

Issue 498

PS

May  
1994

# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-498

WHAT  
WENT WRONG?  
HOW DID WE  
LOSE?

MY  
SPEAR  
BROKE!

THE  
WHEELS FELL  
OFF MY  
CART!

ALL  
OF OUR  
EQUIPMENT  
FAILED!

Maintaining is  
Training, Too!

... See Page 27

Approved for  
Public Release;  
Distribution Is  
Unlimited



# The Right Stuff for Small Arms



TB 43-PS-498, 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 498 MAY 1994

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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:

MSC, Half-Mast  
The Preventive Maintenance Monthly  
Bldg. 3325  
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By Order of the Secretary of the Army:

**GORDON R. SULLIVAN**

General, United States Army Chief of Staff

Official:

*Milton H. Hamilton*  
**MILTON H. HAMILTON**

Administrative Assistant to the Secretary of the Army  
06423

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Here are some of the "better" cleaners and why they are definitely NOT better!

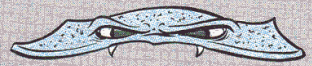
## OVEN AND CARBURETOR CLEANERS

THEY PULL OIL OUT OF THE WEAPONS' METAL AND STRIP THEIR FINISH. A DRY WEAPON CAN BE RUINED BY CORROSION IN JUST DAYS.



## CLEANING PADS

THEY ALSO STRIP THE FINISH OFF WEAPONS AND DESTROY THE WEAPONS' PROTECTION AGAINST CORROSION.



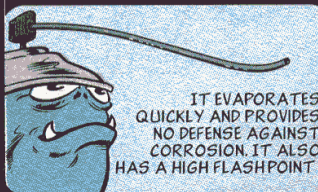
## COTTON TIPS

THE COTTON COMES OFF AND MIXES WITH LUBE AND CARBON. THE RESULTING GUNK HARDENS AND PLUGS THINGS LIKE GAS PORTS. YOUR WEAPON STOPS FIRING.



## WD-40

IT EVAPORATES QUICKLY AND PROVIDES NO DEFENSE AGAINST CORROSION. IT ALSO HAS A HIGH FLASHPOINT.



## PAPER TOWELS AND OLD RAGS

THEY SHRED AND CLOG AREAS LIKE THE BUFFER TUBE. PARTS WON'T MOVE SMOOTHLY DURING FIRING.



**Right Stuff – from your -10 TM: CLP, LAW, RBC, LSA, pipe cleaners, bore and chamber brushes. They have been tried and tested – and they work.**

IT'S UP TO YOU NCOs TO MAKE SURE YOUR SOLDIERS USE THE "RIGHT STUFF"! TELL THEM – SHOW THEM – WORK WITH THEM – HELP THEM!

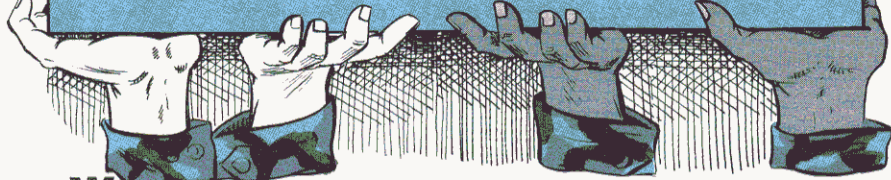
THEY, TOO, HELP KEEP YOU ALIVE IN WARTIME!



As every infantryman knows, his life depends upon the condition of his piece. So, soldiers try to do just a little bit extra to make sure their small arms are in tip-top shape.

Some soldiers use "better" small arms cleaners than those listed in their TMs. But that kind of help for rifles, pistols, and machine guns can hurt, not help.

## Four Hands Better than Two



**W**hen installing the commander's sight extension, it's easy to damage both it and the gunner's primary sight (GPS). That's because the extension is odd shaped and hard to handle.

A second pair of hands makes installation a breeze. Here's what to do:

1. Position yourself and your helper so that you can mount the extension squarely into the GPS mounting hole. Be especially careful with the outer edge of the packing slot.

Careful or you'll damage outer edge of packing slot



2. While one of you holds the extension, the other installs and tightens the screws, washers and spacers. Make sure you tighten the screws equally so there is no misalignment or cocking at the GPS mounting hole. Most damage occurs during the screw tightening.

Finish the installation as described in your -20-2-4 TMs.



Hold the extension steady while someone else connects it

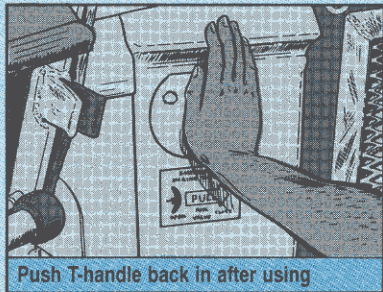


# "T" Stands for Trouble



It's easy to remember to pull the emergency engine shut-off T-handle if your M1-series tank's engine will not shut off. After all, the info is right there in black and white in your -10 TMs.

It's also easy to neglect pushing the T-handle all the way back in.



That's usually not a problem since your mechanic immediately troubleshoots the vehicle to find out why it would not shut down. Part of that procedure involves checking the T-handle.

But if you're out in the field in a training exercise, and you have to use the emergency stop to shut down the

engine, you have to push the handle back in to get the engine started again . . .

**But push it all the way in.**

If it's not pushed in completely, it snags on cables as the turret traverses. And you know what snagging does to cables, connections, and the fuel shutoff linkage.

WHEN YOU  
GET BACK, GET YOUR  
MECHANIC TO CHECK  
OUT THE VEHICLE  
PRONTO.



# Not a Ghost of a Chance!



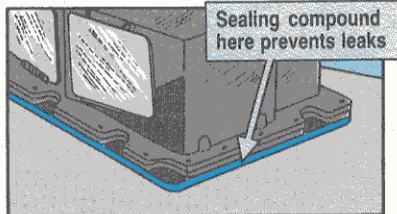
Mistakes you make when installing the gunner's primary sight (GPS) body into the turret will come back to haunt you when water leaks inside.

Moisture gets into the GPS where it causes corrosion, electrical shorts, and eventually a GPS that will not work.

Careful work keeps water out. Two mistakes to avoid are sloppy cleanup before installing the GPS and use of the wrong sealant.

Clean the turret access lip completely before you install the GPS. It takes two mechanics, two putty knives, P-D-680 drycleaning solvent, lots of clean rags, and plenty of elbow grease.

Once the cleaning job's done right, install the GPS. After it's in place and tightened down, run a bead of sealing



compound from sealing compound kit, NSN 8030-00-275-8110, around the lip of the sight body and the turret. Never use any other sealer.

Take no shortcuts and there'll be no leaks.



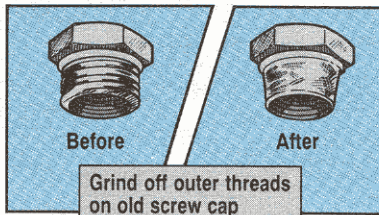
# A Quick Fix to Frustration

Dear Editor,

Any mechanic who's had to replace the shuttle and check valves on the MLRS's elevation hydraulic valve module assembly knows just how frustrating it can be.

When you try to remove the valves, the cap comes apart, leaving the plugs stuck in the module. Then you have to disconnect the module and tap the plugs out—a very long process.

We've developed a simple tool that pulls the plugs out every time. Just take the cap from a discarded valve and grind off the outer threads. Then screw it back onto the stuck plug.



With the outer threads gone, the cap connects to the plug without attaching to the module. Then you simply pull the plug out. If it's jammed too tight, just use the tip of a screwdriver to gently pry it out.

**SPC Eric S. Doswell**  
Ft Riley, KS



FROM THE DESK OF THE Editor 

We take our caps off to you!  
Thanks!



# Turret Ring Grease Buildup

Too much of a good thing can do more harm than good. Take the Bradley's turret ring — too much grease on the ring's traverse bearing teeth attracts dust, dirt and sand.

Sand, dirt and grease work together to chew up — wear out — the teeth. By the time you hear the sound of wear — turret chatter during traversing — it's too late. The teeth are worn, repairs are needed, and costs are high.

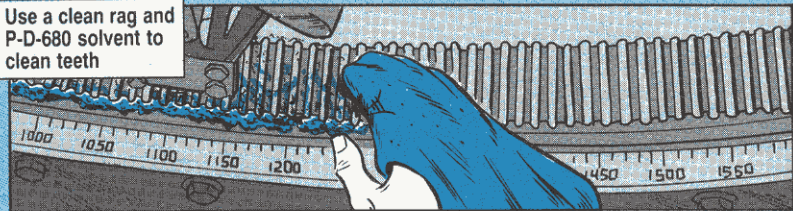
To keep from hearing the sound of wear, do this:

Eyeball the ring to see how much grease and grit have built up.

If you see a heavy coating, clean it off with a clean cloth and P-D-680 drycleaning solvent. Then apply a thin, even coat of ROYCO64C. You'll have to traverse the turret several times to make sure all the traverse bearing teeth are lubricated.

If the grease coating looks OK, lightly grease the bearing teeth every six months, or more often in dusty conditions.

Use a clean rag and P-D-680 solvent to clean teeth



AN/VVG-2 Laser Rangefinder . . .

## Filter Screw NSN

ARGHH!  
I'M MISSING  
AN ASSEMBLY  
SCREW!

READ ON  
AND RELAX!  
HALF-MAST HAS  
GOT YOU  
COVERED.

Dear Half-Mast,  
I'm missing one of the screws on  
the filter assembly of the Eye Safe  
System for the AN/VVG-2 Laser  
Rangefinder. But I can't find the  
screw in TM 9-6920-704-10. Can you  
help?  
SSG M.S.F.

Dear Sergeant M.S.F.  
You bet. Use screw, NSN 5305-00-043-  
1472, to hold the filter. Make a note until the  
NSN is added to Appendix B of the TM.  
*Half-Mast*



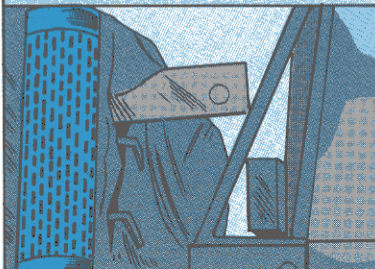
# Guard Against FIRE Risks



Tie down all cargo and personal gear so it won't shift. Make sure the curtains are tied down right.

As an extra source of heat protection for curtains and cargo, install guards over the engine exhaust, coolant heater exhaust and personnel heater exhaust:

◆ Engine exhaust guard—NSN 2990-01-198-4508



◆ Coolant heater exhaust guard—NSN 2990-01-198-4511



◆ Personnel heater exhaust guard—NSN 2990-01-198-4509

Loose personal gear and cargo in the rear of an M548 cargo carrier show a serious lack of respect for fire—something that can get you killed.

The canvas curtain surrounding the cargo area is not fireproof. When gear or cargo shifts forward, it pushes the curtain against the exhaust stack. The situation is worse if the curtain isn't tied down tight.

Instructions and hardware needed for installation are listed in TB 43-0001-39-3 (Jul 88). Although the TB has expired, the info is still good. See your TACOM LAR for a copy or write to Half-Mast.



# Hatch Latch Fix



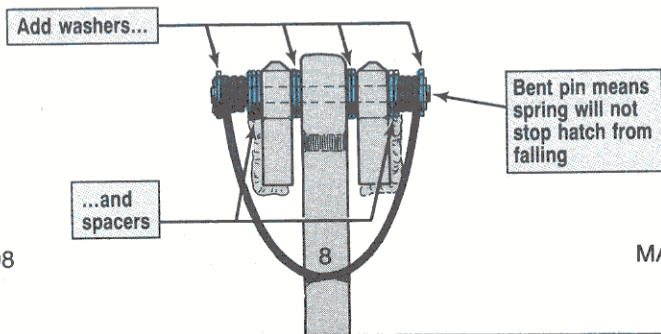
**A** warped or loose spring on the commander's cupola hatch latch can give you a big headache. Especially if the hatch falls on your head.

Far better that you use your head to apply a quick fix to the latch that'll hold the hatch open.

