

Issue 527

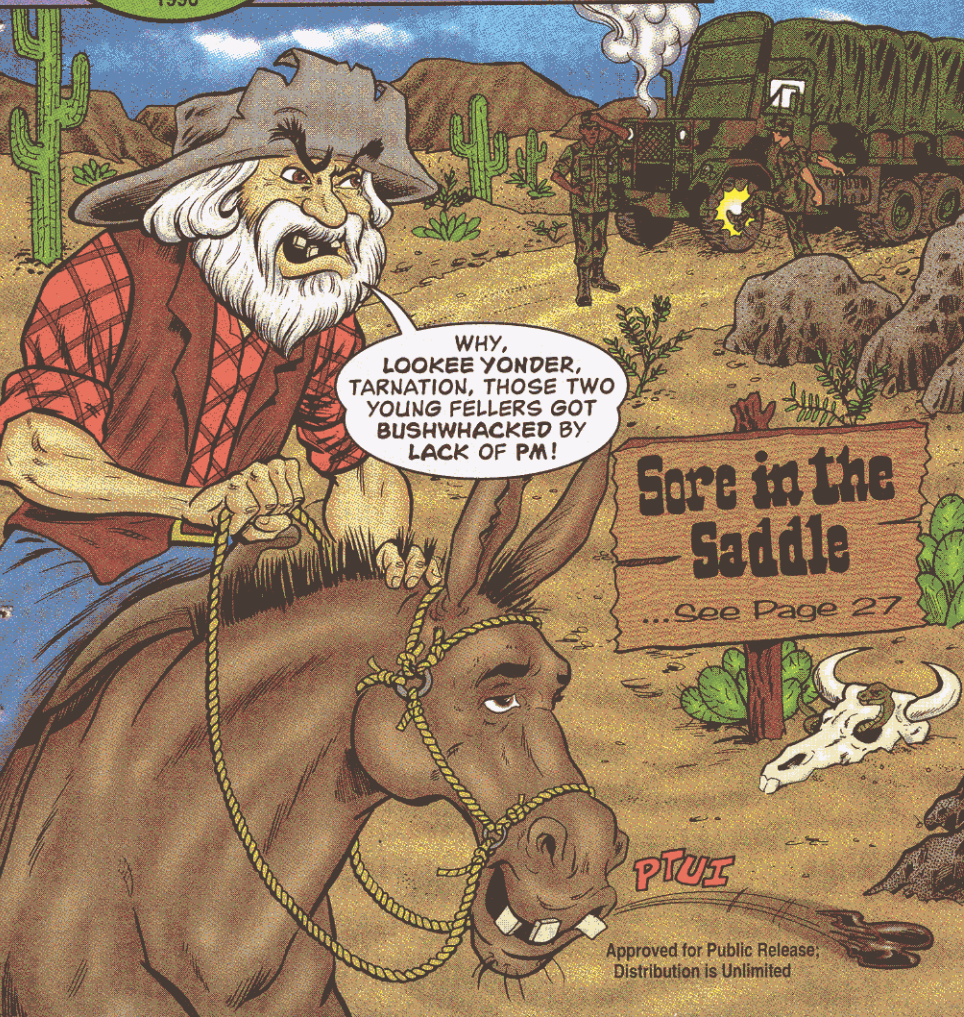
PS

October  
1996

# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-527

Read and  
heed, then  
pass along!



WHY,  
LOOKEE YONDER,  
TARNATION, THOSE TWO  
YOUNG FELLERS GOT  
BUSHWHACKED BY  
LACK OF PM!

**Sore in the  
Saddle**

...See Page 27

**PTUI**

Approved for Public Release;  
Distribution is Unlimited

# Time Waits for No One

**T**ime marches on—constant and unchanging. It slows for nothing and no one. So don't sit idly by and hope your equipment will be ready when you need it.

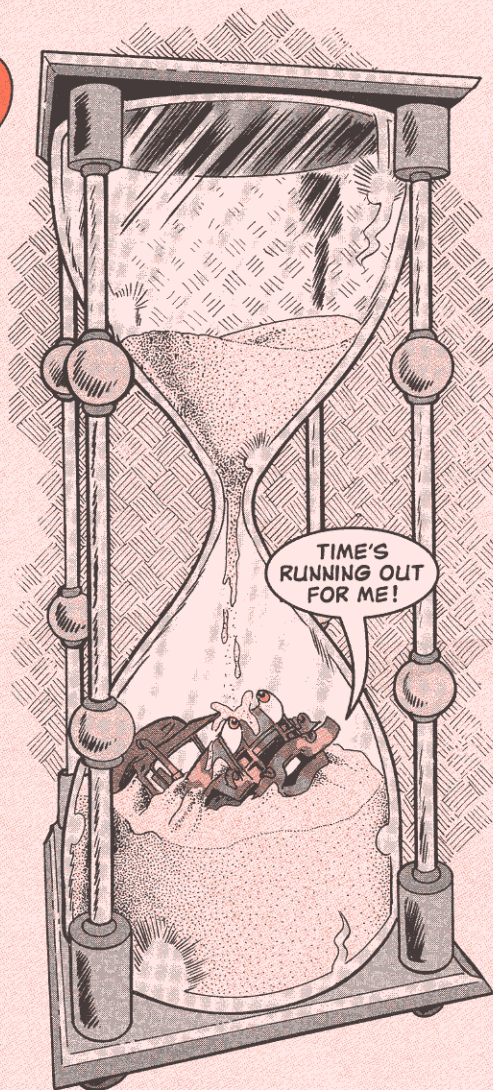
Could be your gear **was** ready when you checked it yesterday. Does that mean it's ready today? Or will be tomorrow?

The time for maintenance is **now**. Not "later," or "when I get to it." If you don't keep up with maintenance, the time will come when your equipment can't keep up with you.

Whether it's your weapon, ammo equipment, vehicle, helicopter or generator, you're betting your life on its ability to come through when you need it.

So don't do half a job...or put off today's maintenance until tomorrow.

Tomorrow may be too late.





# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-527, 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 527 OCTOBER 1996



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

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The Preventive Maintenance Monthly  
Bldg. 5307  
Redstone Arsenal, AL 35898-7466

Or E-mail to:

psmag@logsa.army.mil

By Order of the Secretary of the Army:

**DENNIS J. REIMER**

General, United States Army Chief of Staff

Official:

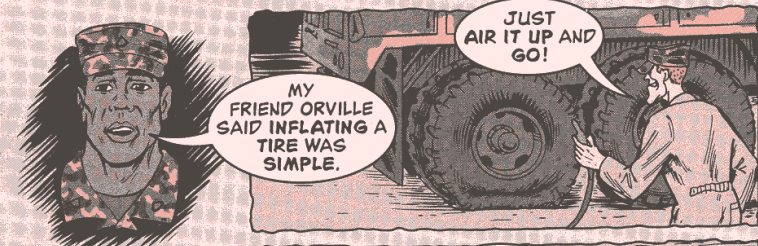
*Joel B. Hudson*  
**JOEL B. HUDSON**

Administrative Assistant to the Secretary of the Army  
02406

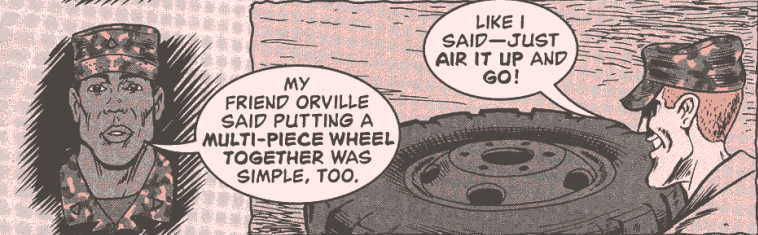
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# BASIC TRAINING FOR LIFE



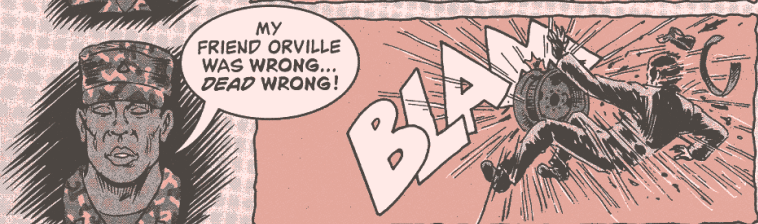
MY FRIEND ORVILLE SAID INFLATING A TIRE WAS SIMPLE.



MY FRIEND ORVILLE SAID PUTTING A MULTI-PIECE WHEEL TOGETHER WAS SIMPLE, TOO.



MY FRIEND ORVILLE SAID BEING CAREFUL WASN'T NECESSARY.



MY FRIEND ORVILLE WAS WRONG... DEAD WRONG!

ORVILLE JOINED A TOO-LONG LIST OF SOLDIERS WHO TOOK CHANCES WITH TIRES AND WHEELS AND LOST!

IT'S A FACT THAT EXPLODING TIRES AND WHEELS CAN SEVERELY INJURE OR KILL YOU. IT'S ALSO A FACT THAT ALMOST ALL INJURIES AND DEATHS CAN BE PREVENTED IF YOU FOLLOW THE RULES.

IF YOUR UNIT DOESN'T HAVE THE EQUIPMENT OR THE TRAINING TO PRACTICE THESE RULES, YOUR LOCAL LOGISTICS ASSISTANCE REPRESENTATIVE CAN HELP.



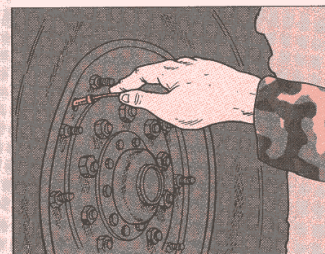
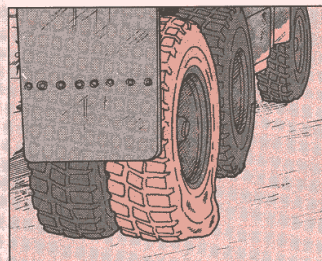
## Before You Do Anything

Here's some stuff that applies to all tires and wheels:

- Never inflate a tire that has been run flat or run with very little air in it until you have removed and repaired any damage to the tire, tube or rim.

Otherwise, damage you can't see could make the tire explode or wheel parts fail, harming you and others.

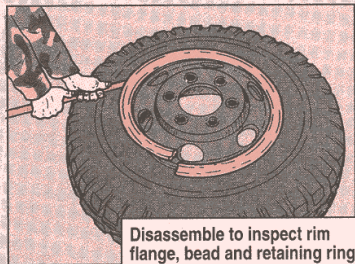
- Before removing a tire for service or disassembly, be certain there is no air pressure in it by removing the valve core.
- Run a stiff wire into the stem to be sure nothing's clogging it on the inside.



⊙ Inspect the tire and all rim components for damage once you have it disassembled. Look closely at the bead, rim flange and retaining ring.

⊙ After the tire and wheel are reassembled, inflate the tire to three psi. That's it—three psi. No more. Check that the tire bead or retaining ring is seating properly in the rim flange or groove.

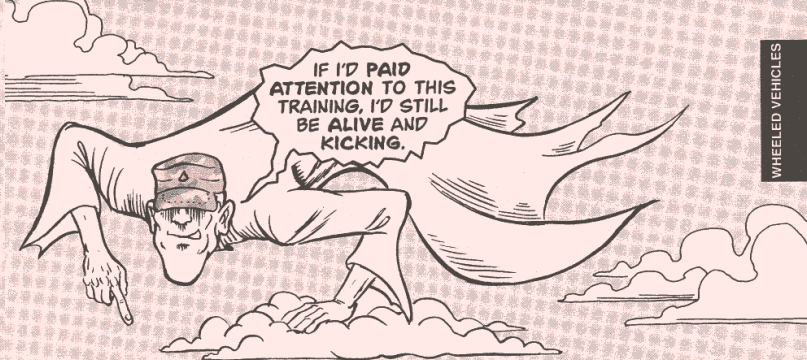
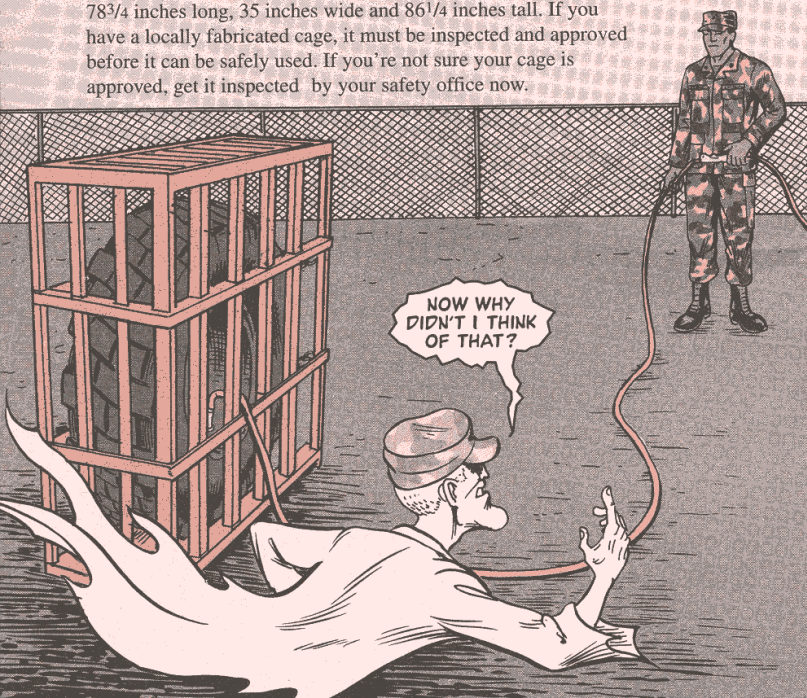
⊙ Never inflate a tire that has a damaged, misaligned or improperly seated bead or retaining ring.



Disassemble to inspect rim flange, bead and retaining ring

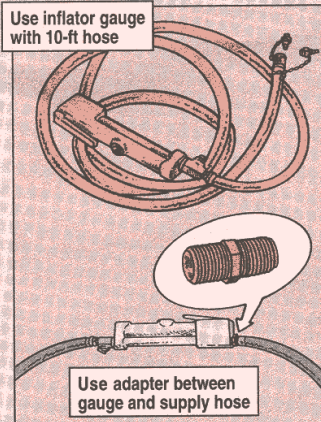
### Safety Equipment, Tools

⊙ Use only an OSHA-approved safety cage. NSN 4910-01-373-0267 gets a cage that's 40<sup>3</sup>/<sub>4</sub> inches long, 25 inches wide and 56 inches tall. Most tactical vehicle tires will fit. For larger tires, NSN 4910-00-025-0623 gets a cage that's 78<sup>3</sup>/<sub>4</sub> inches long, 35 inches wide and 86<sup>1</sup>/<sub>4</sub> inches tall. If you have a locally fabricated cage, it must be inspected and approved before it can be safely used. If you're not sure your cage is approved, get it inspected by your safety office now.



⊙ Use tire inflation gauge, NSN 4910-00-441-8685. It comes with 10-ft hose, quick disconnect coupling and two coupler adapters. Attach the gauge assembly to your air supply hose with the straight pipe-to-tube adapter, NSN 4730-00-266-0533, that's in the Common No. 1 or No. 2 shop set's brass fitting kit. (These items may also be in your vehicle's AAL list).

Use inflator gauge with 10-ft hose



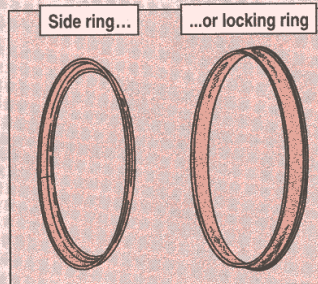
### Doing the Work

⊙ If you're working with a single-piece wheel, inflate or deflate it either in a cage or on a positive wheel lock-down device (automatic tire mounter/demounter) or while it's mounted on the vehicle. This info is also good for bolt-together wheels, like those on the HMMWV.

⊙ If you're working with a multi-piece wheel, inflate or deflate it only in an OSHA-approved cage. Multi-piece wheels can be identified by a retaining ring or side flange which is seated in a groove around the rim. The ring or flange holds the tire bead in place.

