

Issue 496

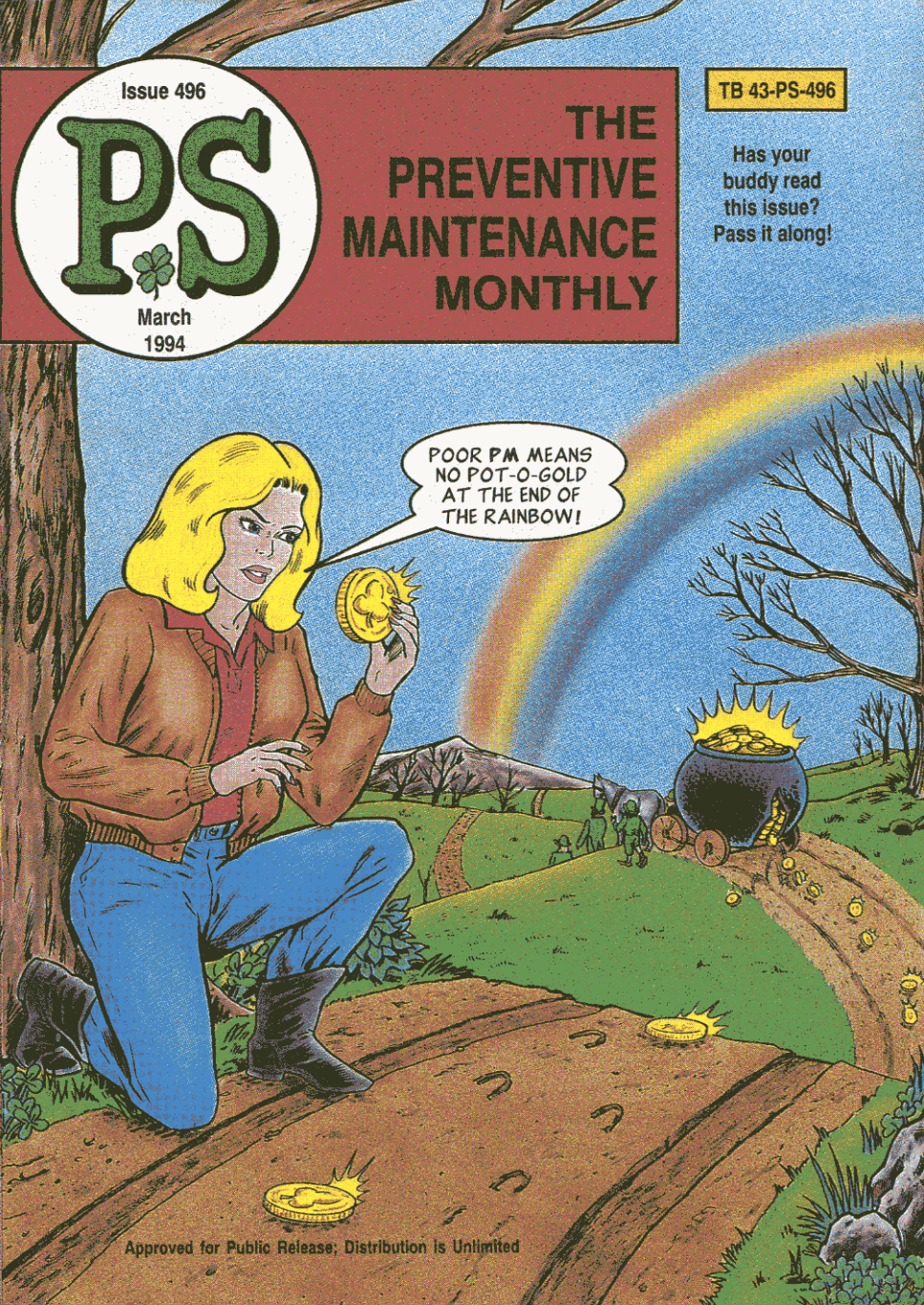
PS

March
1994

THE PREVENTIVE MAINTENANCE MONTHLY

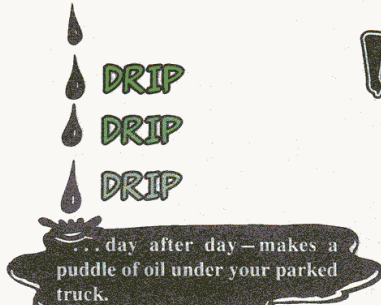
TB 43-PS-496

Has your
buddy read
this issue?
Pass it along!



POOR PM MEANS
NO POT-O-GOLD
AT THE END OF
THE RAINBOW!

Approved for Public Release; Distribution is Unlimited



DRIP
DRIP
DRIP

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DRIP

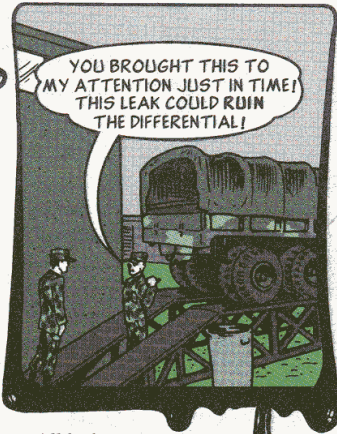
A Class III leak. It may look harmless. It does not make your vehicle NMC unless the fluid comes from a component listed in your truck's -10 PMCS. Some vehicle -10 TMs spell out in the "Not Ready" column how much oil a component can lose before it's NMC.



But you should never ignore a Class III leak. You never know from just looking at the puddle where the oil came from.

DRIPS Cost

Report all leaks. Get your mechanic to run your truck up on a rack and give it a good going over.



All leaks cost money, even if they do not make the truck NMC.

A one-drop-per-second fluid leak can lose...

- 36 ounces per hour
- 33 gallons per month
- 396 gallons per year

That's \$1,200 of engine oil per year.

Most leaks slow down when the engine is turned off. Put the machine to work and the pressure can turn a one-drop-per-second drip into a small stream.

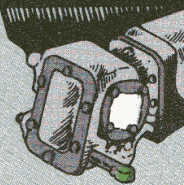
Big Bucks

Leaks Have Class

Here's a leader's guide on what to do about each reported lube leak.

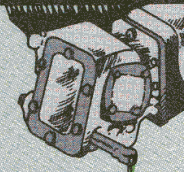
CLASS I—Lube is moist to touch, but doesn't form a drop.

Forget it. It's acceptable.



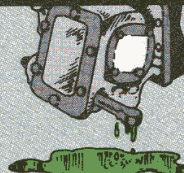
CLASS II—Lube comes out to form a drop, but not enough to drip off during inspection.

Keep an eye on it. Change the seal if the gearcase loses 15-20% of the lube between scheduled services.



CLASS III—Lube that drips from the item being inspected.

Change the seal. Figure out what caused the leak. Could be a clogged valve or line.



TS 43-PS-496, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

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

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

By Order of the Secretary of the Army:

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

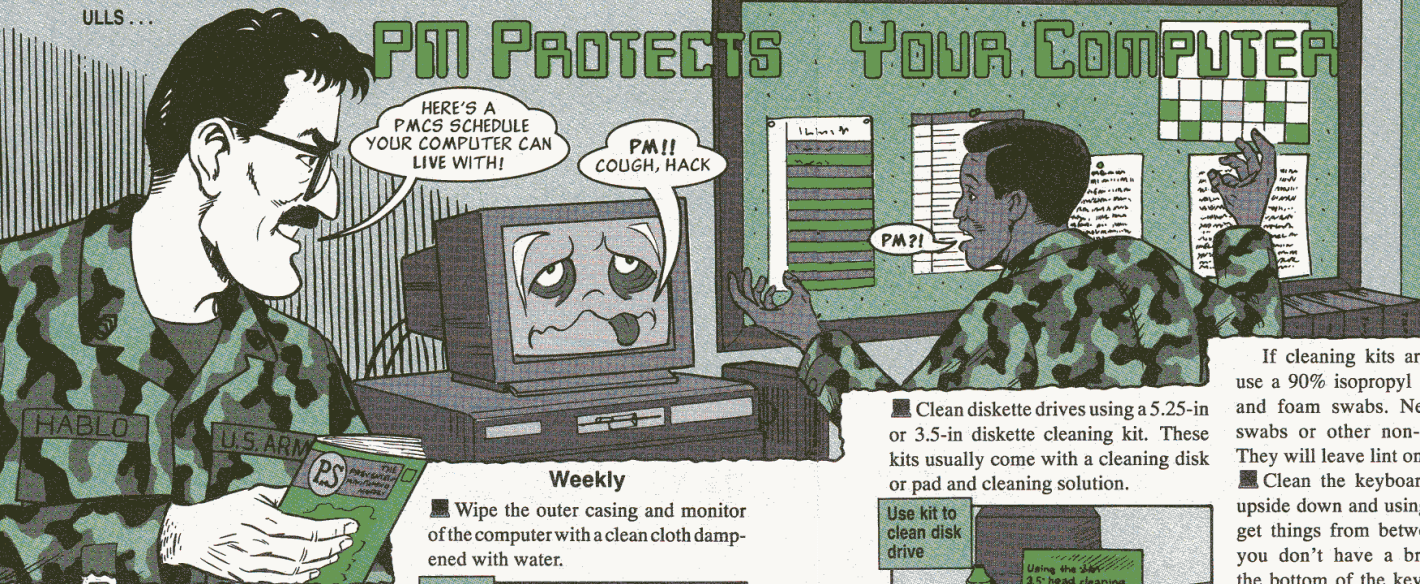
Official:

Milton H. Hamilton
MILTON H. HAMILTON

Administrative Assistant to the Secretary of the Army
05918

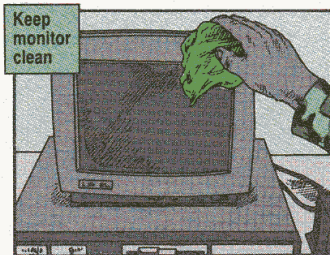
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PM PROTECTS YOUR COMPUTER



Weekly

- Wipe the outer casing and monitor of the computer with a clean cloth dampened with water.

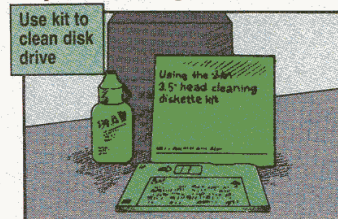


Daily

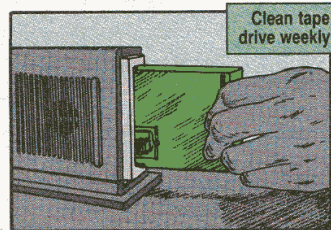
- Make sure computer and printer vents are not blocked. If the components don't get enough air, they overheat.
- Check all cable connections at the back of the monitor, printer and CPU to be sure that they are firmly connected. If the connections are loose, lightly tighten them with a small screwdriver.

Be careful using cleaners around your computer. Never use liquids, sprays or wet cloths directly on the computer equipment. Don't put solutions onto cloths or cleaning diskettes while holding them over the keyboard. Moisture gets inside and destroys your computer.

- Clean diskette drives using a 5.25-in or 3.5-in diskette cleaning kit. These kits usually come with a cleaning disk or pad and cleaning solution.



- Clean tape drives using a tape cartridge kit. These kits come with instructions.



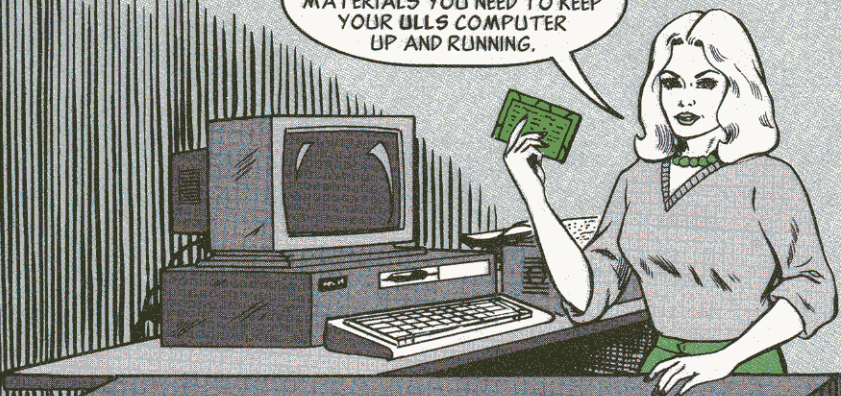
- If cleaning kits are not available, use a 90% isopropyl alcohol solution and foam swabs. Never use cotton swabs or other non-medical swabs. They will leave lint on the tape heads.
- Clean the keyboard by holding it upside down and using a soft brush to get things from between the keys. If you don't have a brush, gently tap the bottom of the keyboard while it's upside down.



- Clean the ink buildup from the printer platen using a soft brush and a mild detergent.

