

Issue 506

TB 43-PS-506

PS

January  
1995

THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY

OH, MAN! THIS  
IS NO TIME TO  
BE PUTTING ON  
TIRE CHAINS!

NOW LEAVING  
BLACK FOREST

Approved for Public Release; Distribution is Unlimited

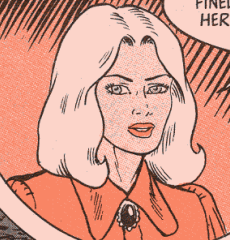


# Disposal Is YOUR Business

Some of the supplies and materials you use every day in the motor pool are considered hazardous waste (HW) after they're used. Things such as anti-freeze, brake fluid, cleaning solvents, oil and the like can be hazardous to the environment if you spill them or dispose of them in the wrong way.

Not following the Environmental Protection Agency (EPA) rules and regulations on hazardous waste disposal can be hazardous to YOUR unit!

SINCE OCTOBER '92, ARMY INSTALLATIONS HAVE BEEN FINED MORE THAN \$9.4 MILLION. HERE ARE SOME OF THE MOST RECENT VIOLATIONS ...



Failed to record key elements in the contingency plan. FINE: \$51,200

Failed to maintain adequate aisle space (2 counts). FINE: \$32,500

Failed to have emergency equipment, such as fire extinguishers and spill control equipment in four areas. FINE: \$4,000

Failed to label drums in storage areas as hazardous waste (2 counts). FINE: \$228,000

Failed to label drums in the storage areas with the initial date of accumulation. FINE: \$49,500

Stored leaking cans and drums with unknown substances in storage areas. FINE: \$13,000

Failed to inspect accumulation storage areas at least weekly (3 counts). FINE: \$102,417

Neglected to have all HW handlers trained or failed to maintain training records. FINE: \$51,250

Failed to keep HW containers closed (4 counts). FINE: \$78,312

PAY ATTENTION TO THE DETAILS OF YOUR HAZARDOUS WASTE MANAGEMENT PROGRAM. THAT WAY YOUR UNIT WON'T BE ON THE NEXT FINE LIST.



If you're not sure about hazardous waste management regulations, procedures or training requirements, call the Army's environmental hotline. CONUS folks can call 1-800-872-3845 and OCONUS folks call DSN 584-1699.



THE PREVENTIVE MAINTENANCE MONTHLY

TS 43-PS-506, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

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

MSG Half-Mast  
The Preventive Maintenance Monthly  
Bldg. 3125  
Redstone Arsenal, AL 35898-7466

By Order of the Secretary of the Army:

**GORDON R. SULLIVAN**  
General, United States Army Chief of Staff

Official: *Milton H. Hamilton*  
**MILTON H. HAMILTON**  
Administrative Assistant to the Secretary of the Army  
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# CLEAN UP FUEL

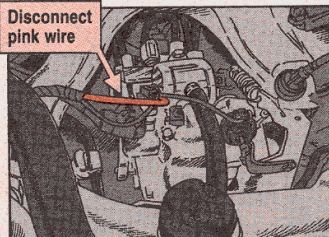
The CUCV's maintenance manual, TM 9-2320-289-20, shortchanges you on the length of the drain hose for the fuel filter.

A longer hose keeps fuel from splashing on the engine. The fuel is messy, and could be a disaster if it ignites.

Here's a safe, clean way to bleed the system:

- 1 Remove the fuel tank cap.

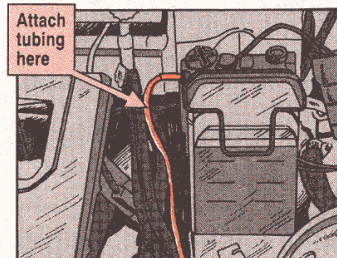
- 2 Disconnect the fuel injection pump shutoff solenoid wire (pink wire).



# FILTER BLEEDING

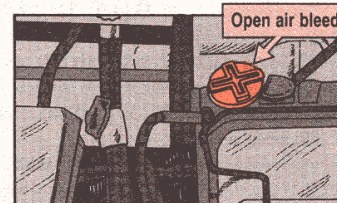
- 3 Slip a 36-in piece of AOAP tubing, NSN 4720-00-964-1433, over the bleed drain.

- 4 Run the tubing alongside the fuel filter drain hose and fasten it with a tiedown strap, NSN 5975-00-074-2072. The tubing is clear so you can see when fuel flows from the filter.

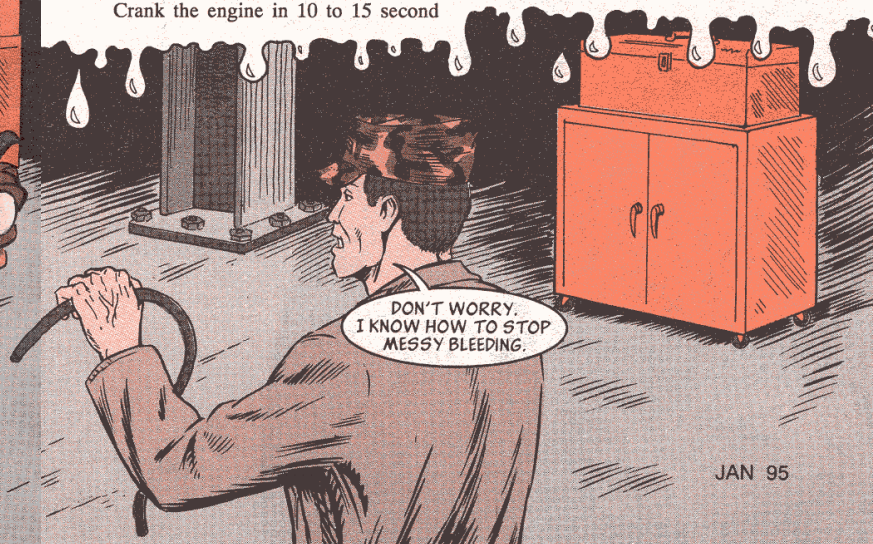


- 5 Open the air bleed on the fuel filter. Crank the engine in 10 to 15 second

intervals until fuel flows steadily from the air bleed drain.



- 6 Close the air bleed.
- 7 Reconnect the injection pump solenoid wire.
- 8 Crank the engine in 10 to 15 second intervals until it starts. Let it idle about five minutes. While the engine's idling, make sure there are no leaks at the filter.
- 9 Replace the fuel tank cap. Your truck's ready to roll.





# Rim Shot?

**S**ome 12-hole rims for HMMWV tires are missing a weld. They can blow apart when you inflate the tire, or when you're driving.

The rims are NSN 2530-01-336-5740 and are a part of wheel assembly kits, NSN 2530-01-361-4856.

If you have any 12-hole rims (all old rims have eight holes), look them over. There should be a weld on the inside of the rim between the bolt ring and inner rim half. The weld should go all the way around.

No weld, no good.

Be careful when handling rims with inflated tires. If they're not on a vehicle, deflate the tires before moving the wheel.

If the wheels are on the HMMWV, use a flashlight to look for the weld.

If you don't find the weld, mark the vehicle as NMC until the wheel's replaced. Deflate the tire before removing the wheel.

To get credit for bad wheel assemblies, send a Product Quality Deficiency Report (SF 368) to:

USATACOM  
ATTN: AMSTA-QRD  
Warren, MI 48397-5000

You can call DSN 786-5422 or commercial (810) 574-5422. E-mail goes to [tacomdrs@tacom-emh1.army.mil](mailto:tacomdrs@tacom-emh1.army.mil)

Hold bad wheels until TACOM tells you what to do with them.

This information is in TACOM Safety of Use Message 94-14. If you don't have a copy, see your TACOM Logistics Assistance Representative or write Half-Mast.





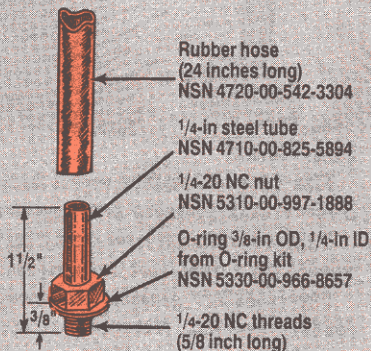
# FUEL THE FILTER

**Y**ou can't run a HMMWV on air – not yet, anyway – so fill the filter housing with fuel each time you change the fuel filter element.

HEY! I NEED FUEL WHEN I GET A NEW ELEMENT!

If you don't refill the filter, the fuel pump will suck in air. The HMMWV won't start.

To guarantee a quick start, bleed the system also. You can make a bleeding tool like so:



## Glow Plug Socket

**T**here's no need to bring a socket from home to pull glow plugs from a HMMWV or CUCV, mechanics. You get the 3/8-in deep-well socket you need for the job with NSN 5120-00-142-5152.

The socket is part of the HMMWV's organizational special tool kit listed on Page B-20 of TM 9-2320-280-20-3 (Nov 93). The kit is NSN 5180-01-198-7592.

The socket is not yet in CUCV manuals, but is being added to the Common No. 1 shop set.

NOW THAT YOU'RE HERE, I'M GOING BACK HOME!



# (For) Get the Drift?



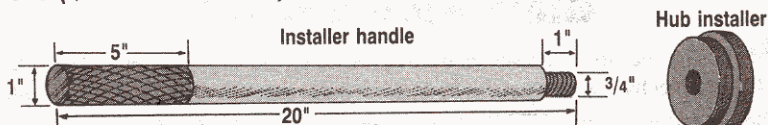
Dear Editor,

The TMs tell you to use a brass drift and hammer to remove the inner wheel bearing and seal from the older 5-ton trucks.

That beating on one point can ruin a bearing. A better choice would be a tool that puts equal pressure all around the bearing.

The HMMWV geared hub installer, NSN 5120-01-229-0842, is perfect for this job. It's made of aluminum, too, so you don't score the bearing race.

You have to make a handle for the installer, though. Use a 20-in length of 1-in round stock. To attach the handle, either thread one end ( $3/4$ -in UNC x 1 inch) or tack weld a  $3/4$ -in UNC bolt on the end.



You can finish the job by cross-hatching the handle for a grip. This tool will give you an even hit on the bearing, reducing the chance of damage and making removal a snap.

SSG Timothy L. Hallenback  
Kingsford, MI

FROM THE DESK OF THE



We get the drift. This "new" tool can make a mechanic's job a little easier.

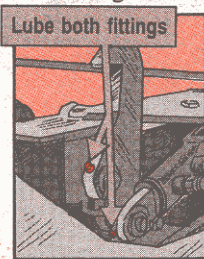


# DO YOUR DUMP PM

**K**eeping your M929 and M930 5-ton dump trucks on the road means keeping your eye on PM. Here are three places to look:

## Lube the Latch

When you're lubing the truck, remember to grease both fittings on the dump body's safety latch hook. Without the lube, the hook can freeze in place. Then it—or the latch mount—will break when you raise the bed.



When the bed is up, the fluid is in the lift cylinder. You won't get a true reading of the level in the tank if you test it then.

## Keep Canvas Cool

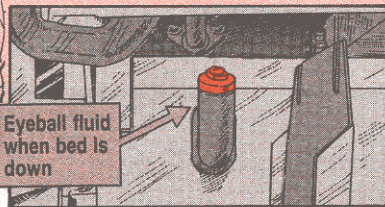
The tarp on the dump bed rides close to the exhaust pipe—even when it's properly tied down.

Let a rope come undone, though, and the canvas can rest right on the hot metal. That leads to burned canvas and a big repair bill.

Keep tie-down ropes tied down. If you're missing the rope, get a new one with NSN 4020-00-968-1356.

## Bed Down Before Test

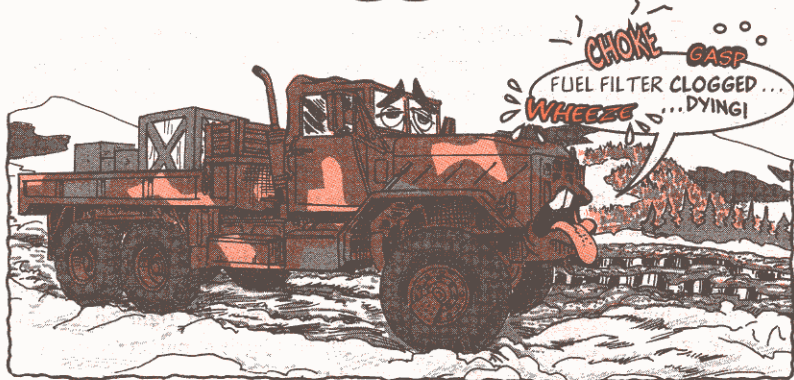
Before you eyeball the fluid level in the dump bed's hydraulic tank, make sure the dump bed is down.



BETTER KEEP THIS TARP TAUT OR THE EXHAUST PIPE WILL FRY IT.

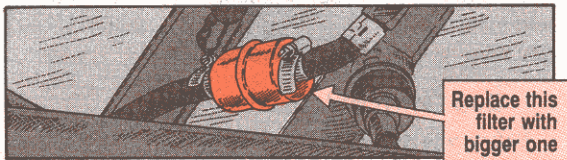


# Get a Bigger Filter



**T**hat small in-line fuel filter on your M939A2-series 5-ton can clog up fast – stopping you cold.

To help you out, Tank-automotive and Armaments Command has OK'd a bigger filter for the truck.



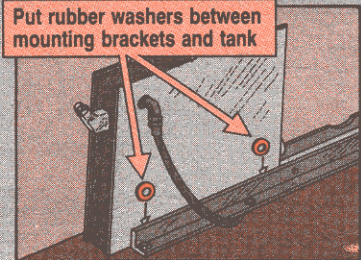
The initial changeover is made by your DS shop with kit, NSN 4930-01-387-1147. Instructions come with the kit.

The filter is the same one used on older M939s. The filter element alone is NSN 2910-00-152-2033.

## Cushion the Hydraulic Tank

**O**perators, the hydraulic tank for your M939-series truck's front winch is a known leaker. Vehicle vibration cracks the welded seams on the tank.

If you see a crack, report it. Even if you don't see one, have your mechanic head off future cracks by putting rubber washers, NSN 5310-00-333-7528, between the mounting brackets and the tank.