Side ring...

...or locking ring



## Step by Step

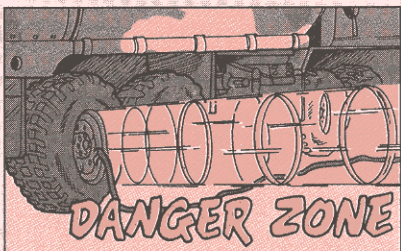
⊙ Stand a minimum of 10 feet away from the wheel and to the side, facing the tire tread. That's why you need the inflation gauge that has a 10-ft hose. It gets you away from the danger zone. That's the area in front of or behind the rim or facing the tire sidewalls. Make sure no one stands in the danger zone while you're adding or removing air.

⊙ Reseat the tire bead by adding air up to 40 psi. If the TM-recommended air pressure for the tire is less than 40 psi, inflate it to no more than the TM pressure.

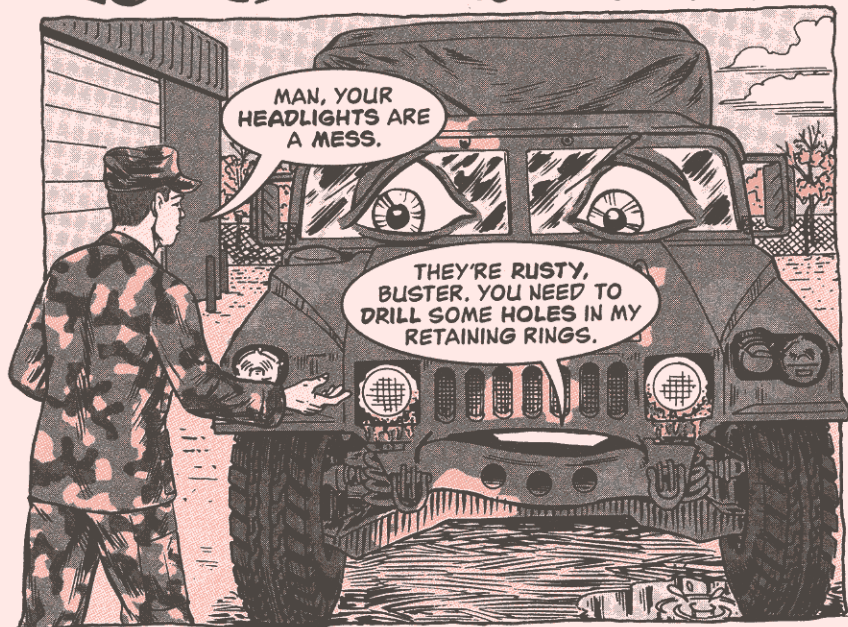
⊙ Carefully inspect the assembly so that the tire bead and rim components have seated right. Don't use more than 40 psi or any other method to force the bead or components to seat. If it's not working right, deflate the tire and lubricate the bead area. Then reinflate to 40 psi. If the bead and components still don't seat, deflate the tire, demount it, disassemble the wheel and check the tire, rim and wheel components for damage.

⊙ Once the bead and rim components seat right, add air to the TM-recommended pressure.

⊙ Check the final seat of the bead and rim components before removing the wheel from the cage or installing it on the vehicle. If you notice anything that doesn't look right, do not remove the wheel from the cage until it's safe to do so.

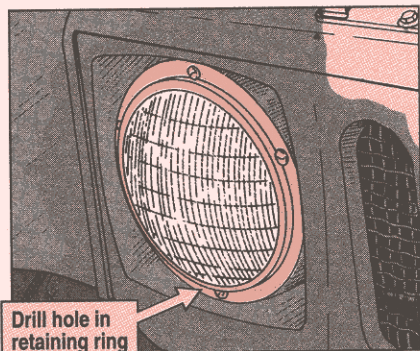


# Let the Water Out



If rust is attacking the headlight retaining rings on your HMMWVs (or any other wheeled vehicle, for that matter), take a drill to the rings.

A  $\frac{9}{64}$ -in hole drilled  $\frac{3}{4}$  inch from the inside edge of the ring drains water trapped between the headlight mount and the ring.



'Course, you'll need to remove the ring, clean the area where you're going to drill, and then paint the area after you've finished drilling.

Use NSN 8010-01-229-7546 to get a 1-qt can of CARC topcoat for the painting.

This procedure will work on any vehicle that uses headlight retaining ring, NSN 5365-00-832-5650.

HMMWV...

# Clean Windows Right

**T**hose plastic windows in your soft-top HMMWV's doors can't stand up to abrasive cleaners and still do their job. The wrong stuff will scratch the plastic or turn it cloudy.

Here's how to keep windows clean and clear:

- Wash with soap, water and a clean, soft cloth.
- Rinse with clean water.
- Apply hand cleaner, NSN 8520-00-082-2146, or NSN 8520-00-782-3509, with a clean, soft cloth or sponge.
- Wipe the cleaner off immediately with a dry cloth.




## Good Caps

**Dear Editor,**

**When HMMWV repairmen put on a new power steering pump, they should hang onto the plastic caps that come with the new pump.**

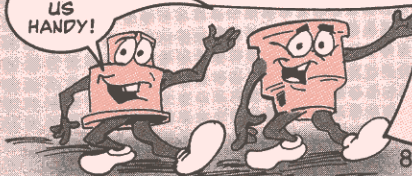
**They're perfect for capping the oil cooler lines when you pull the HMMWV radiator.**

**SPC Joshua Cuoio  
Schofield Barracks, HI**

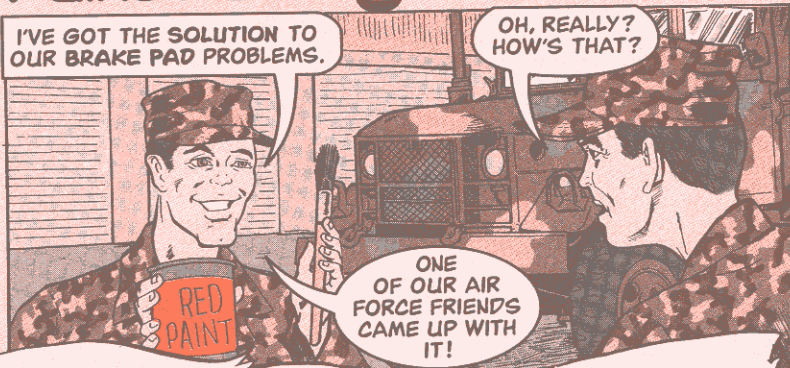
**FROM THE DESK OF THE Editor** 

We tip our caps to you. The caps are a handy item to keep in your toolbox. In addition, NSN 5340-00-450-5718 will get you a whole selection of caps and plugs for about \$10.

**KEEP  
US  
HANDY!**



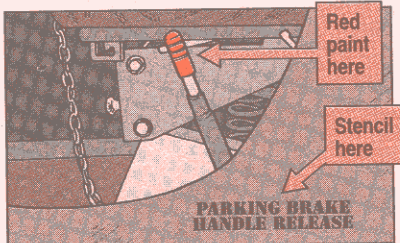
# Paint Parking Brake Lever



**Dear Editor,**

*Some drivers leave the 2 1/2- and 5-ton truck's parking brake set while driving. That ruins brake shoes, leaving you with no emergency brakes.*

*Our unit had the same problem until we came up with this fix: Paint the parking brake's handle with red paint. Then stencil "Parking Brake Handle Release" in red letters on the truck's body next to the driver's seat.*



*No more engaged brakes, no more ruined brake pads.*

**TSGT Brian E. Eastman**  
224th JCSS  
Brunswick, GA

**FROM THE DESK OF THE Editor**

*Your idea sure puts the brakes on ruined shoes.*

## M939 Fuel Tank Parts

**T**here are two new NSNs in Fig 23 of TM 9-2320-272-20P for your M939/A1-series truck's fuel tank assembly. The strainer element gasket—Items 3, 11 and 21—is NSN 5330-01-299-6616. The machine plug—Items 8, 18 and 26—is now NSN 5364-01-298-4877.

M101A2, M116A2/A3  
Trailers...

# A CRUSHING BLOW



Dear Editor,

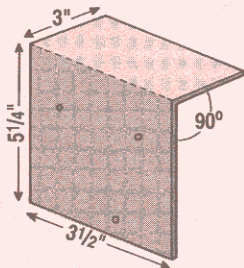
The metal vent tube for the brake master cylinder on the M101A2 and M116A2/A3 trailers is constantly abused.

The tube is mashed and torn loose by misplaced feet. HMMWVs with extended tailgates hit it every time the tailgate is lowered.

A crimped tube allows pressure to build up in the master cylinder. A broken tube creates a fluid leak. Either way, the trailer could soon be without brakes.

We've solved the problem by making a guard for the vent tube out of 1/8-in sheet metal. Make the guard like this:

Drill holes in the guard to fit the bolts on the channel assembly.



SPC Craig Billings  
24th Signal Bn  
Ft Stewart, GA

FROM THE DESK OF THE Editor



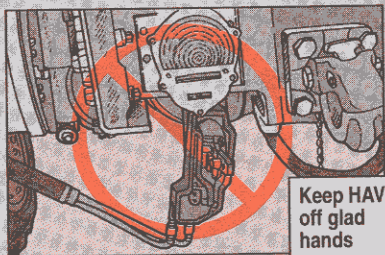
That's one way to guard against a crushed vent tube!

# TWO STEPS GO HAND-IN-HAND

**D**rivers, remember two very important things when using the M978 tanker's hand-activated valve (HAV).

First, the HAV should stay in your hands at all times when pumping fuel.

Some drivers slide it over one of the tanker's glad hands to keep fuel flowing without holding on to the control. It's convenient, but it's also hard to stop pumping quickly if you need to.

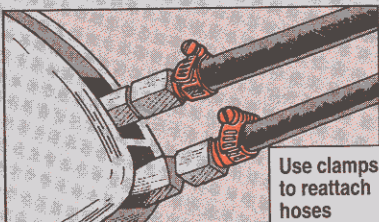


Keep HAV  
off glad  
hands

Second, always walk the HAV back to its reel when you're finished pumping. If you let it fly, the rough landing damages the air hoses.

If the HAV is lucky enough to make it through the reel window on the fly, it still takes a beating. The jolts on the air lines can be bad enough to pull the hoses away from the control.

If a hose pulls away from the HAV, fix it yourself. Just cut off a couple of inches of hose and push it back over the fitting. Then, secure the hose with a screw-type hose clamp, NSN 4730-00-363-4102.



Use clamps  
to reattach  
hoses

Clamps or no clamps, though, you should always walk the HAV back onto its reel.

OUCH!! THERE  
GO THE AIR  
HOSES! WHY CAN'T  
HE JUST WALK MY  
HAV BACK?



# Prevent Vent Cap Leaks

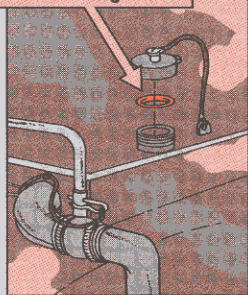


**Operators**, just check the vent caps for leaks—don't remove them for any reason. That's your mechanic's job.

**Mechanics**, replace any cork gasket that has dried out with a rubber gasket, NSN 5330-01-065-8849. A dried out cork gasket lets fuel leak when the trailer's loaded with more than 6,000 gallons of fuel.

Once you remove the cork gasket, apply antiseize tape, NSN 8030-00-889-3535, to the vent pipe threads. Install the rubber gasket in the cap, then put the cap on the vent pipe and tighten with a pipe wrench.

Replace cork gasket with rubber gasket



# Raise Clearance Light Bar

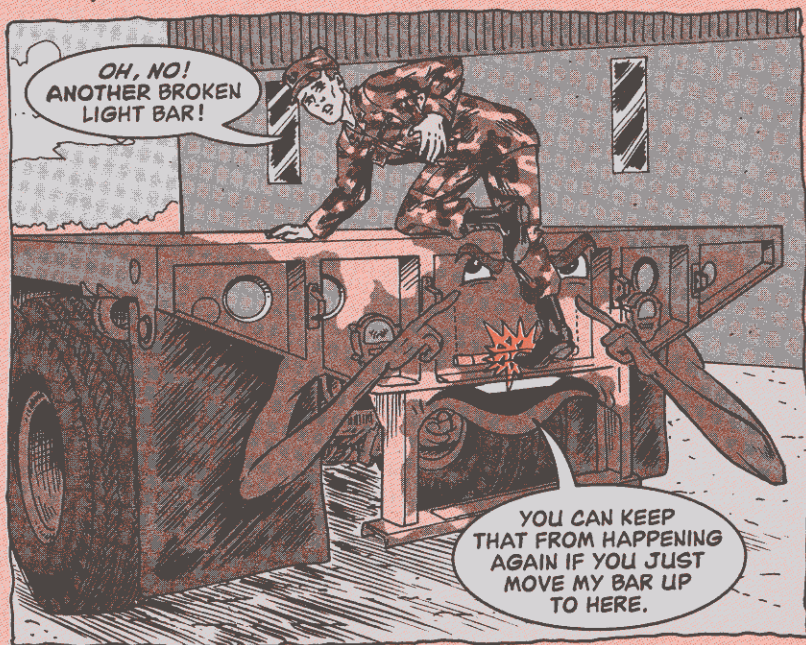
The clearance light bar on your M871A2 semitrailer's rear bumper is right in the wrong place.

The light bar is just above the bumper's reinforcement plate. That plate is a handy second step for anyone climbing onto the semitrailer. Problem is, the light bar's reflectors get hit and broken by climbers' boots.

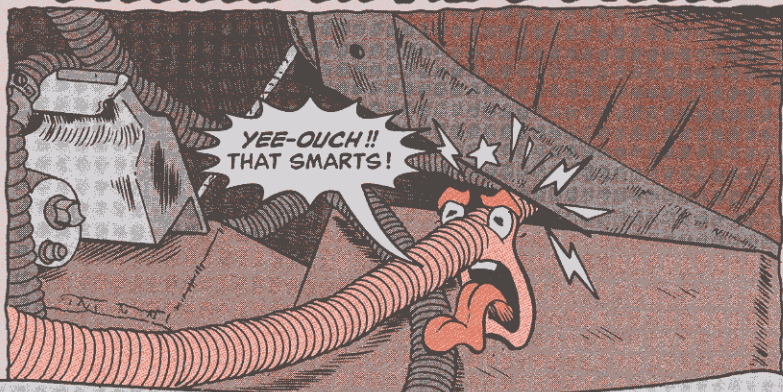
Here's a quick fix to move the light bar out of harm's way:

- ✓ Disconnect the wiring harness behind the light bar and remove the light bar. Page 4-27 of TM 9-2330-386-14&P tells how.
- ✓ Use the light bar to mark the location of the new mounting holes 10 inches directly above the old ones.
- ✓ Drill 1/4-in holes and use CARC paint, NSN 8010-01-229-7546, for touch-up around the holes and the old location.
- ✓ Mount the light bar using the original mounting hardware. Reconnect the wiring harness.

Finally, make sure the lights work when you're done.



# Hooked on NBC Hoses



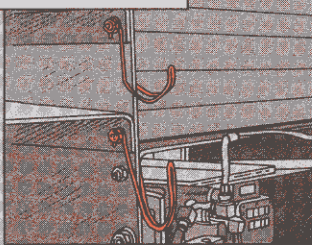
Dear Editor,

The NBC hoses inside the cab of our MLRS get crushed every time the seats are raised and lowered.

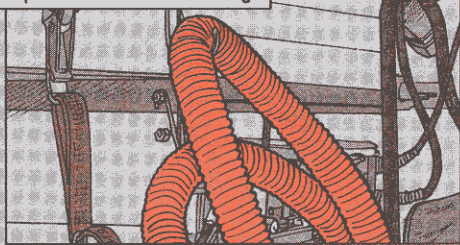
It's not long before the hoses have to be replaced.