Expendable Supplies

HERE'S A LIST OF
EXPENDABLE SUPPLIES AND
MATERIALS YOU NEED TO KEEP
YOUR ULLS COMPUTER
UP AND RUNNING.




Item	NSN or CAGE/PN
Paper	7530-00-145-0414
60 meg tape cartridge	7045-01-193-4991
40 meg tape cartridge	7045-01-240-4951* or 7045-01-338-6542**
60 meg tape drive cleaning kit	7035-01-373-5972
40 meg tape drive cleaning kit	60902/104415-1
Surgical swabs	4920-01-243-0571
Isopropyl alcohol	6505-00-655-8366
5.25-inch disk drive cleaning kit	7045-01-154-1315
3.5-inch disk drive cleaning kit	(GSA) 7045-01-309-3489
3.5-inch disk	7045-01-283-4362
5.25-inch disk	(GSA) 7045-01-323-6435
ALP P-2000 printer ribbon	7510-01-295-4890

*Unformatted **Formatted in Kappa-mat format—used in Irwin tape drive

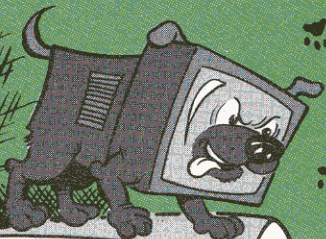
You can get most of these items from your SSSC.

Order the 40 meg and 60 meg tape drive cleaning kits from S9E on DD Form 1348-6 using the CAGE and PN or NSN.

Tracking Sensitive Items



THAT
ULLS COMPUTER
SURE KNOWS HOW
TO TRACK!



Dear Editor,

Some of our sensitive items, such as AN/PVS-4, -5 and -7 night vision sights and certain weapons, are not reportable on DA Form 2406. To track NOT MISSION CAPABLE sensitive items, we assign them administrative numbers and put them on the Unit Level Logistics System (ULLS) computer as MAINTENANCE SIGNIFICANT.

The unit then receives the ULLS not mission capable report showing the items and their current status of repair. The unit also receives the SAMS report that shows direct support and repair parts status. These automated reports help us control and track these sensitive non-reportable items.

Here are examples of the way administrative numbers are assigned so we can identify items by unit:

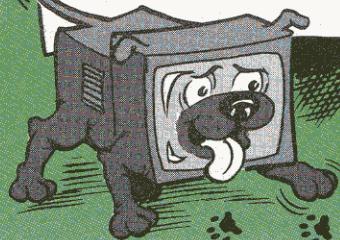
AN/PVS-4 Night Vision Sight			
Company	Rack #	Type	Admin No.
D	12	PV4	D12PV4

M249 SAW			
Company	Rack #	Type	Admin No.
D	123	SW	D123SW

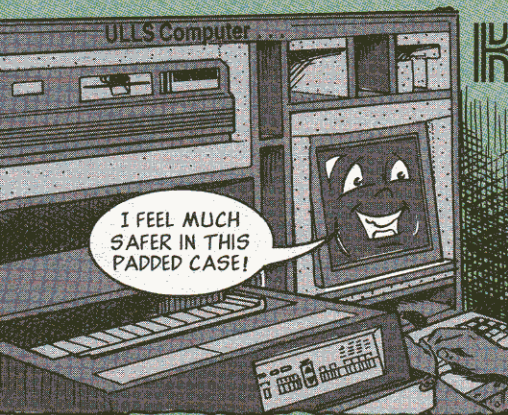
MW4 Carl E. Beckwith
Ft Bragg, NC

FROM THE DESK OF THE Editor 

Good idea! Sounds like you've found a way of getting your ULLS computer to help manage your maintenance program. Be sure you check with the SAMS folks before you add these items or the items might error out. If they error out of the system, you'll not get status on the SAMS reports.



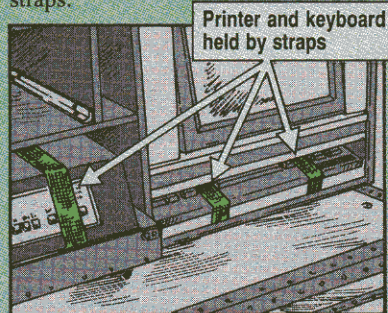
Keep It Safe



When you go to the field, do you leave your Unit Level Logistics System (ULLS) tabletop computer behind because you can't transport it safely?

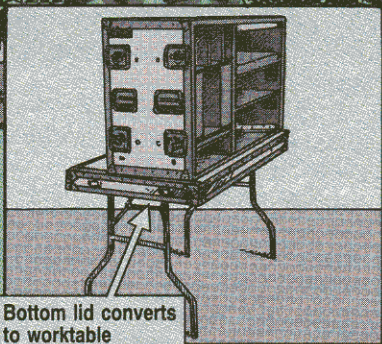
If so, you need a carrying case.

The case's foam padding holds the monitor and CPU snugly. The printer and keyboard are held tight by velcro straps.



When you get to the field, there's no need to unpack the computer. You can operate the computer while it's in the case.

The bottom lid of the case converts to a handy worktable. Just set the case with the computer components on the table and you're ready for business!



Your supply support can order the computer case from GSA. Be sure to include this info on the DD Form 1348-6:

- ✘ GSA contract number — GS-02F-6112A
- ✘ GSA FSC Group 81, Part 1, Section B
- ✘ Unit's POC and phone number in Remarks block.
- ✘ Manufacturer's name, address and telephone number —
ISM, Inc.
PO Box 2772
Covington, LA 70434
Commercial (504) 892-6700

Toll-free 1-800-843-7215

The ISM folks will get in touch with you so they can custom build a case to suit your computer.

Give All the Info

Filling out DA Form 2408-14, Uncorrected Fault Record, for ground equipment's not easy. DA Pam 738-750 gives the right way to record deferred maintenance actions and uncorrected faults. But the form dated Oct 91 shows only aviation information.

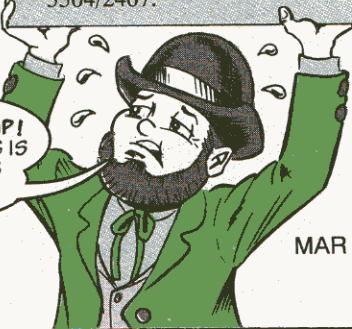
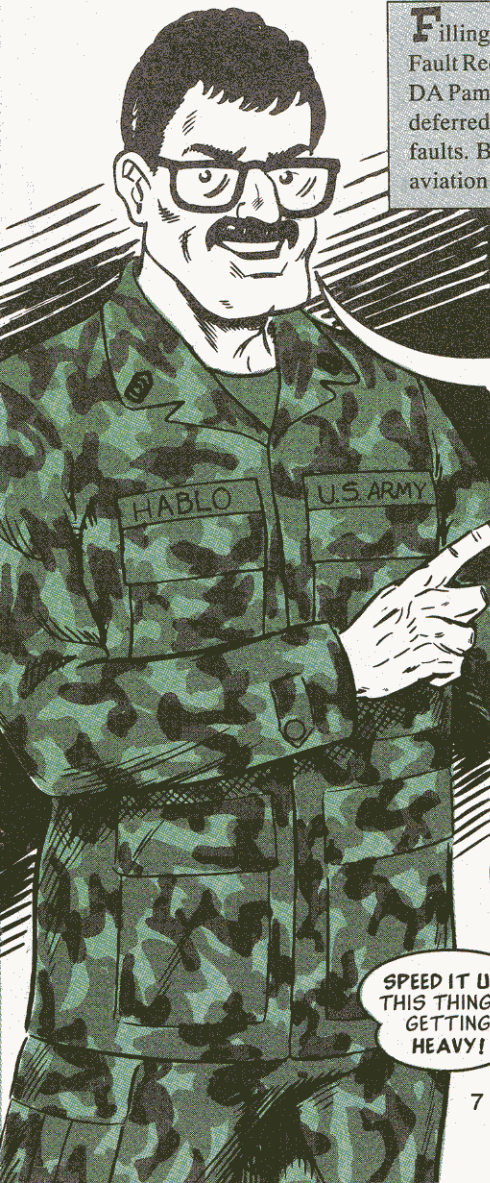
SO, HOW DO YOU RECORD GROUND EQUIPMENT DATA ON THIS FORM? UNTIL NEW FORMS ARE DISTRIBUTED, HERE'S WHAT YOU DO...

→ If you have the old form dated Jan 64, keep using it.

→ If you have the Oct 91 form, make these changes before you use it for ground equipment:

- Block 5 – disregard parts a through c.
- Block 7 – Change 2408-13-1 to 2404.
- Block 9 – Change 2408-13-1 to 5504/2407.

SPEED IT UP! THIS THING IS GETTING HEAVY!



What's Your Excess Worth?



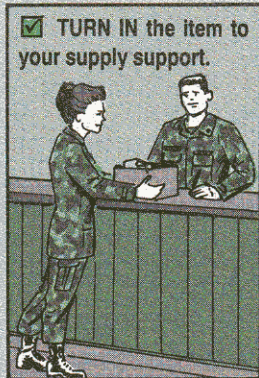
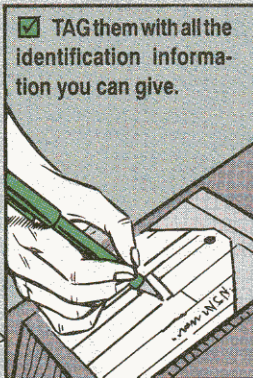
Items you consider useless could be another person's treasure. What's excess to you or PLL may be exactly what someone else is hurting for.

Plus, your excess stocks just take up storage space and add to your paperwork, inventory, and inspection problems.

Turning in your excess repair parts is important business ... for you and everyone else.

With hardly any sweat at all, you can put items back into the supply system — and help your support ease supply shortages, delays, and all kinds of supply flaps.

All you have to do is:



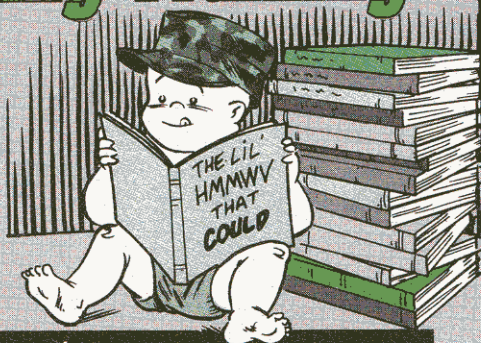
Check out DA Pam 710-2-1 and your ULLS user manual for more turn-in details.

Some other PLL person down the road may be turning in exactly what you need. And, your excess may be what he needs. So turn in the stuff. Do it now! You can't lose.

Truck Driving Training

Good truck drivers are trained, not born. And the first step toward good training is a well-stocked training library.

Make sure all your drivers are trained right by ordering and using these training packages through your publications person:



TC	Training Program for:
21-305	Techniques and Procedures for the Wheeled Vehicle Driver
21-305-1	Heavy Expanded Mobility Tactical Truck (HEMTT)
21-305-2	Night Vision Goggle Driving Operations
21-305-3	M939-Series 5-Ton Cargo Truck
21-305-4	High Mobility Multipurpose Wheeled Vehicle (HMMWV)
21-305-5	Equipment Transporters (Heavy, Medium, and Light)
21-305-6	Tractor and Semitrailer (M915, M931, and M932)
21-305-7	Light Vehicles
21-305-8	Medium Vehicles

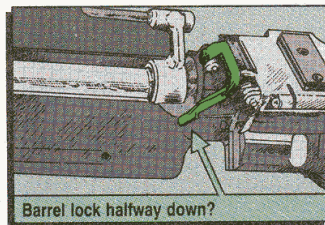
There are also some videos available to help with your driver training program. Get these videos from your local TASC with these numbers:

TVT	PIN	Title
55-15	709184DA	Operation of the HMMWV
55-16	709233DA	Driving the M939A2-Series Cargo Truck
55-17	709234DA	M931 PMCS (Part 1) and M931 Driving (Part 2)
55-18	709235DA	M915 PMCS (Part 1) and M915 Driving (Part 2)
55-19	709236DA	C-HET PMCS
55-20	709237DA	C-HET Coupling and Uncoupling
55-21	709238DA	C-HET Loading and Unloading the M1A1 Tank
55-22	709239DA	C-HET Driving
55-23	709710DA	HEMTT PMCS
55-24	709711DA	HEMTT Winch Operations
55-25	709712DA	HEMTT Crane Operations
55-26	709713DA	HEMTT Driving Techniques
55-27	709528DA	Driving a HMMWV Equipped with CTIS
20-928	708983DA	Preparation and Use of the AN/PVS-5 Series Night Vision Goggle
20-929	708929DA	Preparation and Use of the AN/PVS-7B Night Vision Goggle

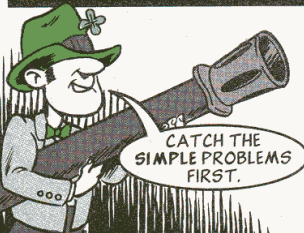
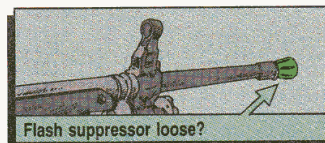
THE SIMPLE THINGS

It's often the simple things that cause the most complicated problems for your M249 machine gun. But just a few simple checks before you go to the field can make firing simple. Such as:

Barrel—Does the barrel lock in completely? The barrel collar should be flush against the receiver and the barrel lock should be halfway—not all the way—down. If the barrel won't lock in, suspect the heat shield is out of position. Reposition the heat shield and try to lock in the barrel again.