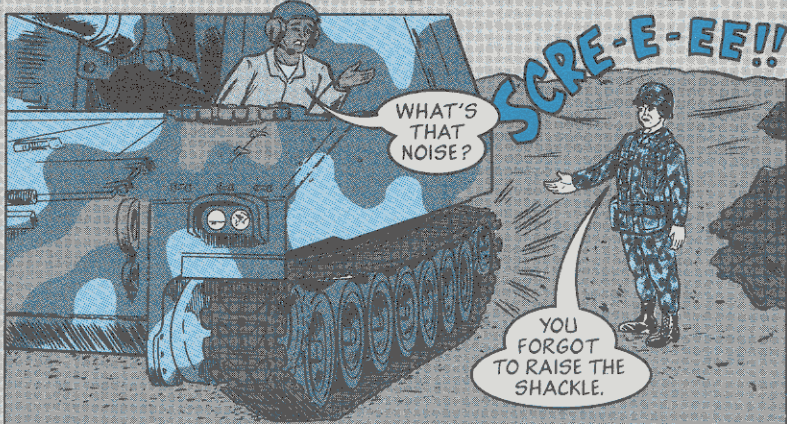
## Here's what to do:

■ Using flat washers, NSN 5310-00-080-6004, shim the space between the brackets that mount the latch and pin so there's only about a  $5/8$ -in gap. More space than that lets the latch move too freely and can keep the hatch from locking right.

■ Add sleeve spacers, NSN 5365-00-930-9770, under the spring on both sides of the brackets. You may need a couple of flat washers to hold the spacers in place. The spacers keep the pin from losing its shape. Then the spring can't move too freely.



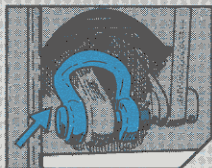
# KEEP SHACKLE UP



Crewmen, if your M109-series howitzer has a shackle attached to the spade bracket, you could be setting your vehicle up for some torn metal.

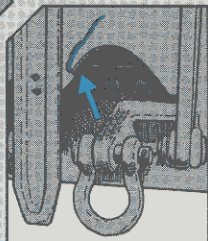
When the spade is lowered and the vehicle is backed onto it for firing, the shackle hooks the spade and rips it.

You can prevent that damage by turning the shackle up. That'll keep the shackle out of the way until you need it.



Turn shackle up...

...to prevent damage to spade



## M1A1 Collimator Label

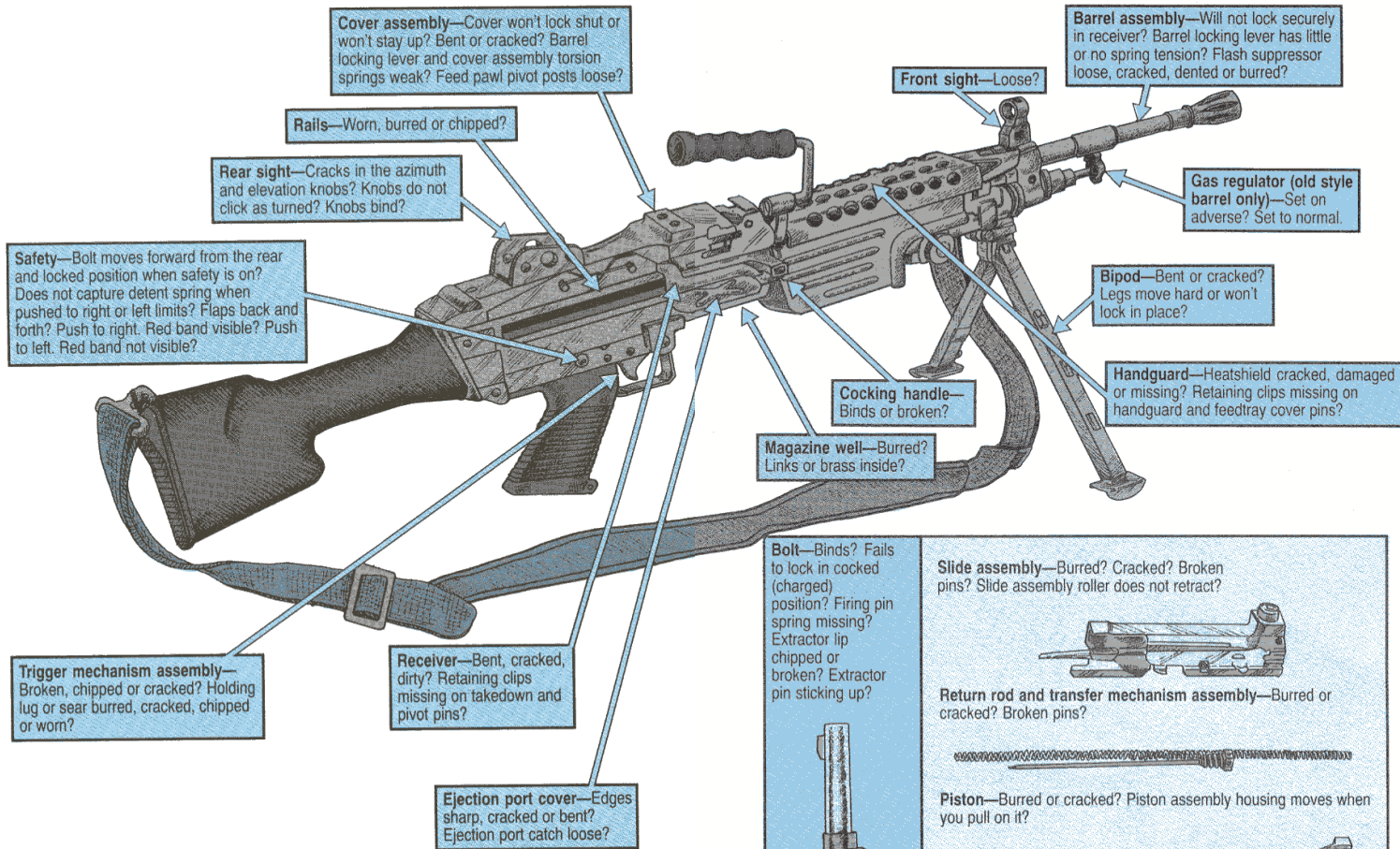
Use NSN 7690-01-368-7024 to get a radioactive tritium warning label for your M1A1 collimator. Make a note until the NSN is added to your howitzer's parts manual.

## MLRS Primer NSN

Use NSN 8010-00-515-2208 to get a gallon of zinc chromate primer for your MLRS's battery box. It replaces the NSN listed as Item 23 in Appendix C of TM 9-1425-646-20.

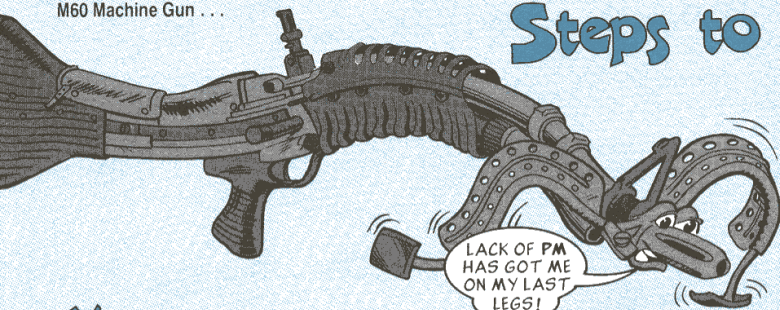


# BE YOUR OWN INSPECTOR





# Steps to Good Bipod PM

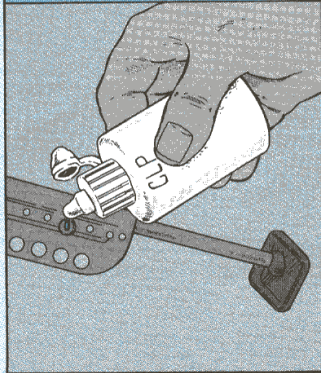


**Y**ou need a regular workout to stay in shape. So do your M60's bipod legs. If they don't get a regular PMCS workout, they'll stumble when you need them to stand strong.

Conduct bipod workouts like this:

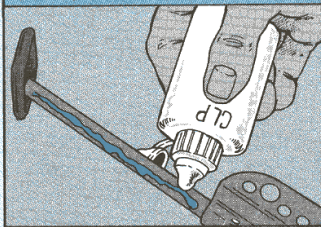
Exercise the leg locks in and out . . . the legs up and down . . . the bipod back and forth. If the bipod doesn't move smoothly, do this:

Put a few drops of CLP on the leg locks and work them in and out until they move smoothly.

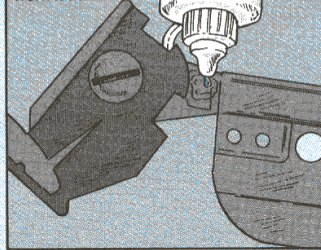


PS 498

Draw a line of CLP down the seam in each leg extension. Work the extensions until they move easily.



Put a few drops of CLP where the bipod slides back and forth and work it in.



12

MAY 94



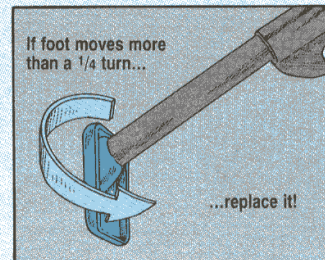
Give the bipod legs a shake to feel for looseness.

If you feel any play in the legs, tighten the bipod screws with your combination tool. If screws keep loosening during firing, get your armorer to stake them.

Test the legs in each latch position. If a latch won't hold, don't try to fix it by bending it. That weakens the latch. Support can fix latchless latches.

G/VLLD . . .

Rotate the legs' feet. If you can move a foot more than 1/4 turn, support needs to replace it. But if the feet don't move more than 1/4 turn, they're fine.



Protect the bipod by keeping the legs locked back during transport. Otherwise, bumping bends the legs. Lay your M60 on its side for travel so it won't take a hard fall.

## Cable Keeper

Dear Editor,

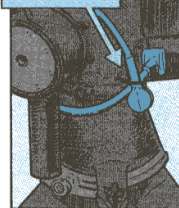
*Lots of Ground/Vehicular Laser Locator Designator (G/VLLD) traversing unit cables are torn off because they dangle when you put the TU in the backpack. The cable gets hung up and jerked off and you can't use the G/VLLD.*

*The solution's simple. Before you put the TU in the backpack, wrap the cable around the TU sight bracket. To keep the cable in place, tie it down with a twist tie or a piece of twine. Hook and pile would also be good for the job. Now the cable can no longer dangle.*

*When you set up the G/VLLD, retie the tie or twine to the cable so it won't be lost.*

SGT David Jessums  
PFC Michael Maurice  
Ft Campbell, KY

Tie back TU cable like this



FROM THE DESK OF THE Editor

Your solution is the tie that binds. Thanks!

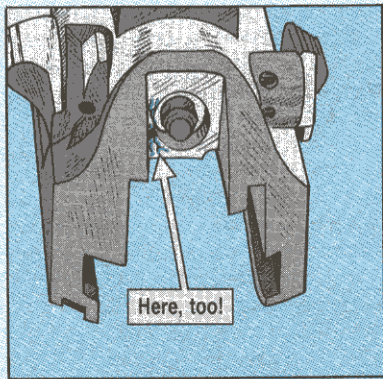
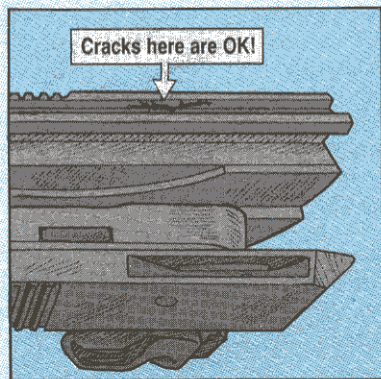


# WISE CRACKS



- C**racks don't always mean something's wrong with your M9 pistol:
- M9s that have been modified may have an opening that looks like a crack just below the safety lever on the slide's left side. But the M9 is still OK to fire.
  - Older M9 slides develop hairline cracks on the bottom left side of the firing pin striker hole. But that's OK.

Keep firing. Newer slides have a stress relief cut in them to prevent them from cracking. Any other cracks should be reported to your armorer.





# PM Puts Out Misfires



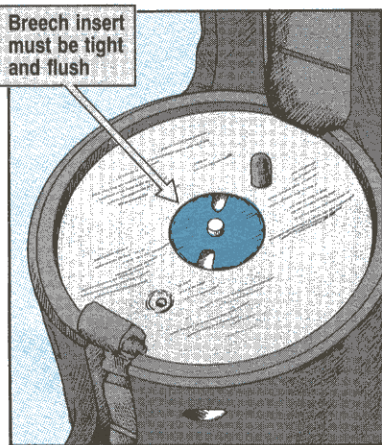
**M**203s need to be in good condition to fire regular rounds. But they must be in top condition to fire practice rounds, which require a strong jolt from the firing pin to go off.