Here's my solution. Make a pair of hooks out of some metal clothes hangers from home. Then attach the hooks to the back of the cab using the existing screws in the radio shelves like this:

Homemade hooks...



...protect hoses from damage



The hooks make it easy to keep the hoses out of the way. They're cheap and easy to make, especially when you consider how much it costs to replace NBC hoses.

**SSG Kenneth Morse**  
5/17th FA  
Ft Sill, OK

FROM THE DESK OF THE Editor 

You've really hooked us with that suggestion! If your homemade hooks have any sharp edges, cover them with duct tape. That'll protect the NBC hoses.

# Under Wraps

Dear Editor,

When rainwater collects in the MLRS's hull, it shorts out cables and connectors.

Leaving the hull drain plugs open lets out excess water, but doesn't keep the cables and connectors from getting wet in the first place.

The best way to prevent water damage is to cover the cab and engine portion with a waterproof tarp. A 12x17-ft tarp comes with NSN 2540-00-587-2532.

CW2 Steven Locascio  
5/17th FA  
Ft Sill, OK

FROM THE DESK OF THE Editor

You put the wraps on that problem!

KEEP YOUR  
MLRS ELECTRONICS  
DRY WITH A  
WATERPROOF  
TARP.



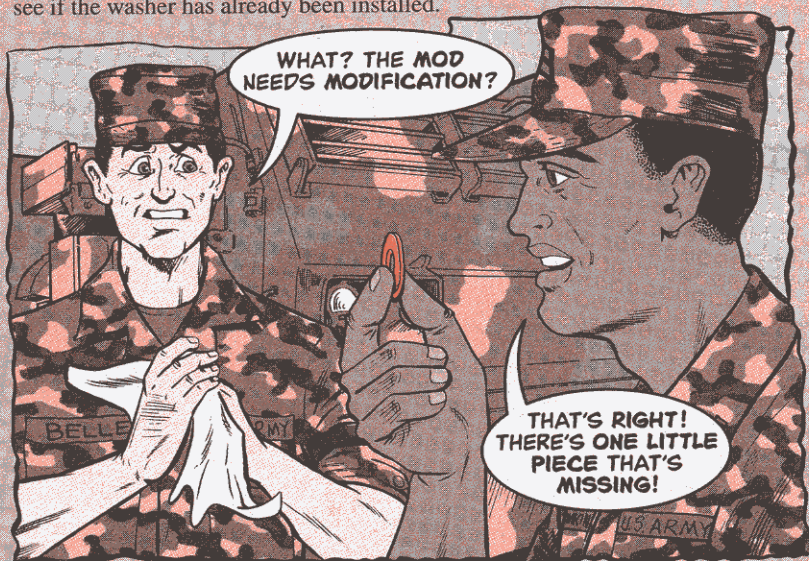
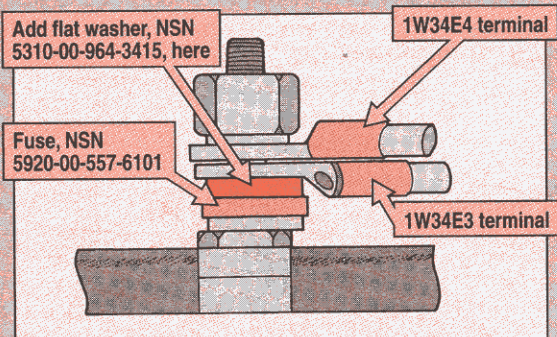
# Modified Mod

**M**echanics, it's not often you have to modify a mod, but you may have to on some MLRSs.

MWO 9-1450-646-55-1 added an interconnect relay box kit, NSN 2815-01-408-9301, for the second generator. Once the kit's installed, though, the 1W34E4 and 1W34E3 cable terminals press down against the relay box's limiter fuse, NSN 5920-00-557-6101. Eventually, the fuse breaks.

Protect the fuse by adding a flat washer, NSN 5310-00-964-3415, between the limiter fuse and the 1W34E3 terminal. The washer takes the pressure instead of the fuse.

The washer was recently added to the modification kit, so check your vehicles to see if the washer has already been installed.



# STE-M1/FVS Upgrade Update

The latest STE-M1/FVS software update—C12—is now available. C12 lets you test all M2A2 Bradleys and all Abrams except M1A2s.

Upgraded sets will have stickers  
stickers that say THIS UNIT  
IS EQUIPPED WITH  
C12 PROGRAMMING  
on the VTM and CIB, and  
on their carrying cases.

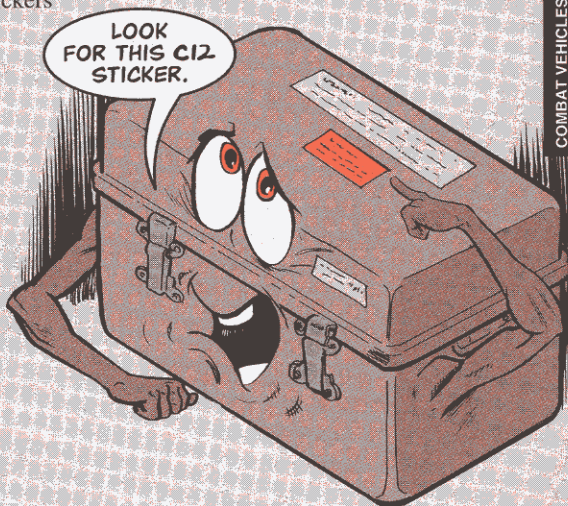
If you're not sure your  
set has been updated, or if  
you have questions about  
test procedures, contact  
your local TMDE Support  
Center or call the

STE-M1/FVS Tech Line:

1-800-229-3458 CONUS

0130-81-8694 Germany

0078-16-800-7547 Korea



M2/M3-Series Bradley ...

## Resolve to Check Resolver

Dear Editor,

Most Bradley mechanics think something is wrong with the ISU (integrated sight unit) when the boresight reticle for the TOW or 25-mm gun does not move. This can cost them a lot of time because the troubleshooting info in TM 9-2350-284-20-2-1 concentrates on the ISU.

We've found the problem is more often the TOW or gun resolver, not the ISU. So we save time by checking the resolvers first. The resolvers are covered in the troubleshooting. If they're OK, then we move on to the ISU.

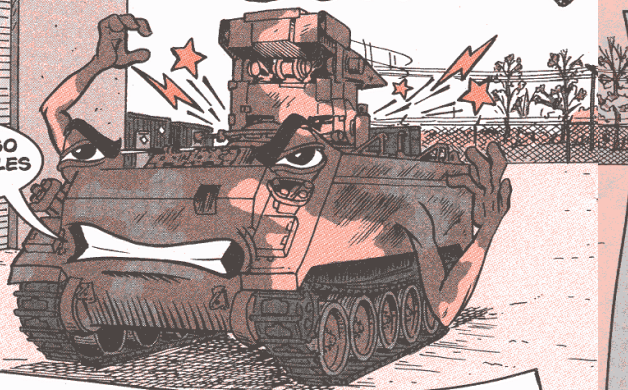
Gary Williams  
Arthur Holt  
Ft Benning, GA

FROM THE DESK OF THE Editor 

Good idea! Thank you for resolving this problem.

# Cabler

OWW! THERE GO MY G/VLLD CABLES AGAIN!



Dear Editor,

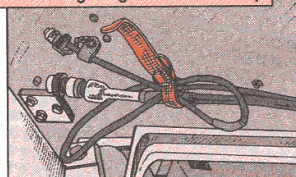
When FISTV units remove the G/VLLD and the night sight from the targeting unit (head), they have no good way to secure the cables. As a result, the cables are left dangling. The G/VLLD cables catch on the underside of the head during traversing and are ripped out. The night sight cable is slammed by the head's top door. You soon need new cables.

We've developed a system for storing cables. First, we glued a line supporting strap to the right top side of the head. HMMWVs use the straps in 15 different places, so there should be some around the motor pool. If not, order one with NSN 5340-00-589-5376. We use the strap to secure the night sight cable.

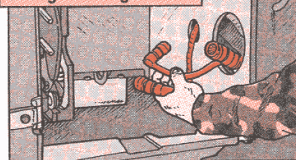
We run the G/VLLD cables back through the existing holes in the head. Then the cables hang safely inside the head.

Pete Williams  
Field Artillery School  
Ft Sill, OK

Secure night sight cable with strap



Run G/VLLD cables back through existing holes

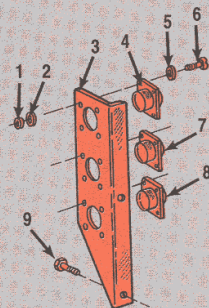


# Keepers

FROM THE DESK OF THE Editor

Your cable plan shows you're using your head. You can also protect G/VLLD cables by installing a connector stowage bracket. Here's what you need:

No.	Item	NSN	Qty
1	Nut, receptacle	5310-00-934-9739	12
2	Washer, lock	5310-00-543-2410	12
3	Bracket	5340-01-330-3242	1
4	Dummy connector	5935-00-938-1272	1
5	Washer, flat	5310-00-951-4679	12
6	Screw, receptacle	5305-00-889-2999	12
7	Dummy connector	5935-00-947-1036	1
8	Dummy connector	5935-00-891-4084	1
9	Screw, bracket	5305-01-163-5761	2



Or you can order the entire assembly with NSN 2590-01-365-7872. Installation instructions are on Page 5-42.2 of Change 1 to TM 9-2350-266-20.

M992-Series Ammo Carriers ...

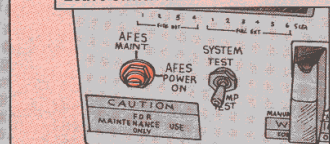
## Hands Off AFES

Crewmen, the automatic fire extinguisher system (AFES) test and alarm panel maintenance switch is off-limits.

The switch slot must stay turned to AFES POWER ON for the AFES to work. As designed, the system operates up to four hours after the master power switch is cut OFF, that protects against any fire that might start after you leave the vehicle.

If you turn the switch to AFES MAINT, you turn off this extra protection. That's asking for trouble. The only time the switch slot should be in this position is when your unit mechanics pull maintenance on the system.

Leave switch turned to AFES MAINT



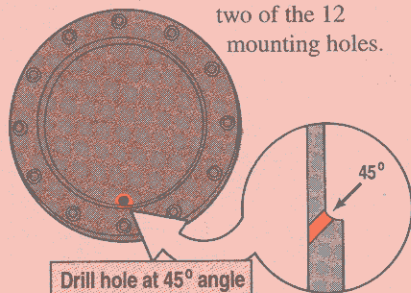
# DRAIN AWAY PROBLEMS



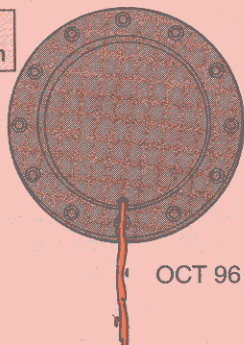
**W**ater that collects in the trunnion area of your M198 howitzer's top carriage assembly has nowhere to go. It just sits there and rusts the bearings.

Prevent that damage by drilling a small drain hole in the bottom of the carriage assembly cover. Here's how:

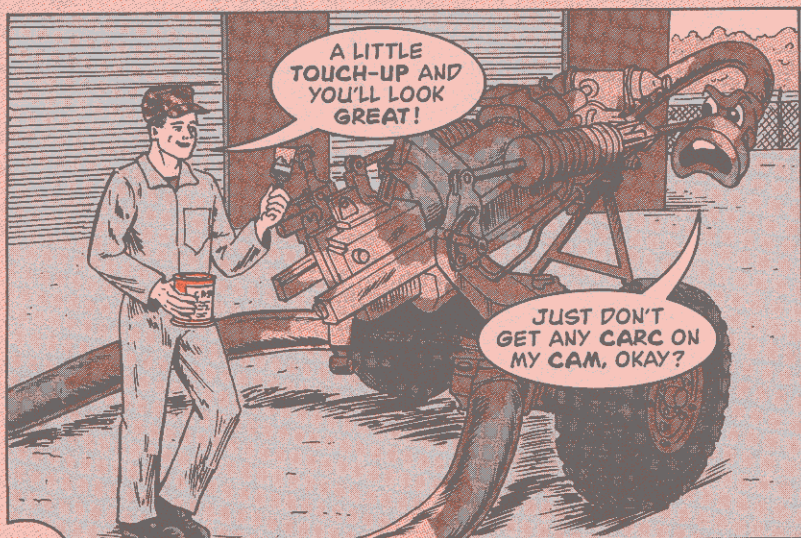
1. Remove the cover and gasket from the top carriage.
2. Lay the cover on a flat surface with the inside facing up. Draw a chalkline through the center of two of the 12 mounting holes.
3. Drill a  $\frac{3}{16}$ -in hole, at a  $45^\circ$  angle, on the chalk line at the base of the counter bore.
4. Put the gasket and cover back on the top carriage—with the drain hole at the 6 o'clock position.



Modified cover  
lets water drain



# Cover That Cam



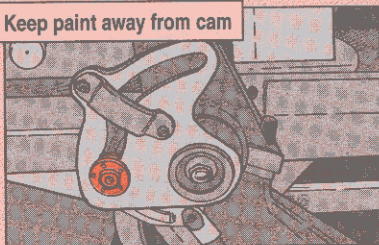
**T**ouching up your M119A1 towed howitzer with CARC paint is a good way to keep rust and corrosion from getting a foothold. Just make sure you keep that paint away from the cam on the variable recoil mechanism's connecting link.

The cam is supposed to move smoothly up and down the connecting link when the howitzer is elevated or depressed. Just a little paint can freeze the cam in place. The next time you fire, the cam pin snaps.

Before you paint, cover the cam with masking tape. Then, check closely for paint residue after you remove the tape.

If you find any, remove it with a scraper or small screwdriver.

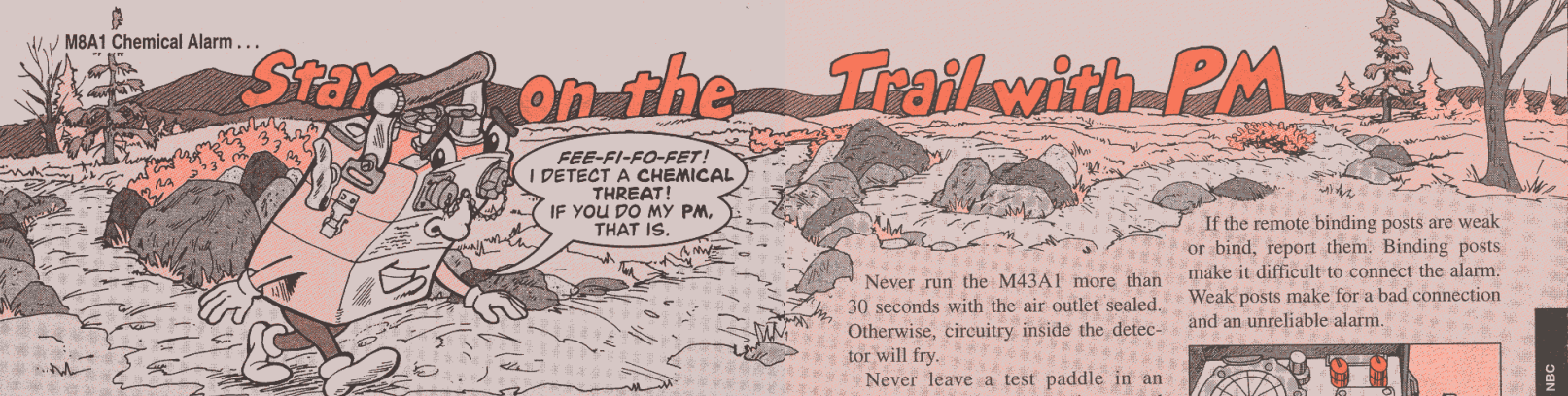
Keep paint away from cam



## Wrench for M119A1

Item 46 on Page B-11 of TM 9-1015-152-10 gives the wrong NSN for the adjustable wrench used on the M119A1 howitzer. You need NSN 5120-00-473-6476. Make a note until the TM is updated.