# BEARING PACKING SOLUTION

Dear Editor,

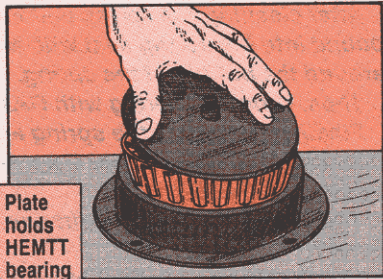
I have a fix for the problem of packing HEMTT wheel bearings (Page 22, PS 498). It saves you the mess of packing the bearing by hand.

Get a piece of 1/8- or 1/4-in thick steel stock. Cut it into a circle the diameter of the outside of the wheel bearing packer. Grind or file the edge smooth.

Drill a hole in the center large enough to let the plate slip down on the bearing.

Then, put the bearing in the packer, slide the new piece down on the bearing and tighten it down. You're ready to pack.

SSG Thomas Wedekind  
Madison, WI



FROM THE DESK OF THE *Editor*

Thanks for the fix. That'll keep hands clean and save time, too. Other readers let us know they are doing the same thing. They are SSG Steven Merfeld, Onalaska, WI, and L.H. Koerntjes, Vriezenveer, Netherlands.

M915, M915A1, HEMTT ...

## Use Air Dryer Kit

You can service the air dryer on your big truck the expensive way...or the right, cheaper way.

Some mechanics clean the dryer by replacing the entire cartridge, at more than \$170 per assembly.

The right way to clean the dryer is to use the desiccant parts kit, NSN 2940-01-081-1391. It costs less than \$35.

The kit has everything you need, including instructions, to make the cartridge as good as new.







# FILL COVER BINDING

Dear Editor,

Corrosion and rust set in around the spring and adjusting bolt on the fill cover of our tankers. That makes it hard to remove the bolt and adjust the fill cover.

My answer is to use antiseize compound, NSN 8030-01-239-8703, and GAA during services.

After cleaning the spring and filler cap, I put the antiseize compound into the spring seat with a small brush. I put more compound around the bottom of the spring.

Then, I coat the spring with GAA.

Finally, I assemble the spring and filler cap, and adjust it per Para 4-60 of TM 9-2330-356-14.

The grease catches the dirt and the antiseize compound stops the binding.

I used this on a tanker before it went to Desert Storm. We recently pulled services on it. The adjusting bolt didn't bind and was easy to clean.



SFC Michael J. Hovis  
Gerry, NY

FROM THE DESK OF THE *Editor* 

That covers this problem.

HOW COME YOU'RE SO HARD TO ADJUST?

'CAUSE YOU DIDN'T USE ANTISEIZE COMPOUND AND GAA.



# Build a Funnel Tree

HERE'S A TREE  
THAT EVERY MECHANIC  
CAN APPRECIATE!

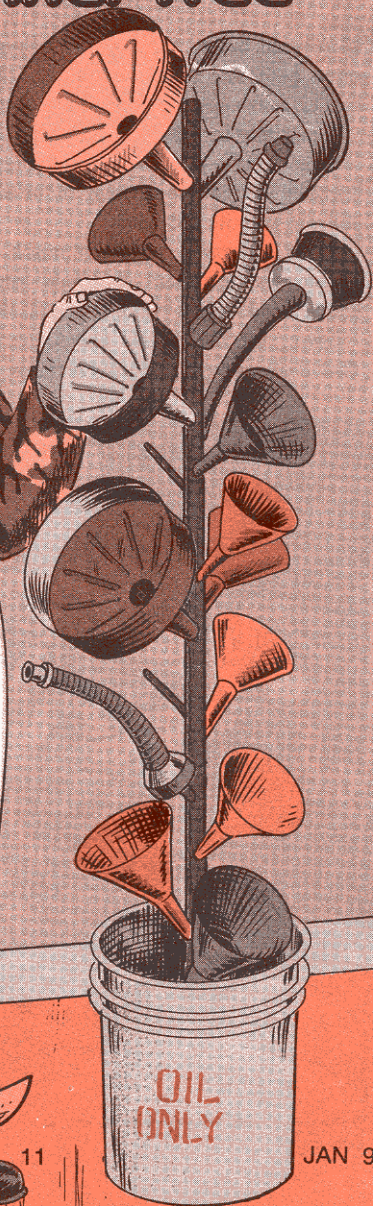
Dear MSG Half-Mast,  
My unit has a good way to store funnels. We made a funnel tree. It keeps all the funnels visible. It also directs residual oil down the center support and into a bucket.

To make the funnel tree, weld a 6-ft piece of 1-in tubing to a 9-in unserviceable pulley or similar sized base. Then weld 4-in lengths of 1/4-in diameter steel pegs to the main shaft at an angle of 45° or less.

Then set the tree inside an empty 5-gal bucket.

Remember to keep different fluids separated.

SFC Bradley C. Kohler  
MOARNG





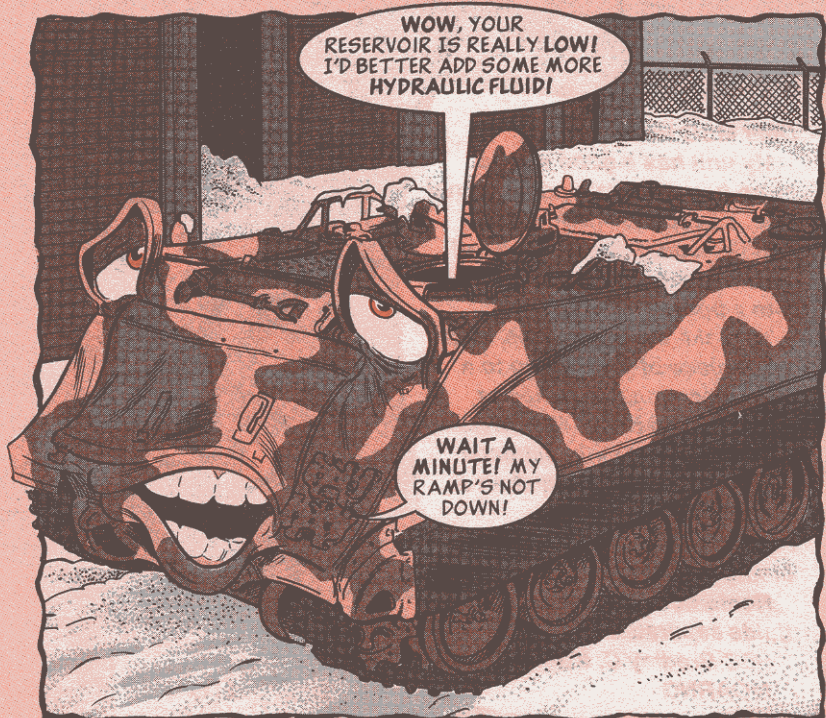
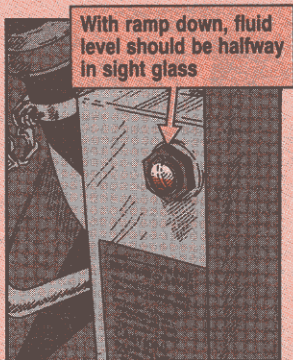
# KEEP FLUID LEVEL ON THE LEVEL

**C**rewmen, before you inspect the fluid level in the ramp hydraulic reservoir on your M113-series carrier, **make sure the ramp is all the way down.**

A partially lowered ramp always causes a low reading. When you add more hydraulic fluid—bringing the level to halfway in the sight glass—you end up with too much.

Using the ramp with too much fluid overpressurizes the system. Hydraulic lines blow and you're stuck with a big, messy problem.

Lower the ramp, then check the sight glass. That'll give you an accurate reading.

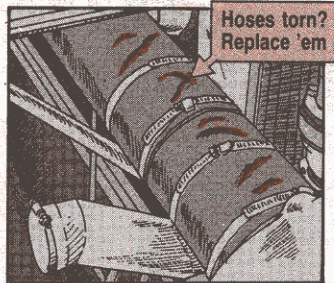




# CLAMP DOWN ON SUB-PAR PM

**A** hole-in-one's not always a good thing, mechanics. Especially when that hole is in one of the turbocharger air inlet hoses on your M578 recovery vehicle or M110A2 SP howitzer.

Constant wear from pulling and reinstalling the powerpack damages the hoses. The cuts and tears that develop let in dirty, unfiltered air. That's about as good for the engine as a triple bogey is for your golf handicap.

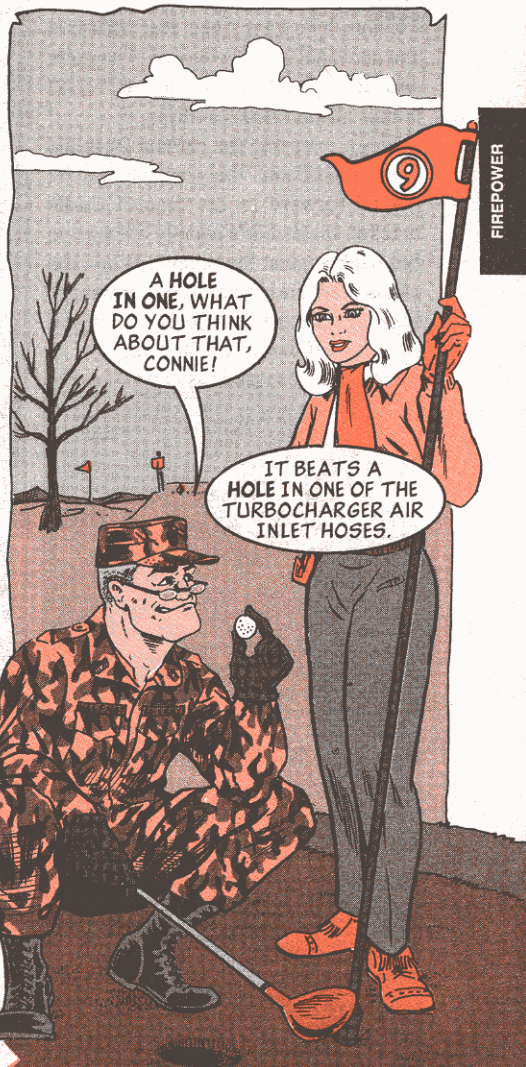


Look at those hoses when you pull the powerpack. If they're badly scuffed or have a hole, replace 'em with NSN 4720-01-058-5103.

Of course, the clamps that hold the hoses in place are important, too. If they no longer tighten enough to seal the hose, get new ones with NSN 4730-00-725-0537.

Good hose and clamp PM is a sure-fire way to keep that vehicle's engine up to par.

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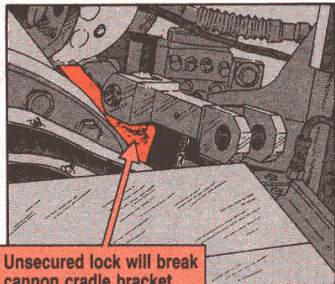


JAN 96



**M**urphy's Law states that whatever can go wrong, will go wrong. The main gun elevation lock on the M1A1/A2 tank is an excellent example.

When releasing the cannon from the stowed position, the lock should be pinned forward to the cannon cradle bracket. Instead, it's usually allowed to fall back against the breech. When the gun is fired, the breech recoils and snaps back against the lock, breaking it and shearing off part of the bracket.

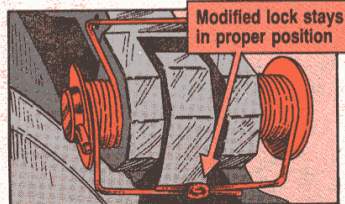


Unsecured lock will break cannon cradle bracket

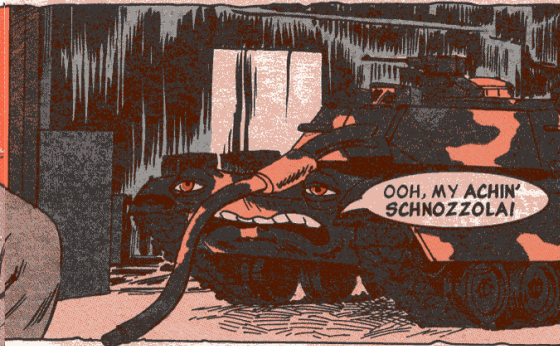
That little slipup will cost your unit more than \$9,200 for a new cannon cradle.

Mechanics, you can help break Murphy's Law by adding a spring to the lock. The spring forces the lock into the proper position every time. Here are

the parts you'll need:



Item	NSN
Spring	5360-01-384-5338
Washer	5310-01-384-4231
Pin	5315-01-385-7871
Cotter pin	5315-00-012-0123



Here's how to put the parts together:

1. Remove the old cotter pin and straight-headed pin.
2. Place the spring over the elevation lock.
3. Slip a washer over the pin and slide the pin through the spring and lock.
4. Place another washer over the open end of the pin.
5. Secure the pin in place with the cotter pin.

When you're finished, remove seven links from the chain holding the quick release pin. That'll keep the pin from getting caught under the lock.

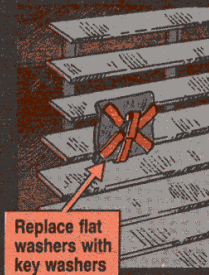
M1-Series Tanks . . .

## Lock Screws in Place

**T**hat clanging noise you heard coming from the rear of your M1-series tank was the grille door grates falling off.

Flat washers, NSN 5310-00-877-5972, can't stop engine vibration from loosening the grate screws. When the screws work loose—**CLANG!**—off come the grates.

Your mechanic can correct that problem by replacing the old washers with key washers, NSN 5310-00-824-5474. The new washers keep the screws tight and the grates where they're supposed to be.





# Stop Ammo Door Lockup



It only takes a couple of loose screws to ruin your day, crewmen.

The ammo door hook and housing assembly on your M1-series tank is mounted by two screws to the top left of the door.

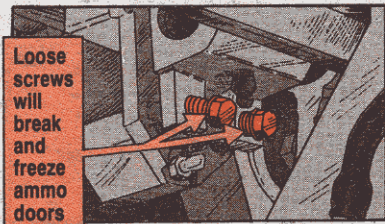
Vibration during operation loosens those screws, but you may not know

about it until the screws get broken off or the door gets jammed as you try to open it.

Then you'll either have an open door you can't close, or a closed door you can't open. Either way, there'll be no firing.

Make a point to eyeball those screw heads with a flashlight every time you check out the ammo doors and racks. If they're loose, sing out to your mechanic.