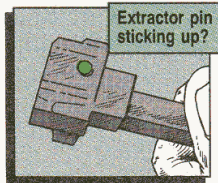


Flash suppressor—Cracks? Dents? Loose? A loose or bent suppressor can catch the side of a fired bullet.

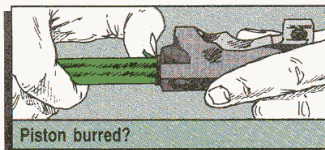


Bolt—Slide bowed or cracked? Bolt face cracked or chipped? Extractor pin not flush?

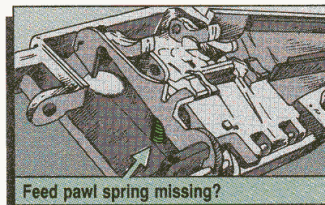
If the pin works out, the bolt locks up in the locking lugs. Firing pin end sharp, chipped, or cracked? Report it.



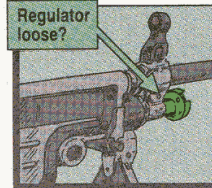
Piston—Burred? If the piston's burred, it will be hard to charge. Housing loose? If the housing moves at all, the piston rod needs to be replaced. Report it.



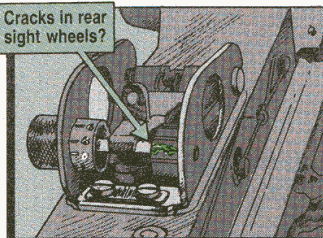
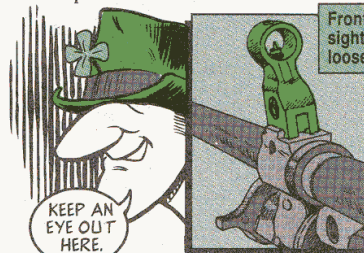
Feed tray cover—Cover and feed pawl springs missing or broken? Feed pawl springs especially disappear often and cause jamming. Sharp edges? The cam roller wears edges so sharp they can cut your hand. Your armorer can stone them dull.



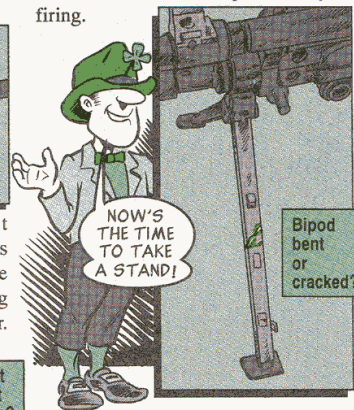
Gas system—Cylinder cracked or bent? If the cylinder splits, your M249 stops firing. Regulator loose? That causes loss of pressure and sluggish firing. Report it.



Sights—Front sight loose? That means no accuracy. Rear sight wheels cracked or loose? Rear sight will be difficult to adjust. Rear sight retaining clip missing? Peep sight will disappear. Report it.



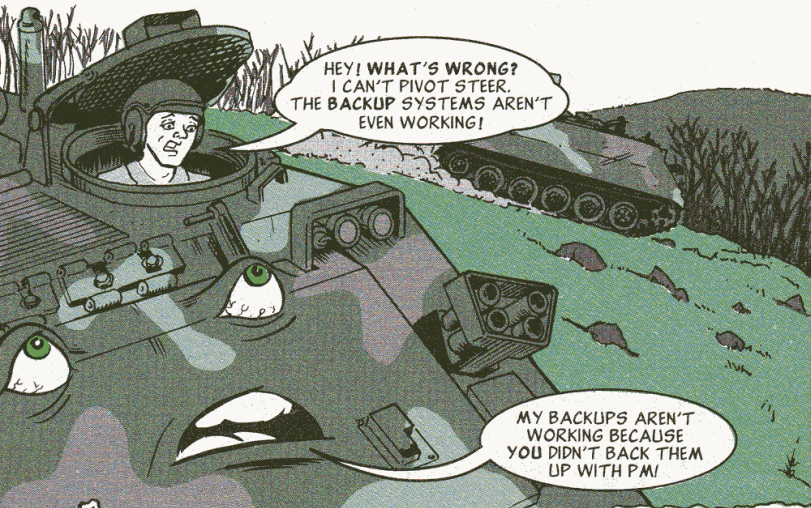
Bipod—Legs bent or cracked? Won't stay in stowed position? Shaky bipods make it difficult to set up for steady firing.



Safety—Flaps back and forth? That's an unsafe safety.



BACK UP

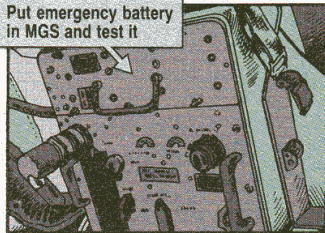


If you are not prepared for emergencies, then be prepared for failure. Backup systems on your M901s are being ignored during PMCS. When crunch time comes and you need these systems, your M901 will be dead in its tracks. Be prepared for emergencies by reading the good word in your TM. Then heed this:

Battery

The emergency power battery provides backup power for both the turret and MGS. Before every mission, put the emergency battery in the MGS and run the self-test. If the battery's low, take it to your unit repairman and have him charge it.

Put emergency battery in MGS and test it



Pivot Steering

Before you go to the field, test the pivot steering to ensure it works.

If you have a misfire, you will need to use the pivot steering to offload the missiles. If the pivot steering doesn't work, you're stuck.

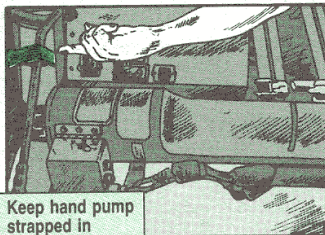
BACKUPS

Hand Pump

Test the pump before you go to the field. It should be easy to pump. If not, report it.

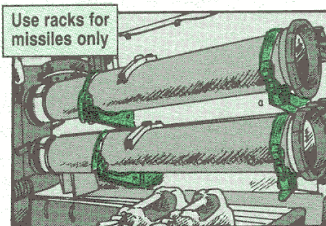
The manual hand pump is the only way to move the turret if the power goes out. But crews often use the hand pump as a handle or step. That breaks it. But no one notices until the pump's needed.

Protect the pump by keeping its handle strapped back. If the strap's shot, order a new one with NSN 5340-01-098-6802.



Racks

Never use the missile racks for storing water cans or spare parts and the like. In battle, you need those racks for missiles. Figure out somewhere else to store the other stuff.



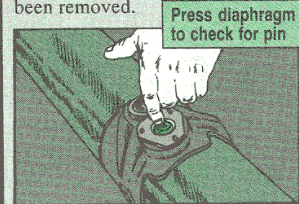
Fixing Dummies



Is your Bradley's TOW launcher, or the MGS or command guidance electronics flex harness frequently damaged during firing? If so, chances are you've got a bad dummy round.

A bad dummy round is one that hasn't had the holdback pin removed.

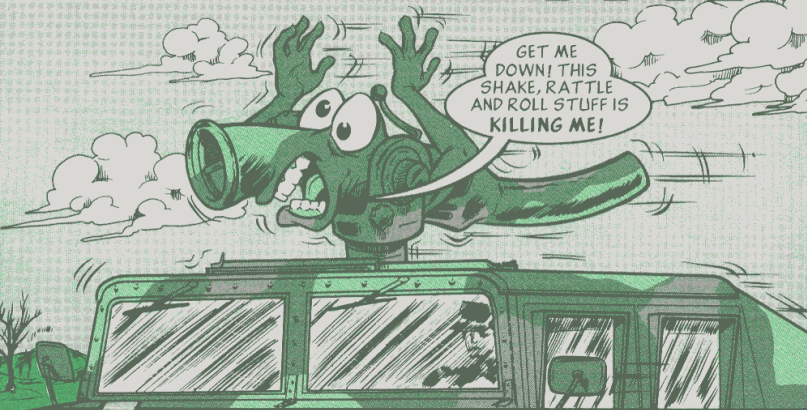
It's easy to check. Push down on the round's rubber diaphragm. If it doesn't spring back, the pin has been removed.



If the pin's still there, your repairman needs to take it off and replace it with a screw, NSN 5306-00-225-8499, and two washers, NSN 5310-00-257-2708 and NSN 5310-00-167-0820. Torque the screw to 168-192 lb-in.

Never use a dummy round that still has its holdback pin. You'll be stepping on your Bradley's TOWs.

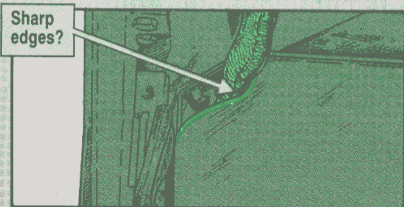
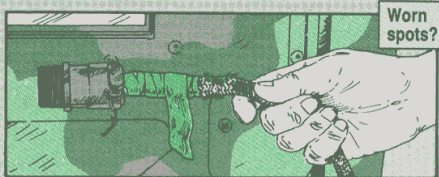
GOOD TRUCKING TIPS



Your TOW won't be of much use if it doesn't survive the trip to the field. But it often doesn't survive because crews do not support the TOW support equipment on the HMMWV like they do the TOW. Keep your TOW trucking like this:

TOW vehicle power conditioner (TVPC) Neglected TVPCs cause fires that can destroy TOWs and HMMWVs. Look for these warning signs:

- ➔ Worn spots on TVPC cables.
- ➔ Cable connector that won't turn independently of the cable head.
- ➔ Cable head not lock-wired.



➔ Cables not routed correctly from the battery to the TVPC or not tied down by fasteners. Look also for sharp edges that could cut cables.

Report problems to your repairman.

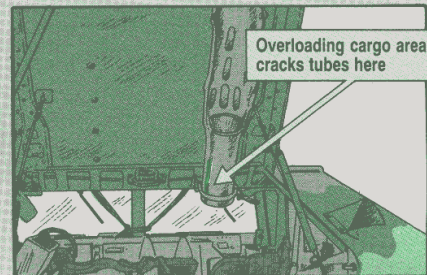


2590-01-235-8661, the front with NSN 2590-01-194-0309. In the meantime, find some scrap rubber and cut and glue strips of rubber to the holders.

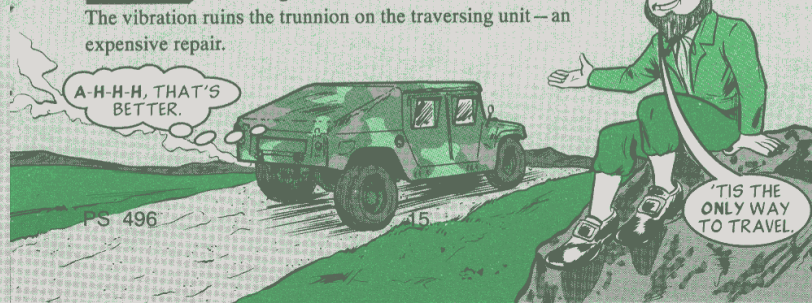
Also glue strips of rubber to the rims of the battery holders and the bottoms of the batteries.

Loading Lots of launch tubes are going to the junkyard because crews are putting too much junk in the HMMWV's cargo area. When the rear hatch is slammed down, the tube — which costs more than \$600 — is crushed.

Do not overload the cargo area. If you're not sure if there's enough clearance for the tubes, slowly pull the hatch down and check.



Travel Never go down the road with the TOW mounted. The vibration ruins the trunnion on the traversing unit — an expensive repair.



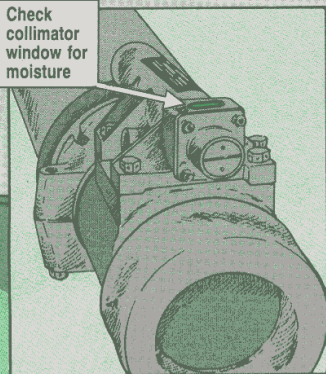
KEEP COLLIMATOR DRY

Mechanics, to do its job right, the collimator (or muzzle reference sensor) on your M1-series tank has to be kept dry.

That won't happen, though, unless you replace the collimator's desiccant during semiannual maintenance like you're supposed to. The desiccant, NSN 6850-01-081-4193, will absorb condensation no more than six months.

Before you get started, take a look at the collimator window. If you see any moisture, notify support. Moisture beyond what the desiccant can handle could be from a leak in the collimator.