# Stay on the Trail with PM



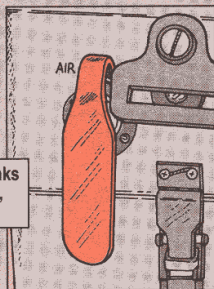
If you want your M8A1 alarm to stay on the trail of chemical threats, you need to keep it alert with PM. Use this PM to keep your M8A1 sniffing away:

## PMCS

If the M8A1's M43A1 detector has been sitting unused for weeks, it probably will take longer than 15 minutes for the meter to reach the green zone. Sometimes the M43A1 just has to run until its pump stabilizes.

If the M43A1 flunks the flowmeter test, the air outlet cap is probably leaking. Get a new cap from your NBC NCO.

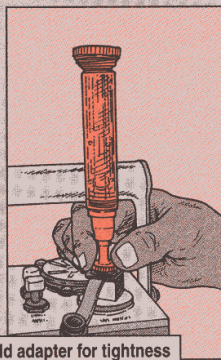
If detector flunks flowmeter test, get new cap



If the air outlet unit is loose, the M43A1 will still flunk the test.

Using your fingers only, turn the outlet nut clockwise until it's hand-tight.

If the detector still flunks, check that the rainshield adapter is tight. Still no luck? Time to report it.

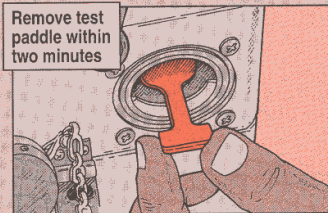


Feel rainshield adapter for tightness

Never run the M43A1 more than 30 seconds with the air outlet sealed. Otherwise, circuitry inside the detector will fry.

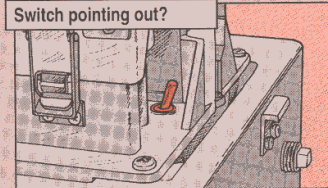
Never leave a test paddle in an M43A1 longer than two minutes and never try more than two paddles. Otherwise, you contaminate the detector cell and it takes a long time to purge it.

Remove test paddle within two minutes

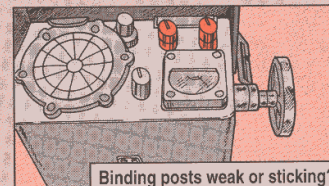


If the M43A1 is not responding to tests at all, it could be the toggle switch is turned off. The switch should point out, away from the pump module. Flip it if necessary.

Switch pointing out?



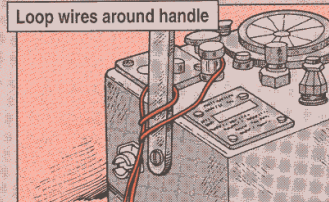
If the remote binding posts are weak or bind, report them. Binding posts make it difficult to connect the alarm. Weak posts make for a bad connection and an unreliable alarm.



## In the Field

When you remote the detector to the alarm, tie off nine inches of wire at the loop on the side. If the loop's missing, wrap the wire around the handle. Both prevent the wire from being jerked loose if someone trips on it.

Loop wires around handle



Warn people before you test the alarm. Otherwise, you could come back to your unit and find everyone dressed in chemical gear...and glaring at you.

# There's Life in It Yet

THE M12A1 DECON IS AN OLD HORSE YOU CAN STILL RIDE THROUGH THE NBC MINEFIELDS...

...IF IT'S BEEN GIVEN THE PROPER CARE.

HERE'S HOW TO KEEP ME RUNNING.

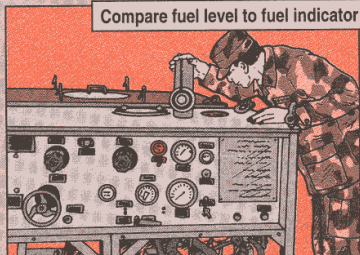
## BEFORE PMCS

**F**aulty fuel indicators are showing up in the field. If your M12A1 has a bad indicator, you could be happily deconning when suddenly yours sputters to a stop, even though the indicator shows plenty of fuel.

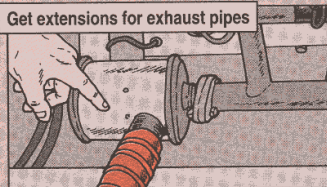
A bad indicator's easy to spot. Just look in the fuel tank and compare the fuel level with what the indicator says. If there's a big difference, tell your repairman. Until you get a new indicator, make sure the crew knows to check the tank, not the fuel indicator, for the fuel supply.

Make sure the M12A1 exhaust pipes have flexible exhaust extensions, NSN 2990-00-994-0827, to vent fumes away from you. If there aren't any, check your unit's motor pool. The 13/4-in diameter exhaust extensions used with trucks may work.

Compare fuel level to fuel indicator



Get extensions for exhaust pipes

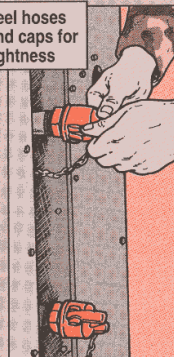


Remember, the extensions get almost as hot as the exhaust pipe. Wear gloves or use a thick rag to pick up the extensions.

## In the Field

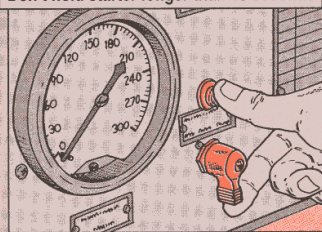
Before you start the M12A1, make sure either the hoses or protective caps are tightly screwed on the suction and discharge pipes. Those connections will be under lots of pressure. A loose hose or cap can blow right off.

Feel hoses and caps for tightness



The starter heats up fast if you let it turn over and over. Do not hold the starter longer than 15 seconds. Then give it a minute to cool off.

Don't hold starter longer than 15 seconds



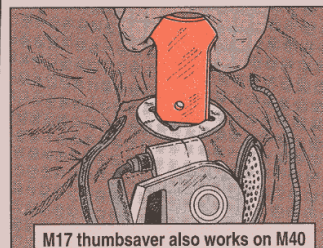
As soon as the engine sounds like it's going to catch, release the starter switch, but keep the OIL PRESSURE SWITCH pushed in until the oil pressure reads more than 20 psi.

## M40 Thumbsaver

Dear Editor,

To unscrew the M40 mask's voicemitter retaining ring, you're supposed to use the mask carrier's D-ring. Sometimes the D-ring just doesn't give enough leverage. If the retaining ring's tightly screwed in, you'll have a tough time removing it with the D-ring.

The solution may be right in the NBC room. The old M17 mask's thumbsaver works perfectly on the M40's ring.



M17 thumbsaver also works on M40

If you don't have a thumbsaver, the directions for making it are in Fig E-1 of TM 3-4240-279-20&P.

SGT Darryl Clark  
Chemical School  
Ft Sill, OK

FROM THE DESK OF THE Editor

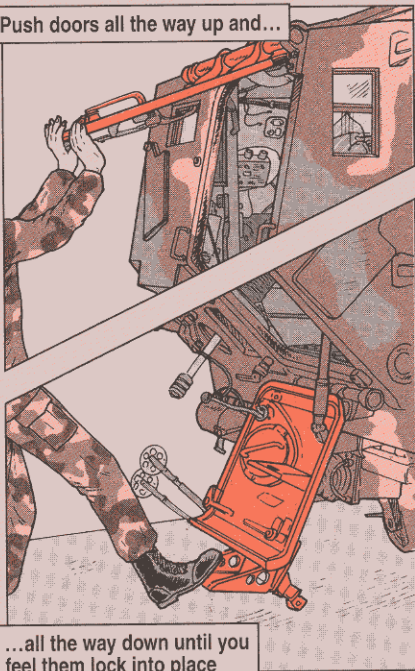
I've thumbed through your suggestion and I think it will save thumb aggravation. Thanks.

# IT CAN BITE

**T**here are two parts of your Fox that can bite if you're not careful.

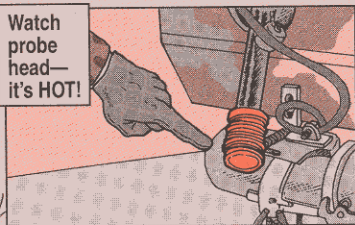
1. The rear door is heavy and spring-loaded. If a door is not securely locked in place, it can fly up or down and strike you in the head or groin. When you open the door, just keep pushing until you feel it lock in place. Then you know you're safe from a flying door.
2. When the Mobile Mass Spectrometer's sampler heater is running, the sampler probe on the rear of the Fox gets very hot. Its temperature may reach 500°F. So make every effort to stay away from the probe head. If you have to touch the probe, wait until it cools. Wear the gloves in the accessory box to keep from contaminating the probe.

Push doors all the way up and...



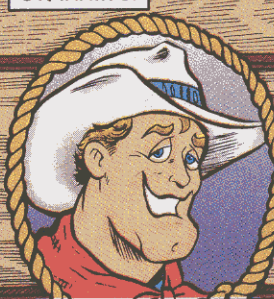
...all the way down until you feel them lock into place

Watch probe head—it's HOT!



# Sore in the Saddle

STARRING:



**REX STERLING,**  
THE OFF-KEY  
SINGING COWBOY

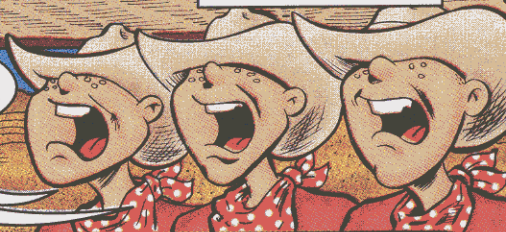


**HIS SIDEKICK,**  
**GRUBBY HAZE**



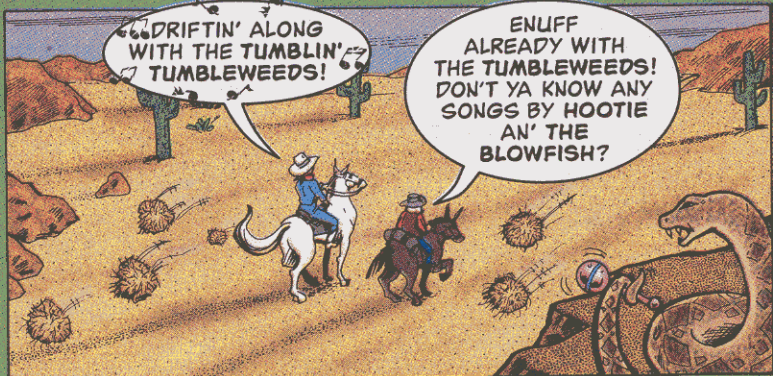
**AND FEATURING,**  
**TARNATION,**  
THE WONDER MULE

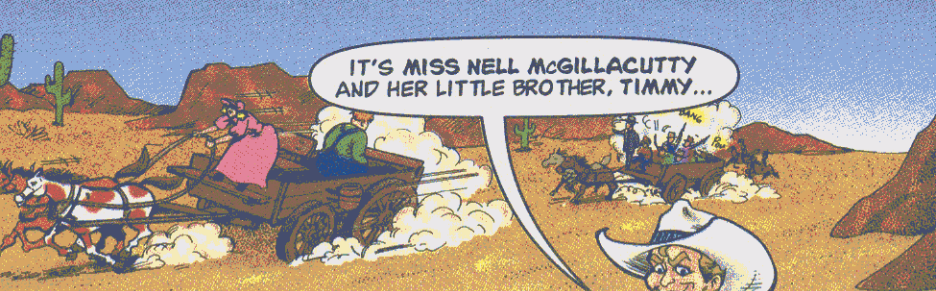
RIDIN' HERD ON  
LONGHORNED CATTLE—  
CAUSED HIS ACHIN' BONES  
TO RATTLE—  
HE WAS SORE,  
DREADFUL SORE,  
IN THE SADDLE!



DRIFTIN' ALONG  
WITH THE TUMBLIN'  
TUMBLEWEEDS!

ENUFF  
ALREADY WITH  
THE TUMBLEWEEDS!  
DON'T YA KNOW ANY  
SONGS BY HOOTIE  
AN' THE  
BLOWFISH?



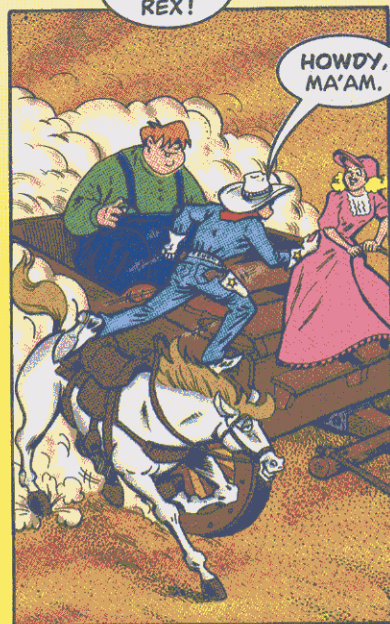


IT'S MISS NELL MCGILLACUTTY  
AND HER LITTLE BROTHER, TIMMY...



...WITH EVIL  
JACK SLADE AND  
HIS HIRED GUNS IN  
HOT PURSUIT!

DO  
SOMETHIN',  
REX!



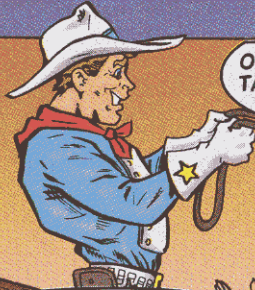
HOWDY,  
MA'AM.



IN HOT PURSUIT...

HEY!  
WHAT'S GOIN'  
ON?!

LOOKS  
LIKE WE  
GONNA  
CRASH,  
EVIL  
JACK!



OH, THANK YOU,  
TALL, HANDSOME  
COWBOY!

SLADE, HUH?  
DADGUMMIT, THAT  
LOWDOWN, DRY GULCHIN'  
TWO-BIT VULTURE, HE'S  
MEANER THAN A SKILLET  
OF RATTLESNAKES!

EVIL JACK SLADE  
WILL STOP AT NOTHING  
TO RUN ME OFF MY RANCH,  
THE TWIN FORKS LAZY K DOUBLE  
BAR TOPAZ RED RIVER RANCH.



WHO FERGOT TO  
LUBE THE AXLE? IT  
WASN'T MY JOB.

THESE SPOKES  
SHOULD'A BEEN  
REPLACED.

NOT  
MY  
JOB.

THOSE  
WHEEL RIMS  
COULD'VE USED  
TIGHTENING.

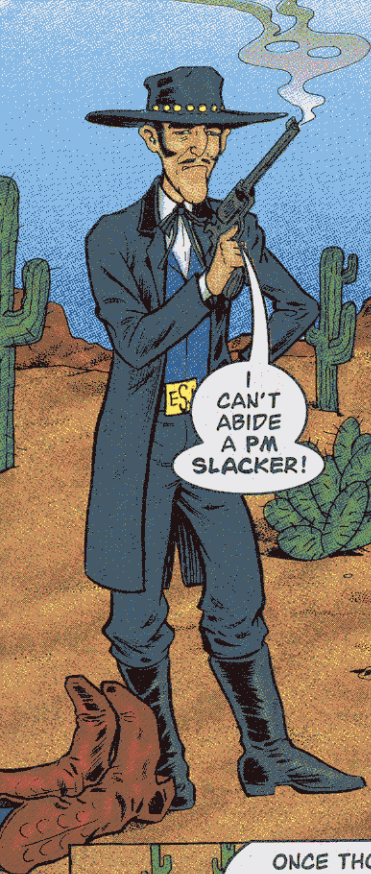
THAT  
HARNESS WUZNT IN  
SUCH GOOD  
SHAPE EITHER.

NOT MY  
FAULT!