Launchers not in tip-top shape cause misfires. Put out misfires like this:

Gunners, when doing your BEFORE PMCS, pay special attention to the breech insert. It must be tight and flush with the receiver face. If it's loose or sticking out, the firing pin can't strike the round hard enough to make it go off.

If you do have a misfire in the field, eyeball the round. If there is little or no indentation on the primer, support may need to replace the firing pin and its spring.

Armorers, make sure you have support gauge your M203s annually. Otherwise, you're the dud behind the misfires.





# Better Dragon Training

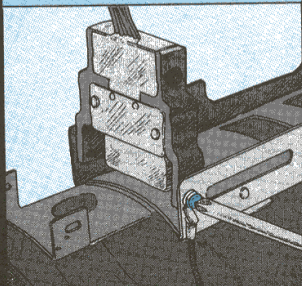
Dear Editor,

If you remove the complete Dragon tracker electrical connector for training, Dragoneers do not get practice removing the connector's protective cover, which they must do for live firing.

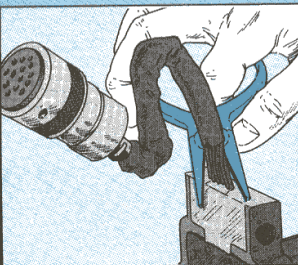
But if you leave the connector on for training, the A-2 circuit card on both trackers can be damaged when the tracker's slammed into place. The cards are expensive to replace.

Here's how our support solved both problems:

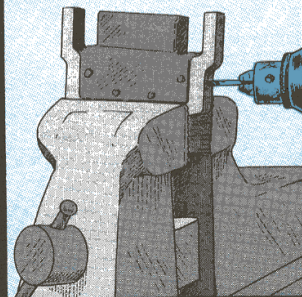
- 1 After taking off the electrical connector, remove the connector bracket by unscrewing the two crosstip screws in the rear of the bracket.



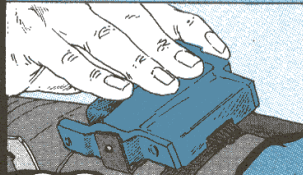
- 2 Cut off all wires as close as possible to the connector.



- 3 Use a 3/8-in drill bit to drill a 3/8-in hole in each side of the connector even with the side rivets on top of the connector.



- 4 Use these holes to rivet the connector to the tracker connector bracket on the round. Position connector like this to rivet it in.



AHHH,  
NOW I CAN REST  
EASIER.

Gunners can now practice taking off the connector cover during timed drills. Plus the connector no longer makes contact with the tracker, so no A-2 cards are damaged.

CW2 Charles Green  
SFC Joseph Deciano  
Ft Bragg, NC

FROM THE DESK OF THE Editor  
Looks like you've connected with an idea Dragoneers can get fired up about. Thanks!

TOW 2 Missile System . . .

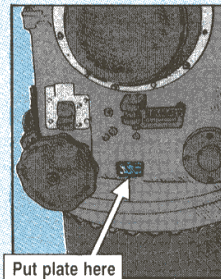
## Every Plate in Its Place

If you can't see your TOW's traversing unit ID plate when the TU's mounted on the HMMWV, or if it's getting banged up, the plate's in the wrong place.

The plate should be on the trigger side of the TU. Your support can move the plate. If you need new plates, write:

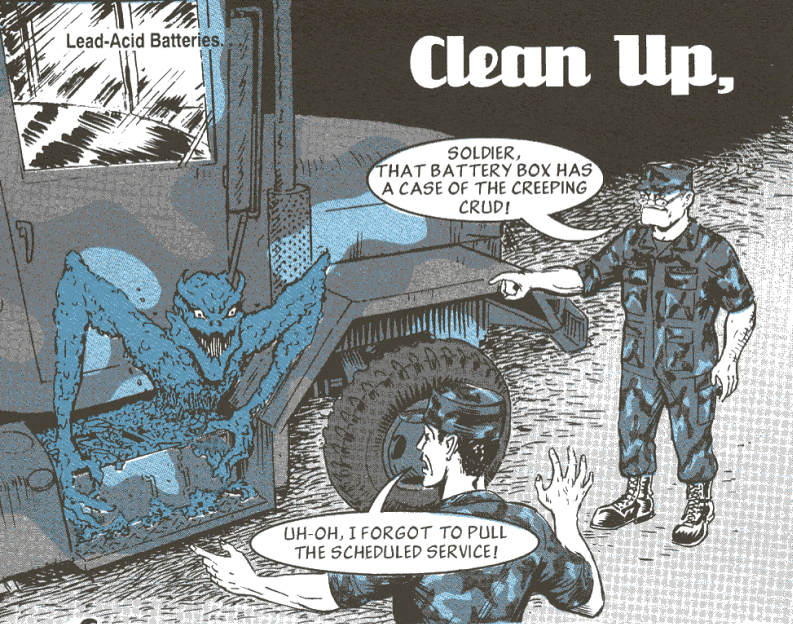
Project Manager  
TOW Project Office  
ATTN: SFAE-MSL-TO-R-GT  
Redstone Arsenal, AL 35898-5710

Be sure to note how many plates you need. Give your correct mailing address.





# Clean Up,



**C**lean and tight's the ticket when it comes to strong lead-acid battery PM, mechanics.

## Knock Out Corrosion

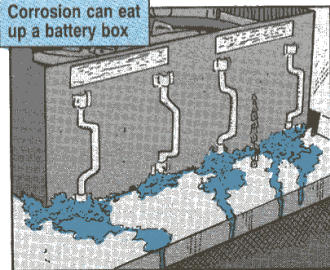
Corrosion is an enemy that creeps up on batteries, hold-downs, and even onto the battery box itself. If you see it, get rid of it.

And, any time you remove the batteries to clean things up, inspect the battery box. Make sure drain plugs are open so that water can drain out.

Pay attention to dirt and grime on top of the battery, too. They hold moisture and can create an electrical path between the positive and negative terminals.

Electricity will travel that path and create a closed circuit, discharging the battery.

Corrosion can eat up a battery box



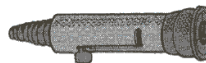
# Tighten Up

Electricity will flow through moist dirt 'n crud from the positive post to metal parts of the hold-downs and drain the battery.

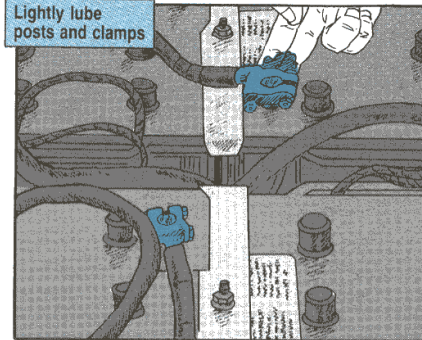
To keep corrosion from starting, coat the battery posts and clamps with a light coat of GAA after installing the clamps. Make sure you cover the bolts and nuts with GAA, too, before installing them in the clamps.

Keep the battery post and clamps clean, too. That helps ensure a clear path for the electricity. Use the terminal cleaning tool, NSN 5120-00-926-5775 from Appendix B of the battery TM.

Use terminal cleaning tool



Lightly lube posts and clamps



## Snug Up Battery

That little electric factory in your vehicle and all connections to it must be snug.

Start at the bottom. If the battery sits on wood or rubber, make sure it is in good shape and can support the battery. If it's corroded or rotten, replace it.

If the battery box bottom is OK, make sure the top is secure. The hold-down should be snug enough to keep the batteries from moving. Bumping and rattling will crack the case. Electrolyte is lost, and the battery is shot.



If you can move the batteries, tighten the hold-down. But not so tight you crack or deform the battery, of course.

Once the battery's tight, look at the cable clamps. A loose clamp will burn or crack a terminal. Don't twist and turn the cables to test them, though. That just loosens up a tight clamp.

A loose terminal clamp can let electricity arc between the post and metal. That destroys the post.

When you tighten the nut and bolt on the battery clamp, use two wrenches of the right size — not an adjustable wrench. Be careful with long wrenches, too. If you hit both posts with the wrench, you can cause a spark. That spark can be enough to cause the battery to explode.

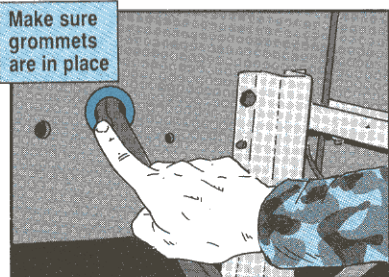
When the clamp nut is snug, give it another 1/4 turn and stop. That's enough.

Put cable to clamp connectors under the head of the clamp bolt. That keeps vibration from loosening the connection.

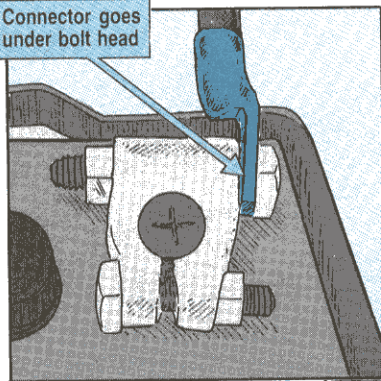
When you remove a clamp from the battery post, again use the right-sized wrenches to loosen the nut. Never use a screwdriver to pry the clamp loose. That's a good way to poke a hole in the battery case.

Finally, check cable connections on the end away from the battery. Make sure they're tight. Eyeball positive — and other hot — cables at any point they go through holes in metal. The hole should have a grommet to protect the cable's insulation.

Make sure grommets are in place



Connector goes under bolt head



WITH GOOD BATTERY PM...

... YOU'RE IN CHARGE!

PS END

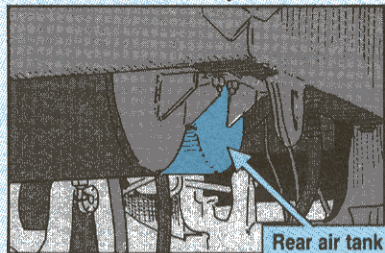
# Aluminum Bushing's Unsafe

UH-OH!  
MY PIPE BUSHING FEELS  
LIKE IT COULD  
BREAK!

IF IT WAS BRASS  
OR BRONZE, YOU WOULDN'T  
HAVE THAT PROBLEM!

**C**hecking the color of an air tank's pipe bushing could save your life.

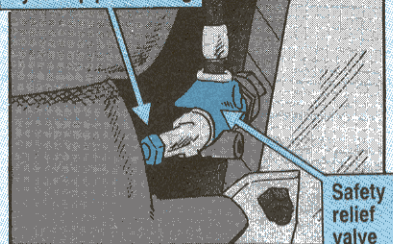
Some rear air tanks on M967/M967A1, M969/M969A1, M970/M970A1 and M1098 tankers have an aluminum bushing instead of a brass or bronze one at the safety relief valve.



The aluminum bushing is not tough enough. It will break, releasing the air in the tank and locking up your brakes. If that happens, you may not be able to control the vehicle.

Check that bushing right now. Try to scratch it with a knife. If you can cut or scratch it, or if you see silver or gray color, it's aluminum.

## eyeball pipe bushing



Get it replaced ASAP with a brass or bronze bushing, NSN 4730-00-202-6491. Your life could depend on it.

If you're in doubt, get ahold of your local Tank-Automotive Command Logistics Assistance Representative (LAR). He'll know for sure.



# Pack Bearings by Hand

Dear Half-Mast,  
The wheel bearing packer in  
the Common shop sets is too  
small to use on HEMTT wheel  
bearings.

What's the fix?  
MAJ J.

THE ANSWER, SIR,  
IS AS OLD AS GREASE. THOSE  
BEARINGS WILL HAVE TO BE  
PACKED BY HAND.

YOUR MECHANIC GRABS A WAD OF GREASE. HE THEN PUSHES THE BEARING  
DOWN INTO IT. HE TURNS THE BEARING UNTIL ALL THE ROLLERS ARE PACKED.  
HE KEEPS WORKING THE ROLLERS UNTIL THEY ARE THOROUGHLY COATED  
WITH LUBE. THEN HE PASSES MORE LUBE INTO THE BEARINGS.



# Go Slow or It'll BLOW



**N**ot so fast with that boom, wrecker operators, or you'll have oil all over the deck of your M936.

A bad design put the vent on the return side of the hydraulic tank. That means only so much oil can return before it starts shooting out the top of the tank.

The solution? You can have support replace the tank. The design's been changed, and a new tank will handle the oil cleanly.

Or, save \$500 by taking your time when retracting the boom. Bring it halfway back, for instance, and wait awhile for oil to drain back into the tank.

Another oil-saver is to perform one operation at a time. Don't retract and lower the boom at the same time, for example.

Take these precautions, and save yourself a cleanup.