After he's tightened 'em, he'll keep the screws in place with an application of locking compound, NSN 8030-01-025-1692.





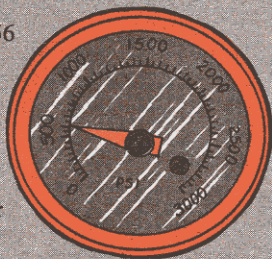
# Check Weather before Gauge

**G**unners, the -10-1 TMs for your M1-series tank come up a little short when it comes to the hydraulic zero pressure check.

Step E on Page 2-267 (M1A1) and Page 2-256 (M1/IPM1) says that when the main gun is being raised and lowered, hydraulic pressure should slowly decrease to 700-750 PSI and then drop rapidly to 0 PSI as shown on the pressure gauge.

But temperature has something to say about that PSI reading. As the outside temperature goes higher or lower, so will the gauge reading.

Here are the readings you should be getting:



TEMP (°F)	-70	-50	-25	0	+25	+50	+75	+100	+125
PRECHARGE PSI	550	580	620	650	685	720	755	790	830

*This chart shows temperature ranges for the zero pressure check during startup. Cut out and keep the chart until the TMs are updated.*





# Don't Recoil from Pressure Check

**O**perators, there were a lot of lessons learned during Desert Shield/Storm. One of them involves having your mechanic test the nitrogen pressure in your M198 towed howitzer's M45 recoil mechanism.

It turns out that abrupt, dramatic changes in temperature affect the pressure level in the recoil mechanism. Firing the howitzer when the pressure is too high may damage the recoil mechanism. But if the nitrogen pressure is too low, the cannon will fall out of battery.

So before you operate that big gun, let your mechanic know when any of the following happens:

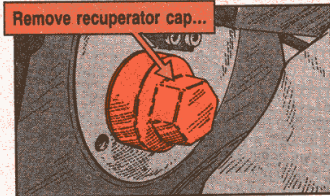
- ❖ Local overnight temperatures vary by 40°F or more.
- ❖ There is a difference of 40°F or more between sites when your howitzer is deployed.
- ❖ The howitzer has not been fired within the last month.
- ❖ Nitrogen pressure has not been checked within the last week.

Make a note of these checks in the before-operation PMCS tables until TM 9-1025-211-10 is updated.

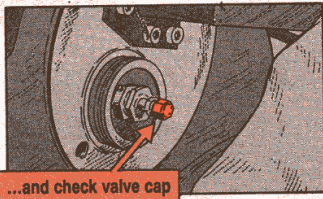
## Mechanics

Mechanics, when you're notified that one or more of those conditions are met, test the nitrogen pressure. Here's how:

**1** Remove the cap from the recuperator cylinder assembly. Then take the cap off the check valve.



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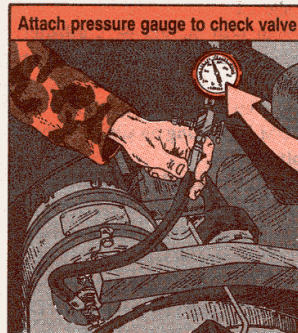
18

...and check valve cap

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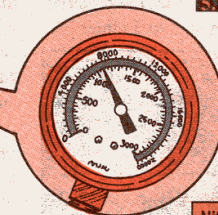


- 2** Put a soapy water solution on the check valve. If bubbles appear, the problem could be a leaky valve.
- 3** Connect air pressure gauge, NSN 6685-00-248-6974, to the check valve. Close the bleeder valve.
- 4** Open the check valve slowly. The nitrogen pressure should read 1100 +/-50 PSI. Too high? Lower it to 1100-1125 PSI. If the pressure's too low, turn in the howitzer to support for trouble-shooting and recharging.



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**5** Dab soapy water on the check valve and look for leaks again before replacing the caps.



Nitrogen at 1100 PSI (+/- 50 PSI)? Recoil mechanism's OK

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# PM LEADS THE WAY

C'MON!  
THIS IS THE WAY  
TO GO.

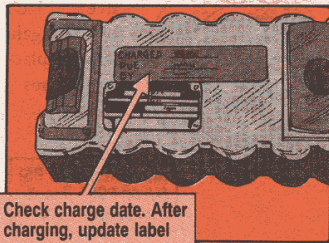
HE SURE IS  
CONFIDENT!

HE'S CONFIDENT  
THANKS TO PM!

If you expect your Ground/Vehicular Laser Locator Designator to lead the way on the battlefield, you must clear a path with PM and careful handling.

## Batteries

Check the charge date of the batteries. If they haven't been charged in the last 10 days, get them charged. If the batteries have been stored in temperatures less than 30°F or more than 70°F, make that five days. Otherwise, the batteries won't be strong enough to do their job.



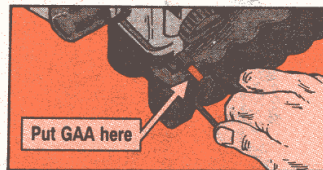
Check charge date. After charging, update label

Remember, the batteries must be completely discharged before they are recharged. If not, they develop a memory problem. They can't be fully charged and can't provide the juice they should.

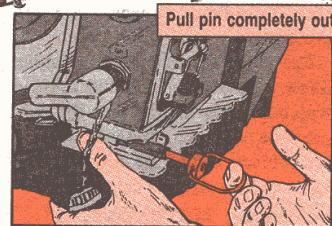
If your post doesn't have a battery discharger/analyzer, it must be ordered directly from Christy Electric Corp, commercial telephone (310) 715-1402. MICOM is working on adding it to the supply system.

Once a battery is charged, put the date on the battery so you'll know when the battery needs recharging. The easiest way is to stick white tape on the battery and pencil in the date on the tape. At the next charging, just erase the old date and write in the new one.

Pull out the battery release pin. If it binds, it will be difficult to change batteries. Clean the battery pin hole with an M16 rifle bore brush and put a light coat of GAA grease on the pin to help the pin move.



When you change batteries, pull the release pin completely out of the battery before you pull down on the battery.



Otherwise, you break the battery pivot bracket and the battery is junk. Support the rear of the battery so it doesn't take a fall when the pin clears.

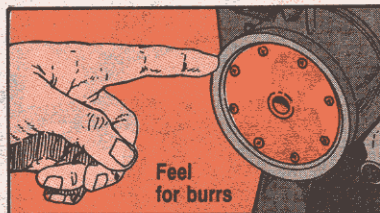


Once the battery's off, push the pin back in so it won't stick out and get bent.



## Night Sight

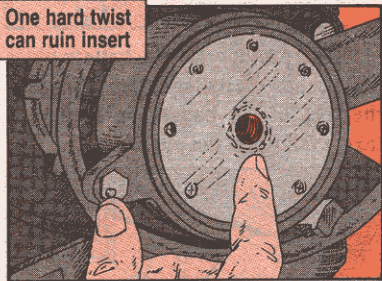
Feel the G/VLLD mounting ring and night sight mount for burrs. Mounting the night sight is a tight fit. If burrs get in the way, you can't boresight the G/VLLD even if you are able to mount the sight. Your repairman can stone off burrs.



Keep paint away from the mounting ring, too. Paint causes the same problems.

Careful with the night sight mounting screw. It has a nylon insert that's ruined with one hard twist and then the sight can't be mounted. If the mounting screw binds, realign the mount and try again. Still binds? Get help.

One hard twist can ruin insert



## Gotchas

Easy with the tripod. Its feet are just welded on and easily knocked off.

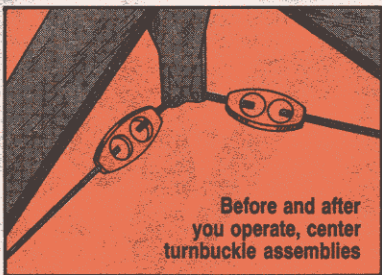
Be gentle mounting the G/VLLD on the traversing unit. If you jam it on, you

PS 506

bend the mounting plates. Even a slightly bent plate prevents boresighting.

Cover the G/VLLD when you're not using it. The fan and trigger are magnets for dust—and you can't clean them. If they become too dirty, your G/VLLD's out of business.

Before and after operations, center the turnbuckle assemblies. If they're not centered, the adjustable links are at their limits and can be stripped out or bent during coarse leveling or travel.



THIS COULD BE THE START OF A BEAUTIFUL FRIENDSHIP.

THANKS TO GOOD P.M.





# SAVING BATTERIES

Dear Editor,

Lots of battery pivot brackets on the Ground/Vehicular Laser Locator Designator (G/VLLD) are snapped off. Why? Because soldiers forget to completely pull out the locking pin before they pull off the battery. Without the bracket, the battery can't be used.

Instead of junking an otherwise good—and expensive—battery, we replace the pivot bracket like this:

With a chisel and hammer, gently work off the bracket. It's glued on, so it shouldn't take too much effort.

Get a battery that's no longer any good. Remove its bracket with the chisel and hammer.

Glue the bracket on the battery with metal epoxy, NSN 8040-00-944-7292.

Be careful to put the new bracket exactly where the damaged one was. Let the epoxy cure 24 hours. You've got a battery good to go.

This fix also works with the electromagnetic interference (EMI) filter, which uses the same pivot bracket.

Gary Cope  
Ft Campbell, KY



FROM THE DESK OF THE *Editor* 

Your suggestion had us glued to our seats. It should save lots of expensive batteries.

NOW  
WE'RE ALL  
SET TO  
GO.

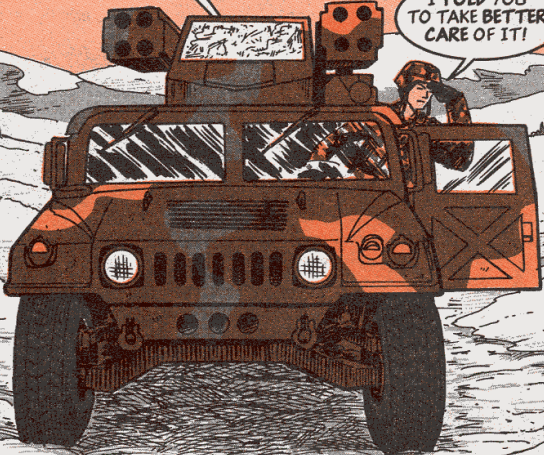
YEAH,  
YOU'VE GIVEN  
ME A SECOND  
LIFE!



# Conserving Canopies

CAN YOU SEE THE TARGET? I'M BLIND BEHIND THIS SCRATCHED CANOPY.

I TOLD YOU TO TAKE BETTER CARE OF IT!



**I**f the Avenger's canopy gets knocked out of whack, it won't shut tight. It won't seal out gases during firing. Those deadly gases can kill the gunner.

If the canopy's scratched, the gunner doesn't have much chance of engaging the enemy.

On top of those problems, replacement canopies are hard to get. So-o-o-o, to keep those canopies in tip-top shape, follow these top tips:

✔ Keep them covered. Blowing sand scours canopies. Soon they're as clear as mud. A tarp comes with the Avenger that's especially made for the canopy. But take care how you put the tarp on. It has metal fasteners. If you toss it on the canopy,

# Canopies

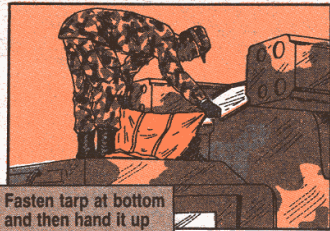
the fasteners scratch the plastic worse than blowing sand. Hand the tarp's top up to a second person on the turret after you fasten the tarp to the bottom of the canopy.

Use lanyard to gently open and close canopy



✔ Never use the lanyard as a handhold to get in and out of the turret. That damages the canopy, too.

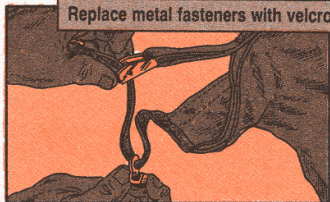
✔ As part of your BEFORE-OPERATIONS PMCS, look for the C-clamps on the hinges. They often pop off. If a clamp's missing, get it replaced before you go to the field.



Fasten tarp at bottom and then hand it up

Your best bet is to have your canvas shop replace the fasteners with 6-in velcro strips. Velcro works just as well as the metal fasteners...and it doesn't scratch.

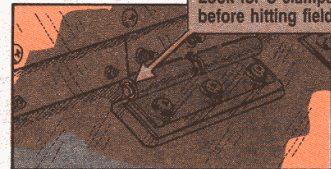
Replace metal fasteners with velcro



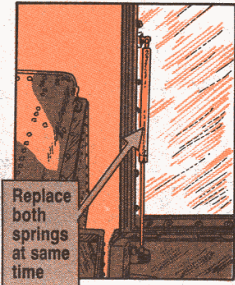
✔ Close and latch the canopy before you move the turret. If you leave it open, the turret will rip out the canopy hinges.

✔ Open and close the turret with the lanyard only—and gently. If you let the canopy spring open or slam shut, you'll break the mounting brackets for the canopy struts.

Look for C-clamps before hitting field



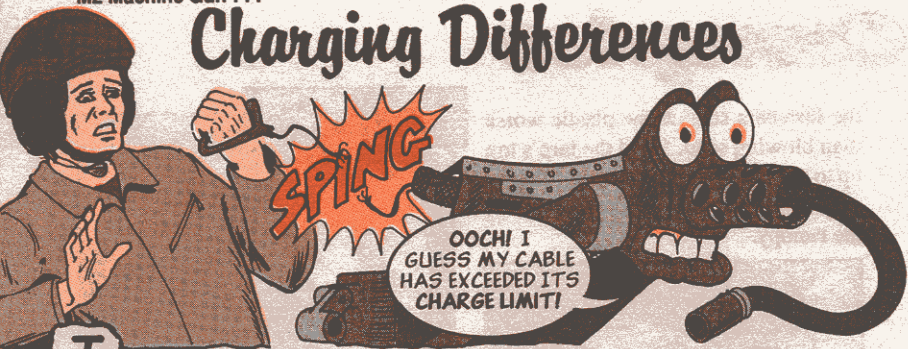
✔ If one canopy gas spring needs replacing, get both replaced. Use NSN 5360-01-312-7596.



Replace both springs at same time



# Charging Differences



**I**f your M2 machine gun has the M10 charging cable instead of the charging handle, you must remember a few rules...or soon your M2 will have exceeded its charge limit.