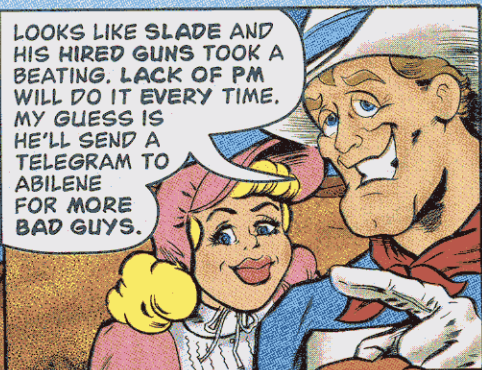
WHO'D I PUT IN CHARGE  
OF PM FOR THE WAGON?

I  
R-RECKON  
THAT'D BE  
M-ME, EVIL  
JACK.





LOOKS LIKE SLADE AND HIS HIRED GUNS TOOK A BEATING. LACK OF PM WILL DO IT EVERY TIME. MY GUESS IS HE'LL SEND A TELEGRAM TO ABILENE FOR MORE BAD GUYS.

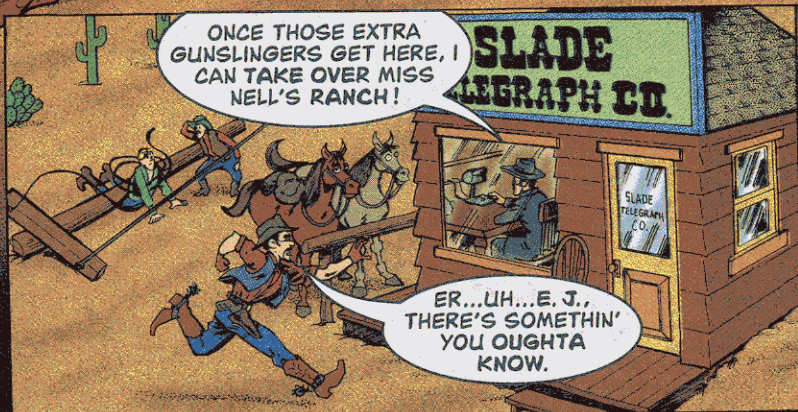


THERE'S NO TIME TO LOSE! WE BETTER GET MISS NELL AND LIL' TOMMY BACK TO THE RANCH.



WHATEVER, YA LIL' WHIPPER-SNAPPER.

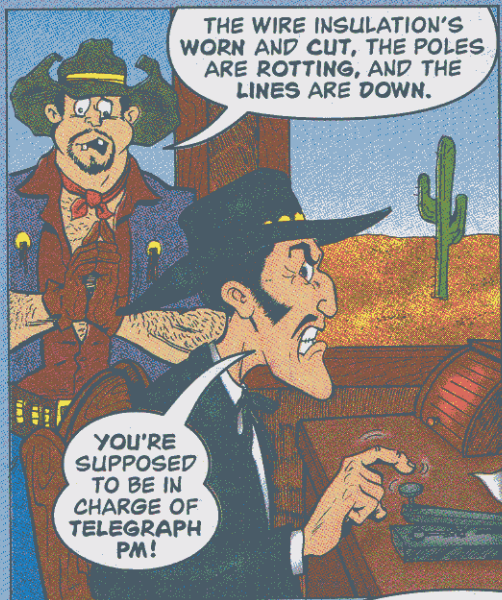
THAT'S TIMMY!



ONCE THOSE EXTRA GUNSLINGERS GET HERE, I CAN TAKE OVER MISS NELL'S RANCH!

SLADE  
TELEGRAPH CO.

ER...UH...E. J.,  
THERE'S SOMETHIN'  
YOU OUGHTA  
KNOW.



MEANWHILE,  
BACK AT THE  
RANCH...

WE'RE  
SURROUNDED  
BY EVIL JACK  
SLADE'S  
GUNMEN!

HOW'D  
WE GET  
INTO THIS  
FIX?

NO TIME TO EXPLAIN,  
TONY. YOU DRAW THEIR  
FIRE AND I'LL HIGH-  
TAIL IT OUTTA HERE  
TO GET HELP!

BUT I  
COULD GET SHOT,  
YOU OLD COOT!

...AND IT'S  
TIMMY!

WHATEVER,  
YA LI'L  
WHIPPER—

SHUT YER  
PIE HOLES!  
EVIL JACK IS  
BACK! HE'S  
CALLING  
REX OUT.

SO, YOU  
THOUGHT YOU  
COULD RUN  
MISS NELL OFF  
HER RANCH?  
YOU FORGOT  
ONE THING, SLADE.  
YOU DIDN'T DO  
YOUR PREVENTIVE  
MAINTENANCE!

SMILE WHEN YOU SAY THAT,  
YOU TINHORN TENDERFOOT!

I SMILE WHEN I  
SAY EVERYTHING,  
YOU BUSHWHACKIN'  
FOUR FLUSHER!

YOU SMARMY  
SADDLE TRAMP!

SIDEWINDIN'  
VARMINT!

LILY-LIVERED  
GALOOT!

FANCY-PANTS  
POLECAT!

RING-  
TAILED  
GOAT  
ROPER!

YOU,  
YOU...UH,  
EXCUSE ME,  
EVIL JACK.

-WHISPER  
WHISPER  
WHISPER-

YOU  
IMPERTINENT  
UPSTART!

THAT TEARS  
IT! NO ONE CALLS  
ME AN UPSTART  
AND GETS AWAY  
WITH IT! DRAW,  
STERLING!

ZING  
RING  
POW  
BLAM  
BLOOIE  
BANG  
SCREECH  
PLINK  
GRUNCH  
FLUERP  
ZAP  
BELCH

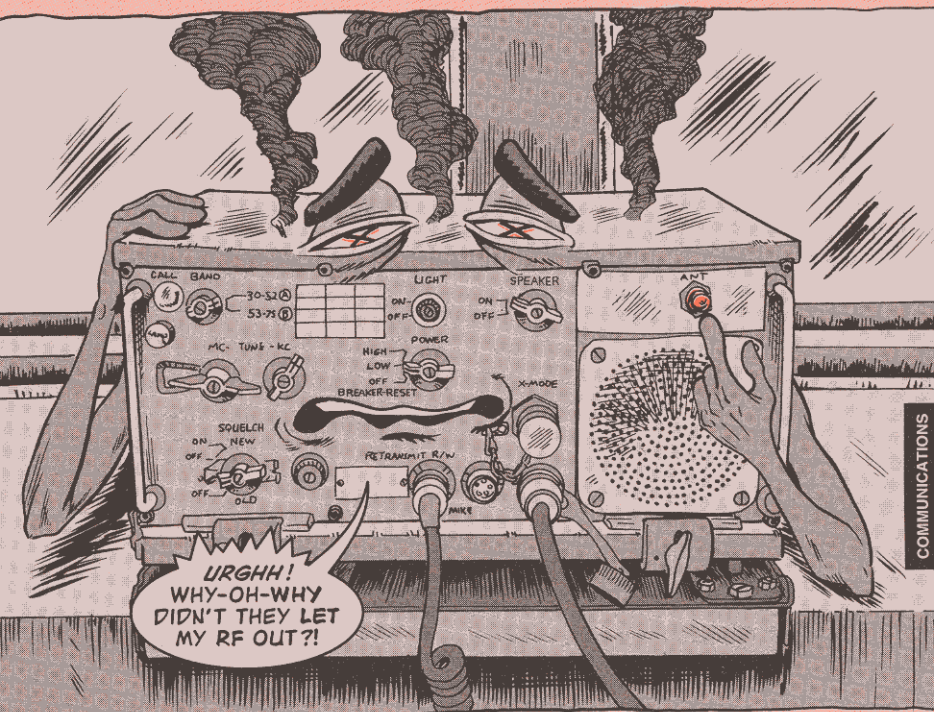
DRIFTIN' ALONG WITH  
THE TUMBLIN' TUMBLEWEEDS!

HERE WE GO AGIN.

**FORTY DAYS OF  
PUNCHIN' CATTLE—  
LEFT HIS BRAIN  
A WEE BIT ADDLED—  
YEP, HE WAS SORE, AWFUL  
SORE, IN THE SADDLE!**

FOOT  
HILLS

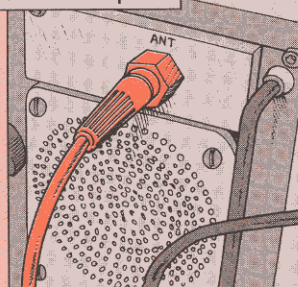
# We All Need An Outlet



**B**efore you key the handset on your AN/VRC-12-series radio, make sure the radio has an outlet—antenna, dummy load or test meter with dummy load—for its RF power output. Without an outlet, RF power is reflected, burning up the receiver-transmitter (RT).

If you have an antenna cable hooked up to the RT, make sure its connector is clean and snugged up to the antenna receptacle. A connector that's dirty, loose or not making contact can have the same effect as no outlet at all: High reflected RF power and burned up circuits in the RT.

Radio must have outlet for RF power



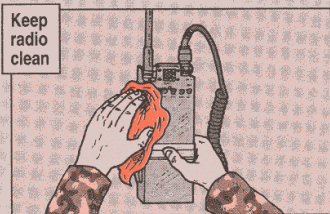
# Take Care of the Lil' Guy



**Y**our AN/PRC-126 radio set is just a little guy who can't look out for himself. Here's how to protect him from abuse and neglect:

## Cleaning

➕ Start by keeping the radio clean. Remove grease and ground-in dirt with a cloth dampened with solvent, NSN 6850-01-371-8049.



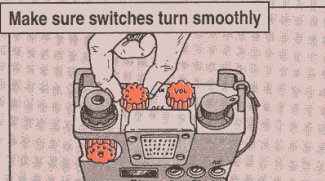
⊖ Clean loose dirt from the audio and antenna connectors with a dusting brush. For tougher cleaning jobs, use isopropyl alcohol, NSN 6810-00-753-4993, and a foam swab, NSN 7045-01-154-1317.

➕ Shake loose dirt from the carrying pouch, then wipe it with a clean, damp

cloth. Never soak it in water or use an abrasive cleanser on it. That could wear away its waterproofing. After cleaning, hang the pouch out to air dry to prevent mildew.

## Switches

⊖ While cleaning your radio, check the volume, channel selector and antenna matching switches. Make sure they turn smoothly, and that they're not loose. Tighten the setscrews on loose switches with the 3/64-in hex wrench found in the TK-101 electronic tool kit.

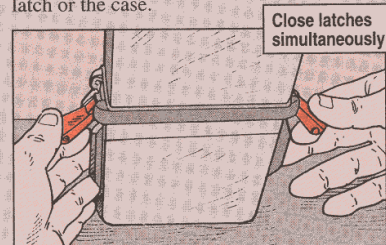


➕ Never force a switch. It'll just break and spin. Broken switches leave you without volume control, channel selection or antenna matching capability.

## Battery Box

⊖ Make sure the side guards for the battery box latches are in good shape. Without side guards, latches take a beating, and broken latches leave the battery box open to moisture.

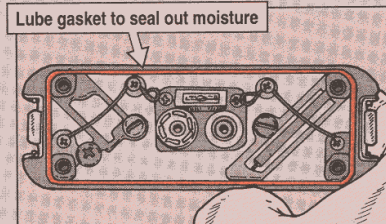
➕ Make sure the battery box and the receiver-transmitter (RT) are lined up before you fasten the latches. Close both latches at the same time. Closing them one at a time can break a latch or the case.



⊖ A rubber pad on the inside bottom of the battery box keeps the battery snug against its contacts. Replace cracked, worn or missing pads with NSN 5330-00-942-5120.

➕ Lube the rubber gasket on the bottom of the RT with silicone compound, NSN 6850-00-880-7616, before you attach the battery box. That helps seal out moisture. If the gasket looks cracked or worn, ask DS to replace it.

If you use the secure voice module, make sure you lube its rubber gasket, too.



## One-stop Service

**I**f you have a SINGGARS problem that needs an immediate solution, there's help.

Team SINGGARS works closely with item managers to make sure you get answers for equipment, supply and technical questions fast.



**Supply Support:** DSN 992-5042  
(908) 532-5042

**Engineering and quality:**  
DSN 992-5376  
(908) 532-5376

**Logistics and maintenance:**  
DSN 992-5015  
(908) 532-5015

**Fax:** DSN 992-5079  
(908) 532-5079

For information on equipment fieldings, such as slippage in date or quantity required, call:

ITT Airborne: DSN 987-3044  
(908) 427-3044

ITT Ground: DSN 987-3040  
(908) 427-3040

**General Dynamics Ground:**  
DSN 987-3043  
(908) 427-3043

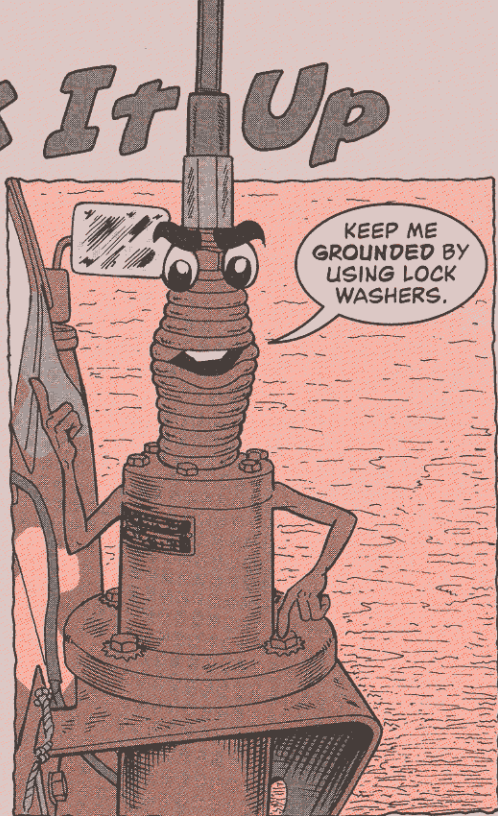
**Fax:** DSN 987-3061  
(908) 427-3061

# Lock It Up

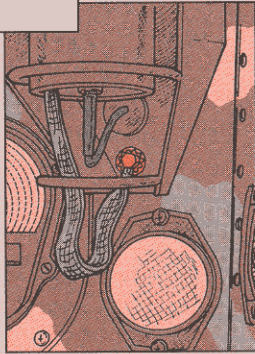
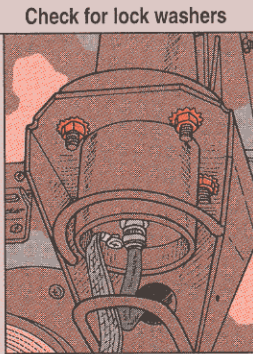
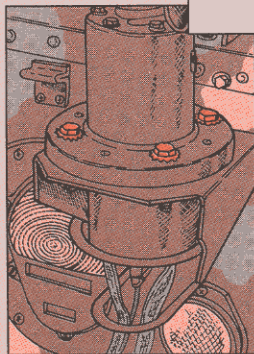
Getting a good ground for your SINGARS AS-3900 vehicular antenna? If not, maybe you didn't use enough lock washers when you installed it. The lock washers help hold the screws—and thus the antenna—tightly to the mount, creating a safe ground.

Make sure you have four lock washers above the antenna's retaining ring, one for each screw. You should have four more below the mount.

You'll also need lock washers where the ground strap attaches to the mount, one on each side of the strap. Another washer



Check for lock washers



should be inside the vehicle chassis. You say you don't have enough lock washers? Get them with NSN 5310-00-061-1258.

# More Radio Installation Kits

SB 11-131-1 lists a variety of radio installation kits used in the M998 and M1038 soft-top HMMWVs. But it doesn't list them all.

HERE ARE SOME MORE KITS TO HELP YOU INSTALL YOUR RADIOS RIGHT.



Radio Set	Installation Kit	LIN	NSN	Qty
AN/GRC-160	MK-2502***	J48402	5820-01-208-1901	1
	MK-2149*	J71679	5895-01-125-1031	1
AN/GRC-240	MK-2827		5895-01-408-5166	1
AN/VRC-46	MK-2502***	J48402	5820-01-208-1901	1
	MK-2146**	J71475	5810-01-125-1029	1
	or MK-2147**	J71543	5810-01-125-4680	1
AN/VRC-47	MK-2503***	J48470	5820-01-208-1902	1
	MK-1967*	J31622	5810-01-074-2687	1
	MK-2146**	J71475	5810-01-125-1029	1
	or MK-2147**	J71543	5810-01-125-4680	1
AN/VRC-49	MK-2505***	J48606	5820-01-208-1904	1
	MK-2153*	J71815	5810-01-125-1033	1
	MK-2146**	J71475	5810-01-125-1029	2
	or MK-2147**	J71543	5810-01-125-4680	2

\* Used with communication security equipment KY-57.