## M939 Bearings

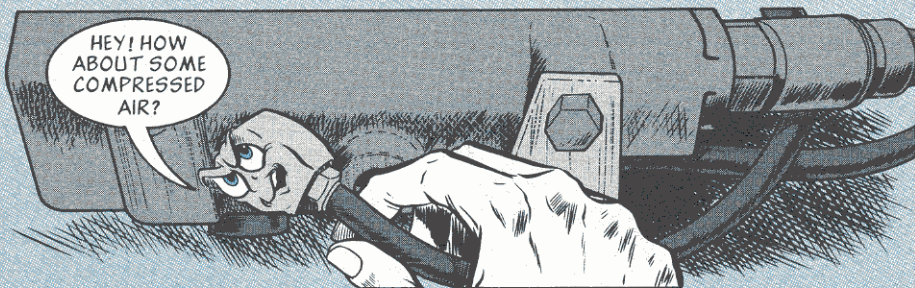
TM 9-2320-272-20P has wrong NSNs for the inner and outer roller bearings in your M939-series truck's rear leaf spring seat assembly. Item 21 of Fig 197 should be NSN 3110-00-689-8250. Item 31 is NSN 3110-00-100-4223.

## M939 V-Belt Set

Your -20P TM flipped some digits on the NSN for the matched set of V-belts on the 5-ton truck's power steering pump. The NSN should be 3030-00-832-4312.



# Vent Line Blowout

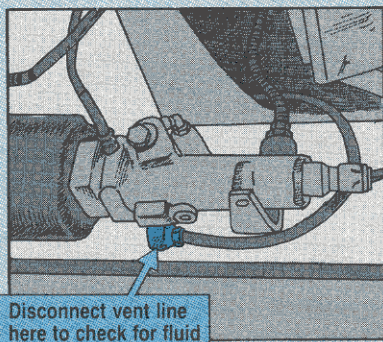


**M**echanics, when replacing an air/hydraulic brake cylinder because of a leaky seal, make sure you blow out the vent line with compressed air.

If you don't, any brake fluid left over from the bum cylinder will be pushed out of the vent line when you operate the brakes. This can trick you into thinking the new cylinder also has a bad seal. Some perfectly good cylinders are being replaced because of a suspected bum seal.

To make sure a new cylinder's not leaking, disconnect the vent line at the

cylinder. If you see fluid, replace the leaking cylinder.



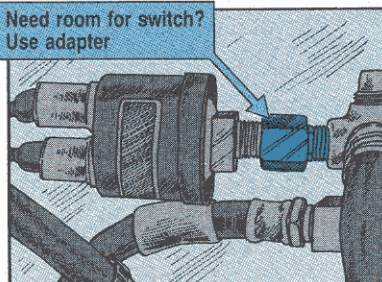
2 1/2-Ton Trucks . . .

## Adapt Low Air Switch

**I**f the low air pressure switch on the air-hydraulic valve on a 2 1/2-ton truck is a tight fit, get an adapter.

While all low air pressure switches for these trucks come with NSN 5930-00-058-1576, they can be made by different companies. Even though the function is the same, size and shape can vary.

If the new switch doesn't fit easily, order adapter, NSN 4730-01-277-1388.

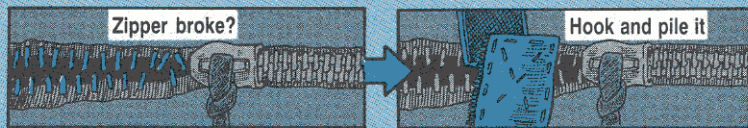


## Quick Zipper Fix

**W**hen a zipper breaks on your vehicle, close things up — temporarily — with hook and pile tape.

Hook and pile won't give you a waterproof seal, and is not as strong as a zipper, but it will do the job until a new zipper can be installed.

Get a yard of 1-in wide, self-adhesive hook and pile tape with NSN 8315-01-115-7617.



## Vacuum Glow Plug Parts

**G**low plug parts stuck in the cylinders of your HMMWVs or CUCVs? Use a vacuum cleaner to get them out. Put the hose on the fuel injector ports. TACOM OKs this fix in TB 43-0001-39-7 (Dec 93). Keep in mind, the vacuum may not be able to get out all the parts.

## CUCV/HMMWV Gasket

**M**echanics, you can use either RTV sealant or a ready-made gasket for the CUCV or HMMWV's oil pan or valve covers. Order the oil pan gasket with NSN 5330-01-310-6780. Use NSN 5330-01-372-0636 to get the valve cover gasket. Make a note until the TMs are updated.

## CUCV Capacitor NSN

**T**o get the CUCV alternator's fixed capacitor, shown as Item 3 in Fig 54 of TM 9-2320-289-20P, use NSN 5910-01-089-1916. Jot down the number until the TM's updated.

## CUCV U-joint Update

**T**he U-joint kit for the rear prop shaft on all CUCV models except the M1009 is NSN 2520-00-508-1566. The info in TM 9-2320-289-20P is wrong.



# Keep Prefilter Clean

If your SEE sits idle for extended periods of time, water will get in its fuel tank because of condensation.

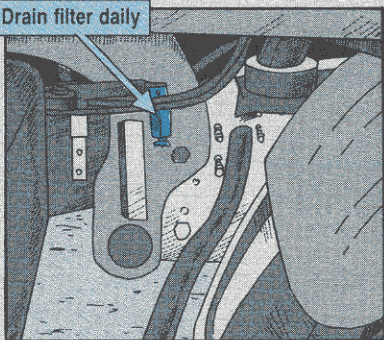
To make starting and running easier for a vehicle that's been sitting idle for awhile, clean the fuel prefilter before you crank the engine.

Here's how:

- ◆ Close the fuel shut-off cock.
- ◆ Remove the prefilter bowl and strainer.
- ◆ Wipe the bowl out with a clean cloth.
- ◆ Wash the strainer in clean diesel fuel.
- ◆ Replace the prefilter bowl and strainer.
- ◆ Open the fuel shut-off cock.

If you find rust in the prefilter, have your mechanic check the fuel tank for rust, too.

Drain filter daily



YOU'RE RUNNING SMOOTH!

Rumble  
KOFF  
choke

HMMMMM...

A CLEAN  
PREFILTER  
HAS ME  
HUMMING!



# Maintaining It's Training, Too

WHEN WE LAST SAW OUR "LITTLE CHIEF" HE WAS SETTING HIMSELF UP FOR A ROADSIDE INSPECTION (PS 473).

MANY MOONS HAVE PASSED AS WE PICK HIM UP AGAIN, CONTINUING THE STORY OF OPERATIONAL READINESS.

**ARRRGH!**

HOW WERE WE DEFEATED?

I WANT SOME ANSWERS AND I WANT THEM NOW!





OUR EQUIPMENT WASN'T READY?

WHAT DO YOU MEAN?

WELL SIR...

... OUR SPEAR TIPS WERE BROKEN AND DULL ...

... SLINGS WERE TORN ...

... AND CART WHEELS WERE IN NEED OF REPAIR.

HMMM...

LITTLE CHIEF, THE BIG CHIEF HAS CALLED A MEETING FOR ALL UNIT LEADERS.

ALL RIGHT! YOU MAINTENANCE GUYS BETTER GET ON THE JOB. I'VE GOT A MEETING TO ATTEND.



A SHORT  
TIME  
LATER...

AS ALL YOU LEADERS KNOW, THE STRENGTH OF A  
CHAIN DEPENDS ON THE STRENGTH OF EACH LINK.

WHEN ONE  
LINK IS WEAK, IT  
WEAKENS THE  
ENTIRE CHAIN!

AND WE ALL  
KNOW WHAT  
HAPPENS TO  
WEAK LINKS.

THEY ARE  
REPLACED!

SOUNDS  
LIKE THE BIG CHIEF  
REALLY GAVE YOU  
AN EARFULL.

GULP!  
WHAT'S  
THAT, SIR?

OH!

CONNIE!...  
IT WASN'T  
MY FAULT!

MY BATTLE  
PLANS WERE  
FLAWLESS!

BUT YOUR  
EQUIPMENT  
WASN'T.

WHAT DO  
YOU MEAN?

LET'S  
STOP BY YOUR  
UNIT TO  
DISCUSS THIS  
FURTHER.



REMEMBER!  
NO MATTER...

... WHO YOU ARE ...



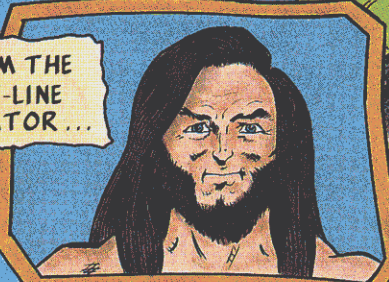
... WHERE YOU GO ...



... OR WHAT YOU DO ...



... FROM THE  
FRONT-LINE  
OPERATOR ...



... TO THE  
MID-LEVEL  
SUPERVISOR ...



... TO THE  
COMMAND  
AUTHORITY ...



PM is EVERYBODY'S  
BUSINESS.



**WE HAVE THE WORLD'S BEST EQUIPMENT ...** *Take care of it*



LATER...

AHH, CONNIE, IF I COULD ONLY FIND THE ROOT OF OUR PROBLEM.

REALLY, THE ROOT OF YOUR PROBLEM MAY BE RIGHT HERE...

...WITH YOUR READINESS REPORT.

WHAT? OUR O R RATE IS ALWAYS HIGH!

BUT A HIGH O R RATE DOESN'T NECESSARILY MEAN YOUR EQUIPMENT'S COMBAT READY!

MOMENTS LATER...

CARTPOOL

THEY'RE CLEANING UP THE CAMP.

LOOKS PRETTY EMPTY.

WHERE IS EVERYONE?

IF MAINTENANCE IS DELAYED FOR STRATEGY OR TACTICAL TRAINING OR ON-POST HOUSECLEANING DETAILS, SOLDIERS BEGIN TO BELIEVE THAT MAINTENANCE IS NOT IMPORTANT.

YOU SEE, CONNIE, THEY'RE BUSY!

COMMANDERS SET THE PACE. THEY MUST ALLOW TIME FOR MAINTENANCE AS WELL AS TACTICAL TRAINING.

CONNIE, COULD I GET SOME HELP IN HERE?

ARMS ROOM






THE POUCHES ON  
OUR SLINGS  
BREAK  
DURING  
BATTLE.



THOSE OLD POUCHES  
SHOULD HAVE BEEN  
REPLACED  
MONTHS  
AGO.



YOUR  
TM IS  
OUT OF  
DATE.



WELL,  
THAT'S THE  
PUBS GUY'S  
FAULT.



WELL,  
IT WAS  
PRIVATE  
SHALEY  
'TIL HE WAS  
TRANSFERRED.



NOW  
YOU'RE  
THE NEW  
PUBS  
CLERK.




WHO  
IS YOUR  
PUBS  
CLERK?




I TOOK  
CARE OF  
THAT  
PROBLEM.




WHO'S  
GOING TO  
TRAIN  
HIM?




ALL SOLDIERS  
ARE FULLY TRAINED WHEN  
THEY GET HERE



NOT QUITE!  
EACH SOLDIER  
HAS TO BE  
TRAINED TO THE  
NEEDS OF THE UNIT.



A SOLDIER'S  
ATTITUDE AND  
BEHAVIOR  
TOWARD  
MAINTENANCE  
REFLECTS THE  
EXAMPLE SET  
BY HIS LEADER.




LEADING  
BY EXAMPLE,  
HMMM...




I  
LIKE  
IT!





HEY, YOU SOLDIERS,  
DROP THOSE ROCKS.  
WE HAVE EQUIPMENT TO  
GET OPERATIONAL.




SERGEANT QUARTZ,  
LET'S SET UP A  
MAINTENANCE  
TRAINING  
SCHEDULE!

SURE  
CHIEF,  
WHEN?

RIGHT  
NOW!

A YEAR LATER ...



YOU HAD BOTH  
YOUR PERSONNEL  
AND MATERIEL READY  
FOR BATTLE  
THIS TIME.

THANKS, SIR,  
I'VE LEARNED  
THAT  
MAINTENANCE IS  
NOT A RIVAL OF  
MISSION, IT'S  
A PART  
OF IT.

IT JUST  
GOES TO  
SHOW  
YOU ... MAINTAINING  
IS TRAINING,  
TOO!



# FOD Poster

THIS TWO-SIDED  
FOD POSTER IS YOURS  
FOR THE ASKING.