➤ Pull the cable back as straight as possible. If you pull at an angle so that it rubs, the cable soon begins to fray. A frayed cable deadlines your M2, plus it can cut you.

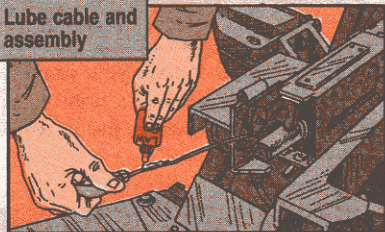
Never jerk the cable back, either. Too much muscle frays the cable. A steady pull is what's needed.

➤ Guide the cable back when you release it. If you let the cable snap back wildly, the cable hits the edges of the pulley swivel and frays or breaks.

➤ Do not wrap the cable around things like the buffer. That causes the cable to kink and fray.

➤ Help the cable last by giving it and the rest of the M10 charging assembly a light coat of LAW or LSA when you clean your M2.

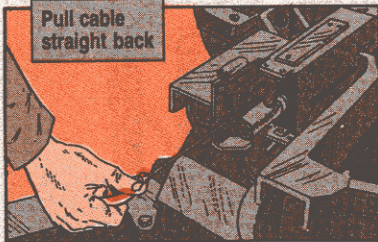
Lube cable and assembly



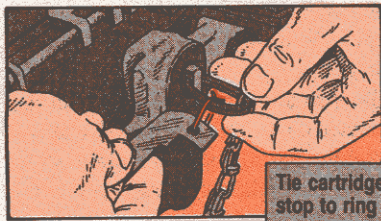
## Cartridge Stop

With the M10, you no longer have the backplate handles to tie the cartridge stop to when you're firing with MILES. You must tie it to something or it disappears. Tie the cartridge stop to the ring for the mount's quick release pin. That will keep it safe.

Pull cable straight back



Tie cartridge stop to ring






Shipping Repairables...

# It's a WRAP



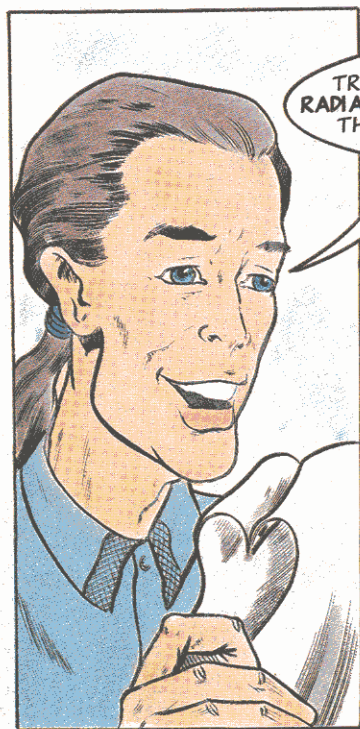
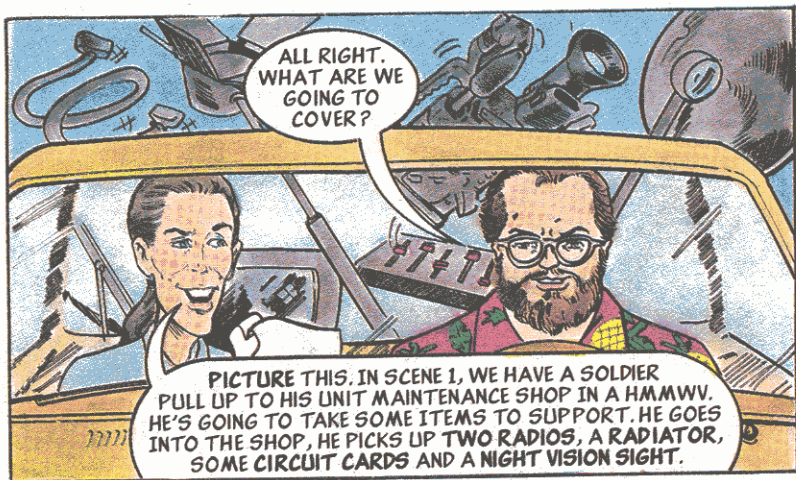
OK, THAT'S A WRAP. WHAT'S NEXT?

WE'RE HEADED TO THE 1/2 ARMOR TO DO A SHORT FILM ON THE IMPORTANCE OF PROPER PACKAGING OF REPAIRABLE ITEMS FOR TRANSPORT TO AND FROM SUPPORT SHOPS.

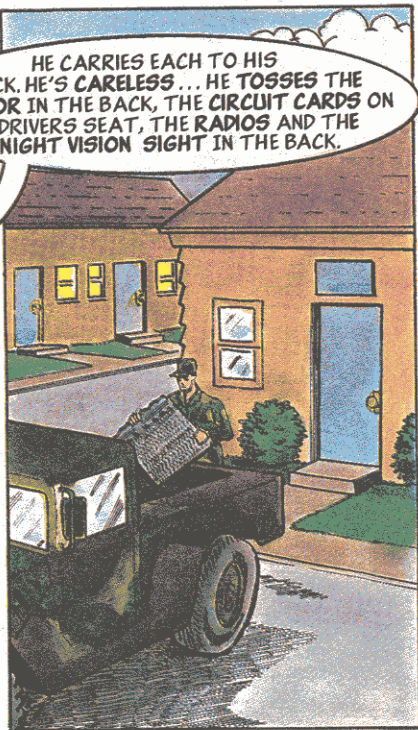


GREAT! LET'S GO OVER THE MAIN POINTS AS WE TRAVEL.

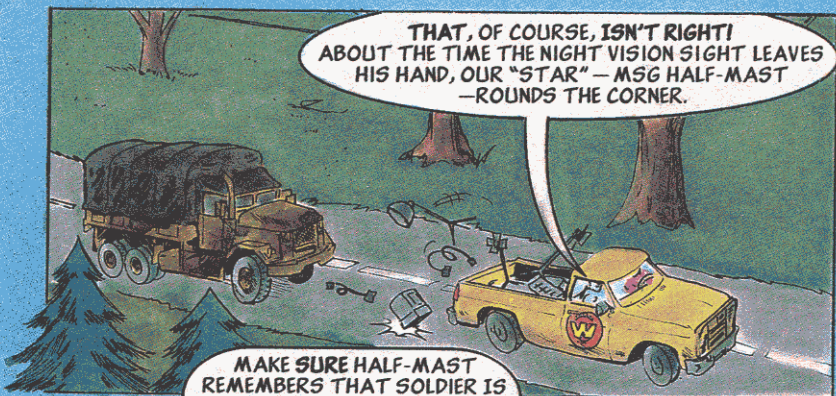




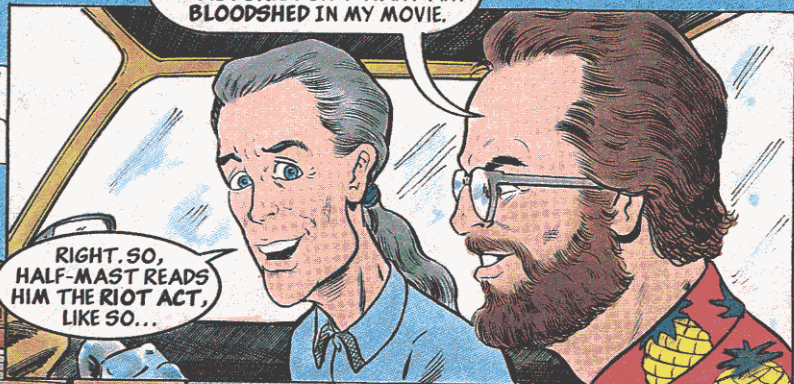
HE CARRIES EACH TO HIS TRUCK. HE'S CARELESS... HE TOSSES THE RADIATOR IN THE BACK, THE CIRCUIT CARDS ON THE DRIVERS SEAT, THE RADIOS AND THE NIGHT VISION SIGHT IN THE BACK.







MAKE SURE HALF-MAST REMEMBERS THAT SOLDIER IS AN ACTOR. I DON'T WANT ANY BLOODSHED IN MY MOVIE.



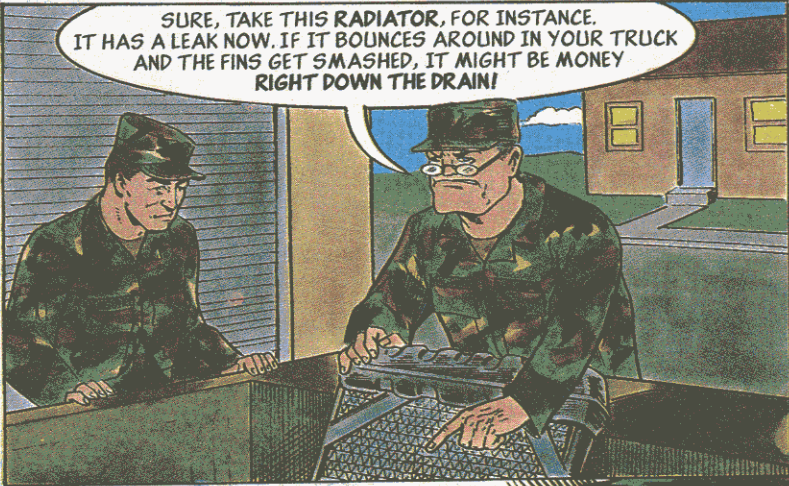
RIGHT, SO, HALF-MAST READS HIM THE RIOT ACT, LIKE SO...

SOLDIER! YOU KNOW BETTER THAN THIS!

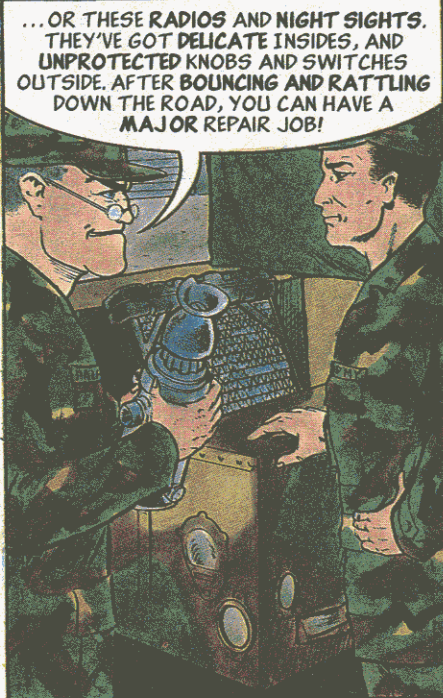
HUH?

THAT GEAR WILL END UP IN WORSE SHAPE WHEN IT GETS THERE THAN IT IS NOW. EVEN THOUGH IT DOESN'T WORK, IT'S FIXABLE. PROPER PACKAGING AND PROTECTION WILL MAKE SURE IT GETS TO DSU WITH NO MORE DAMAGE!

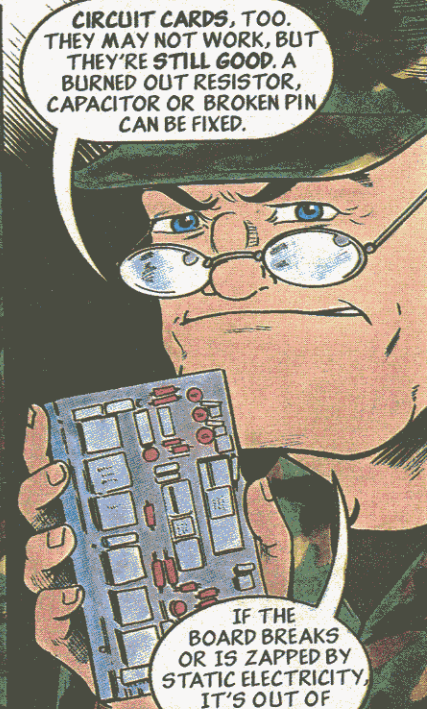




SURE, TAKE THIS RADIATOR, FOR INSTANCE. IT HAS A LEAK NOW. IF IT BOUNCES AROUND IN YOUR TRUCK AND THE FINS GET SMASHED, IT MIGHT BE MONEY RIGHT DOWN THE DRAIN!



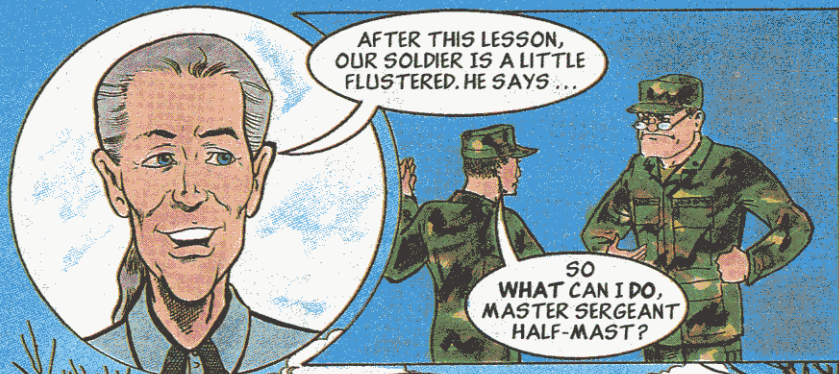
... OR THESE RADIOS AND NIGHT SIGHTS. THEY'VE GOT DELICATE INSIDES, AND UNPROTECTED KNOBS AND SWITCHES OUTSIDE. AFTER BOUNCING AND RATTLING DOWN THE ROAD, YOU CAN HAVE A MAJOR REPAIR JOB!



CIRCUIT CARDS, TOO. THEY MAY NOT WORK, BUT THEY'RE STILL GOOD. A BURNED OUT RESISTOR, CAPACITOR OR BROKEN PIN CAN BE FIXED.

IF THE BOARD BREAKS OR IS ZAPPED BY STATIC ELECTRICITY, IT'S OUT OF COMMISSION!