\*\* Use either kit for secure communication for a RT-524 using a TSEC/KY-57. The only difference is the length of the cables. The MK-2146/VRC has 7-ft cables and the MK-2147/VRC has 4-ft cables.

\*\*\* For HMMWVs with cargo covers, order antenna offset kit, NSN 5985-01-258-0037 that moves the antenna a few inches from the side of the vehicle, making it easier to tie down the antenna. You'll need two offset kits for the AN/VRC-47 and two for the AN/VRC-49.

# Keep 'em Maintained and Charged

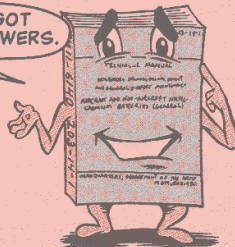


SOME MAINTENANCE PROBLEMS REFUSE TO GO AWAY, LIKE POORLY MAINTAINED NICAD BATTERIES. HERE'S HOW TO START DOWN THE RIGHT ROAD TO GOOD BATTERY PM.

## By-the-Book Maintenance

When it comes to Nicad battery PM, it must be done by the book! That means having TM 11-6140-203-14-1, Aircraft and Nonaircraft Nickel-Cadmium Batteries (General), and TM 11-6140-203-23, Aircraft Nickel-Cadmium Batteries, close at hand.

I'VE GOT THE ANSWERS.



## Safety

Any time you work around chemicals, and especially chemicals under pressure or subject to change, you must wear safety equipment. If you don't, you leave yourself open for blindness and chemical burns. A mistake here can get you a face full of potassium hydroxide.

### Wear safety equipment



So, when you inspect, clean or service a battery, wear rubber gloves, NSN 8415-00-266-8675; an apron, NSN 8415-00-082-6108; and a face shield, NSN 4240-00-202-9473. Wear eye glasses instead of contact lenses. Potassium hydroxide will fuse contact lenses to the surface of the eye on contact.

If your job requires charging batteries, check the weather.

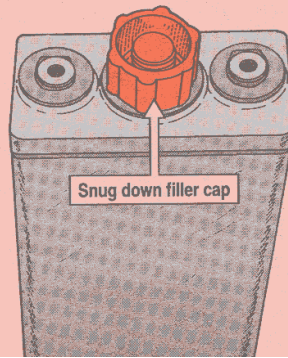
Charging at high temperatures requires lower charging voltages and makes the Nicad battery give off more gas. Battery gases are explosive. Be sure that batteries are charged in well-ventilated areas. Do not smoke or allow an open flame near the battery during charging.

## Inspect and Clean

Inspect and clean Nicads every 30 days or 25 flight hours, whichever comes first, like it says in Table 2-1 of TM 11-6140-203-23. The exceptions are the BB-558/A in the OH-58D, the BB-716/A in the UH-60, the BB-432B/A in the CH-47D, and the BB-664/A in the AH-64, which require unit level maintenance every 30 days or 50 flight hours like it says in Table 2-2.

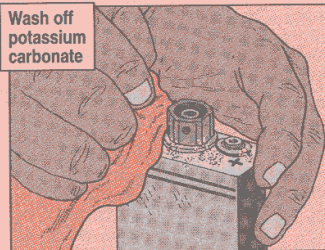
In extreme temperature areas, like the desert, you may have to clean more often.

Follow the cleaning instructions in Para 3-8 of TM 11-6140-203-23. Before you wash, snug down the filler caps. Wash with a sponge or soft cloth



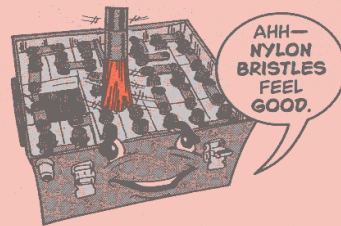
using distilled water, if available, drinking water if not. Potassium carbonate, that white stuff on top of the battery, is highly soluble and will do the job of soap.

Wash off potassium carbonate

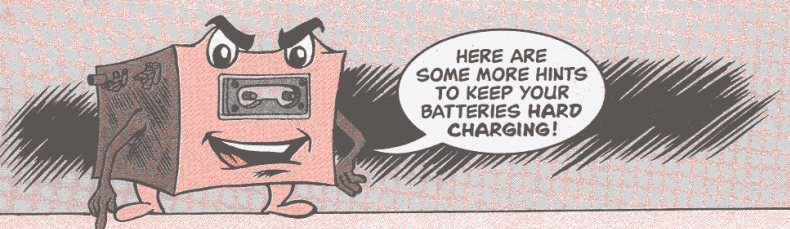


Make sure you get the potassium carbonate off, though, because it's also a corrosive.

To clean stubborn corrosion, use a nylon bristle brush, not a wire one. A wire brush could short out the battery.



Don't even use a wire brush to clean off the tray and the box. A wire brush will remove or scratch protective coatings and give corrosion a good place to grow. Even stubborn corrosion can be removed with a nonmetallic stiff bristle brush and elbow grease.



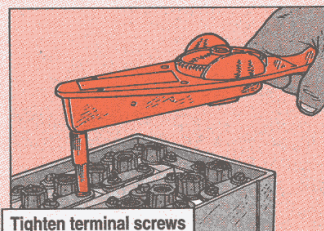
## Loose Filler Caps and Terminal Screws

Tighten loose filler caps carefully with vent plug wrench, NSN 5120-00-087-2969. Never use pliers. They'll crack or break the plastic caps.



Tighten loose caps

Use torque wrench, NSN 5120-00-117-4832, and the right adapter to tighten loose terminal screws. Torque 8-32 screws to 20-25 lb-in and 10-32 screws to 35-50 lb-in. Make sure they're in straight and not cross-threaded.



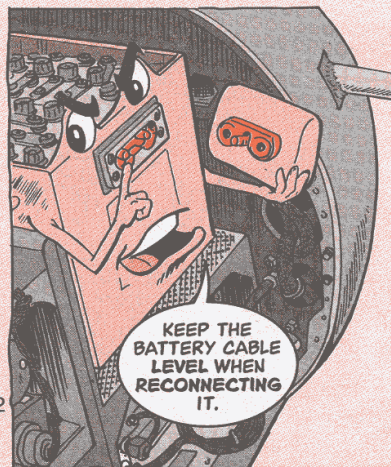
Tighten terminal screws

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Be careful when you tighten positive terminal screws and studs. If a wrench touches metal and causes a short circuit, you and your equipment could suffer. Wrap the wrench handle with cloth tape. Coat the terminals after torquing with corrosion preventive compound, NSN 8030-00-903-0931. Some mechanics prefer silicone compound, NSN 6850-00-880-7616, and that's OK.

While the battery is disconnected, prevent shorting of the terminals by using the plastic caps from oil sample tubes, NSN 4710-00-933-4415.

When reconnecting the battery cable, hold it level as you push it in the receptacle. Forcing it in at an angle strips the recessed pins in the receptacle.

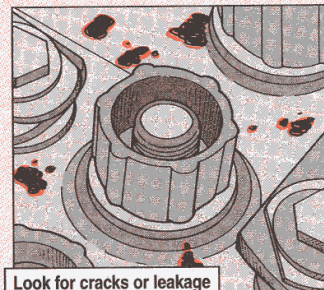


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## Electrolyte Leakage

Eyeball the tops of cells for cracks and telltale signs of leakage.

Electrolyte spewing out of an over-filled or cracked cell forms potassium carbonate that can clog vents, short-circuit the battery and cause gassing and overheating.



Look for cracks or leakage

If you find or suspect leakage for any reason other than loose filler caps, remove the battery and get it checked out.

A new filler cap, NSN 6140-01-332-1878, is now available which will fit all Nicads, except for the BB-716/A used in the UH-60. This new cap has a small baffle to help reduce electrolyte leakage. Check your Nicads to make sure they have the new caps. The new cap is blue.

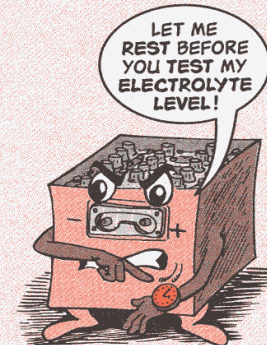
If your job is to check electrolyte levels, don't forget the rest time limitations. Check Table 3-9 in TM 11-6140-203-23 for the times for the aircraft you're working on.

As a battery discharges, electrolyte is absorbed in the plates and separators of a cell. There is no way to get an accurate electrolyte reading on a discharged battery. As a battery is charged,

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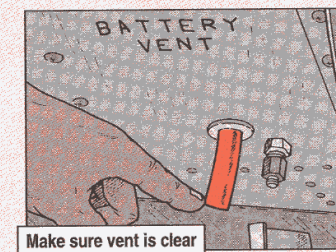
the electrolyte level rises and may peak with a temporary high reading.

Letting a fully charged battery rest is the only way to get the right reading of 1/4 inch above the top of the plates.



## Clogged Vent Lines

Vent lines ventilate the battery compartment during flight. They also make a convenient nesting place for many kinds of bugs and insects. If vent lines get plugged there is no place for battery fumes to escape except through the cockpit. Disconnect the vent hoses at the battery end and use low pressure air—no more than five psi—to make sure they're clear.



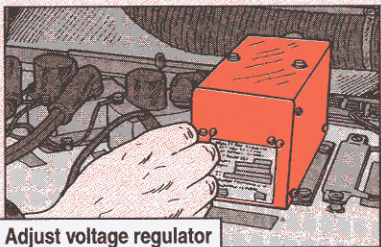
Make sure vent is clear

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PS MORE

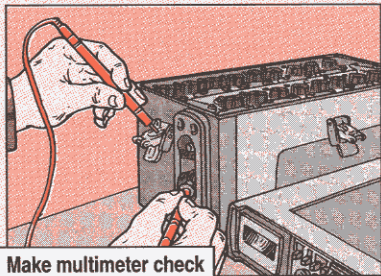
## Voltage Regulator Adjustment

Get your bird's electrician to adjust the voltage regulator. If the regulator is set too high, the battery can overheat



Adjust voltage regulator

and lose electrolyte. Use the AN/PSM-45 multimeter in your AVUM No. 2 tool kit to make the voltage check



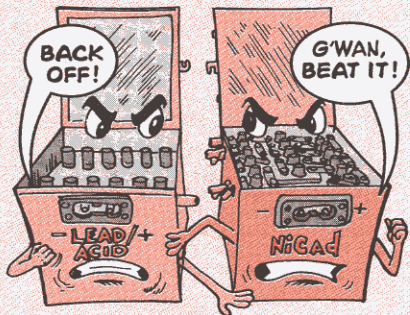
Make multimeter check

and the electrical leakage check spelled out in Para 2-7 or TM 11-6140-203-23.

For the UH-60, CH-47, and AH-64, get your avionics technician to check the battery charger for proper operation.

## Storage

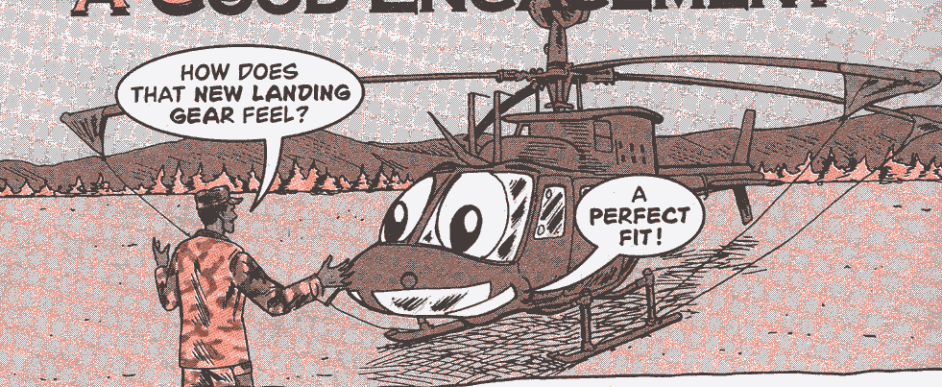
Like oil and water, the chemicals in Nicad (potassium hydroxide) and lead-acid (sulfuric acid) batteries just don't mix. Lead-acid fumes can ruin a Nicad battery. Also, the mixing of fumes could cause an explosion!



So keep Nicads as far away as you can from lead-acid batteries. Separate shops are best, but if that's not possible, use separate benches. Put the benches at opposite ends of the battery shop, and mark each area clearly.



# A GOOD ENGAGEMENT

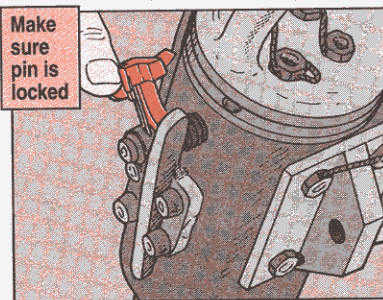
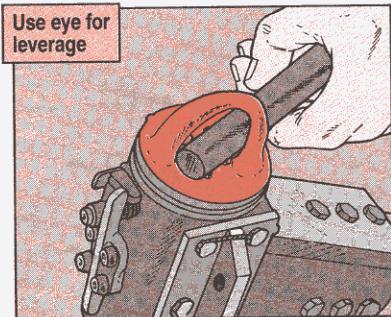
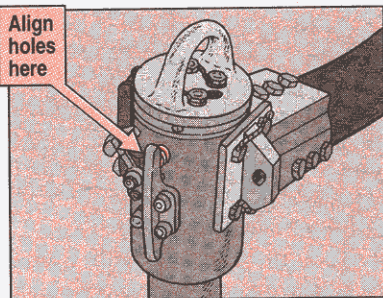


**I**f your Kiowas have rapid deployment landing gear, make sure the locking mechanism on the crosstube fitting will engage.

If the landing gear leg won't fit straight in the crosstube fitting, the locking pin won't fully seat. That could mean a collapsed landing gear.

To make sure the pin seats, you may have to twist the fitting to line up the hole in the top of the landing leg with the one in the fitting. Use the eye on the crosstube fitting for leverage. Twist until the holes are aligned.

Then eyeball it to make sure the pin locks in place.

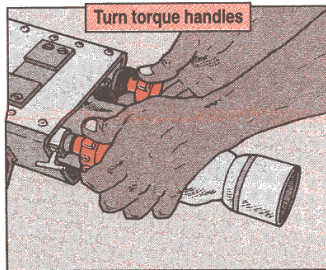


# KEEP YOUR COOL(ANT)

**Y**ou better know what you're doing before you mess with the coolant reservoir on the air-to-air version of the Stinger. The reservoir is under a lot of pressure—up to 6,200 psi. If its male disconnect unscrews from the reservoir, it can turn into a missile itself.

One flying reservoir buried itself in a double-walled steel door. Another flew 350 yards.