Just write to:  
US Army Safety Center  
ATTN: CSSC-IM  
Ft Rucker, AL 36362-5363  
Or call:  
Commercial 205-255-2062  
DSN 558-2062

## UH-1 Lube Fitting

**L**ube fitting, NSN 4730-00-277-4780, used on the Huey's swashplate, tail rotor and hydraulic servo cylinder has been replaced with lube fitting, NSN 4730-01-077-4893. When you need a new fitting, order this replacement.





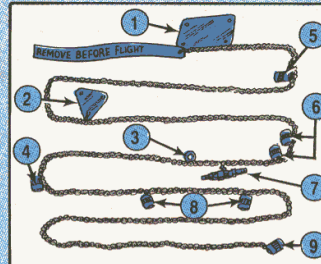
Dear Windy,

Before you do the engine compressor rotor blade wash, there are several areas you must block off. But keeping all plates, caps and plugs organized is tough. It's easy to miss a cap, then lost caps become FOD.

To solve these problems, I made an engine wash kit by chaining the caps, plugs and plates together in order of use. Now I have a visual check list to make sure everything is capped. I can do the job quicker, and I've eliminated the FOD risk.

I use about 12 feet of chain, NSN 4010-00-554-8661. Then I use clips, NSN 5315-00-223-6112, to hold the caps and plugs on the chain.

Here's what the kit looks like and how it's used:



- 1 Block-off plate for fuel control temperature sensing element
- 2 Block-off plate for bleed air elbow
- 3 P3 bleed band pressure line
- 4 P3 bleed band to fuel control
- 5 P1 fuel control inlet pressure sensing line
- 6 P3 bleed band pressure lines
- 7 Quick disconnect to hook up pressure line to bleed band
- 8 Cylinders 1 and 2 to variable inlet guide
- 9 P3 to particle separator

We made the block-off plates, items 1 & 2.

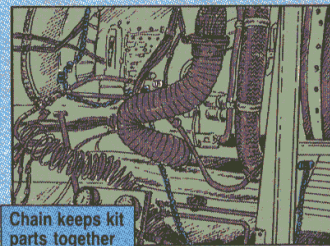
For items 4, 5, 8 & 9 use cap, NSN 4730-00-278-5006, and plug, NSN 4730-00-720-1419.

For items 3 & 6, use cap, NSN 4730-00-585-8769, and plug, NSN 4730-00-715-0082.

For item 7, use adapter, NSN 4730-00-196-9580. This adapter will thread into the bleed air hose of the bleed band.

To connect the adapter to a regulated air hose, use coupling half, NSN 4730-00-489-6303.

Using this system to organize the engine wash kit will save time and also serve as a FOD check at the completion of each wash. It can also be easily modified to fit other applications.



Chain keeps kit parts together

1SGT Andy L. Bolinger  
OHARNG

ANOTHER GREAT IDEA, ANDY!

LISTEN UP, MECHANICS. THIS IS FIRST SERGEANT BOLINGER'S FOURTH CONTRIBUTION IN A YEAR. WE NEED THE REST OF YOU TO FOLLOW HIS LEAD AND SHARE YOUR IDEAS.



# UNWISE CRACKS

Dear Windy,  
 We're seeing a lot of aft  
 transmission main oil pumps  
 cracking. What's the problem?  
 SGT W.M.G.

Dear Sergeant W.M.G.,  
 A manufacturer's defect caused  
 cracking. But that problem has since  
 been corrected. Modified pumps have  
 the letter "R" etched following the  
 serial number.

Identify your birds with the unmodi-  
 fied pumps and keep a close eye on  
 them. As pumps fail, replace them  
 with the new "R" pumps.

*Windy*

LOOK  
 FOR CRACKS  
 HERE.





# PAINT THAT WINDOW

HEY, 58Ds!  
WANT TO KNOW A  
SECRET THAT 58D(I)s  
KNOW?

SECRET?!  
TELL ME, PLEASE,  
PLEASE!

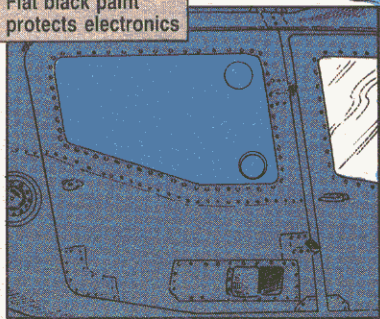
58D(I)s don't have a window in their modified access door.

You see, 58D(I)s are smart. They know that a window lets the red-hot sun bake sensitive electronic equipment.

So, 58Ds, get smart, too. Get your crew to paint your access door window. Use flat, black paint.

This will greatly lower compartment temperatures and keep avionics types from getting hot under the collar.

Flat black paint  
protects electronics



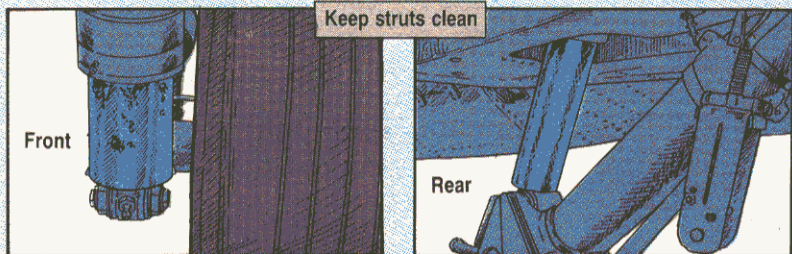


# STRUT STUFF

Some mechanics ignore the dirt and crud that builds up on Black Hawk shock struts. Sooner or later, though, they have to pay the price.

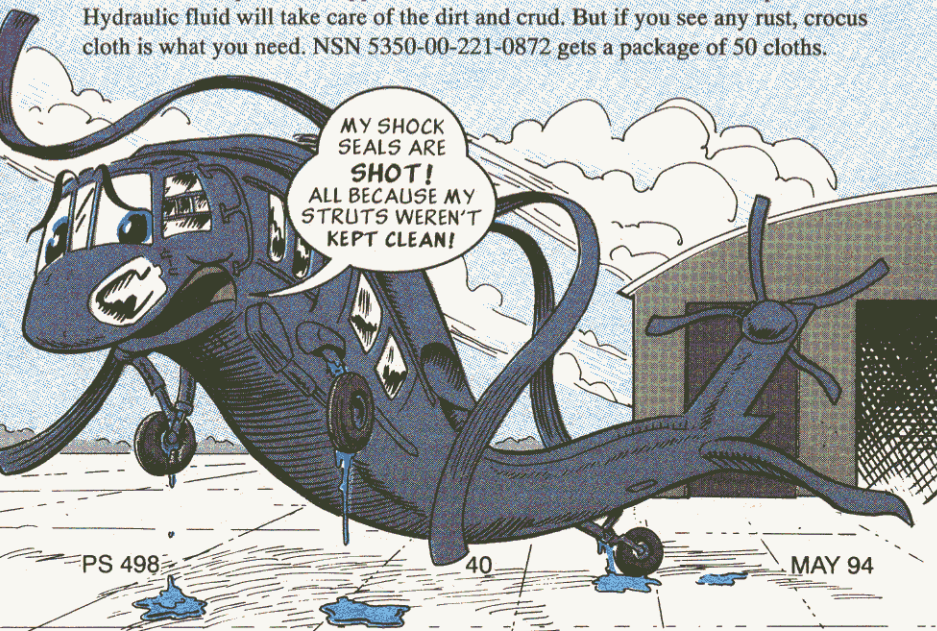
If left unchecked, dirt and crud get into the seals. This cuts seals and causes hydraulic leaks.

Save yourself time and energy — and Uncle lots of dollars — by cleaning the struts often, daily if they need it.



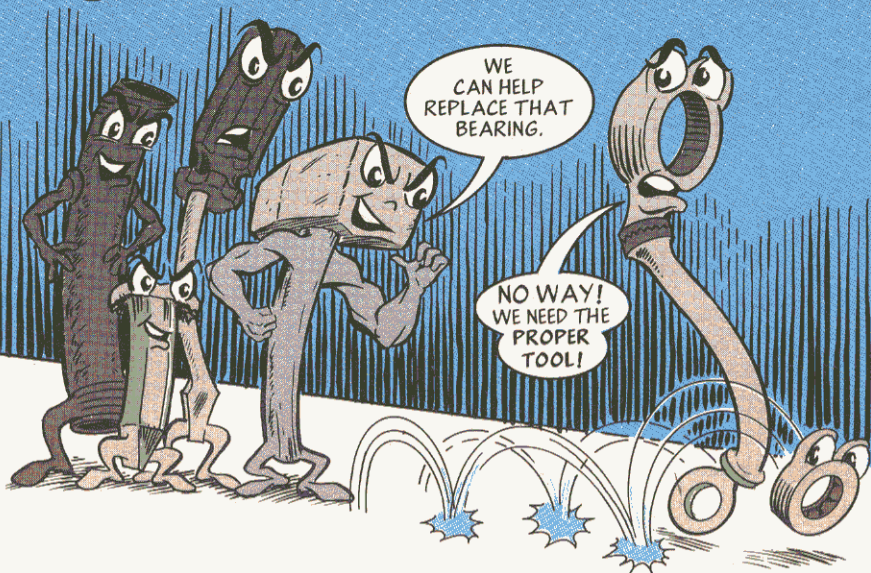
Hydraulic fluid, MIL-H-83282, on a clean cloth does wonders when you add a little elbow grease. It stops buildup of dirt, crud or corrosion. Use hydraulic fluid left over after servicing so you won't need to open a new can.

The same requirement applies to the stabilator actuator rod. Keep it clean. Hydraulic fluid will take care of the dirt and crud. But if you see any rust, crocus cloth is what you need. NSN 5350-00-221-0872 gets a package of 50 cloths.



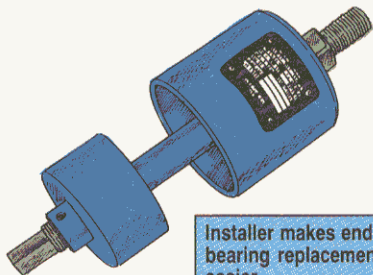


# GETTING YOUR BEARING



**R**eplacing an end upper bearing on a pitch control rod is tough to do without damaging the rod surface . . . and that's a big No-No!

Do the job with ease with bearing installer, NSN 5120-01-146-8247. It's a little pricey (more than \$550), but it will pay for itself in the long run in saved pitch control rods.



Installer makes end bearing replacement easier

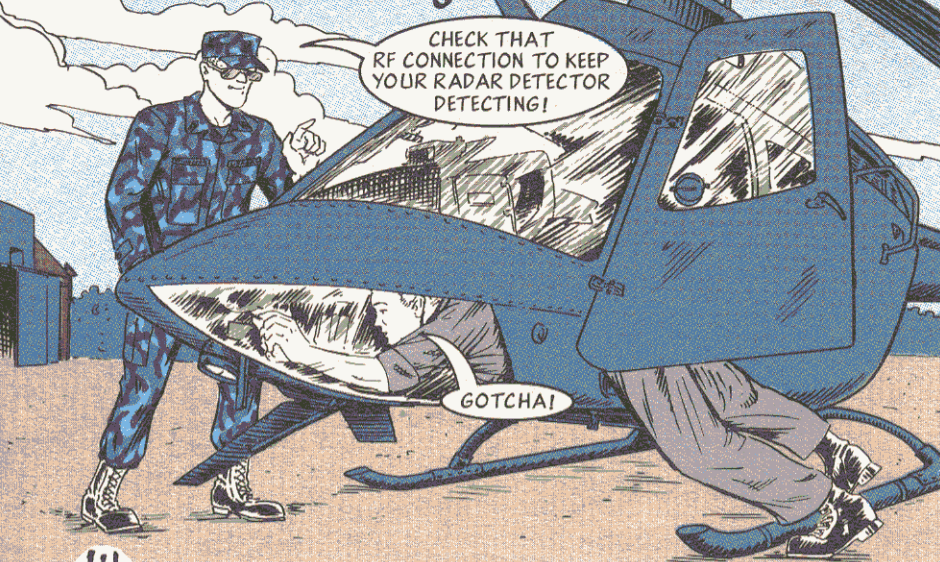
## Hydraulic Fluid Update

If you're saving excess hydraulic fluid for EXTERNAL aircraft cleaning chores, like it says on Page 40 of PS 490, make sure you label the bottle FOR PS 498

EXTERNAL USE ONLY. Although you know the oil's for EXTERNAL use only when you fill the bottle, the next guy who grabs it might not know.



# Make the Right Connection



When the AN/APR-39A(V)1 radar signal detecting set goes on the fritz, the problem could be at the RF cable connection.

A loose connector or a wrong connection will bring an end to your detection.

To replace or attach the connectors, you must follow the instructions that come with the set.