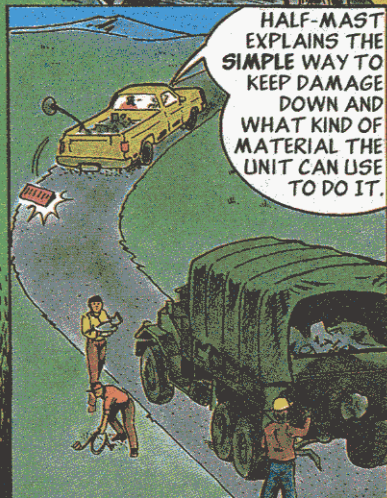
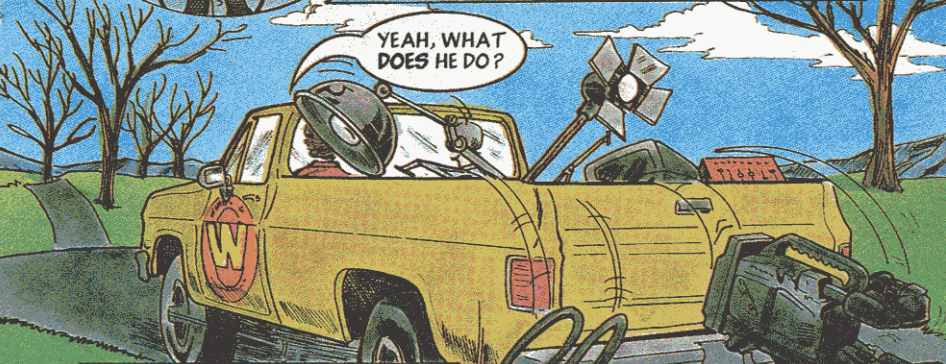




AFTER THIS LESSON, OUR SOLDIER IS A LITTLE FLUSTERED. HE SAYS ...

SO WHAT CAN I DO, MASTER SERGEANT HALF-MAST?

YEAH, WHAT DOES HE DO?



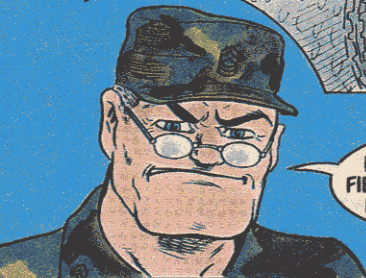
HALF-MAST EXPLAINS THE SIMPLE WAY TO KEEP DAMAGE DOWN AND WHAT KIND OF MATERIAL THE UNIT CAN USE TO DO IT.



SIMPLE! YOU PROTECT WHAT YOU'RE CARRYING—BOTH TO AND FROM SUPPORT.

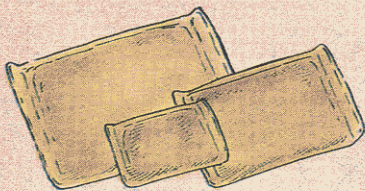
YOU DON'T HAVE TO GO HIGH TECH. IN THE OLD DAYS, WE USED MATTRESSES, CARDBOARD BOXES, AND OLD BLANKETS TO CUSHION THE RIDE.





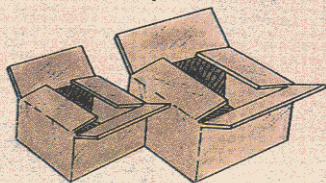
YOU CAN GET  
PADDED SHIPPING BAGS AND  
FIBERBOARD BOXES, TOO. THEY  
HAVE MANY USES. HERE ARE  
SOME NSNs ...

**Bags**



Size (inches)	Qty	NSN 8105-00-
6 x 10	250	290-0340
7 1/4 x 12	100	290-0342
9 1/2 x 14 1/2	100	281-1168

**Boxes (lots of 25)**



Size (inches)	NSN 8115-00-
8 x 8 x 10	183-9499
10 x 8 x 6	183-9497
12 x 8 x 8	183-9493
16 x 12 x 8	183-9487





**CIRCUIT CARDS  
NEED SPECIAL HANDLING.  
MOST CARDS TODAY ARE  
SENSITIVE TO ELECTROSTATIC  
DISCHARGE, OR ESD.**

**YOUR BEST BET IS  
TO FIRST PUT CARDS INTO  
ANTI-STATIC BUBBLE WRAP, NSN  
8135-01-234-6649. THE NSN ISN'T ON  
THE AMDF. ORDER IT ON DD FORM 1348-6  
FROM RIC GSA. THEN, MAKE A BAG FROM  
STATIC SHIELDING BARRIER MATERIAL. NSN  
8135-01-185-6816 BRINGS A 150-FT BY 36-IN  
ROLL. HEAT SEAL THE BAG. NSN 3540-00-975-  
4255 GETS A HAND-HELD SEALER. THE NEXT  
BEST PROTECTION IS TO PUT THE CARD  
INTO ONE OF THESE ELECTROSTATIC-FREE  
FLEXIBLE CUSHION POUCHES ...**

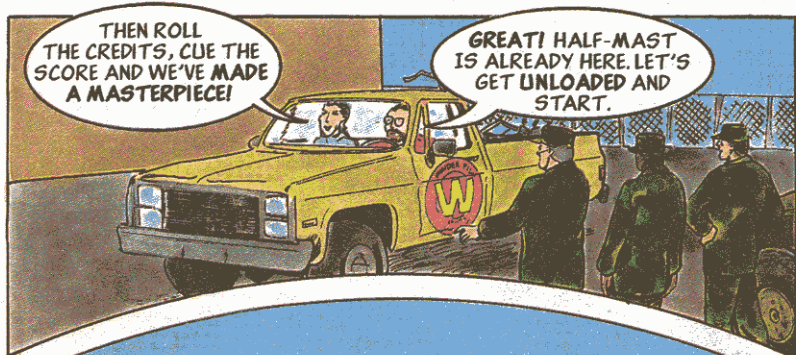
Pouch size (inches)	NSN 8105-01-
12 x 12	197-2965
11 x 15	215-4752
10 x 10	197-2966
10 x 12	197-7846
8 x 8	215-0462

**WHICHEVER WAY YOU  
GO, FINISH THE JOB WITH A  
FAST PACK. ESD FAST PACKS  
ARE NSN 8115-01-019-4084  
FOR 12 x 18 x 3 1/2 INCHES, AND  
NSN 8115-01-057-1244 FOR  
10 x 10 x 3 1/2 INCHES.**

**THERE'S MUCH MORE TO KNOW ABOUT  
PACKAGING, AND YOU CAN GET THE WORD FROM A LOGISTICS  
SUPPORT ACTIVITY PUB. TO GET YOUR COPY OF  
"PACKAGING - THE BASICS", WRITE TO ...**

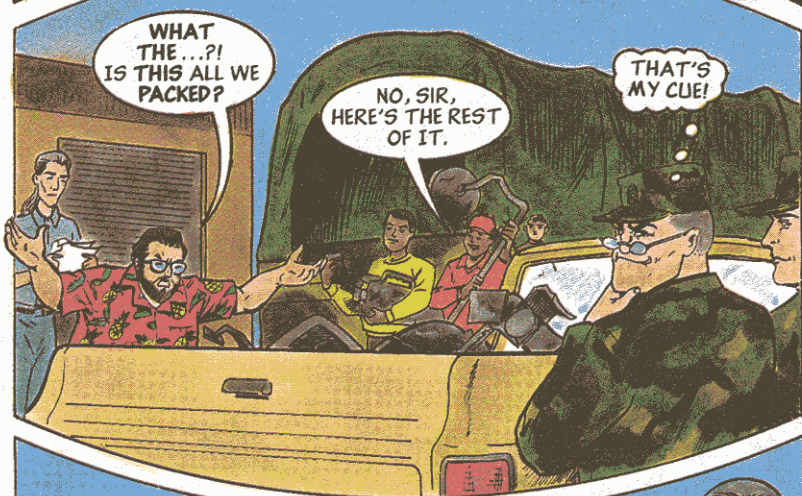
**LOGSA-PSCC  
ATTN: AMXLS-TP-P  
11 Hap Arnold Blvd.  
Tobyhanna, PA 18466-5097  
Or call DSN 795-7685, or  
commercial (717) 895-7685.**





THEN ROLL  
THE CREDITS, CUE THE  
SCORE AND WE'VE MADE  
A MASTERPIECE!

GREAT! HALF-MAST  
IS ALREADY HERE. LET'S  
GET UNLOADED AND  
START.



WHAT  
THE...?!  
IS THIS ALL WE  
PACKED?

NO, SIR,  
HERE'S THE REST  
OF IT.

THAT'S  
MY CUE!



YOU KNOW  
BETTER THAN  
THAT! ...



AOAP ...

# DOs and DON'Ts of Sampling



I THOUGHT HE WAS SUPPOSED TO BE SAMPLING THE OIL.

FINDING OUT THE PROPER PROCEDURE IS THE FIRST STEP TO DOING THE JOB RIGHT.

AIR MOBILITY

**T**aking an oil sample from your bird the wrong way could produce fatal results.

Here are the **DO**s and **DON'T**s of tube sampling.

**DO** take a sample from a warm engine.

**DON'T** let a tube hit the sides or bottom of the reservoir. If it does, it's contaminated.

**DO** throw it away in an approved hazardous waste receptacle and take your sample with a new tube

**DON'T** reuse a tube, even if it looks clean. Use a new tube.

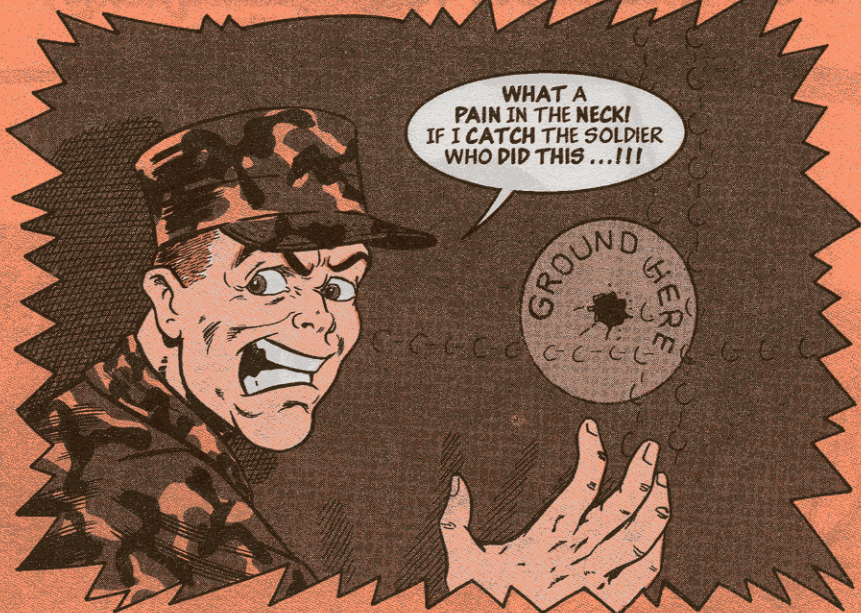
**DO** use only authorized tubing and sampling equipment.

**DON'T** teach new personnel oil sampling by the pass-it-on method.

**DO** teach a new man to stick with TB 43-0106 and give him some cover-to-cover reading time.



# Ground Point Pointers



Your bird can't feel it when a grounding stud is ripped from its skin, but your electrician sure gets a pain in the neck.

Too much of his time is spent wearing out Chapter 8 of TM 55-1500-323-24, repairing the damaged area and replacing the stud.

And, folks, it just doesn't have to happen!

Two things bust studs—rushing a disconnect job—and carelessness.

The only way to disconnect from a ground point is the reverse of how you connected.

Far too many folks are grabbing the ground cable and giving it a yank. Scratch one stud and call the electrician. Scratch one stud and call the electrician.

Your ground points should look like this...



...not like this



Carelessness is the chief killer, though. A dropped tool, a misplaced foot, a poorly positioned maintenance platform or ladder all lead to a snapped grounding point. Awareness is the key here. Know where you are and where they are on your bird.



# Stop Pounding the Pin!



**G**iving your blade pins a whack with a big ol' hammer to install or remove 'em is a good way to beat up pin heads and nuts.

It also distorts the clip tension, which makes adjusting tension difficult or impossible.

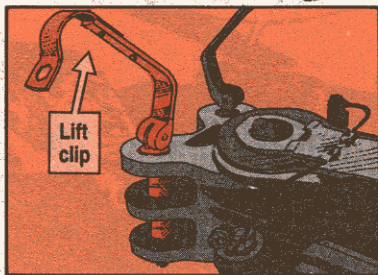
To wipe out the whack:

Align the blade sling correctly.

Clean the blade pins and link holes thoroughly.

Lift the spring clip to the vertical position, then turn the pin nut clockwise

or counter-clockwise a few turns to loosen them.



Adjust the clip tension to 50-60 pounds using dial indicator gauge, NSN 6635-00-578-5285.

Make sure the gap between the attaching pin washer and the blade link is 0.002 to 0.060 inch like it shows in Fig 5-2-5 of TM 55-1520-238-23-3.

Put the hammer back in the tool box.









# SPACED OUT

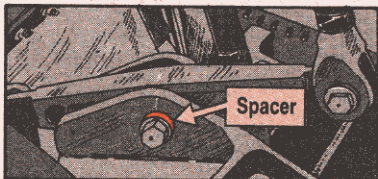
Dear Windy,

Removing the spacers when replacing a walking beam, an aft or lateral bellcrank, or a bellcrank support can be a tough job.

Too many mechanics take a screwdriver or metal punch to the spacer. One slip and they've damaged the critical surfaces of control rods, connecting links, supports and fittings.

We solved the problem with a "tool" at hand. We use a swashplate expandable pin, NSN 5315-01-096-9169.

Just insert the pin and tighten it down. Insert an allen wrench into the pin and tap on the wrench. This will drive out the spacer. If it still sticks, you can hammer out the expandable pin and still prevent damage to the component.



SGT Scott P. Giarratano  
Ft Campbell, KY

Your solution saves time, makes a tough job easier, and prevents damage. Good job.

*Windy*





# You Should Miss

*Dear Windy,*

*When the aviator's night vision system (V1 or V2) mount is on the SPH-4 or -4B helmet, the blind flight hood won't fit. This creates a real training problem.*

*But I solved it!*

*Here's what you need:*

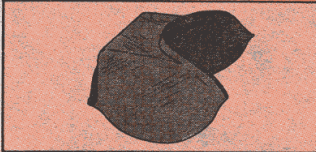
Item	NSN
Blind flight hood	6910-00-525-8199
GM-6 viewer mount (V1)	5855-01-300-2301
GM-6 viewer mount (V2)	5855-01-331-6123
Screw (2)	5305-00-925-7857
Flat washer (4)	5310-00-183-4406
Self-locking nut (2)	5310-00-905-3081

*Here's how to make the hood fit:*

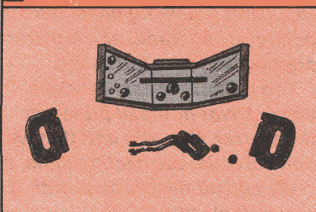
**1.** Cut the hood 1 3/4 inches from the top edge.