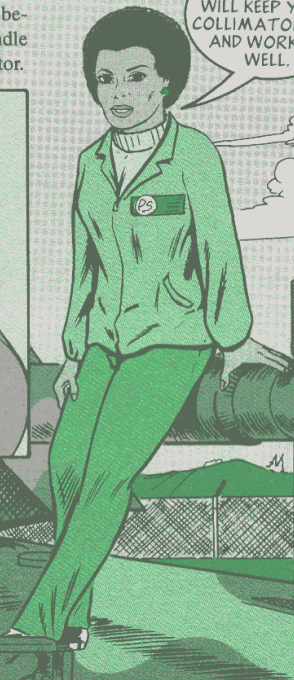
Check collimator window for moisture



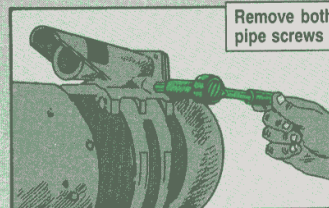
No moisture? Follow these steps to replace the desiccant:

1. Check the collimator for proper illumination. Cover the collimator's window. Look into the objective end and check to see if the tritium light source is illuminated. If there is no illumination, DO NOT continue with service. Immediately notify direct support.

A FRESH DESICCANT WILL KEEP YOUR COLLIMATOR DRY AND WORKING WELL.



2. Use a 3/8-in socket head screw key to remove both of the pipe screws on the barrel of the collimator.



Remove both pipe screws

3. Push out the old desiccant with a 1/4-in drive pin punch and throw the desiccant away.

4. Scrape any adhesive off the screw threads with a knife. Then clean them with P-D-680 drycleaning solvent and clean rags. Remove the old O-rings and throw them away.

5. Unwrap a new desiccant and check its color. If it's blue, use it. If it's some other color, turn it in and get another.

6. Push the desiccant into the barrel hole.

7. Install two new O-rings, NSN 5330-00-724-7902. Wrap the threads on the two pipe screws with antiseizing tape, NSN 8030-00-889-3534, and install them. The screws should be torqued between 240-360 lb-in.

Wrap threads with tape

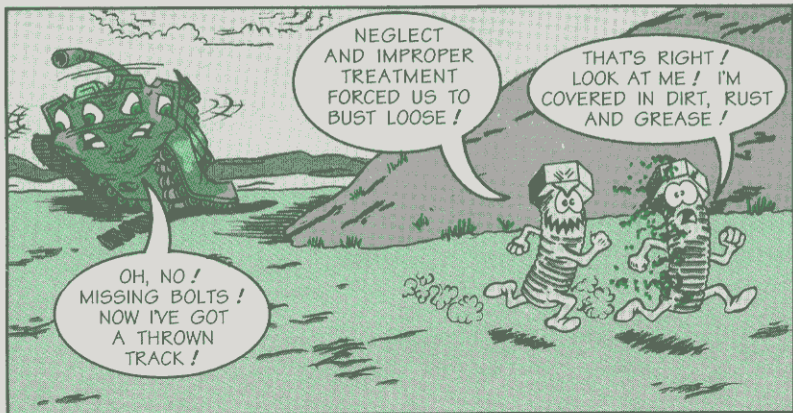


If moisture is a problem in your area, you might need to service the MRS more often.

HOW LONG WILL THE SENSOR STAY DRY?

THIS ONE'S ALL SET FOR ANOTHER SIX MONTHS.

Mounting Bolt Blues



Mechanics, loose or missing mounting bolts on M1-series tank sprockets cause nothing but problems.

Loose bolts chew out the holes and turn up missing. Missing bolts let the sprocket move against the hub, breaking other bolts and causing a thrown track.

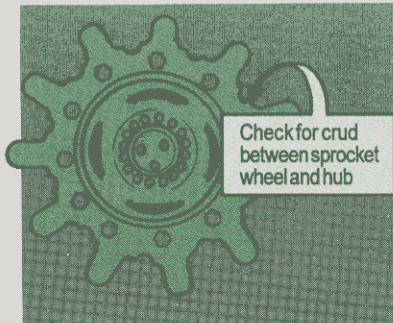
Bolts loosen for two reasons: Either they weren't torqued right, or there was

rust, dirt or grease between the hub and the sprocket wheel.

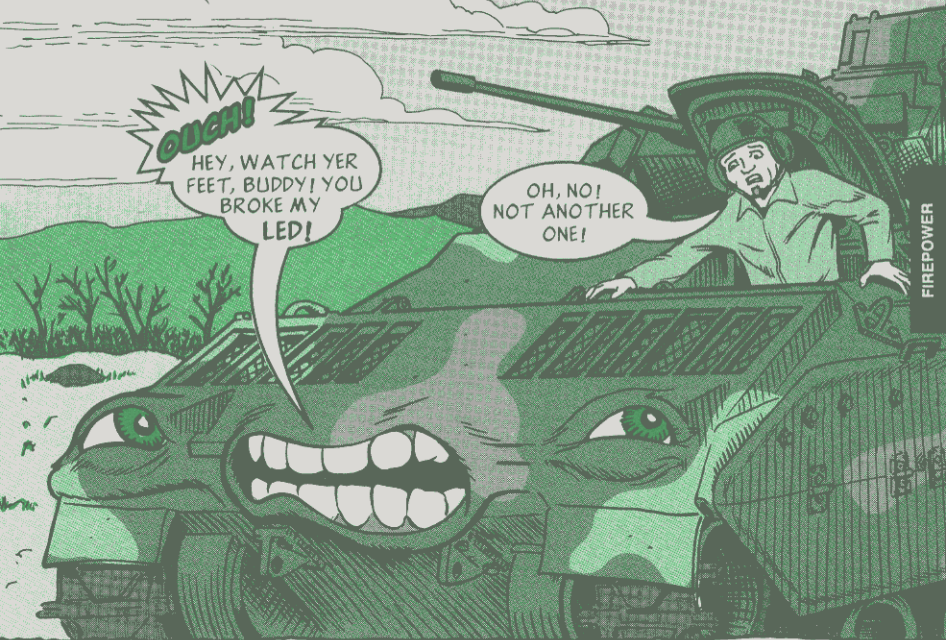
The next time you notice loose or missing bolts, do this:

1. Remove the sprocket wheel and clean the wheel and hub with a wire brush.
2. Wipe down the mating surfaces of the sprocket and hub with drycleaning solvent, NSN 6850-00-285-8011.
3. Replace all bolts, NSN 5305-00-938-1539, and all self-locking nuts, NSN 5310-01-123-1421.
4. Use a dab of antiseize compound, NSN 8030-00-251-3980, on the bolts when you put them in.
5. Torque each bolt to 250-280 lb-ft.

Of course, if the bolt holes are gouged or out of round, you'll need to replace the sprocket.

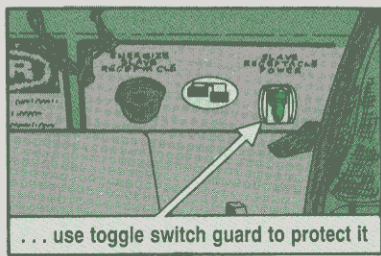
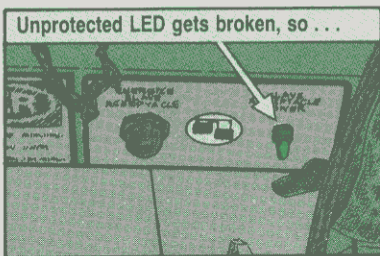


Don't Tread on Me



The slave receptacle power light gets broken off when some oaf doesn't watch where he puts his feet when getting into or out of the driver's compartment.

To stop damage to the light-emitting diode (LED) on your Bradley's vehicle distribution box, install a guard, NSN 5930-00-687-1079. That's the same guard used to protect the S2 toggle switch.



Red Cross Marking

Dear Half-Mast,
Our unit's M113A2 FOV
personnel carrier needs
a Red Cross decal. Is
there an NSN for the
decal, and if so, where
can I find it?
SFC M.S.F.

Dear SFC M.S.F.,

Some tactical vehicles use decals,
but there is no NSN available for a
decal for carriers. You'll have to paint
Red Cross markings on your M113-
series carrier, just as you would on
any combat vehicle used as an ambu-
lance.

Use the info on Page 27 of TB 43-
0209, Color, Marking and Camou-
flage Painting of Military Vehicles, for
painting the Red Cross markings. The
markings shown on Page 27 are for
tactical vehicles, but will also work
for the personnel carrier.

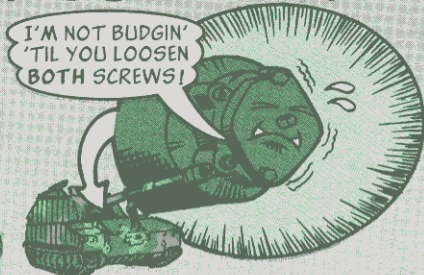
Use the paint colors as they apply
to the camouflage scheme of your
track.

You'll need to use the largest size
marking that will fit on the sides,
front, top and rear of your vehicle.

Half-Mast



Recuperator Cover Care



The length of the indicator pins on your howitzer's recuperator must be measured before firing and after every 100 rounds of sustained fire. If the pins extend too much or too little, the howitzer is NMC.

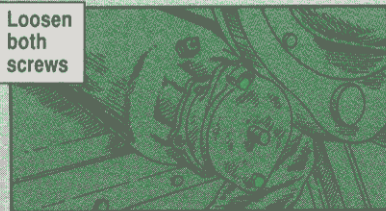
Each time the pins are checked, you have to remove the recuperator cover. That gives you plenty of chances to damage the recuperator gasket.

A damaged or missing gasket lets corrosion and dirt in the inner cylinder. That means loss of nitrogen pressure.

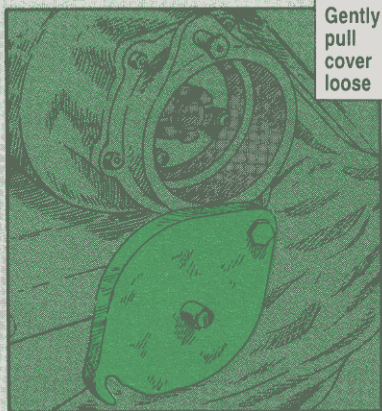
You can prevent all this trouble by taking a little more care when you loosen the cover to make the pin check.

Neither of the two screws holding the cover in place has to be removed to open the cover. Loosen both screws to the stop pin and gently pry the cover away from the recuperator. Make sure the gasket is not torn loose.

Loosen both screws



Once the gasket is completely loose, turn the cover so you can get to the pins and fluid valve.



If you loosen just the top screw and twist the cover open, you tear up the gasket — and you don't need that action.

If the gasket is shot, report it!

Your mechanic will eyeball Page 6-39 of TM 9-2350-311-20-2 for the procedures. NSN 5330-00-034-4448 is the right gasket to make the fix.

Don't leave the cover loose to save time on checking the pins next time, either. That gives dirt and corrosion the foothold it needs.

Purging and Charging Made Simple

Dear Editor,

Our shop does a lot of purging and charging of fire control instruments—many of which require pressure as low as 1 PSI. It's very easy to lose that small charge while disconnecting the fittings from the instrument.

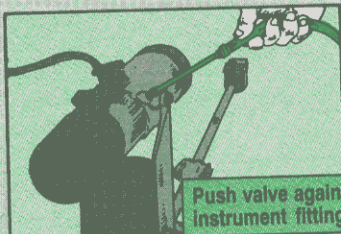
We've found a solution. Order a 4-in tire extension valve, NSN 2640-00-338-2705, and drill out the internal threads on the large end using a $5/16$ -in drill bit.

Drill out threads on large end of extension valve



Screw the extension to the hose assembly, set the recommended pressure for that instrument according to the TM and push the extension onto the fire control instrument fitting for the recommended amount of time.

This method prevents loss of pressure from the instrument since there are no longer any fittings to unscrew.



Push valve against instrument fitting

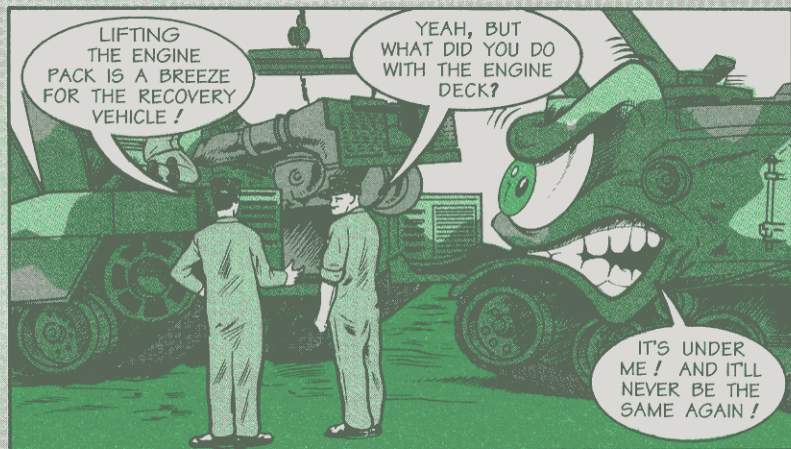
SSG Kent Fisher
NEARNG

FROM THE DESK OF THE Editor

We got a real charge out of that idea!
Keep up the good work!