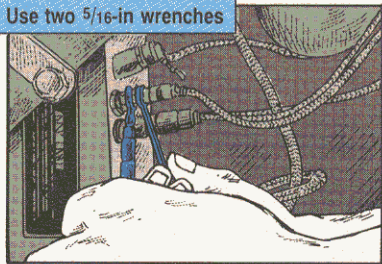
No instructions? Get ahold of a copy of TM 55-1500-323-24 that has general information on aircraft electric and electronic wiring methods.

Once you have the instructions in hand, you may need two  $5/16$ -in wrenches to do the connecting job between the cables and the set.

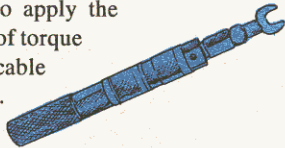
Maintain a light pressure and hold the connector steady with one wrench.

With the other wrench, turn clockwise to install or counter-clockwise to remove a connector.

Use two  $5/16$ -in wrenches



Use torque wrench, NSN 5120-00-169-5776, to apply the  $8 \pm 0.3$  lb-in of torque to all RF cable connections.





# Nomex Glove Cleaning

Crewmen, don't neglect your Nomex gloves. They suffer more wear and tear than most other Nomex garments simply because they're always where the action is. Dirt, grease, grime, hydraulic fluid—you name it and your gloves get in it. Grease, oil and hydraulic fluid, in particular, will destroy the gloves flame-resistant properties.

Hand launder your gloves by putting them on and washing them with soap and warm water just as if you were washing your hands. Rinse with more warm water, then remove them and squeeze the water out. Don't wring or twist them.

Air dry them or toss them in the dryer on low heat with other garments. Then stretch them back into shape.

Use saddle soap, NSN 7930-00-170-5467, to keep the leather palms from getting hard, crusty or brittle. Never use petroleum based lubricant on them, that stuff ruins leather. Read TM 10-8400-202-13 for more info. Take care of your gloves and they'll take care of your hands.



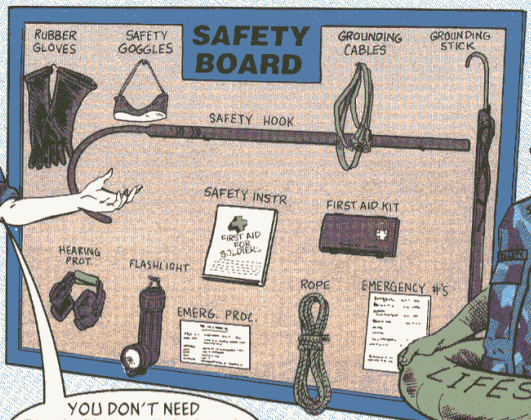


# Safety Board Is a Lifesaver



YOU DON'T NEED THAT. THIS SAFETY BOARD IS THE ONLY LIFESAVER WE'LL NEED.

## SAFETY BOARD



'Safety first' is the rule when you work around electrical equipment, where even low voltages can produce deadly results.

So, before you install an antenna or remove a panel, and before you clean a connector or hook up a cable, make sure you have a fully equipped electrical safety board nearby.

Safety board equipment is used to handle electrical emergencies and to apply first aid to shock victims. Your local safety office approves the items on the board.

TB 385-4, Safety Requirements for Maintenance of Electrical and Electronic Equipment (Aug 92), recommends that safety boards be painted white with a 2-in green border. The words SAFETY BOARD should be printed in white on a green background. Each piece of equipment should be labeled in black letters.

TB 385-4 suggests including these items on the board:

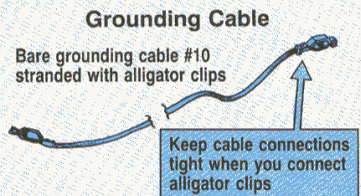
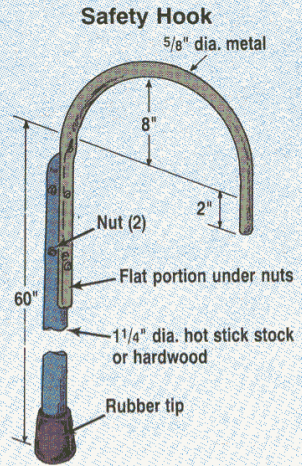
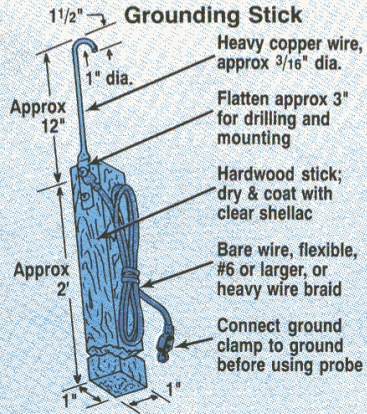
- ◆ FM 21-11, First Aid for Soldiers, and local safety instructions

- ◆ Emergency procedures
- ◆ Emergency telephone numbers (ambulance, hospital, doctor, etc.)
- ◆ Rope, halyard, 3/8 inch, 25 feet, NSN 4020-00-174-3031
- ◆ Flashlight, NSN 6230-00-264-8261
- ◆ Safety goggles, NSN 4240-00-052-3776
- ◆ Rubber gloves

Size	NSN 8415-01-158-
9	9449
10	9450
11	9451
12	9452

The safety board should also include a grounding stick, safety hook and grounding cables, all made locally.

TB 385-4 shows you how to make them, but if you don't have a copy of the TB, here are the measurements and materials:



Your local medical authority must approve other items on the board, such as first aid kits, hearing protectors, snake-bite kits and resuscitators.

Get familiar with all the equipment on the safety board. Know how to use them in case of an emergency.

Inspect the board each month to make sure all items are on hand and in good shape.

Read up on TB 385-4 for more info on playing it safe around electrical and electronic equipment.



# Antenna Field Fix

If you're on a mission and break or lose the top element of the AS-3885 antenna on the MSE AN/VRC-97 radio set, maybe you can make do until you get back. For instance, you can use the top element from one of these antennas:

Radio	Vehicular Antenna	Top Element	NSN
AN/VRC-12 Series	AS-1729	AT-1095	5820-00-856-2728
SINCGARS AN/VRC-87	AS-3900	Antenna element	5985-01-306-4622

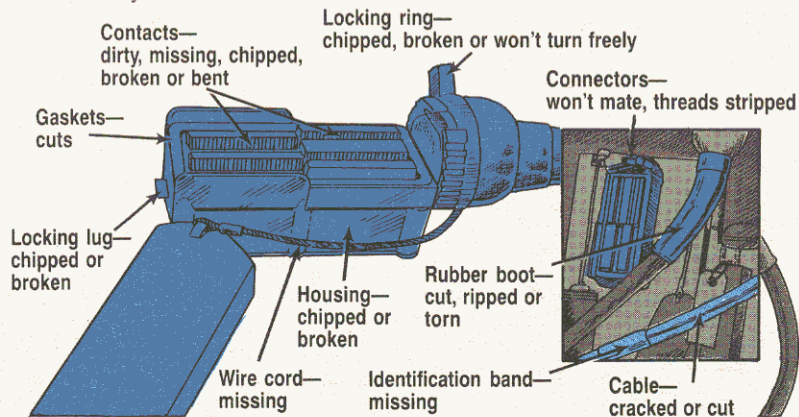
If you don't have either of those, you can connect the AS-1729's lower antenna element to the AS-3885's antenna base. You'll be able to transmit and receive, but you'll lose at least 20 percent range.

Make sure to order the correct top element—NSN 5985-01-259-9439—when you get home.

## 26-Pair Cable . . .

### PM without a TM

You can search the bookshelves, but you won't find a TM that has a PMCS chart for your 26-pair cable. That's no excuse for neglecting cable PM. Here's what to look for on your CX-4566/G and CX-4760/U cables:





# Keep the Power on Line

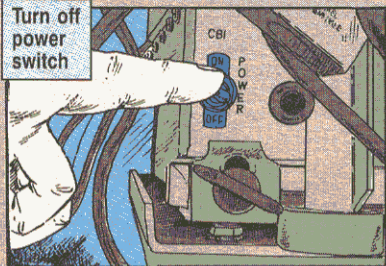
Operating the radio when your vehicle's engine is shut down drains battery power. That's a fact.

So, you know to recharge those batteries by starting and running your engine for 15 minutes of every hour you operate.

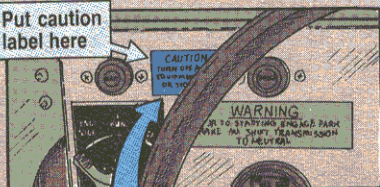
It's also a fact that you must shut off main power to your commo BEFORE you start up your engine. If you start your vehicle with the radio on, the power surge may blow the circuits.

Put a caution label, NSN 7690-00-942-7067, next to the vehicle starting switch to remind you to turn off the radio. SB 11-624 is the ordering authority for the label.

Turn off power switch



Put caution label here



**CAUTION**  
TURN OFF ALL COMMUNICATION  
EQUIPMENT BEFORE STARTING  
OR STOPPING ENGINE

HEY!  
WHAT'S  
THAT  
SMELL?

THAT'S YOUR RADIO  
CIRCUITS FRYING, SOLDIER.  
YOU STARTED THAT VEHICLE  
WHILE THE RADIO  
WAS ON!

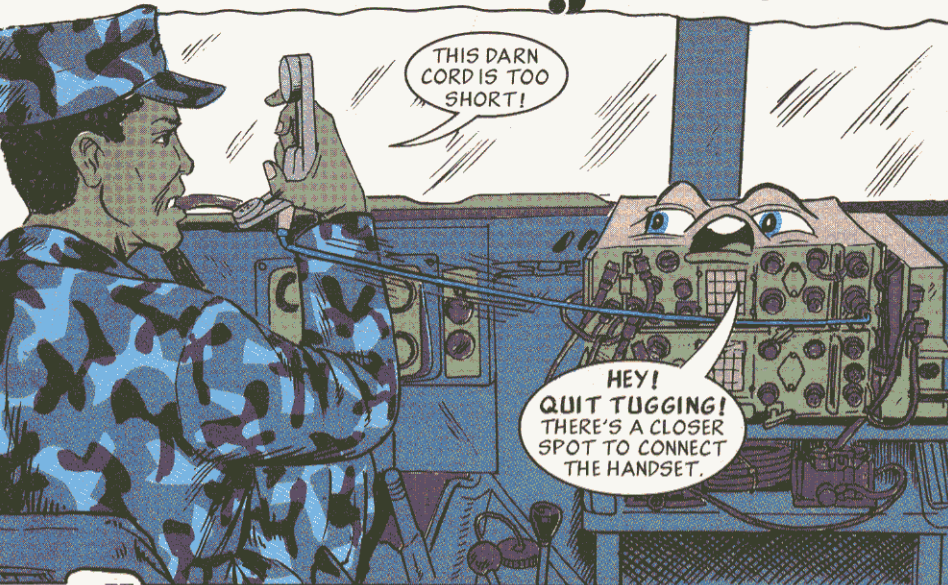
F-MAST

U.S. ARMY

COMMUNICATIONS



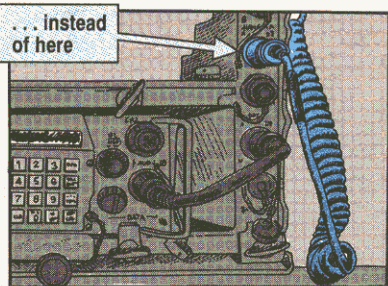
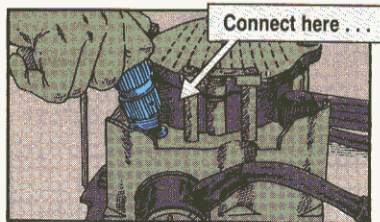
# No More Tight Rein



**V**ehicle drivers, giving yourself a little slack when you're talking over your SINGGARS vehicular radio saves handset cords and connectors. If you need the slack, consider connecting the H-250 handset to the J2 connector on the LS-671 loudspeaker instead of the AUD-DATA connector on the amplifier-adapter.

That can mean greater freedom of movement — not to mention less strain on the handset cord and connector.

There's only one drawback: The loudspeaker's mounted below the radio shelf in cramped quarters. Hookup is a little awkward. A light coat of silicone, NSN 6850-00-880-7616, on the handset connector's O-ring makes hookup easier.