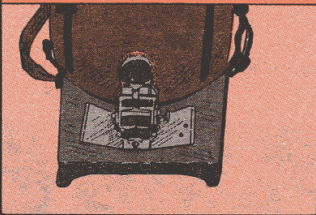
**2.** Trim one inch from both ends. (In Step 7, you'll trim to fit.)



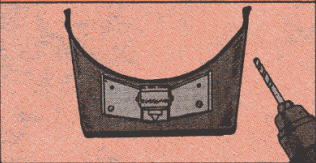
**3.** Cut both side tabs off the GM-6 mount.



**4.** Using a flight helmet with a mount installed, mark the position of the mount on the hood. The mount should be bottomed out and the edge of the hood should be under the visor housing edge. (The curve of the dual visor housing is different from the single visor housing. Because of these differences, on a dual visor, the hood will have a slight gap in the middle).

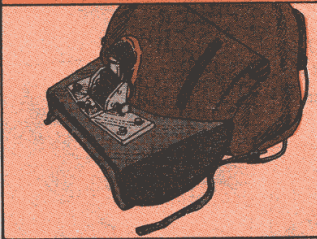


**5.** Mark and drill two holes (use a 7/32-in bit) in the hood and the GM-6 mount.



# What You're Seeing

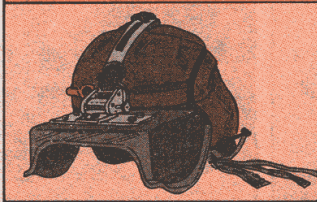
**6.** Install the screws from the inside of the hood. (This direction does not cause as much of a distraction for the pilot.)



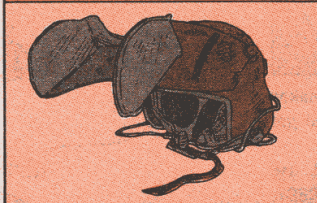
**7.** Cut and trim the two ends of the hood to fit.



**8.** Here's the finished product.



**9.** The hood can be flipped up just like the night vision system.



*To allow the pilot to focus better, the inside of the hood can be painted flat black or olive drab.*

*David Ball  
Camp Murray, WA*

THAT'S KEEPING  
THEM IN THE DARK! GOOD  
JOB, DAVID.

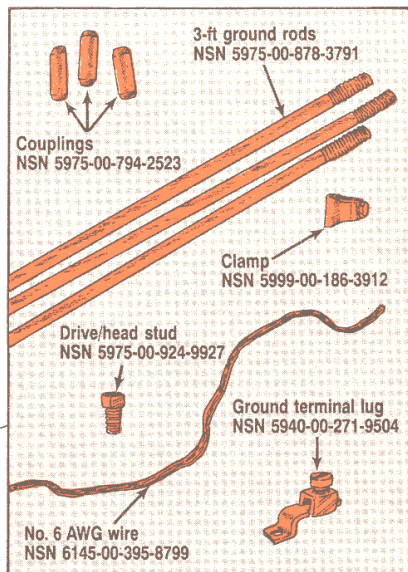




# GROUND ROD ROUNDUP

**G**round rod assembly, NSN 5975-00-878-3791, allows electrical charges on your equipment to flow to earth ground. It protects you and your gear from electrical shocks.

The ground rod assembly comes with three sections of rod, three couplings, six feet of No. 6 AWG stranded copper wire, one drive/head stud, one clamp and one ground terminal lug. Here are the parts and NSNs:



Slide hammer, NSN 5120-01-013-1676, makes it easier to drive rods into the ground and get them out again.

For driving rods into very hard ground, use a 12-lb sledge hammer, NSN 5120-00-293-0887.





# Little Things for Good Connections

**W**hen you go to the field, make sure you take along field wire accessories and tools. You'll need them for good commo connections.

Here are the NSNs for some accessories you'll need:

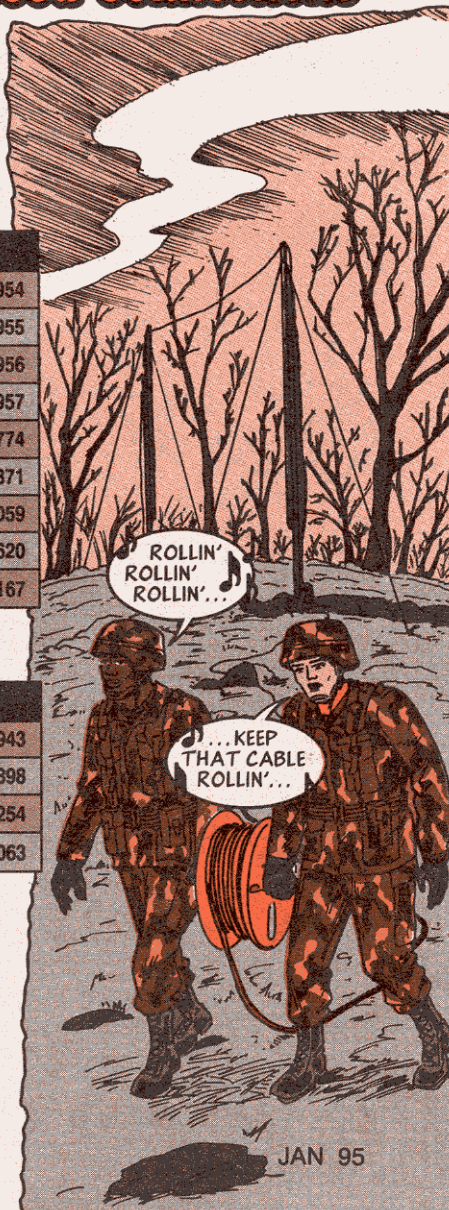
Item	NSN
Red wire tags (50 ea)	9905-00-537-8954
Yellow wire tags (50 ea)	9905-00-537-8955
Green wire tags (50 ea)	9905-00-537-8956
White wire tags (50 ea)	9905-00-537-8957
Splicing sleeve (MK-356 kit)	5940-00-818-1774
Lance pole	5975-00-407-6371
TL-636 electrical tape, black	5970-00-685-9059
TL-600 electrical tape, white	5970-00-240-0620
TL-83 friction tape	5970-00-644-3167

And here are some tools you'll need:

Item	NSN
TL-29 pocket knife	5110-00-240-5943
CS-34 tool carrier	5140-00-498-8898
TL-13 pliers without skinners	5120-00-239-8254
TL-13 pliers with skinners	5120-00-247-2063

When you order the TL-13 pliers with skinners, put an advice code of 2B in card columns 65-66 of the supply request. That way the supply folks know not to substitute pliers without skinners.

Need more info? TC 24-20, Tactical Wire and Cable Techniques, has the word on how to lay, recover and splice field wire.





# Tiedown Strap NSNs

**T**hey don't look like much, those little electrical tiedown straps that tie back wires and wiring harnesses. But without them you've got spaghetti. Here are a few straps to keep wires neat and tidy:

NSN 5975-00	Size (inches)	Qty
727-5153	2 1/2	100
570-9598	10	100



H-250 Handset . . .

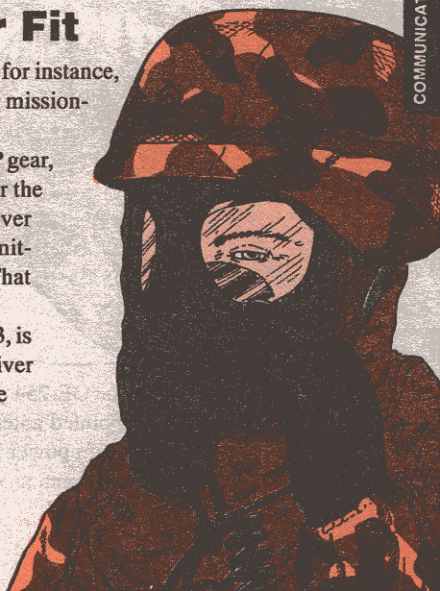
## A Better Fit

**S**ome situations leave you speechless. Take, for instance, using the H-189 handset while you're wearing mission-oriented protective posture (MOPP) gear.

The H-189 just isn't built for use with MOPP gear, especially when you wear a kevlar helmet over the hood. It's impossible to put the handset's receiver under the helmet close to your ear and the transmitter close to your mouth at the same time. That makes it hard to hear and hard to be heard.

The H-250 handset, NSN 5965-00-043-3463, is a much better fit. You can easily put the receiver under the helmet to your ear while holding the transmitter closer to your mouth.

The H-250 has one other advantage over the H-189: It's water-repellent.





# ANTENNA SAFETY:

# A TALL ORDER



HOLD IT!  
YOU'RE IN FOR A  
REAL SHOCK IF YOU  
SET UP THAT ANTENNA  
THAT CLOSE TO THOSE  
POWER LINES.

**M**ast antennas like the OE-254 and the RC-292 come with their own particular set of dangers. Those pointed antenna elements can poke you in the eye, or tall masts can get tangled up in power lines.

Fact is, accidents around antennas kill soldiers. So, practice safety at all times.

TM 11-5985-357-13 tells you how to safely erect and lower the OE-254 antenna group. TM 11-5820-348-15 with Changes 2-7 covers the RC-292 antenna. TB 43-0129 has the word on safely putting up and using antennas.

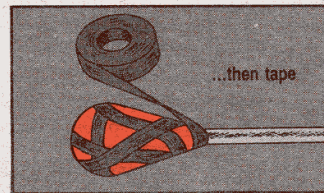
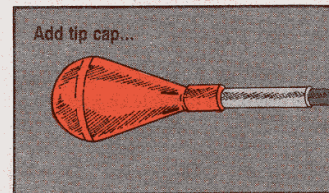
Besides following the good word in your TM, practice these safety tips:

- Always wear safety goggles, NSN 4240-00-052-3776, helmet and gloves when erecting or lowering antennas.
- Put tip caps, NSN 5985-00-930-7223, on all elements. Wrap the tips with electrical tape, NSN 5970-00-816-6056.

If you don't have any tip caps, blunt the elements by taping tennis balls or rubber tubing to them.

If you do not cover the antenna elements, warn unsuspecting personnel. Rope off the area around the antenna and post warning signs.

- Never erect any antenna beyond its maximum site height listed in the TM.
- Never use substitute items, like camouflage poles, for antenna parts.
- Never erect antennas too close to overhead electric power lines.
- Never mix OE-254 and RC-292 antenna mast sections.



## SINGGARS . . .

# One More Time

Some ideas bear repeating.

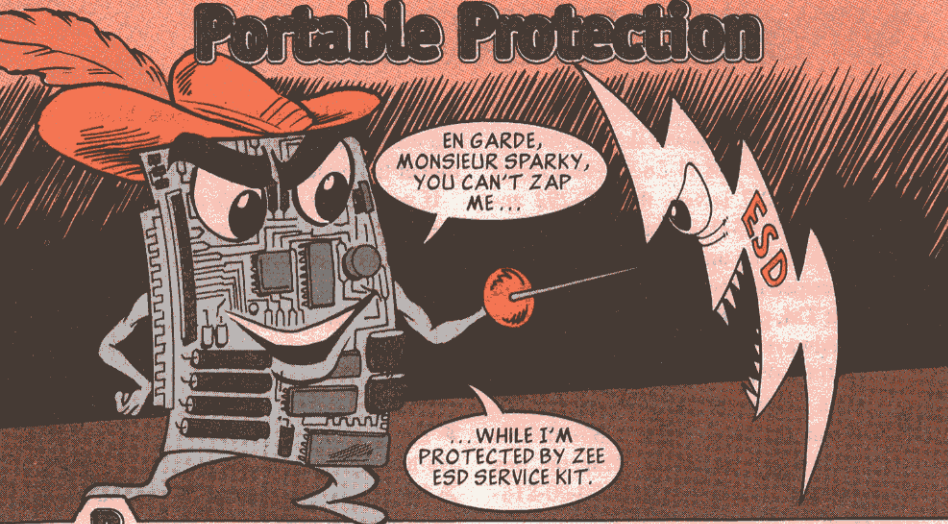
Like taking extra care when making cable hookups on your SINGGARS, for instance. A careless hookup can bend pins or strip the keys out of a connector.

When you hook up the W4 cable or the H-250 handset cord, do it right:

- Ⓜ Depending on the type of cable connector you have, line up the flat or raised part of the cable connector with the top of the receptacle.
- Ⓜ Push in the connector firmly.
- Ⓜ Turn it to the right.

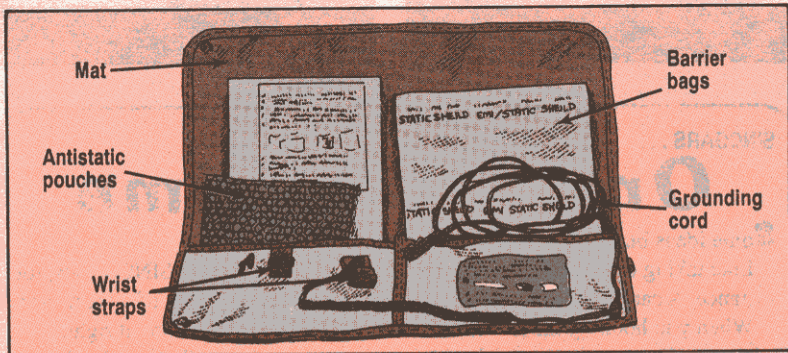


# Portable Protection



**P**rotecting circuit cards from electrostatic discharge (ESD) can challenge the best repairer—especially when you're on a mission and miles from the nearest static-safe workstation.

Smart repairers use the ESD field service kit, NSN 4940-01-253-5368. Always use it when you handle, package or install circuit cards. The portable kit goes where you go—so you can set up your own workstation in a tent, shelter or van.