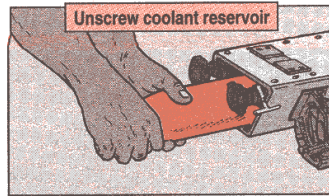
Remove the reservoir from the launcher like this:  
**1.** Turn the two reservoir torque handles two turns counterclockwise to



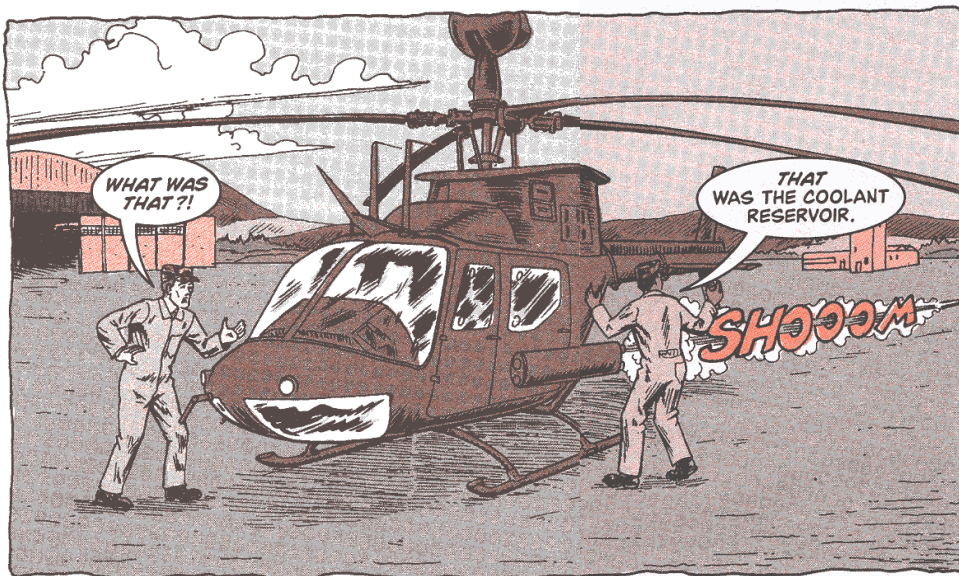
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release the launcher locking shoes. **Do not stand behind the launcher while you do this procedure.**

**2.** Unscrew the coolant reservoir roughly three turns counterclockwise—or until you feel the mechanical stop.

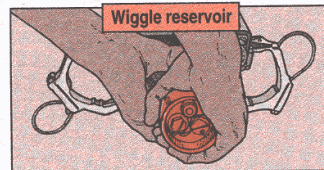


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has to pop out to release the bottle. Gently rotate the handles away and down from the launcher to unlock the disconnect coupling.

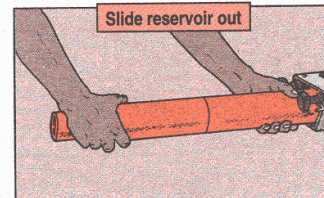
If it doesn't unlock, wiggle the reservoir back and forth—no more than 1/4 turn either way—until the reservoir unlocks from the launcher. If that



doesn't do the trick, call your repairman. Something's wrong.

**Never** force the reservoir past the mechanical stop. That unscrews the reservoir's quick disconnect and the reservoir becomes ballistic.

**5.** Slide the reservoir out of the launcher with both hands. Put on the reservoir's protective collar.



You're done.

Always carry the coolant reservoir with two hands. Dropping the reservoir on a concrete floor is not cool.

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You may hear hissing as the quick disconnects disconnect.

**3.** Turn the reservoir 1/4 turn clockwise.

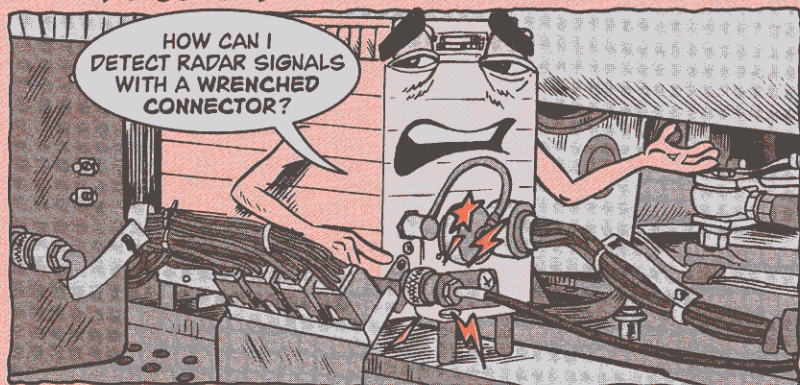
**4.** Press in on both quick release latches to pop out the release handles. Only one



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# How's Your Connection?



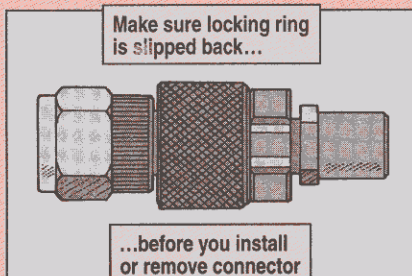
Your bird's AN/APR-39 radar signal detecting set is only as good as the cable connections that tie it together. Cables carry the data that indicate the threat. Poor connections mean garbled data. Garbled data means—well, you know the rest.

The number one cause of poor cable connections is too much torque. Torque the connectors only to 8 ( $\pm 0.3$ ) lb-in. That doesn't feel like much torque in a wrench-turner's hand and it's not. But the light torque prevents damage to the fragile connectors.

Use torque wrench, NSN 5120-00-169-5776 or NSN 5120-00-923-9620, to apply the torque. If you don't have it in your tool box, get supply to order one.

You may need two  $5/16$ -in wrenches to do the connecting job between the cables and the set. Maintain a light pressure and hold the connector steady with one wrench. With the other wrench, turn clockwise to install or counterclockwise to remove a connector. Remember, take it easy.

If you have self-locking connectors (as used on AH-64As with MWO 1-1520-238-50-06 installed), always make sure the locking ring is slipped back away from the connector before you attempt to install or remove the connector. If you don't, you'll twist the connector off the cable. You'll need  $3/8$ -in wrenches to do this job. After you make the connection, slide the locking ring back over the end of the connector.



# Span the PM Gap



PUT YOUR PM KNOWLEDGE TO WORK AND YOUR MEDIUM GIRDER BRIDGE-BUILDING JOB WILL GO A LOT EASIER. HERE'S HOW.

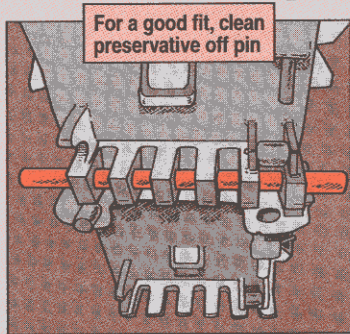
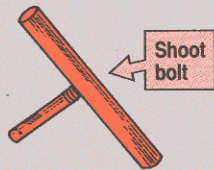
## Shoot Bolts and Pins

The panel shoot bolts and panel pins come with a coat of preservative to keep them from rusting while they're in transit or storage.

Before you use them, clean off the preservative. Otherwise they won't fit or work right.

Take the preservative off with solvent, P-D-680, NSN 6850-00-281-1985. Make sure you have plenty of ventilation when you use the solvent. After cleaning off the preservative with solvent, finish cleaning with detergent. NSN 7930-00-282-9699 gets a gallon.

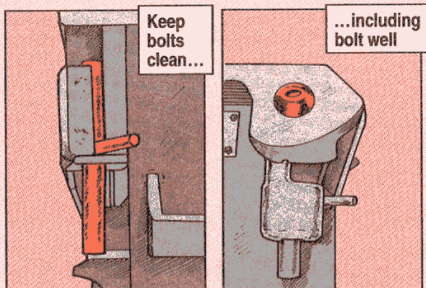
After cleaning, lightly coat the bolts and pins with general purpose lubricating oil. NSN 9150-00-273-2397 gets a gallon. This is the same oil you use in the bridge hydraulic jack.



To keep shoot bolts and pins clean after you start using them, clean with general purpose detergent also.

After you clean off the preservative, mud is your biggest problem with pins and bolts.

Hard, dried mud on dowels and panel shoot bolts, and in the dowel sockets, shoot bolt wells and panel pin holes, will turn your otherwise easy bridging job into a difficult mess.

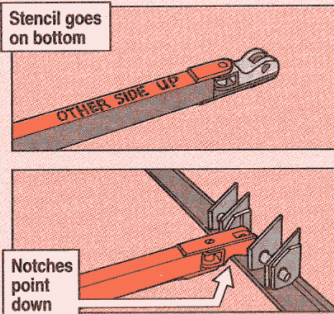


### Push Bar

Push bars should have **OTHER SIDE UP** stenciled on the bottom. Sequence 3, PMCS Table 2-3, TM 5-5420-212-23, has the information.

Double-check your push bar, because some have been stenciled on the wrong side. The bar will bend if you try to mount it with the curved part of the lugs turned up.

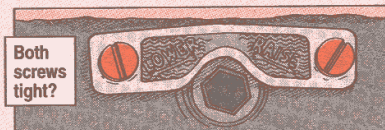
Keep the notches on the push bar lugs pointing down—toward the vehicle bumper—when you mount the adapter to the 5-ton dump truck.



### Hydraulic Jack

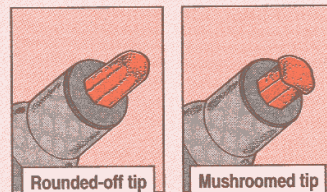
Take a look at the hydraulic jack's release valve screw, release valve identification plate and operating lever.

The RAISE-LOWER ID plate holds the release valve screw in place. Make sure the plate has both its screws. If one is missing or the plate is upside down, the hex screw can back all the way out. Without the screw, the jack doesn't work.

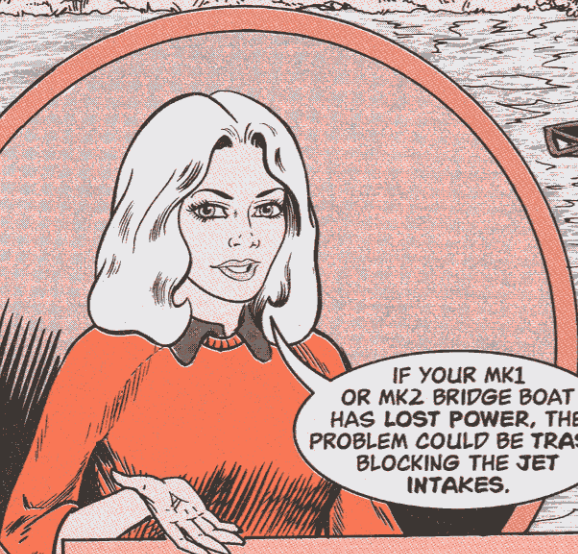


Turn the operating lever gently. Too much force will round off the male hex end. Your support then has to re-build it.

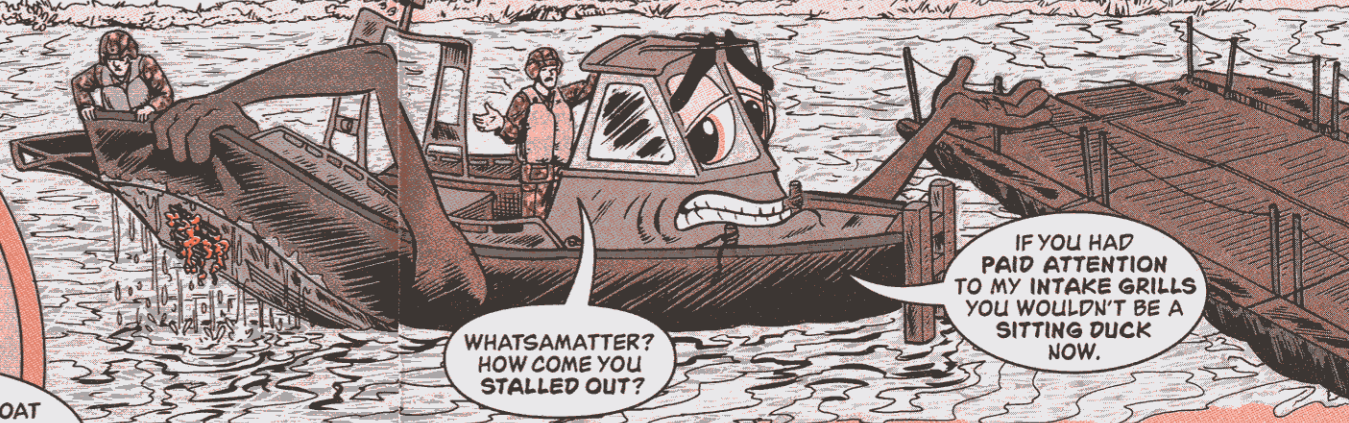
**Never** use the operating lever as a pry bar or as a punch bar. You'll bend it, break off the hex drive or mushroom the tip.



# Clear the Intake Grill



IF YOUR MK1 OR MK2 BRIDGE BOAT HAS LOST POWER, THE PROBLEM COULD BE TRASH BLOCKING THE JET INTAKES.



IF YOU HAD PAID ATTENTION TO MY INTAKE GRILLS YOU WOULDN'T BE A SITTING DUCK NOW.

1. Decrease engine rpm to idle

2. Push scoop controls all the way forward

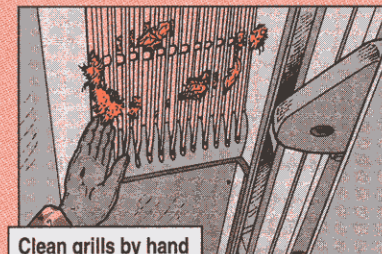
3. Pull transmission control levers to **NEUTRAL** for three seconds, then pull them to **REVERSE**

4. Increase engine rpm to high for two or three seconds, then drop rpm to idle

5. Shift transmission to **NEUTRAL** for three seconds, then shift to **FORWARD**

Following steps 1-5 should clean the trash out of the intake and increase your boat's power.

You may have to repeat the procedure several times. If you don't see any power increase after three times, recover the boat from the water, shut off the engine, and clean out the intakes by hand.



Clean grills by hand

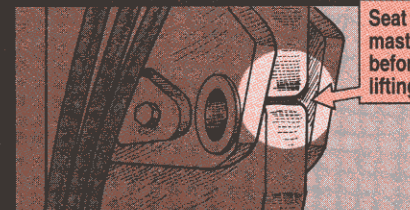
If you still have low power after all this, your problem is not trash in the intakes. Call your mechanic.

**Never** try to maneuver the boat while flushing the intake. The boat is difficult to control, and you can damage the hydro-jet units.

HMMH ...

## Seat the Mast

**M**ake sure the mast is erect and seated before lifting a heavy load with your high mobility material handler's crane. Otherwise, the pressure on the lift master cylinder will break the cylinder mounting bracket, spilling the load.



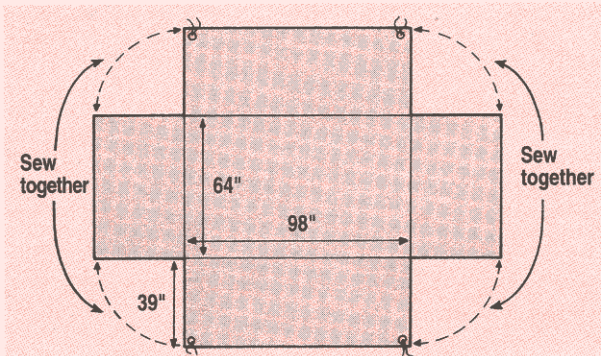
# Another Coverup

Dear Editor,

The MK-155 mine clearing line charge (MICLIC) usually sits uncovered in the field or motor pool, often for weeks.

As a result, water washes out the lubricants, starts corrosion, and—worst of all—gets in the hydraulic pump and freezes during cold weather.

A simple canvas cover dries up these water problems. Make a cover for each MICLIC as shown.



The cover can be stored in the prime mover during operations.

Werner Knoll

Logistics Assistance Office  
Ft Knox, KY

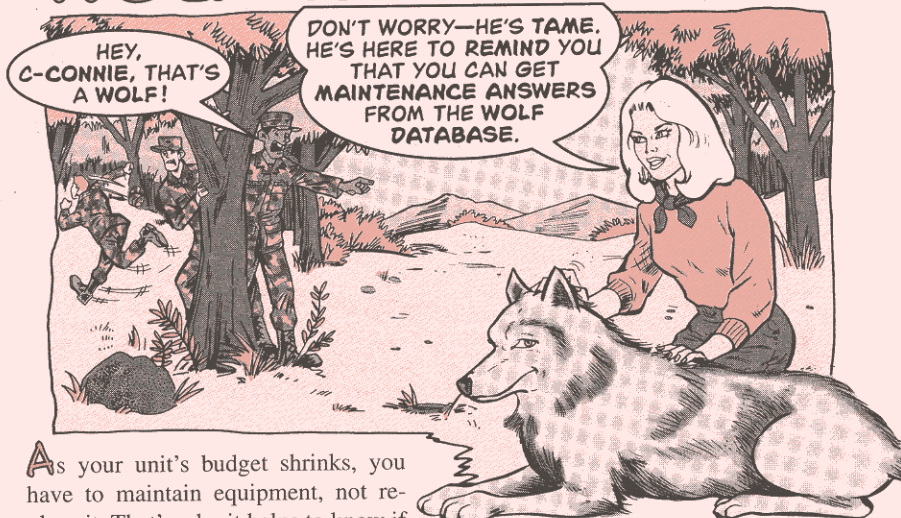
FROM THE DESK OF THE Editor 

Your suggestion covers the water problem nicely. Those who don't have a canvas shop can easily adapt something like an old 11 1/2-ton trailer cover for the MICLIC.