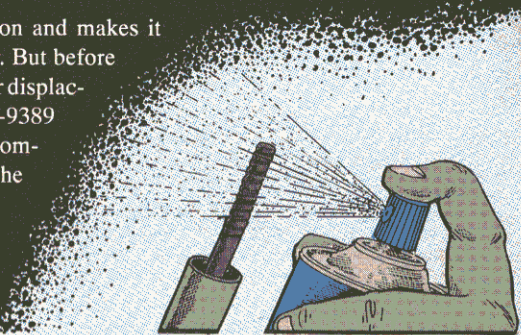


# NO MOISTURE, NO CORROSION

It's a fact of growing older: As time goes on, your joints get a little stiff. The same holds true for the antenna sections on your OE-254 and RC-292 antennas. Moisture gets onto the threads of the antenna sections. In time, contacts corrode. Antenna joints stiffen up.

Lubing the threads fights corrosion and makes it easier to screw the sections together. But before you lube, spray the threads with water displacing compound. NSN 6850-00-142-9389 gets you a 16-oz aerosol can. The compound repels moisture and coats the threads with a protective film.

After the spray dries, coat the threads with silicone compound, NSN 6850-00-880-7616.



## One SB for Battery Info

SB 11-6 IS  
YOUR PRIMARY  
SOURCE FOR  
COMMO BATTERY  
INFORMATION.



You no longer have to search through three supply bulletins for information on commo batteries. Supply Bulletin 11-6, Primary Battery Supply and Management Data (Apr 93), is now your single source for info on primary batteries in Federal Supply Class 6135.

The 1993 edition of SB 11-6 combines and supersedes SB 11-6 (Dec 87), SB 11-30 (May 82) and SB 11-499 (Jun 61).

The SB identifies battery end items and discusses ordering, transportation, storage, handling and disposal of batteries.

If your shop doesn't have at least one copy, get your pubs clerk to order it.



# Make Goggles Fit

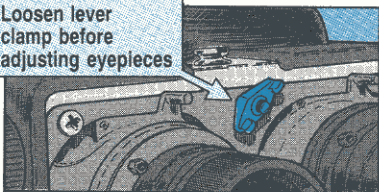
YOW! THESE NIGHT VISION GOGGLES HAVE GOT ME CROSS-EYED!

YOU FORGOT TO ADJUST THEM TO FIT!

**A**N/PVS-5A, -5B and -5C night vision goggles come in only one size. For a custom fit, use the lever clamp and the clamp knobs to adjust the goggles. Follow these fitting tips:

▲ Always loosen the lever clamp before you slide the eyepieces sideways. Never force them. They're likely to break.

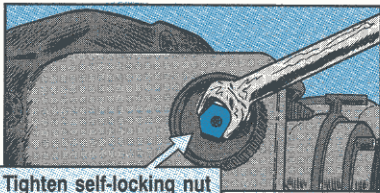
Loosen lever clamp before adjusting eyepieces



Once you've set the eyepieces, hand-tighten the lever clamp. Just don't overtighten or you'll strip the threads.

▲ Tighten the self-locking nut inside each clamp knob every now and then.

A loose nut prevents the clamp knob from holding the binocular assembly steady.



Tighten self-locking nut

▲ Before you stow the goggles in the carrying case, turn the focus knobs to pull in the objective lenses. Then loosen the lever clamp and the clamp knobs. That relieves tension on the eyepieces and allows them to move when you close the carrying case.

If the eyepieces are locked into the operating position, they'll bear the weight of the lid when you close the case. The plastic face mask will crack.



# Keep Gas Stable and Able

Dear Editor,

Recently we've had a lot of gasoline-powered generators and other support equipment turned in for repair. Many times the problem is stale or "bad" gas.

Fuel that sits in the fuel tank or carburetor for a long time builds up gum deposits. This clogs the engine's fuel system.

To clean up the mess, we have to drain the fuel, rebuild the carburetor, change the fuel filter and flush the fuel system.

All that needless downtime could be prevented by using gasoline stabilizer. NSN 4210-00-134-8955 gets a quart. Instructions are on the label.

Jeffrey Comet  
Ft Drum, NY

FROM THE  
DESK OF THE



Thanks for the tip. If the MOGAS you use has 10% ethanol, either drain the fuel system completely or run the engine out of fuel. Ethanol tends to separate from the gasoline and gum up injectors and carburetors. Gasoline stabilizer won't stop that.

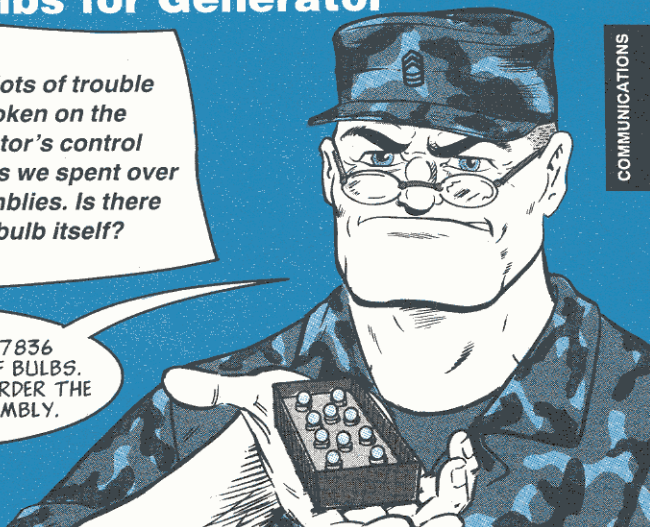
## Bulbs for Generator

Dear Half-Mast,

My unit is having lots of trouble with bulbs being broken on the M157 smoke generator's control panel. In 1 1/2 months we spent over \$500 on lamp assemblies. Is there an NSN just for the bulb itself?

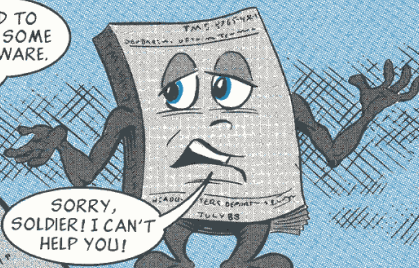
SGT R.T.

SURE! USE  
NSN 6240-00-155-7836  
TO GET A 10-PACK OF BULBS.  
YOU DON'T HAVE TO ORDER THE  
ENTIRE LAMP ASSEMBLY.

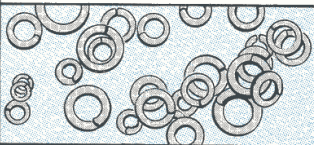




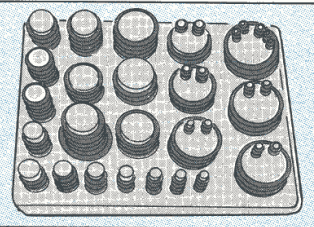
# An Assorted Assortment



**Lock washer assortment, NSN 5310-00-209-2312**, has 100 washers in sizes from  $\frac{3}{16}$  inch to  $\frac{5}{8}$  inch.



**O-ring assortment, NSN 5330-00-966-8657**, brings 382 O-rings, with an inside diameter range from  $\frac{1}{8}$  inch to  $1\frac{3}{4}$  inches. (These O-rings are not for use in aircraft, though. The fuels and oils used in aircraft can damage the rings.)



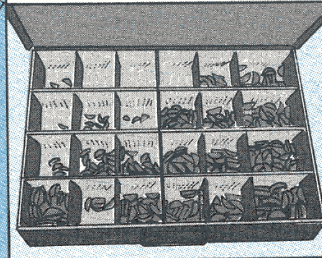
**Cotter pin assortment, NSN 5310-00-598-5916** brings 100 pins from  $\frac{1}{2}$  inch to 2 inches long and from  $\frac{1}{16}$  inch to  $\frac{3}{16}$  inch in diameter.



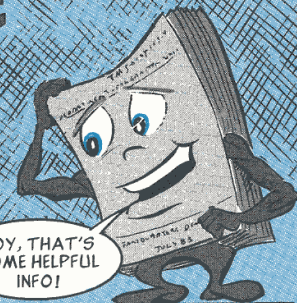
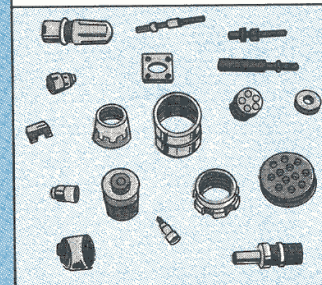
**Nut assortment, NSN 5310-00-297-3751**, brings 325 nuts, ranging in size from  $\frac{1}{4}$  inch to  $\frac{1}{2}$  inch in diameter.



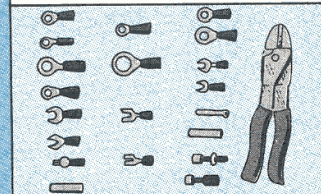
**Woodruff key assortment, NSN 5315-00-271-4251**, has 100 keys with a thickness range from  $\frac{1}{16}$  inch to  $\frac{3}{8}$  inch and diameters from  $\frac{3}{64}$  inch to  $1\frac{1}{2}$  inches.



**Electrical waterproof connectors** (for the electrical tool kits in the Common shop sets), include the Bendix Kit, NSN 5999-00-570-1380, with 563 connectors, and the Douglas Kit, NSN 5999-00-570-1060, with 792 connectors.



**Electrical terminal kit, NSN 5940-00-525-0907**, brings 500 insulated single-grip terminals in 20 types and sizes. It also includes a crimping tool.



**Gasket material, water, oil and grease resistant.**

NSN 5330-00	Thickness (inches)
467-3615	$\frac{1}{32}$
270-8470	$\frac{1}{16}$
233-5845	$\frac{1}{64}$

**Gasket, cork.**

NSN 5330-00	Thickness (inches)
233-5844	$\frac{1}{2}$
291-1685	$\frac{1}{32}$
171-9134	$\frac{3}{16}$



NOW WE'RE  
WELL STOCKED WITH  
HARDWARE.

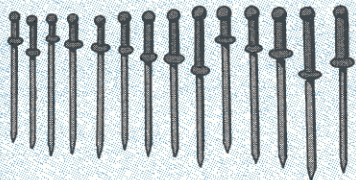
Shellac, gasket, NSN 8040-00-664-4134.

**Gasket sealing compound.**

NSN 8030-00-	Type
247-2524	Hardening
656-1426	Nonhardening

**Pop rivets can be used with blind riveter.**

Grip Lgth. (Inches)	dia.	NSN 5320-00-	Qty
1/16-1/8	1/8-in	510-7823	100
1/8-3/16	1/8-in	904-4136	100
1/4-5/16	1/8-in	052-1972	100
5/16-3/8	1/8-in	903-8778	100
3/8-1/2	1/8-in	824-4760	100
1/16-1/8	3/16-in	408-6073	100
1/8-1/4	3/16-in	493-4101	100
1/4-3/8	3/16-in	409-6841	100
3/8-1/2	3/16-in	408-9928	100
1/2-9/16	3/16-in	753-3809	100



AND YOU  
DIDN'T NEED  
ME!

**Heat-shrinkable tubing for electrical wire repairs.**

NSN 5970-00-	Diameter (Inches)
812-2968	1/16
812-2969	1/8
815-1295	1/4
812-2967	1/2

**Absorbent compound, 25-lb bag, NSN 7930-01-145-5797.**

**Insulating varnish, electrical, NSN 5970-00-284-5448.**

**Tiedown straps, electrical, in bags of 100.**

NSN 5975-00-	Length (inches)
074-2072	61/2
570-9598	101/4
156-3253	131/4

Use Appendix A of CTA 50-970 to get expendable, consumable, "as required" maintenance supplies.



# Easier Field Cleaning

Dear Editor,

Few soldiers clean the M17 mask when they're in the field. That's because they don't take alcohol and cheesecloth to the field. When they're through wearing the mask, they generally just shake it out and wait until they get home to clean it.

In the meantime, bacteria get a foothold in the mask. At the very least, it smells bad, which isn't too much fun for the soldier who must wear it. At worst, the soldier can develop dermatitis.

We wiped out the problem with alcohol-free respirator wipes. They come individually packaged like the towelettes you get in convenience stores.

The soldier sticks several wipes in the mask carrier before he goes to the field. When he's through wearing the mask, he uses a wipe to clean the mask's faceblank inside and out. That kills any bacteria.

The mask can air dry, or dry inside the carrier, or be worn immediately. The active ingredient of the wipes, benzalconium chloride, usually doesn't irritate the skin.

When the soldier returns from the field, he can thoroughly clean the mask like it says in TM 3-4240-279-10.

The wipes don't have an NSN yet, but NBC NCOs can request the wipes on a DD Form 1348-6 with PN 504, CAGE 68352 from RIC B14.