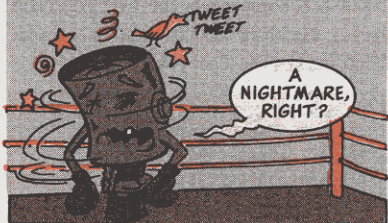


The kit comes with a work surface mat, two wrist straps and a grounding cord that limit static buildup and carry charges away from your body or an object to ground. The kit also comes with three Type II antistatic pouches and three Type I barrier bags for shipping or storing circuit cards.



# A Fighting Chance

**I**magine you're in a fist fight and can't see. Blows are banging at you from all directions. WHAM! POW! CRUNCH! But you're defenseless because you can't see a blessed thing.



Well, it will be a nightmare come true if you don't look out for your night vision sight or viewer. You could end up in a night battle blind because you didn't keep an eye on your sight. Your enemy can see you, but you can't see him. You're a sitting duck.

Give yourself and your night vision equipment a fighting chance like this:

Use the lens cover. It not only protects the image intensifier from blindingly bright light but also the lens' fragile coating from scratches. Put the lens cover on as soon as you've finished with the sight.

Store the night sight. If you're not going to use the sight, stick it in the storage case. The case's foam padding protects the night sight from bumps and kicks that snap power receptacles and knock the sight's insides out of whack.

Carry the sight with two hands, clutching it to your chest. If you carry it

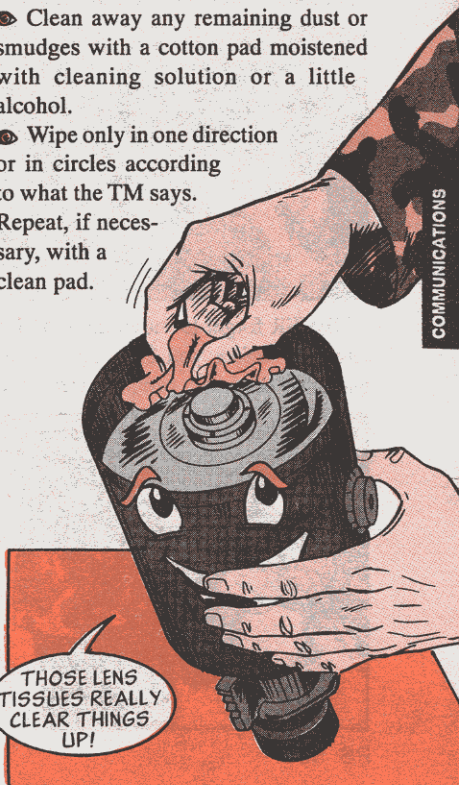
loosely, it's easy to drop. A bad fall is bad news for a delicate sight.

Clean the lens only with lens tissue or an artist's brush, depending on what your TM says. If you use something like an old rag, you scratch the lens and dim your vision.

NSN 6850-01-143-4488 gets a cleaning kit. Your equipment's TMs list others. Your unit should keep plenty of kits on hand.

Clean the lens like this:

- 👁️ Clean away any remaining dust or smudges with a cotton pad moistened with cleaning solution or a little alcohol.
- 👁️ Wipe only in one direction or in circles according to what the TM says. Repeat, if necessary, with a clean pad.



COMMUNICATIONS



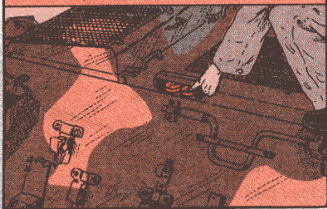
# Outfox FOX Problems

**I**f your Fox is to help you outfox nuclear and biological threats, you need to help it outfox the many equipment problems a complex system like it faces. Here's how:

## NEVER Forget

NEVER forget to remove the plastic caps from the engine preheater before start up. Left on, the caps melt and gum up the preheater exhaust collector. But do put the caps back on at the end of operations. They seal out sand and dirt.

Remove preheater caps before startup



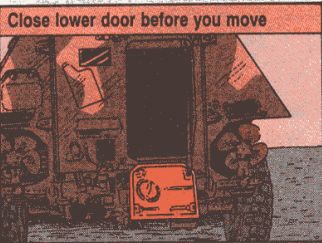
NEVER forget to move the sampler arms UP before you back up. Forget just once and the sampler arms are

Sampler arms should be up for travel



snapped off at the first bump. In rough country, drive slow — no more than 10 MPH. The vehicle skid plate can protect the arms only so much. Then, SNAP.

Same goes for the tail section's lower door. If it's left open, the first good dip bends the door and its seal is ruined. That makes the Fox NMC.

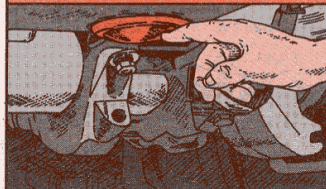


Close lower door before you move

## Driving Tips

When operating the winch, do not pay-in the cable all the way into the rear guide roller. That breaks the clevis and deadlines your Fox. Let the clevis hang out from the rear guide rollers a few inches.

Open drain valves when Fox is parked

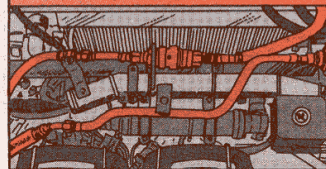


When you park the Fox, open the three hull drain valves. Otherwise, moisture builds up in the hull. That leads to corrosion and engine problems.

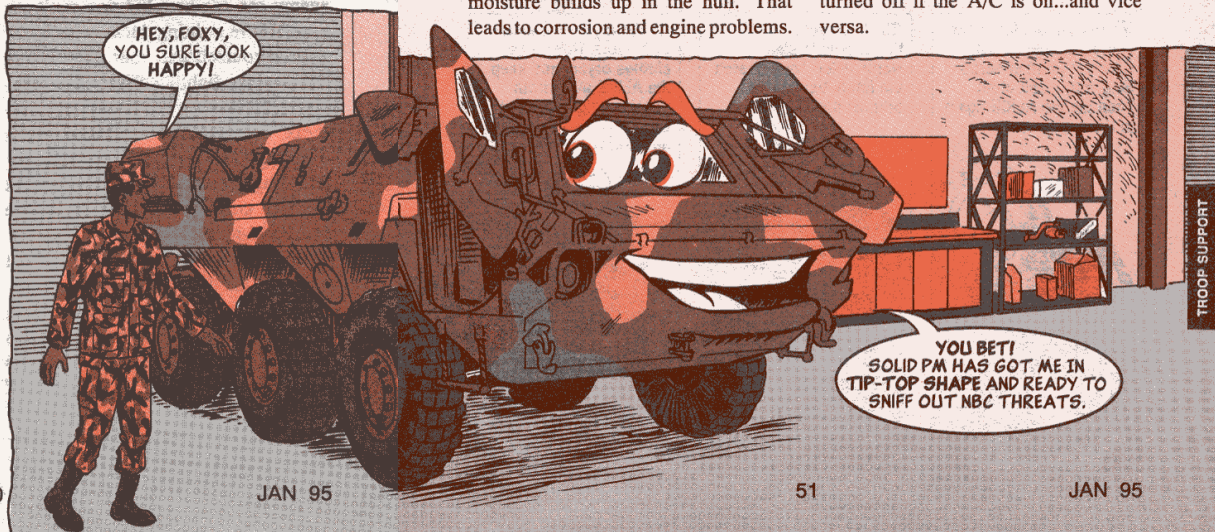
## Air Conditioning

While doing the engine checks, keep your feet off the air conditioning tubes, hoses and couplings. One false step and they can start leaking freon. Your best bet is to step around the engine. If you must step on something in the engine compartment, step on the air cleaner.

Keep feet away from A/C tubes, hoses and couplings



Also make sure the heater has been turned off if the A/C is on...and vice versa.

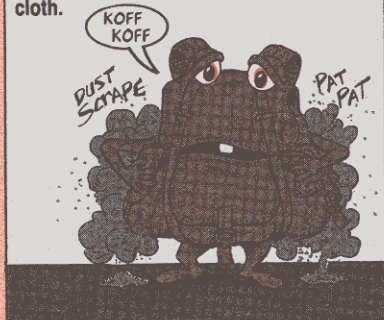




# Put ALICE Back in Wonderland

There's nothing like a good cleaning to put your ALICE in Wonderland again. Wash it wrong, though, and you might as well toss it in the trash. Here's the correct way to do it:

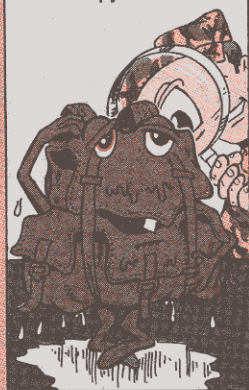
- 1** Brush off caked-on or dried-in dirt with your hands. Never use anything sharp that will cut the fabric or webbing. After you remove the heavy stuff, wipe away the loose dirt with a soft brush or cloth.



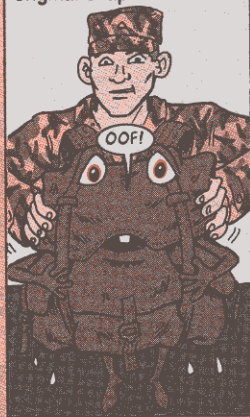
- 2** Dip the ALICE in a bucket of warm, soapy water. Stay away from washing machines, chlorine bleach, yellow soap, cleaning fluids and solvents. They make ALICE a pale shadow of her former self and break down the fabric. NSN 7930-00-929-1221 gets a mild detergent that cleans well even in hard water.



- 3** Eyeball the fabric for stubborn, soiled spots. Give 'em another scrubbing with a soft cloth. Then dip the ALICE again in the soapy water.



- 4** Rinse your ALICE thoroughly in clean, warm water. Then stretch the fabric back to its original shape.

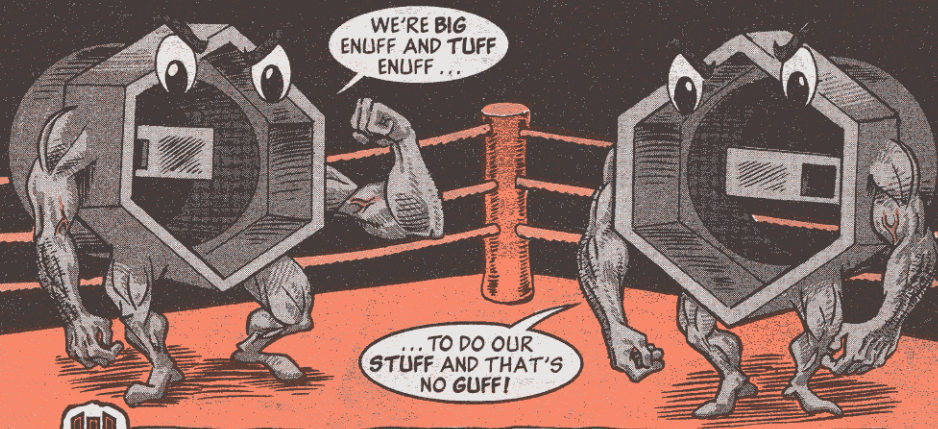


- 5** Air-dry in the shade or indoors. Never use clothes dryers and keep the ALICE away from direct sunlight, heat or open flames—they'll fade and shrink the fabric.





# Big Sockets for Big Jobs



**W**hen the job calls for a B-I-G socket, where do you go?

If your unit has the No. 1 Common shop set, look there first. Socket wrench set, NSN 5120-00-169-4586, has 19 sockets that fit nuts from 2 3/32 to 4 7/8 inches.

If the wrench set's not there (it will be dropped in the next revision to the shop set), order just the sockets you need. Your authority is Appendix A of CTA 50-970.

Here are some common uses for the big sockets:

Socket	Size (in)	Drive (in)	Points	Where used
5120-01-089-9068	2 1/4	3/4	6	M915 front axle outer-bearing nut. M1022 dolly set wheel bearing nut
5120-01-112-0593	2 5/8	3/4	6	M915 front axle inner-bearing nut
5120-01-090-9319	4	3/4	6	M915-M920 tandem axle, inner- and outer-bearing nuts
5120-01-145-7459	4 7/8	3/4	8	M916-M920 front axle inner- and outer-bearing nuts
5120-01-144-5321	3 1/4	3/4	8	M917, M919, M920 pusher axle outer-bearing nuts
4910-01-097-6949	3 3/16	3/4	8	M917, M919, M920 pusher axle inner-bearing nuts; M872 semitrailer inner- and outer-bearing nuts



# Report Computer Software Defects



IF YOU RECEIVE  
BUM COMPUTER SOFTWARE,  
YOU'RE STUCK, RIGHT?  
**WRONG!**  
GRAB A SF 368, PRODUCT  
QUALITY DEFICIENCY REPORT,  
AND FILL OUT THESE BLOCKS  
WITH THIS INFO.

## 1a. FROM (Originator)

COMMANDER, 8 BTRY 1/43 ADA  
FT. BLISS, TX 79916 (DODAAC)  
W80FMC

## 1b. NAME, TELEPHONE NO. AND SIGNATURE

SPC GOODPERSON PHONE # 1-13-95

1c. DATE

**Block 1a** – Enter your unit, location, zip code or APO number, and DODAAC.  
**Block 1b** – Type or print your name and duty phone number. Tell whether the phone number is DSN or commercial.  
**Block 1c** – Type or print the current calendar date, for example, 10 Feb 94.

## 2a. TO (Screening Point)

COMMANDER, U.S. ARMY MICOM  
ATTN: AMSMI-QA-CF  
REDSTONE ARSENAL, AL 35898-5290

**Block 2a** – Put in the command and address from Tables 11-1 through 11-7 of DA Pam 738-750. Use the MATCAT or FSC for the equipment used with the computer software.

