC	Note	FSC	Note	FSC	Note
1005	1	1910	2	3130	2	3660	2	4730	1	5852	2	5620	2	7610	1	8730	3
1010	2	1915	2	3210	2	3680	2	4810	2	5826	2	6625	1	7530	2	8810	2
1015	2	1920	2					4820	2	5830	2	6630	1	7640		8820	

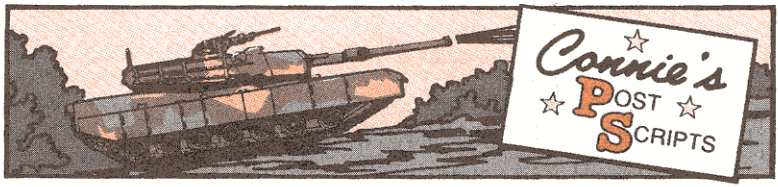
FSCs in Appendix A with footnote 3 are a little different. Heraldic items such as flags, colors, and staffs are under AR 840-10. Check out that regulation for your supply authority.

Other items with footnote 3 go the same way as an FSC with a footnote 1. That is, some may be in Section II; others could be authorized by Appendix A.

So, don't go around in circles looking for an authority to order expendable or durable items. Get CTA 50-970 and order these items as needed.

SF 368 . . .

Address Unknown?



M1A1 Troubleshooting

Mechanics, think VOLTS before you do the sixth troubleshooting step on Page 3-1005, Block 33, of TM 9-2350-264-20-1-2. Set up for an ohms test as shown and you'll damage the multimeter. Instead, set it up for a DC VOLTAGE test. Make a note 'til the next TM change.

M1009 Truck Seat Cover

NSN 2540-01-347-8675 gets a 2-piece cloth seat cover for an M1009 CUCV seat. It attaches with hook-and-pile straps, and is $80 cheaper per seat than vinyl covers.

SEE Hose NSN

There are new hoses for the backhoe on your SEE. They are NSN 4720-01-241-5496 and 4720-01-241-2937. The new hoses have protective nylon sleeves over the wear area.

Check M9 Paper Dates

Check the discard or useful life dates on M9 chemical paper, NBC NCOs. If the date's passed, order new M9 paper, NSN 6665-01-226-5589 (this is a new NSN). Do not throw away the old paper. Turn it in to your local Defense Reutilization and Marketing Office.

Check M109A5 Breech Ring

You've got some checking to do when your newly modified M109A5 SP howitzer arrives. Some cannon breech assemblies had to be released without a full tube's worth of life left. The breech ring and DA Form 2408-4 on those howitzers will be stamped, "CONDEMN BREECH MECHANISM AT XXX EFCs."

End Item Code in AMDF

A new microfiche that you get quarterly with your Army Master Data File (AMDF) cross references EICs and NIINs. It's called End Item Codes, and replaces SB 38-102.

CUCV Voltmeter Lamp

NSN 6240-00-691-0368 brings the lamp for your CUCV's voltmeter. The lamp was left out of Figure 35, TM 9-2320-289-20P.

M66 Mount NSN

The NSN for the M66 ring mount used on 2 1/2- and 5-ton trucks to mount M2 and MK19 machine guns has been changed to NSN 1005-00-701-2810. The M66 mounting kit is NSN 1005-01-226-4589. Make a note of these NSNs.

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

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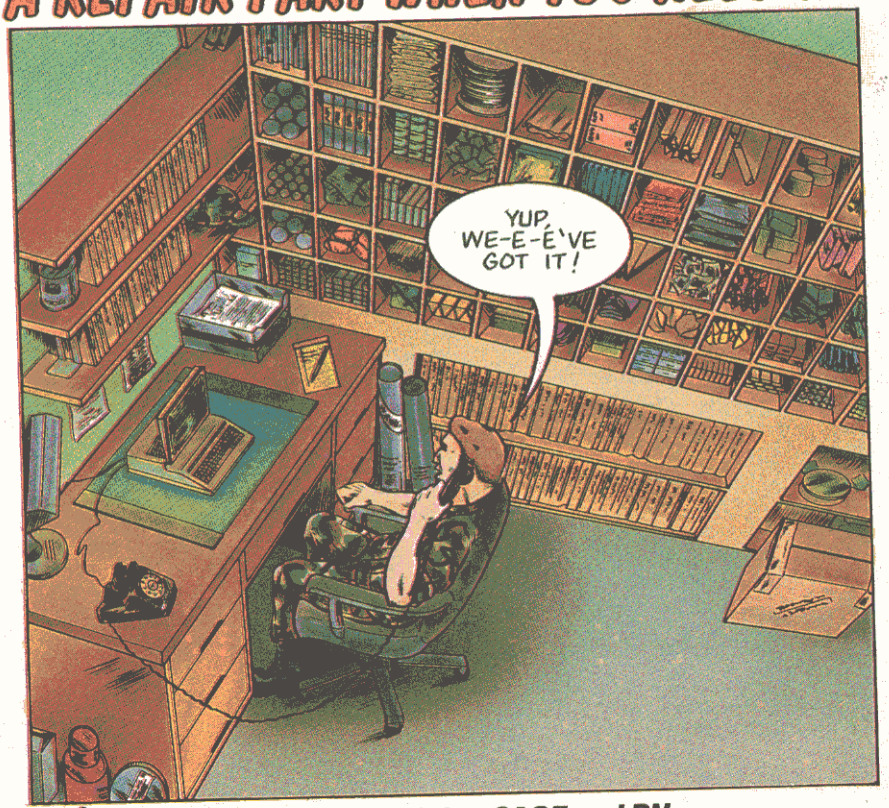

- ✔ *Use Parts Manual for NSN or CAGE and PN*
- ✔ *Check NSN against AMDF Microfiche or MCRL to confirm PN for valid NSN*
- ✔ *Doublecheck DA Form 2765 or DD Form 1348-6 for errors*
- ✔ *Hand request to Supply Support NOW!*