Lock Out Suspension Damage



FIREPOWER

Setting up your M88A1 to lift less than six tons (such as a tank powerpack) is a breeze compared to what you have to do to safely lift heavier loads.

Loads of more than six tons can play havoc with torsion bars, shock absorbers and road arms.

Prevent that damage by using lock-

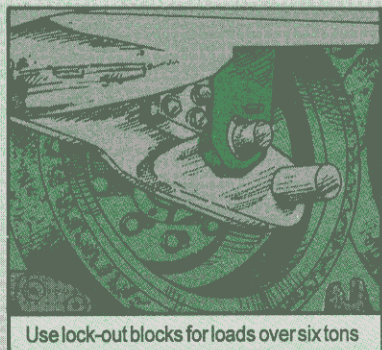
out blocks. That takes the excessive stress off the front suspension system. Para 2-24 of TM 9-2350-256-10 gives you step-by-step instructions.

But you're not off the hook, even if the load's less than six tons. Smaller loads can still damage anything that might be under the M88A1's hull.

Some tank outfits remove the engine deck and put it on the ground between the tank and the recovery vehicle. The vehicle straddles the deck as it gets ready to lift the pack.

As the pack goes up, the weight compresses the suspension enough that the hull bottoms out on the deck. Most of the time only the travel lock will break, but you can also warp the deck.

Do yourself and your vehicle a favor by keeping anything that might be damaged out of the way.



IF YOU VALUE YOUR NOGGIN', YOU'D BETTER VALUE YOUR CVC HELMET. THAT MEANS REGULAR PM.

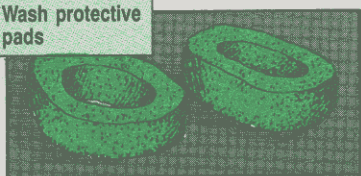
HEY, GIVE ME BACK THAT HELMET! I'VE GOT PM TO DO!

CATCH ME THEN!

Keep It Clean

✦ Oil and sweat build up in the liner and destroy the fabric. Remove the liner and protective pads and wash them in mild detergent and water. Let them air dry.

Wash protective pads

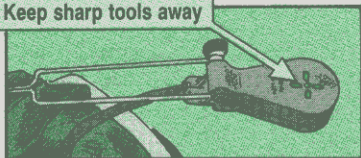


✦ Wipe inside the shell with a soft cloth dampened in the detergent solution to get rid of dirt and fungus.

✦ Clean the cords, straps, microphone and the shell's rubber edging the same way.

✦ Tap the microphone or earphone in your hand to dislodge dirt stuck in the openings. Never clean the openings with a sharp instrument, like a pin or a pencil. You'll puncture the moisture seals.

Keep sharp tools away



Keep It Working

✦ Clean all contacts with isopropyl alcohol and a foam swab.

✦ The headset cords tend to dry and crack with time. Wipe down the cords with a little silicone now and then to keep them flexible.

✦ Put a dab of silicone on the connectors' O-rings to waterproof the connections.

Put silicone on the O-rings

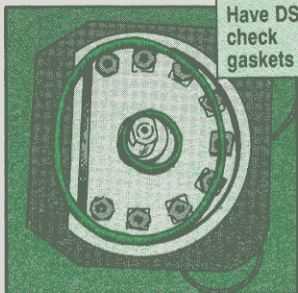


Keep It Dry

✘ When you take your helmet off, lay it rightside up. Never stand the helmet on its head. A good rain will fill it up like a water bucket. Moisture in the headset creates a short. If your helmet gets a good soaking, let it air dry.

✘ Help waterproof your earphones by making sure the gaskets are good. Have DS look at the gaskets and replace bad ones.

Have DS
check
gaskets

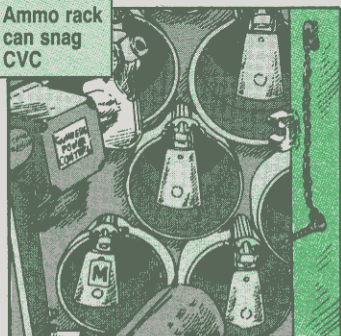


Keep It Stowed

Stowing your helmet in the **WRONG** place—under the driver's seat or hanging from the intercom control box—is a sure way to get it banged up and sent to the shop.

If the adjustable seat is lowered, it can crack the shell. When the turret moves, a dangling cord can snag on the ammo racks.

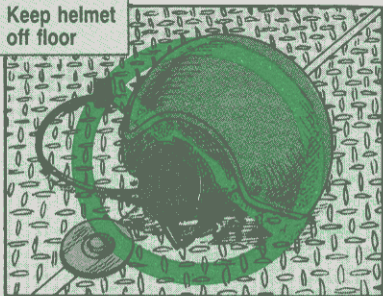
Ammo rack
can snag
CVC



Keep It Stowed (continued)

✦ Always disconnect the helmet and cord from the box and stow them in a safe place when you're not using them. If you're in the Bradley, put your helmet on a shelf.

Keep helmet
off floor



The M1 has four places where you can stow the helmet:

1. The gunner hangs his CVC helmet by its chin strap from a hook at his station. The hook has a label, NSN 7690-01-100-8186, to show that it's for the helmet.
2. The commander's helmet goes on the Global Positioning System sight.
3. The loader hangs his helmet on the shoulder guard at his station.
4. The driver puts his under the steering column or on the flat surface under the hatch lever.

✦ For extra protection, stow the CVC in a waterproof carrying bag. Your supply can get you one with NSN 8415-00-782-2989. CTA 50-900 is the ordering authority.

Stow your helmet
in a carrying bag



GOTCHA! NOW
HAND IT OVER
SO I-HUH?!

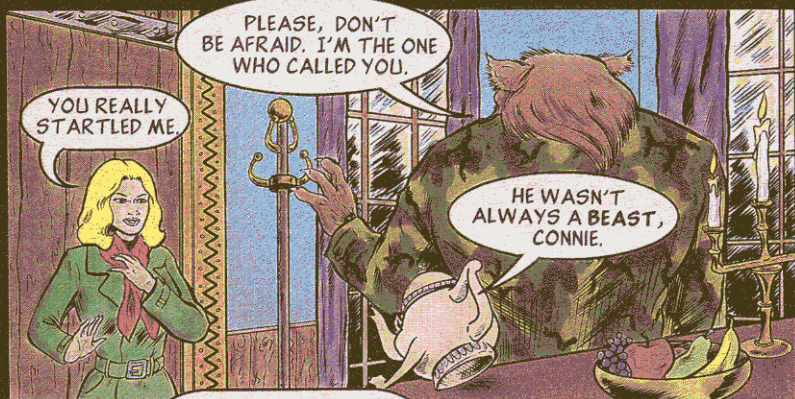
THE PM
IS ALREADY
DONE!

PS END

Beastly PAT

FOR REASONS YET UNKNOWN,
CONNIE RECEIVES AN URGENT
SUMMONS ...





YOU REALLY STARTLED ME.

PLEASE, DON'T BE AFRAID. I'M THE ONE WHO CALLED YOU.

HE WASN'T ALWAYS A BEAST, CONNIE.

MY MISHANDLING AND ABUSE OF CIRCUIT CARDS MADE ME THIS WAY.



I THINK I CAN HELP.

YOU CAN?



HE REALLY NEEDS YOUR HELP!



HERE ARE SOME TIPS TO KEEP YOUR CIRCUIT CARDS WORKING LIKE A BEAUTY.

On the Way to Repair

■ Always work at an anti-static work area. If you do not have an electrostatic discharge (ESD) work station, order:

Static control work station, NSN 4940-01-250-4235 (a ground cord, a rigid table mat, and a wrist strap)
Work station kit, NSN 4940-01-250-4237 (an anti-static, portable work surface, a common-point ground system, and a wrist strap)
Field service kit, NSN 4940-01-253-5368 (3 pouches, 3 barrier bags, 2 wrist straps, a ground cord, and a mat).

■ Remove floor coverings like carpet or linoleum that can produce ESD.

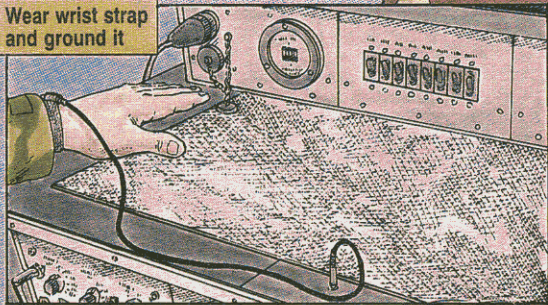
■ Always wear an anti-static wrist strap to handle cards. If you need just the wrist strap, order it with NSN 4240-01-063-4880. Make sure the strap is properly grounded. The strap's metal must touch skin and the strap must be tight.

■ Tag bad cards so they don't get mixed with good ones.

A BURNED-OUT CIRCUIT CARD OR A CARD WITH A BROKEN PIN CAN BE FIXED IF THE BOARD'S NOT ZAPPED BY STATIC ELECTRICITY ON THE WAY TO REPAIR.

HERE'S HOW TO PROTECT YOUR CARDS FROM ELECTROSTATIC DISCHARGE.

Wear wrist strap and ground it





■ Remove a circuit card from its anti-static container only when you're ready to plug it into the chassis. Put the old card immediately in the new card's container. Never take cards away from the work site unless they're in anti-static containers.

■ Package circuit cards for return shipment by wrapping each board in anti-static wrap or cushioning material. Place the wrapped board in an anti-static bag. Heat seal the bag. Then put the bagged CCA in an electrostatic-free flexible cushion pouch. Here are some pouch NSNs:

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



HERE'S A CHART THAT GIVES SOME MIL-B-81705, TYPE II, SINGLE WALL, ANTI-STATIC STORAGE BAG NSNs...

Inches	NSN 8105-01-
3 x 5	120-3382
4 x 4	120-3381
4 x 6	120-3380
5 x 8	096-9527
5 x 10	120-3379
6 x 8 (zipper closure)	217-3773*
6 x 10	120-3378
6 x 10 (zipper closure)	162-2174
8 x 8	120-3377
8 x 10	120-3376
8 x 10 (zipper closure)	181-5534
8 x 12	097-4507
10 x 12	120-3375
10 x 12 (zipper closure)	180-7919
10 x 14	120-3374
10 x 16	185-9680
10 x 24	119-8110
11 x 15	120-3373
12 x 16	120-3372
12 x 18	096-9528
14 x 18	120-3371
15 x 18	120-3370
18 x 18	119-8109
24 x 36 (zipper closure)	185-2632



AND HERE ARE SOME MIL-B-81705, TYPE I, OPAQUE BAG NSNs...

Inches	NSN 8105-01-
4 x 6	236-5944*
6 x 8	235-5474*
8 x 6	235-5473*
8 x 12	236-0149*
9 x 15	235-5475*
10 x 12	235-2688*
10 x 14	236-0150*
12 x 18	235-2689*
13 x 15	235-5476*
14 x 16	235-5477*
15 x 25	243-6629*
18 x 22	235-9829*

*Local purchase item.

HERE ARE NSNs
FOR SOME MIL-P-81997,
TYPE I BAGS...

Inches	NSN 8105-01-
8 x 8	215-0462
8 x 12	216-7804
10 x 10	197-2966
10 x 12	197-7846
12 x 12	197-2965

MAKE SURE EVERYBODY KNOWS
YOUR PACKAGE CONTAINS AN ESD-SENSITIVE ITEM
BY PUTTING A LABEL ON THE CONTAINER.

THESE
CAUTION LABELS ARE
MANDATORY.

GET THE YELLOW-AND-BLACK
LABELS WITH THESE NSNs...