SSG Aaron E. Canez  
Livermore, CA



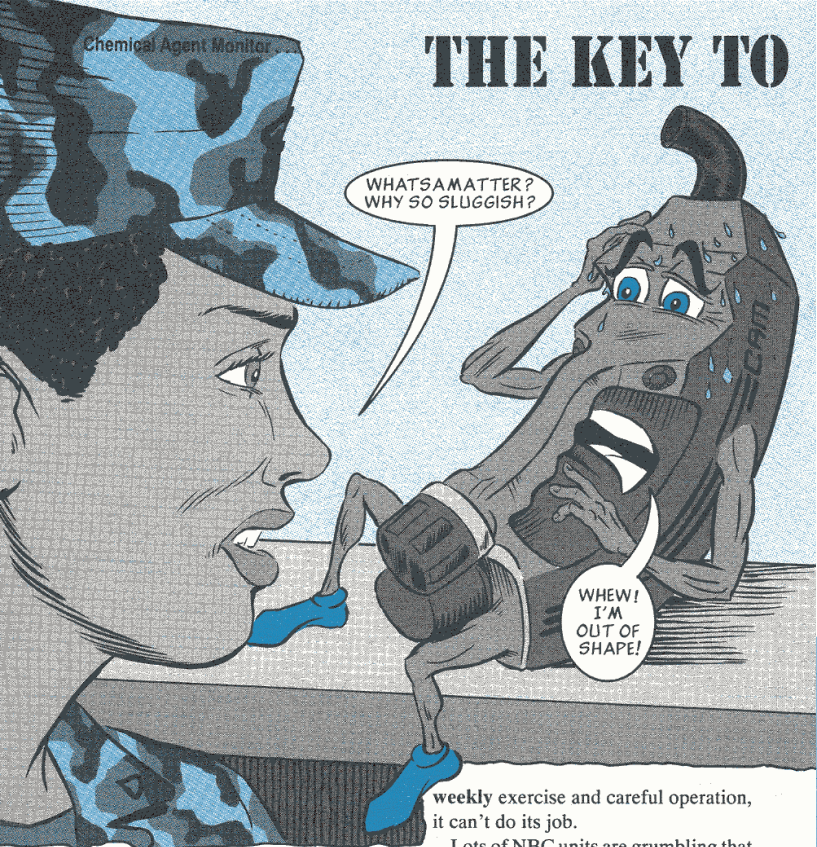
FROM THE DESK OF THE Editor 

You have a good cleaning solution . . . for the field only. Whenever possible, soldiers should clean the M17 like the TM says. If they use the wipes, they must be careful cleaning around the nosecup and outlet valves so they don't get the valve discs wet or get pieces of wipe stuck in the valves. The wipes are approved for the M17 mask only. The M40 mask is made of different material and the Army's still studying if the wipes will help or hurt it.



# THE KEY TO

# FITNESS? EXERCISE!



weekly exercise and careful operation, it can't do its job.

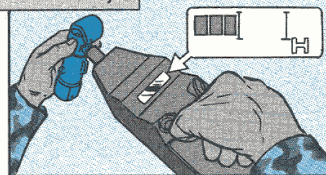
Lots of NBC units are grumbling that the CAMs are worthless. But the real problem is NBC NCOs who are not giving CAMs weekly exercise and operators who are not operating CAMs carefully.

As a result, CAMs suffer contamination buildup and fail the self-test, usually in the H mode.

To keep your CAMs working, do this every week:

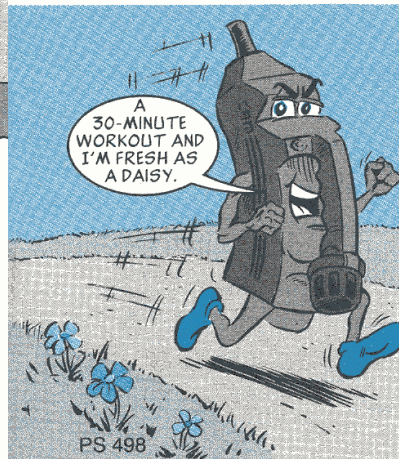
Do the self-test and confidence test. If a CAM has built up moisture or some other contaminant, it may need to run a long time before it passes the confidence test—sometimes 48 hours.

Run confidence test and self-test at least weekly



Run CAMs at least 30 minutes weekly and at least five minutes after all bars from the confidence test have cleared. This saves clearing time later.

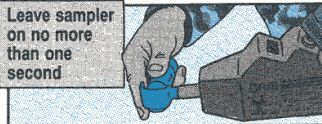
A 30-MINUTE WORKOUT AND I'M FRESH AS A DAISY.



Operators, follow some simple rules in the field.

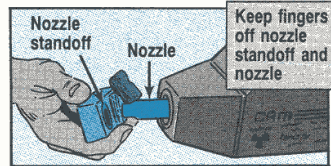
Be very conscious of time when doing confidence tests. Leave the sampler on no more than one second on both the first and second tries. Otherwise, the CAM becomes saturated. If it doesn't pass on the second try, tell your NBC NCO. Something's wrong.

Leave sampler on no more than one second



(If it's cold, the CAM takes longer than the usual two minutes to warm up—sometimes 1½ hours.)

Keep the nozzle standoff clean and dry, and do not handle it. If it gets dirty or wet or contaminated by your hands, you'll get nothing but bad readings. If the standoff's dirty or wet, replace it directly from its safety package so your hands don't touch it.



Same goes for the nozzle itself—hands off. Handling the nozzle can not only contaminate the CAM, but in some cases ruin it.

Following these tips will make your CAM a big help instead of a big headache.

**Y**ou know how well you do in PT when you haven't been exercising regularly to stay in shape. Your body just can't do what the Army says it's supposed to do.

It's the same story with the Chemical Agent Monitor (CAM). If you maintain it or use it, know this: If it doesn't get



# Storing Your ECWCS

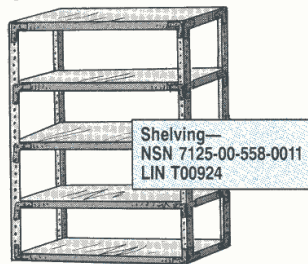


Dear Half-Mast,

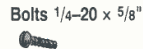
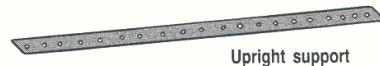
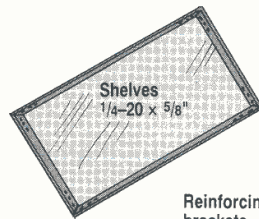
We store our ECWCS (Extended Cold Weather Clothing System) using the shelving system, NSN 7125-00-558-0011.

By modifying the assembly of the shelves, we're able to hang up such items as coveralls, parkas, and shirts. Other cold weather gear sits on the bottom shelves.

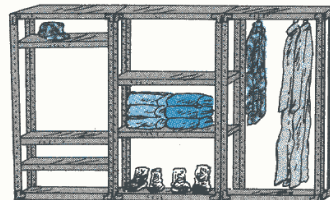
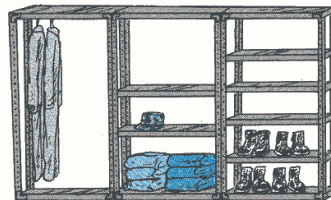
Here's how a shelving unit might look:



Here are the components of one shelving unit:



Here's how several shelving units might look when modified:



Shelving components may vary slightly, depending on the manufacturer. But you should be able to put the unit together to look like the above drawing.

Here's how you make it:

1. Put together a top and bottom shelf connected by four upright support posts, bolting the shelves and posts together. (There are 31 holes for bolting posts with shelves.)
2. Bolt in reinforcing brackets at all four outside corners of each shelf to keep it from wobbling.
3. Bolt a reinforcing channel under the top shelf (there are

- four holes for bolting the channel).
- The reinforcing channel becomes a bar to hang clothes.
4. Bottom shelves can be positioned to hold folded clothing and other cold-weather gear.

SSG Harry A. Padalecki  
Fort Collins, CO

FROM THE DESK OF THE Editor  
Thanks for the tip! Now ECWCS gear won't be left out in the cold.



# Connie's Post Scripts

## M200A1 Safety Chain NSN

Get the correct safety chain for your generator trailer with NSN 4010-01-360-1240. That chain is 42 inches long. The NSN listed in the -14&P TM brings a chain that's only 18 inches long.

## Get Tailored Pubs List

You can get a list of publications you need to support your equipment from:

**USAMC Logistics Support Activity (LOGSA)**

**ATTN: AMXLS-AP, Bldg 3481  
Redstone Arsenal, AL 35898-7466**

Here's how: If your unit uses the standard property book system redesign (SPBS-R), prepare and send in an MS-DOS floppy diskette version of your property book. Not on SPBS-R? Ask LOGSA for a copy of the EQUIP DISK. It gives you the what for. Be sure to include the maintenance level, your name, rank, complete address, and phone number.

## M916A1 Alternator Swap

If you can't get a 90-amp alternator (NSN 2920-01-347-6068), for your M916A1 tractor truck, it's ok to use the 100-amp alternator (NSN 6115-01-329-1671) from an M915A2. It fits perfectly.

## New Timing Light NSN

The old timing light set, NSN 4910-00-937-5724, in the No. 1 Common shop set has been replaced by NSN 4910-01-281-9340. Note this until SC 4910-95-A74 is revised.

HOW MANY OF THESE THINGS ARE WE GOING TO LOAD?!

CONNIE SAYS PUT ON ALL WE CAN GET!

## Get the Right Manual

Now that MOSs 31G, 31K and 31V have been combined into one (31U--Signal support systems specialist), you need to make sure the right soldier's manual is on pinpoint distribution. If STP 11-31U14-SM-TG doesn't show on the unit's 12-series forms, get your pubs clerk to order it on DA Form 4569 and add it to DA Form 12-11 using block number 5253.

## Thermostat Tester

In case you want one, there's a thermostat tester available. It's NSN 4910-01-023-7842. Appendix A of CTA 50-970 is your authority for ordering.

## M149 Trailer Wheel NSN

NSN 3110-01-100-5951 brings the complete wheel bearing--the cone and rollers, and the cup. Jot down the NSN until the TM's updated.

## HMMWV Seat Frame NSN

Get a frame for the driver's seat in any HMMWV with NSN 2540-01-318-9229. TM 9-2320-280-20P lists it as being used on vehicles with serial numbers over 100,000. But that's wrong. It also replaces the frame used on vehicles with lower serial numbers.

## M1022 Dolly Socket NSN

You won't get the 1 15/16-in socket wrench that's shown in basic issue items list for the 7 1/2-ton dolly using the NSN printed. Instead, use NSN 5130-00-684-0917.

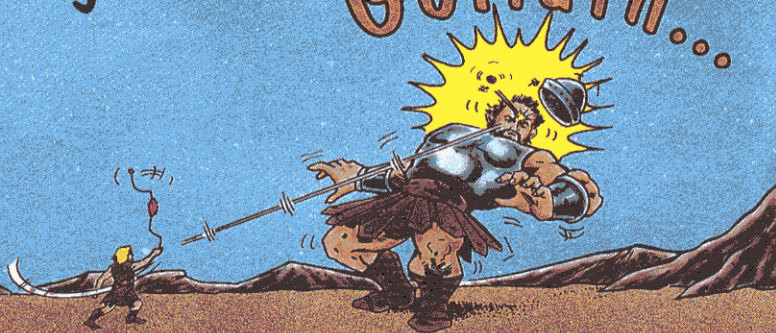
KEEP LOADING, GUYS... WE'VE GOT LOTS MORE!

Distribution: To be distributed in accordance with DA Form 12-34-E, Block 0312, for TB-43-Series

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

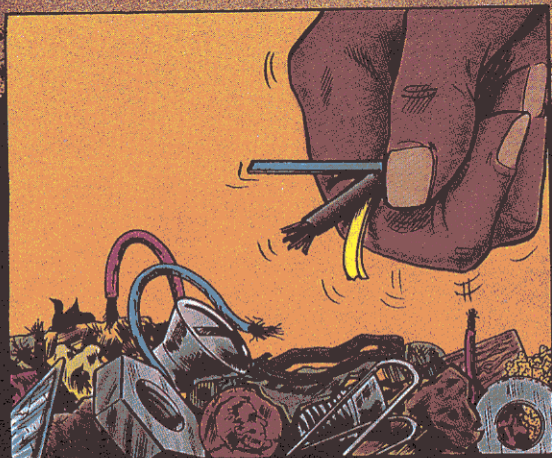


One small, smooth stone  
brought down Goliath...



...think about it!

**FOOD**



**Pick it UP!**