WOLF...

# WOLF to the Rescue



As your unit's budget shrinks, you have to maintain equipment, not replace it. That's why it helps to know if a particular part on all M1A1 tanks is causing problems, for instance, or how long a HMMWV is likely to be down for maintenance.

How can you get this information? Easy—just connect to LOGSA's work order logistics file (WOLF). WOLF clues you in to minor failures before they become big ones that could cause replacement of a major component.

WOLF can be used by any unit in the Army to find out the types of maintenance actions logged against a piece of equipment. All you need is a computer terminal and a modem.

You can use the equipment's NSN or EIC to query WOLF. Or if you want to narrow the search to a certain unit, you can use the unit's UIC.

You can get direct access to the WOLF with a password. Or, if you only need the database once in a while, LOGSA can get the info for you. To get a password or a maintenance work-up, contact LOGSA by writing:

**Executive Director  
USAMC Logistics Support Activity  
ATTN: AMXLS-RRS (WOLF)  
Redstone Arsenal, AL 35898-7466**

Or, for info, call:

**DSN 645-9709  
(205) 955-9709**

For passwords, call:

**DSN 645-9683  
(205) 955-9683**

Or fax:

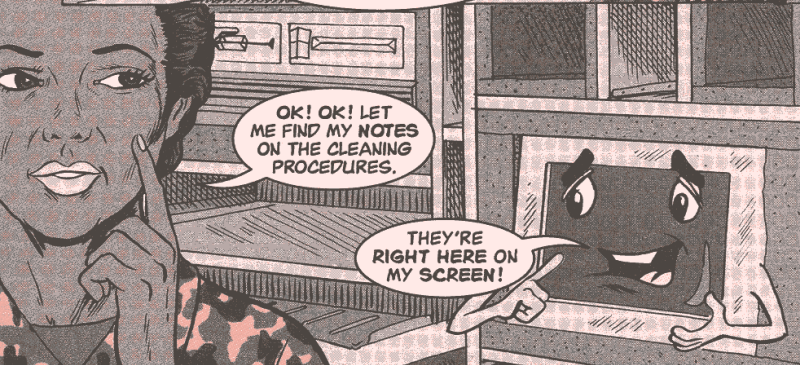
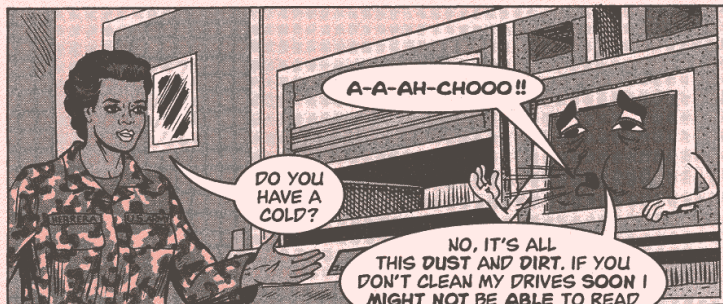
**DSN 645-9700/9666  
(205) 955-9700/9666**

Or e-mail:

**wolf@logsa.army.mil**

# Drive

# Dirt Away



1. Turn ON the computer and monitor.
2. Press the ESC (escape) key after the ULLS logon screen appears. This moves the cursor to the MS-DOS prompt.
3. Take the cleaning disk and solution from the cleaning kit. If the cleaning disk has tabs that cover the cleaning pad, remove them.
4. Read the kit's instructions for the right amount of solution to use. *Do not* put solution on the disk while holding it over the keyboard or computer. You could get solution inside the computer and short it out.
5. Place the cleaning disk in the disk drive and close the latch.
6. Engage the read/write heads for about 30 seconds. Do this by keying in "dir a:" or "dir b:" and pressing ENTER. This engages the heads for about 10 seconds. Press R for "retry" when you get the error message. This engages the heads for another 10 seconds. Do this twice.
7. Press A to abort after the error message reappears.
8. Remove the disk.
9. Reboot the system.

Publications ...

## Send Changes Electronically

**Y**ou can now send in your recommended changes to Army pubs by e-mail or fax. Here's how:

Command	e-mail address	Fax number
CECOM	AMSEL-LC-LEO-PUBS-CHG@cecom3.monmouth.army.mil	DSN 992-3421 (908) 532-3421
ACALA	amsta-ac-nml@ria-emh2.army.mil	DSN 793-0726 (309) 782-0726
MICOM	ls-lp@redstone-emh2.army.mil	DSN 788-6546 (205) 842-6546
ATCOM	mpmt%avma28@st-louis-emh7.army.mil	
TACOM	tacom-tech-pubs@cc.tacom.army.mil	DSN 786-6323 (810) 574-6323

Of course, you can still mail in the changes on DA Form 2028.

# Tell It Like It Is

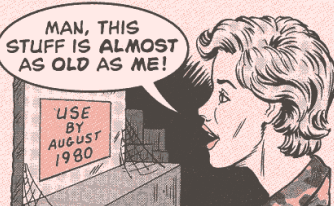


## Shipping

**T**he Report of Discrepancy (ROD) lets you gripe about shipping mistakes when:

- ✓ You get the wrong item or a substitute that won't work.
- ✓ You get more or fewer items than you ordered. The line item cost of each item should be more than \$100. However, send in a ROD on any classified, sensitive or controlled inventory item regardless of cost.
- ✓ The item has missing or incorrect data markings (such as the wrong NSN painted on the item).
- ✓ You get an item after you've canceled it and received a cancellation OK from support—if the item costs more than \$100. Send a copy of the status card

that OK'd the cancellation with the ROD.  
 ✓ You receive an item with an expired shelf life.



- ✓ You get a duplicate shipment.
- ✓ You get somebody else's order.
- ✓ You get status on an item—more than \$100 in value—telling you a government activity or depot is shipping you the item by parcel post, but it never arrives or arrives damaged.

- ✓ The supply paperwork (DD Form 1348-1) is wrong or missing.
- ✓ The condition code of the item you receive is wrong on the shipping document.

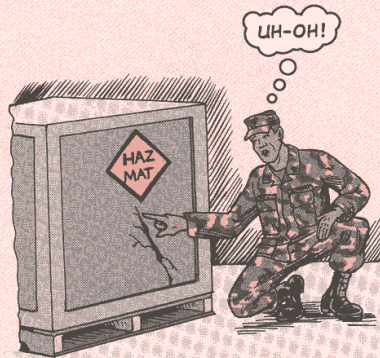
All errors on shipments from contractors or vendors should be reported on a ROD regardless of dollar value.

If the same error happens again and again from the same supply source, fill out a ROD no matter what the item costs.

## Packaging

Send in a ROD on packaging blunders when:

- ✓ Bad packaging leads to damaged materiel which may endanger your life or hinder combat or deployment operations. Contact the shipping activity or control point immediately. You need a hurry-up reply in this case. Then follow up with a written ROD within 24 hours.
- ✓ You get hazardous materials that are not packed properly.



- ✓ You get a package that failed to protect the item. It was damaged or lost—or parts of it were lost—and repairing it or replacing the missing parts will cost you more than \$50. If item, shipment or package costs \$2500 or more, fill out a ROD regardless of the repair or replacement cost.

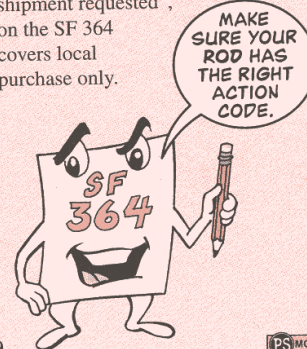
✓ You get an item without the proper reusable container. If a ROD is not submitted for these reusable containers, you might have to pay for a replacement when you send the part for overhaul/repair.

## Other Info

RODs make lots of noise. They get everyone's attention and save you money.

A ROD will not take the place of your supply request, though. If you still need the original item, put in a new request.

The action code 1E, "Replacement shipment requested", on the SF 364 covers local purchase only.



The ROD gives you some information on how to fill it out. Check the codes on the form carefully. The action codes help you ask for disposition instructions.

If you need more room to tell about your problem, use the Remarks block.

When you have both a shipping and a packaging problem on the same item, mark both boxes on the ROD.

To get credit for a packaging failure, put your unit's accounting fund cite in block 13 of the ROD.

Get help on where to send your SF 364 from AR 735-11-2, Reporting of Item and Packaging Discrepancies. If you don't have a copy, get your pubs clerk to order it from the Pubs Center.

TEC Lesson 645-093-7565-A, available from your local training folks, gives help on preparing the ROD.

If you don't have any SF 364s in stock, order a pad of 100 with NSN 7540-00-159-4442.

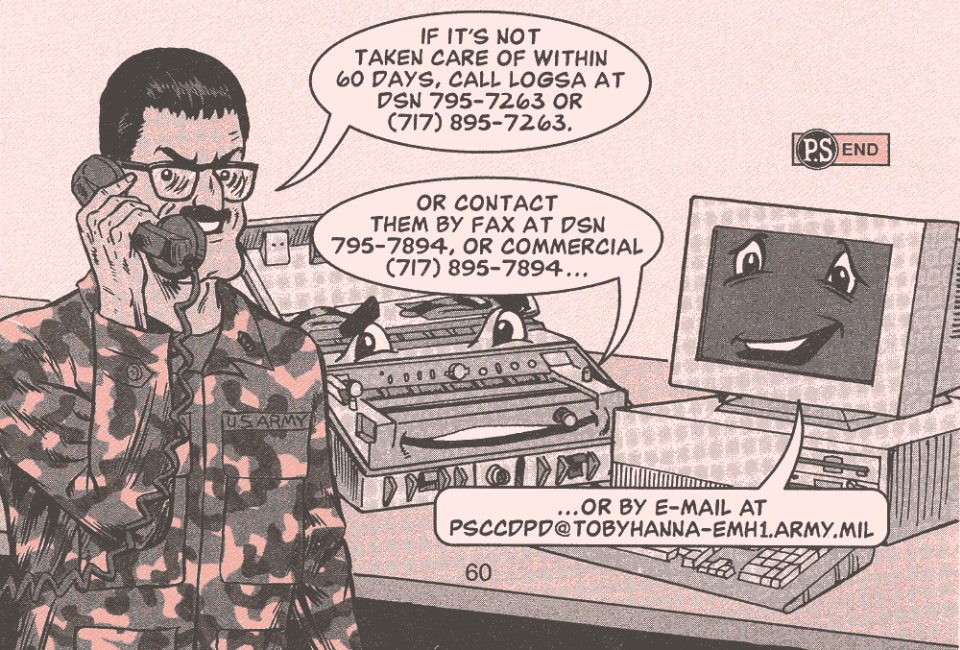
## Follow-up

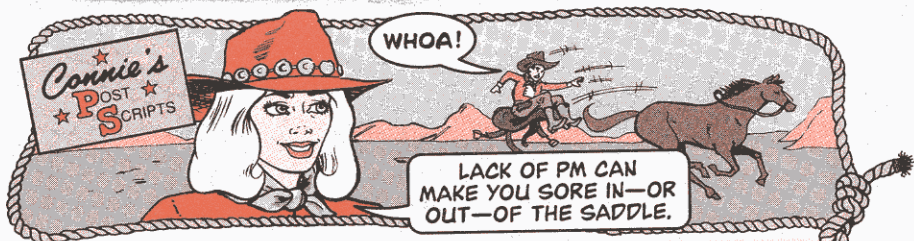
CONUS suppliers get 75 calendar days and OCONUS suppliers get 150 calendar days from the date the ROD is received to reply. If you haven't received a reply within that time, send a copy of the original ROD annotated with the word "follow-up" and the date it was prepared.

Also send a copy of the follow-up to:

**USAMC LOGSA PSCC**  
**ATTN: AMXLS-TD**  
**11 Hap Arnold Blvd**  
**Tobyhanna, PA 18466-5097**

LOGSA will contact the supplier and try to get the problem resolved within 60 days.





## LOGSA Home Page

The AMC Logistics Support Activity now has a home page on the World Wide Web. Visit it at <http://www.logsa.army.mil>. You'll find explanations of LOGSA's products and services, and who to contact.

## M939-Series Floor Insulation

The single-piece cab floor insulation, NSN 2510-01-082-3605, for your 5-ton truck is no longer available. It may come in three pieces, order:

Items	NSN 2510-01-318-
Cab floor, front	2814
Left	2817
Right, rear	2818

## Better NBC Glove Inserts

NBC NCOs can order improved inserts for the chemical protective gloves. The new inserts are longer and won't bunch up during wear. Here are the insert sizes and NSNs:

Size	NSN 8415-01-138-
Small	2494
Medium	2495
Large	2496

## Water Distributor Spring

NSN 5360-01-323-1078 gets the handle spring for the small butterfly valve on the 6,000-gal water distributor. The spring is Item 5 in Fig 69 of TM 5-3825-229-14&P.

## Heater Blower Motor

Get the heater blower motor for most heaters in M939- and M809-series 5-ton trucks with NSN 6105-00-512-9225. This NSN, for heaters made by Hunter Manufacturing Co., is not in your parts manuals.

## M120/M121 Mortar Support

ACALA says direct support needs to see your M120/M121 mortars every 180 days. That's the word in an upcoming revision to TM 9-1015-250-23&P. The mount must be disassembled, cleaned, lubed, and inspected by support on that schedule or the M120/M121 is NMC.

## M939 Tool Typo

On Page 21 of PS 525 we gave you the wrong NSN for the M939A1- and A2-series trucks' wheel assembly tool. Order the tool with NSN 4910-01-218-4490. It's in Fig 362 of TM 9-2320-272-20P.

## Bomag Radiator Cap

NSN 2930-00-904-9062 gets the radiator cap for the K-300 high speed compactor. Order the cap on a DD Form 1348-6. In the Remarks block write "NSN not on AMDF."

DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 340312, requirements for TB 43-PS-Series.

**Would You Stake Your Life <sup>right now</sup> on the Condition of Your Equipment?**

☆ U.S. GOVERNMENT PRINTING OFFICE: 1996 — 750-072/20022

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

**DON'T  
LET THE  
DIRTY  
DOZEN  
DO YOU  
IN!**

**1 FRONT SIGHT FROZEN:**  
Unfreeze with lube

**2 SNAG IN BARREL:**  
Clean before firing

**3 LOOSE HANDGUARD LINERS:**  
Get new handguards

**4 BOLT CARRIER PARTS MISALIGNED:**  
Tell your Armorer

**5 PIVOT PIN DETENT STUCK,  
WON'T HOLD PIN:**  
Free with lube

**6 MAGAZINE DAMAGED OR DIRTY:**  
Inspect and lube

**7 TAKEDOWN PINS CORRODED:**  
Lube

**8 BUTTSTOCK DRAIN CLOGGED:**  
Open drain with paper clip

**9 BUFFER & SPRING CORRODED:**  
Clean and lube

**10 REAR SIGHT STUCK:**  
Unfreeze with lube

**11 CHAMBER DIRTY, RUSTY:**  
Clean chamber

**12 SLIP RING SPRING BROKEN:**  
Get it replaced

Most of these problems come from **DIRT**, **MOISTURE** and **NO LUBE** in out-of-sight places. Clean and lube **ALL** parts, not just easy-to-get-at areas.