Size (inches)	Qty	NSN 7540-01-
2 x 2	500	109-8815
4 x 4	100	110-4906

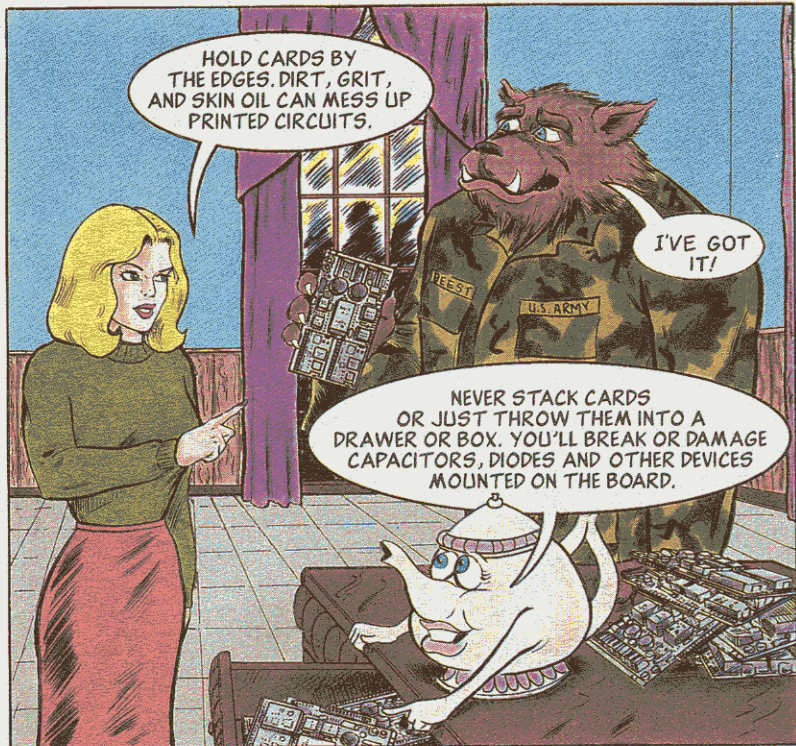
If you need more information about handling ESD sensitive items, write to:

USAMC LOGSA
ATTN: AMXLS-TP-P
11 Midway Rd
Tobyhanna, PA 18466-5097

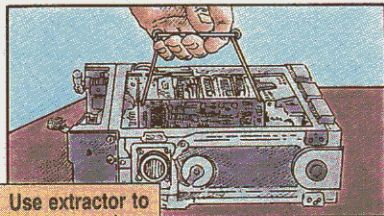
Or call:

DSN 795-7115
Commercial (717) 894-7115

Rules of Handling



■ Install and remove cards carefully. You'll bust pins if you jam cards in or use the flat of your hand to seat them. Use the extractor that comes with your equipment. If it's missing, order one using the NSN in your equipment TM.



Use extractor to remove cards

If a pin is already bent, try straightening it with needlenose pliers or pin straightener, NSN 5120-00-765-3688. That way you may not need a new card.

■ Shut down your equipment before installing a card. Also, don't forget to bring your shelter's power source up to speed before turning on the commo gear again. That sudden surge of power can blow a card, fast.

■ Replace card cell covers after installing your cards. Without the cover, cards can work loose and lose contact. Also, covers keep out commo killers like dirt and dust.

WELL, THAT WRAPS
IT UP FOR ME. NOW IT'S
UP TO YOU TO...

...SPECIALIST
BEEST?

THANKS
FOR YOUR HELP,
CONNIE!

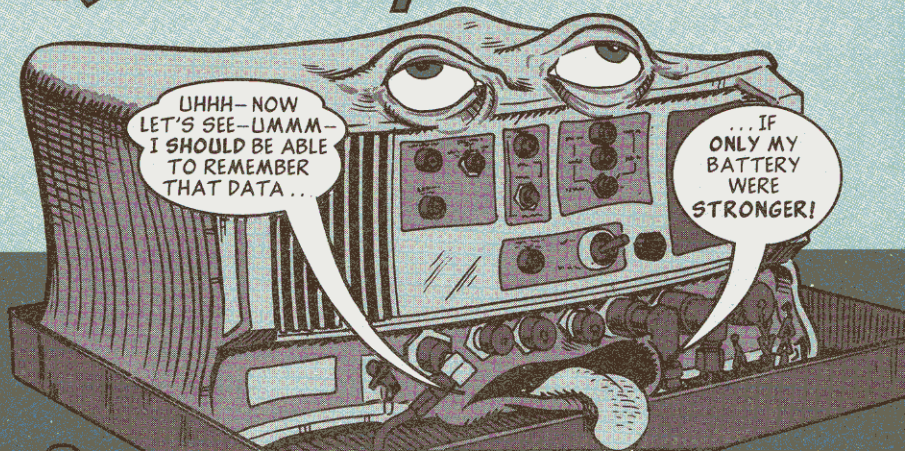
WHAT
HAPPENED?

YOUR CIRCUIT CARD
P.M. TIPS MUST'VE BROKEN THE SPELL
THAT MADE ME INTO A BEAST.

I'M GLAD
TO SEE YOUR
STORY HAS
A HAPPY
ENDING!

DON'T LET
POOR P.M. TURN
YOU INTO
A BEAST!

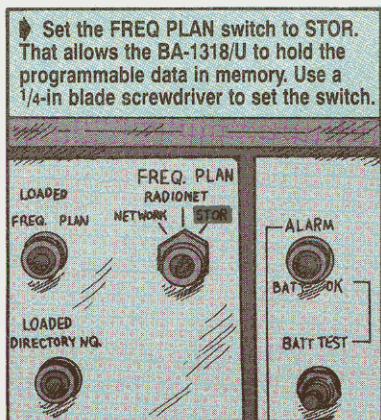
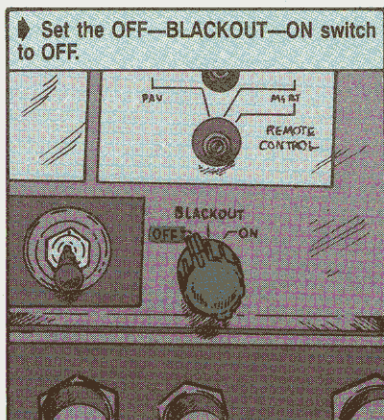
RT Battery Drain Pain



Operators, when you shut down, make sure your RT-1539 receiver-transmitter (RT) does not drain the BA-1318/U fill battery of power.

With the OFF — BLACKOUT — ON switch set to OFF, the main power to the RT is shut down. If the FREQ PLAN switch is left in the NETWORK or RADIO NET setting, the RT then draws power from the BA-1318/U. The battery runs down within hours. You'll lose programmable data that a strong battery holds in memory.

Stop the power drain by paying attention to a couple of switch settings. When you're ready to shut down the RT:

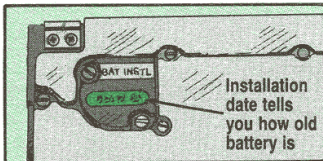


Thanks for the Memory



BOB HUB HERE, TO REMIND YOU OPERATORS TO KEEP AN EYE ON THE AGE OF YOUR HUB BATTERIES.

To find out how old the HUB is, look at the installation date on the battery cover. If the date is six months old or more, replace the battery.

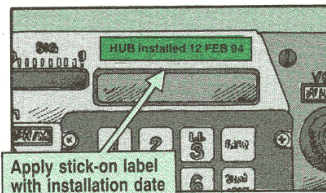


When you send the radio to the shop for service, ask the repairman to look at the battery installation date. If it's close to six months old, have him replace the HUB.

An RT-1439 mounted in a vehicle poses a special problem. The battery cover with the installation date is located on the bottom of the RT. To read the date you must remove the RT from the mounting adapter. That means unhooking antenna, audio/fill and audio/data cables, loosening the latches on the mount, and sliding out the RT.

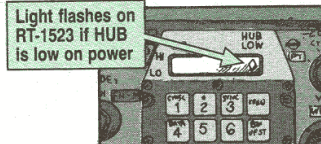
Save yourself work, not to mention wear and tear on the RT. Next time your unit repairer changes the HUB, note the date. Get a stick-on file label, NSN 7530-00-082-2661, and trim it to about

2" x 1/2". Write the battery installation date on the label and stick it in plain view above the RT's keyboard display.



Another way to keep track of the date is to make your own labels with a label gun, NSN 7490-00-835-0443.

Unlike the Non-ICOM radios, the ICOM radio sets alert you when it's time to change the HUB. Both the RT-1523 and the C-11561 remote control unit have a keyboard display on the front panel marked HUB LOW. A diamond-shaped light flashes if the battery is low on power.



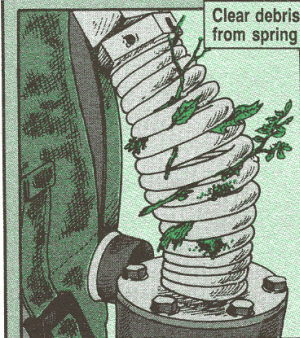
BRUSH WITH NATURE

Driving your vehicle in the back country puts your vehicular antenna in touch with nature—brush and tree limbs.

Twigs, leaves and dirt lodge in the base spring. Left there, they'll trap moisture that can damage the base. They could even cut the RF cable that runs through the antenna.

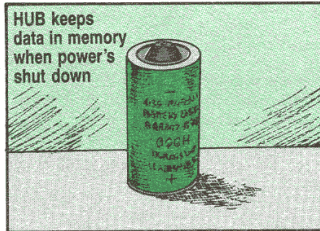
So, turn off the radio and look at the base spring every so often during a back-country jaunt. Gently pull down the antenna element to open up the spring. Dig out any debris with a pencil or small stick.

If the buildup is bad enough, use an air hose to blow out small particles when you return to your unit.



Never use a screwdriver or knife to clean the spring. You risk cutting the RF cable.

Operators, how old is the BA-5372/U holdup battery (HUB) in your SINGGARS RT-1439? Better find out. The HUB holds data in memory when you shut down the primary power to the RT.



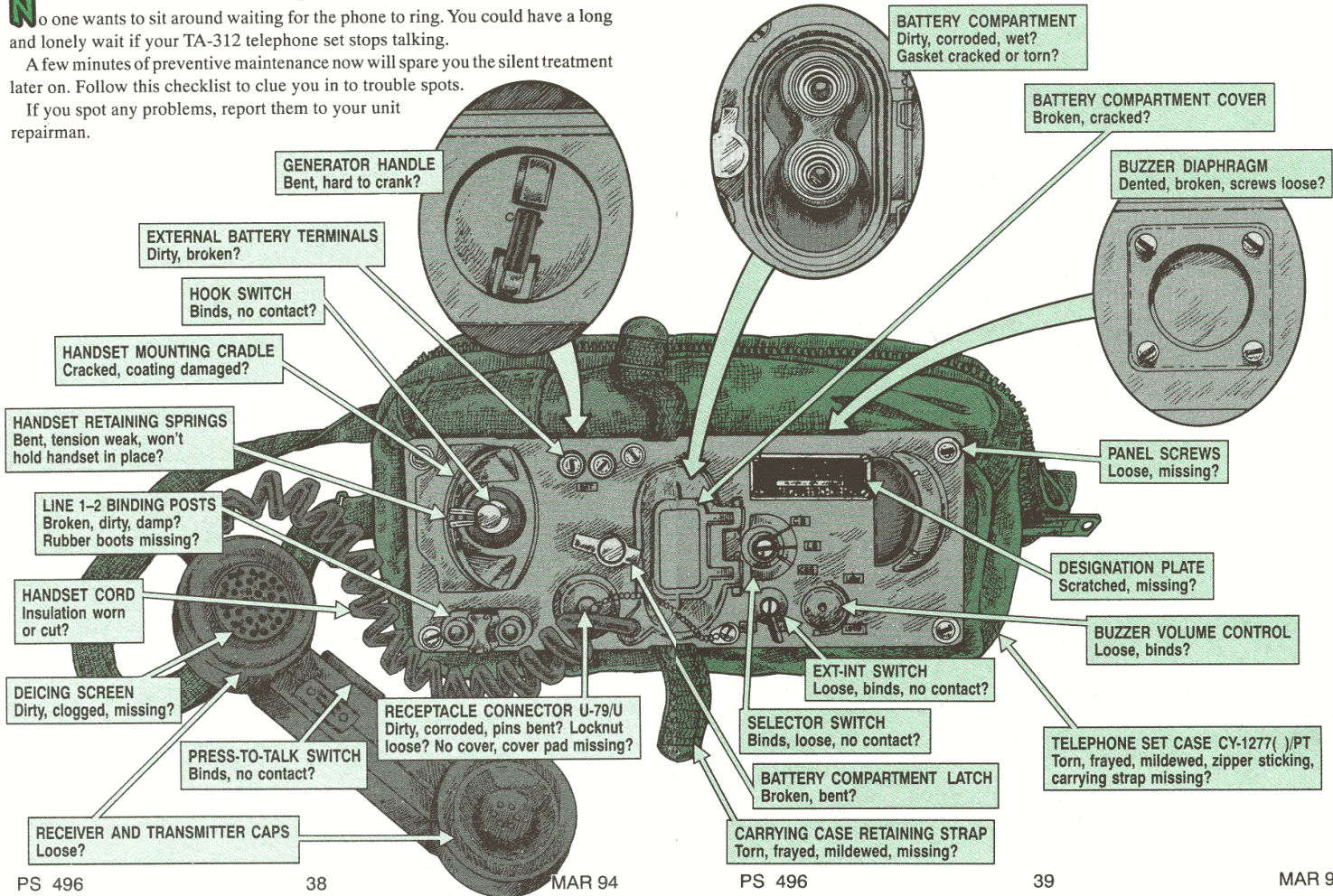
The older the HUB, the greater its chance of going dead. If it does, you'll lose single channel frequencies, hopset data, transmission security (TRANSEC) variable, time of day (TOD) and NET ID. That's guaranteed to knock out your communications.