PRODUCT QUALITY DEFICIENCY REPORT		<input type="checkbox"/> CATEGORY I		<input type="checkbox"/> CATEGORY II	
14. FROM (Originator)			15. TO (Screening Point)		
1b. NAME, TELEPHONE NO. AND SIGNATURE		1c. DATE		1d. NAME, TELEPHONE NO. AND SIGNATURE	
1b. REPORT CONTROL NO. (If DATE DEFICIENCY DISCOVERED)		1e. NATIONAL STOCK NUMBER (DSN)		1f. SUBCATEGORICAL	
1g. MANUFACTURER/INITIALS		1h. SERIAL CODE		1i. PERFORMICITY STATE	
1j. MANUFACTURER'S PART NO.		1k. PART NO. FOR REPAIR/REPLACEMENT		1l. REGISTRATION NO. (If any)	
1m. ITEM REPAIRABLE		1n. OPERATING INSTRUCTIONS		1o. GOVERNMENT FORWARDED MATERIAL	
1p. QUANTITY		1q. RECEIVED		1r. STOCK	
1s. OPERATIONAL ITEM NO.		1t. OPERATIONAL ITEM NO.		1u. OPERATIONAL ITEM NO.	
1v. UNIT COST		1w. ESTIMATED REPAIR COST		1x. REPAIR DATE	
1y. WORK UNIT CODE/EC (Army and Air Force Only)		1z. OTHER REPAIR		1aa. OTHER REPAIR	
21. ACTION/DEPOSITION		22. DETAILS		23. LOCATION OF DEFICIENT MATERIAL	
24. TO (Action Point)		25. NAME, TELEPHONE NO. AND SIGNATURE		26. DATE	
27. NAME, TELEPHONE NO. AND SIGNATURE		28. DATE		29. NAME, TELEPHONE NO. AND SIGNATURE	
30. DATE		31. NAME, TELEPHONE NO. AND SIGNATURE		32. DATE	

## 3. REPORT CONTROL NO.

W80FMC950002

**Block 3** – Put in the DODAAC of your unit (6 places), followed by the calendar year (2 places). Then give the number of SFs 368 you have sent in during the calendar year (4 places). For example, the first SF 368 for 1995 sent in by a unit with DODAAC WK4FFF would be WK4FFF950001.

## 4. DATE DEFICIENCY DISCOVERED

1-9-95

**Block 4** – Enter the calendar date the deficiency was discovered.

## 6. NOMENCLATURE

PDBZ UPDATE DIAGNOSTICS

**Block 6** – Put in the name of the computer software if available; for example, PDB-2 initialization software.

## 9. SERIAL/LOT/BATCH NO.

PDB2

**Block 9** – Enter the build number of the software being used.

## 16. DEFICIENT ITEM WORKS ON/WITH

a. END ITEM (Aircraft, mower, etc.)

## (1) TYPE/MODEL/SERIES

PATRIOT MISSILE RADAR SET AN/MPQ-

**Block 16a** – Deficient Item Works On/With: Show type of end item and the model/series of the hardware that the computer software is used on; for example, PATRIOT missile system, ECS.

## 22. DETAILS (Describe, to best ability, what is wrong, how and why, circumstances prior to difficulty, cause, action taken, including disposition, recommendations. Attach copies of supporting documents. Continue on separate sheet if necessary)

PROBLEM FOUND DURING MAINTENANCE. WHEN RUNNING UTILIZATION CODE ZERO, OPTION 17 IN THE DA MODE WAS ACCIDENTLY SELECTED. THIS RESULTED

**Block 22** – Put in the following information. If you need more space, use a continuation sheet. Be sure to put the Report Control Number (block 3) on the continuation sheet.

- Failure detected during.* Show when the failure was found. That is, during scheduled maintenance, test, storage, normal operation, inspection, or handling.
- First indication of trouble.* Tell about the conditions present when the first sign of trouble was noticed. For example—stopped working, did not perform as needed, or gave false targets.
- Circumstances prior to difficulty.* Put in all the details of what was happening before the trouble started. Include the hardware configuration/set up. These details will help the investigator. Be sure to tell about any modifications directly related to the problem. Any other information you think might help the investigator should also be given here. Attach hard copy printout or other information when possible. Classified information may be kept by originators as exhibits. No classified information may be entered on the SF 368 or mailed with it.
- Description of difficulty.* Write a thorough description of the problem including the effects on the user, mission, or equipment.
- Cause.* Outline the most likely cause of the problem or need for improvement.
- Action taken.* Give a short summary of what you did to correct the problem. List exhibit information, such as, exhibit held, destroyed, or turned into supply.
- Recommendations.* Give any suggestions to help stop problems, improve the equipment, or change instructions.

## 23. LOCATION OF DEFICIENT MATERIAL

COMMANDER, 8 BTRY 1/43 ADA FT. BLISS TX 79916

**Block 23** – Enter the unit name, location, and zip code or APO number where the deficient material is located.



# KEEP EXHIBITS SAFE



If you use SF 368 to report a deficiency, keep the item being reported.

These items or samples of items — called exhibits — are used to support investigation of the defect. Exhibits showing the problem or defect help identify what happened and how to keep it from happening again.

Here are some tips on keeping an exhibit until you are asked to dispose of it or send it forward:

■ Pack the exhibit to protect it. But do not take it apart to see what the problem is. Leave that to the investigators.

If the problem is found during authorized disassembly, put the item back together in the original condition. Everything having to do with the failure should be kept for investigation, analysis, and support of the SF 368.

When contaminated fluids are drained for preservation, include a sample with the exhibit.

In all cases, use blocks 22 or 23 of the SF 368 to identify the exhibit holding point, the name of a point of contact, and both commercial and DSN phone numbers.

REPAIRING	CRITICAL	INVESTIGATION	STOCK	OF	REPAIRED	IN TIME
22. DETAILS (Describe, in brief ability, what is wrong, how and why, circumstances prior to difficulty, description of difficulty, cause, action taken, including disposition, recommendations. Attach copies of supporting documents. Continue on separate sheet if necessary)						
23. LOCATION OF DEFICIENT MATERIAL						
24a. TO Location Point			24b. TO Support Point (Use Items 26 and 27 if more than one)			

■ Tag your exhibits with DD Form 1575, Suspended Tag Materiel, and DD Form 2332, Materiel Deficiency Exhibit. Attach a copy of the message or SF 368 reporting the problem. Mark the item with a suspended condition code, as shown in AR 725-50, Table C-38.

NEXT PART/NO. ITEM DESCRIPTION 2920-00-707-2173 ALTERNATOR		SUSPENDED TAG-MATERIEL	
SERIAL NUMBER/LOT NO 635-486		NEXT INSPECTION DUE	
UNIT OF MEASUREMENT EA		CONDITION CODE	
CONTRACT OR PURCHASE ORDER NO DAAB-00-00000000		INSPECTION ACTIVITY N. G. LOSS OF AN FLXND	
QUANTITY 171		REASON FOR AUTHORITY PDR	
REMARKS		INSPECTOR'S NAME OR STAMP AND DATE	

MATERIEL DEFICIENCY EXHIBIT			
1. REPORT CONTROL NUMBER 111 2-2-01M PMS	2. DATE 10 OCT 96	3. ORIGINATING ACTIVITY 700 (M) 437 8V	
4. CASE 212-00-98330	5. PART NO	6. SERIAL NO 635-486	
7. REMARKS (Continue on reverse if necessary)		8. ITEM DESCRIPTION ALTERNATOR	
9. NAME MAXIMILIAN WITKOP		10. PHONE	





Hold onto exhibits for 60 days or until you get word to dispose of them. Exhibits will not be released to contractors without orders from the item manager.

If you do not receive disposition orders within 60 days, and it is not being followed up, dispose of the exhibit using normal supply procedures. Make sure you change the condition code from a suspended code to a reclassified condition code, as shown in AR 725-50, Table C-38. If you are told disposition orders are coming, keep the exhibit until you get the orders.

Track the exhibit during processing by putting the SF 368 report control number on all property and shipping papers.

Keep your exhibit separated from good items so that it is not accidentally used.

If you get word to ship your exhibit to help the investigation, notify the ap-

propriate command. The exhibit must go to a government representative or agency, not directly to a contractor.

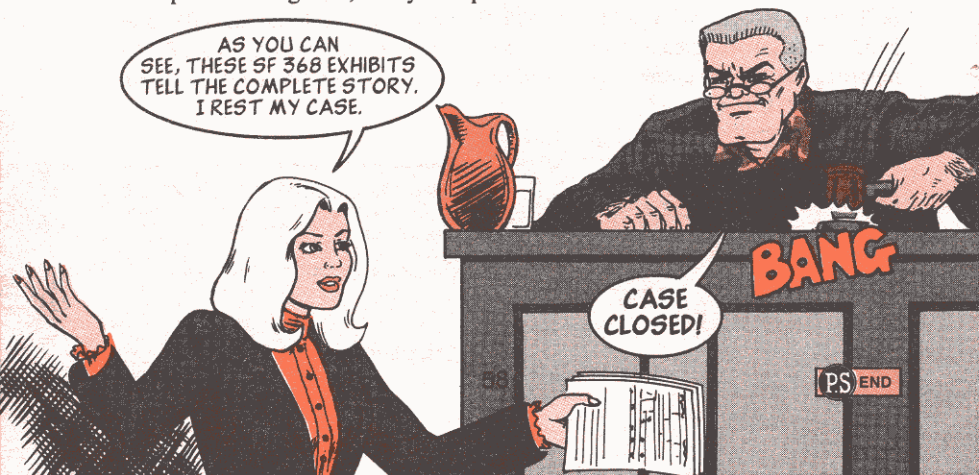
When an exhibit is sent to the command, the tagged exhibit, along with a copy of the SF 368 report, needs to be packaged properly. Make sure the item safely reaches its destination by doing all necessary bracing and cushioning. On the outside of the package, clearly mark "To Be Opened In The Presence of a Government Representative" and "PQDR Exhibit/Report Control Number \_\_\_\_\_"



Category I PQDR

exhibits will be shipped priority designator (PD) 03 within three days after notification; Category II PQDR exhibits will be shipped PD 06 within six days after notification.

If the command doesn't give a shipping priority, use PD 09.











HERE ARE THE WINNERS  
AND RUNNERS-UP OF THE  
FY94 ARMY COMPETITION



## **SUPPLY EXCELLENCE AWARDS**

### **ACTIVE ARMY MTO&E UNITS**

#### **Company, Battery or Troop**

Winner—Co E, 214th Avn Regt, Schofield Barracks, HI  
Runner-up—HHC, 1st Special Forces Group (A), Ft Lewis, WA

#### **Battalion or Squadron**

Winner—307th Signal Bn, Camp Carroll, Korea  
Runner-up—25th FSB, Schofield Barracks, HI

### **ACTIVE ARMY TDA ORGANIZATIONS**

#### **Company, Battery or Troop**

Winner—Co C, 704th MP Bn, Ft Lewis, WA  
Runner-up—US Army ROTC Instructor Group, Norwich University, Northfield, VT

#### **Battalion or Squadron**

Winner—731st MI Bn, Schofield Barracks, HI  
Runners-up—Red River Army Depot, Texarkana, TX and  
Joint Security Area Bn, UNCSF, Camp Bonifas, Korea

### **ARMY RESERVE MTO&E UNITS**

#### **Company, Battery or Troop**

Winner—344th Data Processing Unit, Ft Belvoir, VA  
Runner-up—4th Tactical Support Co, Sacramento, CA

#### **Battalion or Squadron**

Winner—448th Civil Affairs Bn, Ft Lewis, WA  
Runner-up—3d Bn, 75th FA, Springfield, MO

#### **TDA Company**

Winner—3270th US Army Hospital (Augmentation), Ft Jackson, SC  
Runner-up—HHC, 89th US Army Reserve Command, Wichita, KS

### **ARMY NATIONAL GUARD MTO&E UNITS**

#### **Company, Battery or Troop**

Winner—HHD, 297th Maintenance Bn, Havre de Grace, MD  
Runner-up—842d Engr Co (ECSE), Spearfish, SD

#### **Battalion or Squadron**

Winner—1st Bn, 151st FA, Montevideo, MN  
Runner-up—372d FSB, Dallas, TX

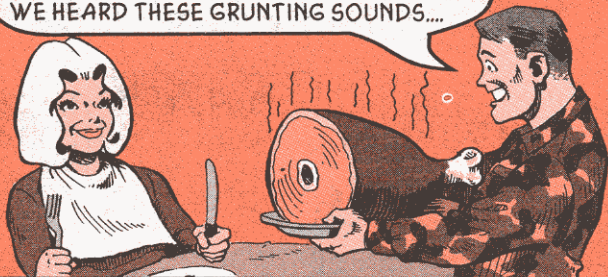
#### **TDA Company**

Winner—Detachment 1, State Area Command, Oklahoma City, OK  
Runner-up—Detachment 4, State Area Command, Johnston, IA





WELL, CONNIE, WE WERE PUTTING ON  
TIRE CHAINS IN THE BLACK FOREST WHEN  
WE HEARD THESE GRUNTING SOUNDS....



### M17 Mask Wipe NSN

Keep your M17 protective mask clean in the field with alcohol-free respirator wipes, just like we said on Page 55 of PS 498. The wipes are available by NSN 4240-01-372-3078, which brings 100 for \$51.56.

### M24/M25A1 Mask Hose

TM 3-4240-280-20&P's Fig C-2 gives you bad info on the M24/M25A1 mask hose. If you order that hose, you get one that's twice as long as what you need. The right-sized hose comes with NSN 4240-00-829-2960.

### Contact Pin Straightener

Got a problem with bent contact pins? The slightest slip with needlenose pliers will only bend the other pins. Instead, use contact removal tool kit, NSN 5120-00-765-3688. The kit comes with four tips to adjust different pin sizes. Appendix A of CTA 50-970 is your authority for ordering.

### 2 1/2-Ton Truck Chocks

Forget the chock blocks listed in the AAL and BIL of trucks supported by TM 9-2320-361-10. The NSNs are no good. Instead, request NSN 2540-00-678-3469. You'll get a heavy-duty wooden chock.

### Bomag Radiator Gasket

If your Bomag high-speed compactor is at support for a new radiator core work or a new one, NSN 2930-01-149-5859, you'll need two tank gaskets when you reinstall the core. Use NSN 5330-01-143-9206 for each gasket. The parts info in TM 5-3895-349-14&P for the core and the gaskets is wrong.

### Hazard Placard

Need the hazard placard and mounting hardware for those old M131A5C fuel tankers? Order them separately with these NSNs:

PART	NSN	QTY
Placard	9905-01-379-5693	4
Screw	5305-00-989-7434	16
Nut	5310-00-902-6676	16
Washer	5310-00-014-5850	32

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


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

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# When It's Cold Outside, Drain Fuel Filters Daily!



REMEMBER,  
WATER FREEZES  
AT 32°F.

DON'T LET  
THAT HAPPEN  
IN YOUR FUEL  
FILTER!

READ AND HEED FM 9-207 ON  
COLD WEATHER OPERATIONS.