YOU TALKIN' TO ME?

No one wants to sit around waiting for the phone to ring. You could have a long and lonely wait if your TA-312 telephone set stops talking.

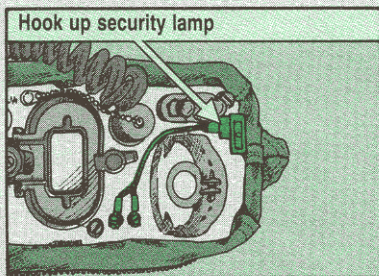
A few minutes of preventive maintenance now will spare you the silent treatment later on. Follow this checklist to clue you in to trouble spots.

If you spot any problems, report them to your unit repairman.



SSSSHHH!

Before moving your TA-312 telephone set to a sensitive information area, install a security lamp, NSN 5805-00-782-9210. Para 2-4 of TM 11-5805-201-12 shows you how.

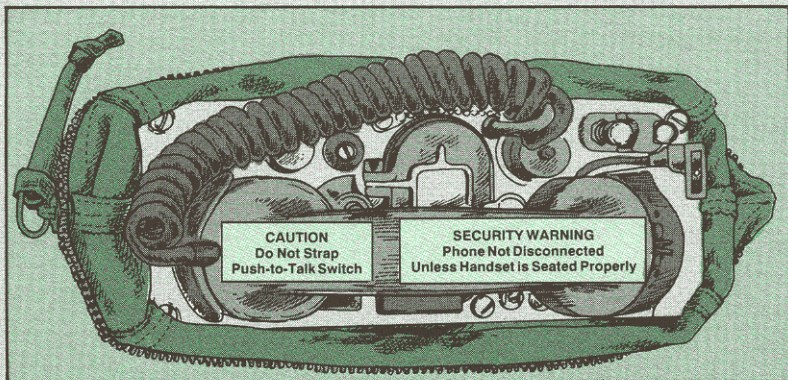


The security lamp lights up to remind you that the H-60 handset is not seated in the cradle and that the line is open.

You can also get CAUTION and SECURITY WARNING labels for the H-60 handset.

The **CAUTION** label, NSN 7690-00-877-6865, tells you not to strap the push-to-talk switch with the carrying case retaining strap. If you do, it could cause the line to remain open.

The **SECURITY WARNING** label, NSN 7690-00-877-6864, reminds you that the phone is not disconnected unless the handset is seated firmly in the cradle.



Distinguished Extinguishers

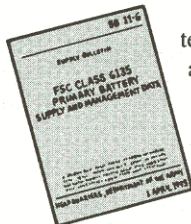
QUICK! GRAB AN EXTINGUISHER!

BUT, WHICH ONE?

Because stored batteries are a fire hazard, you've got to keep the correct fire extinguisher on hand.

SB 11-6, Primary Battery Supply and Management Data (Apr 93), tells you to have extinguishers in all battery storage areas. But you've got to have the right type of extinguisher for a specific battery.

Here are the extinguishers to use for the batteries you store:



NSN 4210-	Extinguisher type
00-202-7858	Carbon dioxide. Can be used on all types of battery fires.
00-775-0127	Dry chemical. Recommended for flammable liquid and gas fires. A good general purpose extinguisher. Can be used on all types of battery fires.
01-303-3999	Dry chemical. Recommended for lithium battery fires.



HERE ARE THE EXTINGUISHERS TO USE FOR THE BATTERIES YOU STORE:

Before ordering any fire extinguisher, ask your local DEH (may be called DPW) fire marshal for advice. He'll help you with a plan to prevent and control battery fires based on the kind of batteries you're storing, the storage facility and the location of the local fire department.

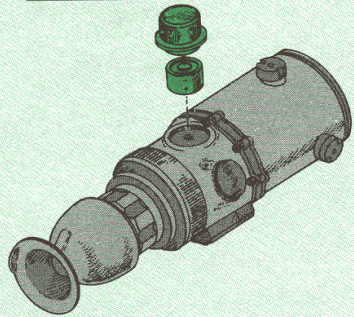
ONE BATTERY WILL DO

It takes just one BA-5567/U lithium battery to power an AN/PVS-4 or AN/TVS-5 night vision sight. If you insert two in a single sight, one of the batteries might charge. That can lead to venting of gas or a battery explosion.

It's easy to make the mistake of inserting two batteries in older versions of the AN/PVS-4 and all AN/TVS-5s. They have both top and side battery compartments, connected in parallel. These older sights originally used two BA-1567/U mercury batteries. But those old mercury batteries are no longer available. Just make sure you insert only one BA-5567/U.

New AN/PVS-4s fielded after 1990 are designed to avoid this hazard. They have only one battery compartment, located on top of the sight. So you can put in only one battery.

BA-5567/U goes in top battery compartment

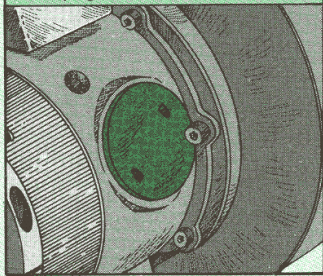


... NOW TO INSTALL THE SECOND BATTERY. HEY! WHERE'D IT GO?

THIS EXTRA BATTERY WILL CAUSE YOU BIG PROBLEMS, SOLDIER.

If your night vision sight has one battery compartment, you're good to go. But if it has two, install a permanent plug, NSN 5340-01-355-2139, in place of the battery cap in the side compartment. That way you'll never accidentally insert two lithium batteries.

Install plug in side battery compartment



Never plug the top compartment. The BA-3058/U battery adapter fits there.



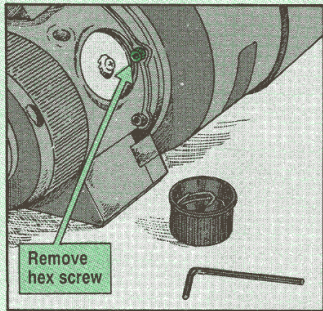
JUST PLUG THE SIDE, NEVER THE TOP.

YOU REALLY PULLED THE "PLUG" ON THAT POTENTIAL PROBLEM, BONNIE!

Plug Installation

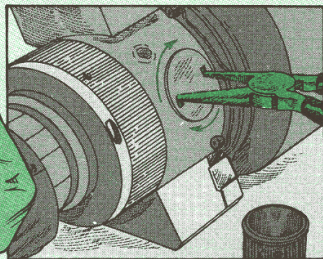
Here's how repairmen install the plug:

- Unscrew the battery cap from the side compartment. Keep it as a spare.
- Remove the hex screw in front of the side battery compartment.



Remove hex screw

- Hand tighten the plug into the compartment.
- Insert a pair of needle nose pliers into the ramped holes on top of the plug. Turn it until it's tight.

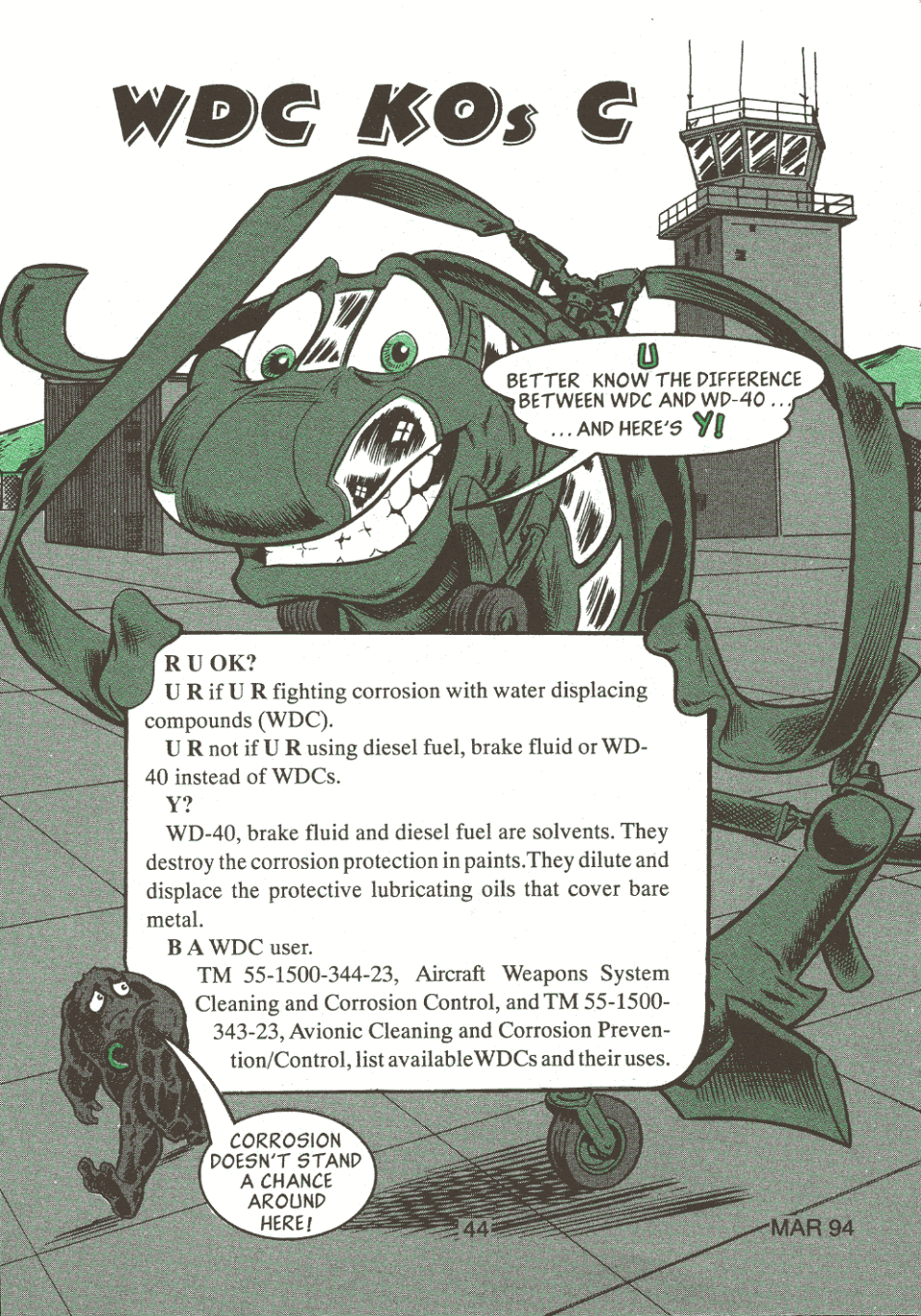


Use needle nose pliers to tighten plug

Once the plug's in tight, you won't be able to remove it with the pliers.

- Replace the hex screw and tighten it.

WDC KOs C



U
BETTER KNOW THE DIFFERENCE
BETWEEN WDC AND WD-40 ...
... AND HERE'S **Y!**

R U OK?

U R if **U R** fighting corrosion with water displacing compounds (WDC).

U R not if **U R** using diesel fuel, brake fluid or WD-40 instead of WDCs.

Y?

WD-40, brake fluid and diesel fuel are solvents. They destroy the corrosion protection in paints. They dilute and displace the protective lubricating oils that cover bare metal.

B A WDC user.

TM 55-1500-344-23, Aircraft Weapons System Cleaning and Corrosion Control, and TM 55-1500-343-23, Avionic Cleaning and Corrosion Prevention/Control, list available WDCs and their uses.

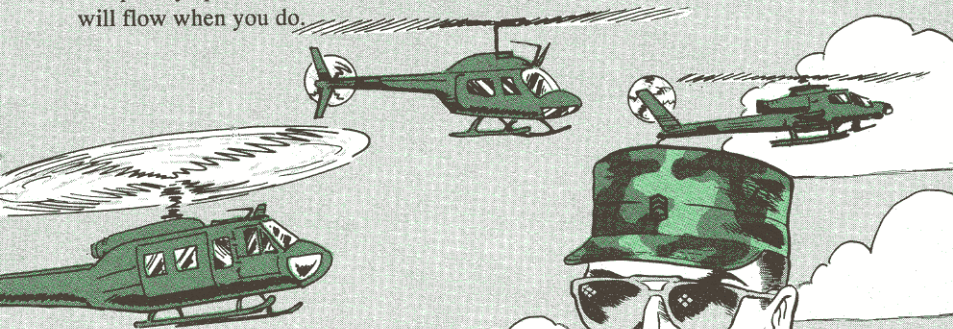


**CORROSION
DOESN'T STAND
A CHANCE
AROUND
HERE!**

DEPRESS THE ARM RIGHT!

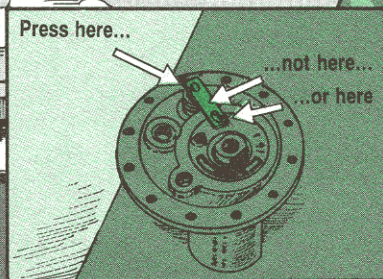
You've got to depress the shutoff valve arm on the fuel boost pump just right when you move or install the pump's shoulder screw.

Depressed wrong, the arm bends. That means the shutoff valve might not completely open or close. Fuel will flow when you don't want it to and not enough will flow when you do.



TO DO IT RIGHT,
APPLY PRESSURE DIRECTLY OVER
THE VALVE SPRING.

NEVER PRESS THE ARM
IN THE MIDDLE OR AT THE END
NEAR THE SCREW. THAT
BENDS THE ARM.



SO-O-O-O, DEPRESS THE ARM
OVER THE SPRING, THEN INSERT AND
TIGHTEN THE SCREW.

Watch Your Step!



TOP OF
THE MORNIN'
TO YOU,
LADDIE.

I HOPE
YOU'RE USING ONLY
DESIGNATED WALK
AREAS!

Step lightly and only in designated "walk areas" when you aviators climb up top to pre-flight your Black Hawk's main rotor head.

If you come down hard on an unsupported "no step" area, you could easily crack your bird's thin outer skin. The engine firewall is especially vulnerable to misplaced feet when the engine cowling is open.

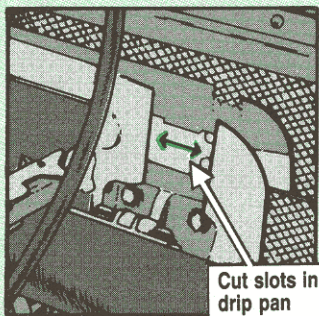
If you don't know a "walk area" from a "no step" area, take a look at Fig 1-5 of TM 55-1520-237-23-2 before you go topside again. It shows steps, handholds and walkways as well as "no step" areas.

Watch your step and head off sheet metal repair.

Slot the Pan

Dear Windy,
Removing the transmission drip pan on our Black Hawks is a real pain. To remove the pan without removing the troop/gunner's seat upper support, cut two slots, 1 1/2 inch by 2 1/4 inch in the pan.

Use a hacksaw to make the slots so that the pan fits around both mounting posts. Then the pan just slips out when you need to remove it.



SSG Howard
Hunter Army Airfield

PS 496



Dear Sergeant Howard,
Those two little slots will cut an hour job to 10 minutes. Well done.

Windy

Flight Suit Nameplates

Nomex flight suit nameplates are a local purchase item if you're stationed within CONUS. If you're OCONUS, order on a DD Form 1348-6, using RIC S9T. Order from:

Commander
Defense Personnel Support Center
ATTN: DPSC-FODR
2800 South 20th St
Philadelphia, PA 19145-8419

The minimum quantity you can order with the same name is four. CTA 50-900 is the authority to order.



FOD Pockets

Need a place to stick small tools, pencils or other picked-up small debris?

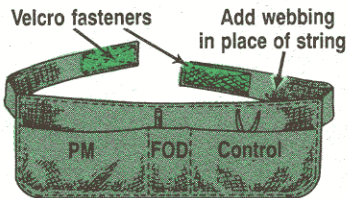
Modify a common nail apron by replacing the tie strings with webbing, NSN 8305-01-062-7050, and add fasteners, NSN 8315-00-106-5974 (pile) and NSN 8315-00-106-5973 (hook).

PS 496

Now the apron's strong enough to hold FOD.

If you don't care to do the modification, try using a construction worker's apron, NSN 8415-00-273-9664.

Modified nail apron



48

MAR 94

Multipurpose Tool NSNs

THESE
DANDY PLIERS
WILL COME IN
HANDY!

Order the stainless steel multipurpose "knife and pliers" pocket tool with NSN 5110-01-346-5339.

Order the flat black version with NSN 5110-01-346-5341.

Storing Wrench Sets

The rolls and cases for your wrench sets in the General Mechanic's tool kit, NSN 5180-00-177-7033, have no NSNs assigned to them.

But there are other rolls and cases you can order for storing your wrench sets. Try these on for size:

Item	Size Wrench Set	NSN 5140-
7-pocket roll	3/16- to 3/8-in or 4 to 9MM	01-356-8772
8-pocket roll	11/32- to 3/4-in or 9 to 19MM	01-354-7023
13-pocket roll	3/8- to 1 1/4-in or 10 to 32MM	01-354-3516
Case	1/4-in socket set	00-357-5468
Case	1/2-in socket set	00-103-9172

ORDER US!
WE'LL KEEP
YOUR WRENCHES
SAFE.

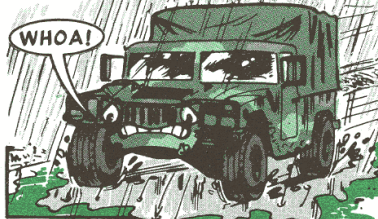
COMMON SENSE DRIVING



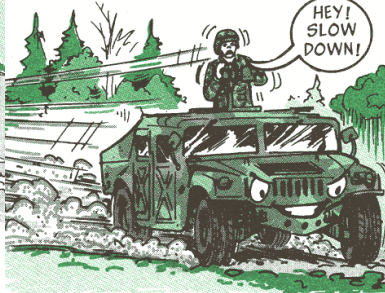
➤ **Avoid panic stops.** Give yourself plenty of distance to stop.



➤ **Stay alert.** Safe driving depends on knowing your vehicle and road conditions at all times. Normal speed becomes high speed as road conditions worsen.



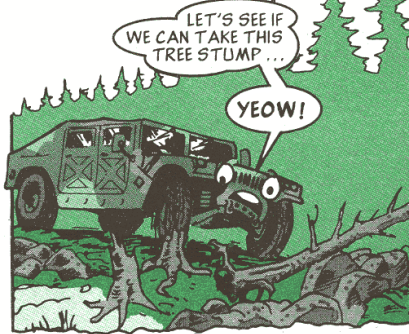
➤ **Speed kills.** Keep speed matched to road conditions. Slow down when roads are wet or slippery and when you're driving cross country.



➤ **Avoid jackrabbit starts.** Steady as it goes is best.



➤ **Avoid obstacles.** Resist the temptation to tame stumps, big rocks and boulders. Go around them when you can. If you hit them wrong, you can dump the load — that includes any passengers you may be hauling.



To be a safe Humvee driver, read and heed the word in your -10 TM. Then get real familiar with the dope in FM 21-305, Manual for the Wheeled Vehicle Driver.

➤ **YOU NEED TO BRUSH UP ON THE -10 TM AGAIN.**



The Humvee is a stable vehicle, but it can be flipped.

You drivers keep those trucks right side up by keeping these few things in mind when driving the truck.

➤ **Slow down for turns.** Keep your vehicle steady when making turns. Make sharp turns at slow speed, especially on the side of a hill. That will keep you right side up.



CUCV ...

SECURE M1009's SPARE TIRE



THAT'S A SLICK FIX, BONNIE!

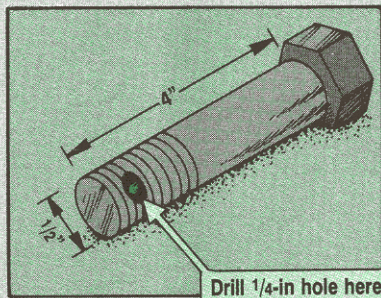
HERE'S A SIMPLE WAY TO SECURE YOUR CUCV'S SPARE TIRE.



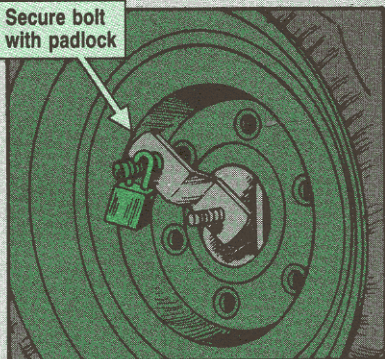
3. Secure the bolt with a lock from padlock set, NSN 5340-00-912-4087. The set includes three locks.

Securing the spare tire in an M1009 is as simple as 1-2-3.

1. Get a 1/2-in by 4-in bolt, NSN 5305-00-071-2079.
2. Drill a 1/4-in hole through the end of the bolt. Insert the bolt from the rear, through a wheel stud hole and through the hole in the retainer.



Secure bolt with padlock



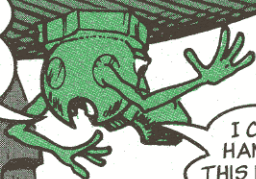
This prevents anyone from unscrewing the retainer. To make sure the bolt stays around too, SFC Jesse Davis of Van Nuys, CA, suggests welding a length of light chain to the bolt head. Secure the chain under one of the screws on the retainer brace.

Weld chain



Leave Grease Fitting In

HOLD IT!
NO NEED
TO REPLACE
ME WITH
A PLUG!

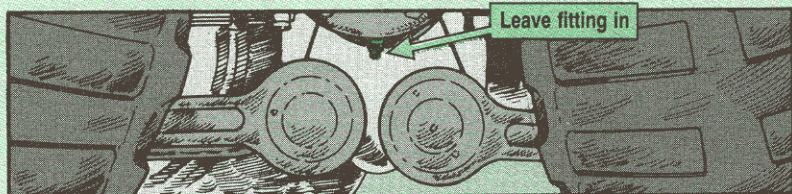


I CAN
HANDLE
THIS DUTY!



Thanks to a SMART idea by SSG Bobby L. Baker of Jeffersonville, IN, you can now leave the fitting in after lubing the spring seat on your 2¹/₂-ton trucks.

A scheduled change to LO 9-2320-209-12-1 will drop the requirement to remove the fitting and reinstall the pipe plug.



Box Up Storage Problems

Dear Editor,

To solve a storage problem on our M49A2C fuel tanker (for kits and ground cloths, for instance), we ordered two accessory boxes, NSN 6115-01-230-0677, from TM 5-6115-631-14&P.

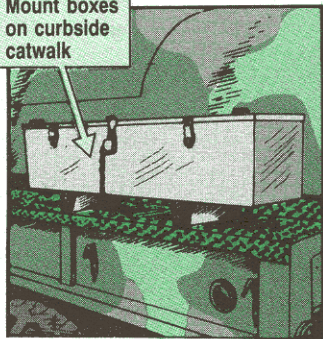
We mounted the boxes on the curbside catwalk of our truck. No more storage problem.

WO1 Fred Gold
ILARNG

FROM THE DESK OF THE Editor

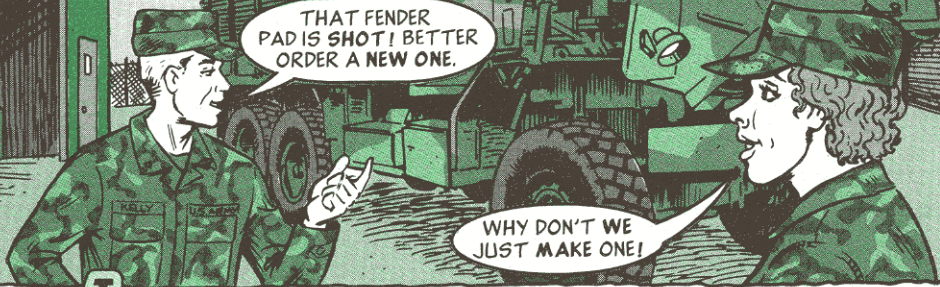
That cleans up that problem, Sir. Good work. You can also check your can point for similar boxes. Just make sure to get your commander's OK.

Mount boxes
on curbside
catwalk



M939-Series Trucks...

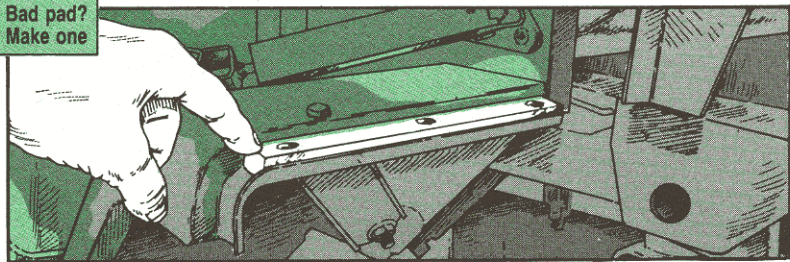
Fender Pad Fix



The fender extension pad, NSN 5330-01-110-2462, for M939-series trucks is now a unit-replaced item. The SMR code will be changed from PAFZZ to PAOZZ on the \$11 item.

But you don't have to buy one if you need a replacement. You can make your own. Just cut two strips from an old M939 mud flap. Glue the strips together with adhesive, NSN 8040-00-833-9563. Let the adhesive cure for 30 minutes.

**Bad pad?
Make one**



Using the old seal as a template, drill three $\frac{1}{4}$ -in holes through the strips. Countersink the three holes $\frac{1}{4}$ -in with a $\frac{1}{2}$ -in countersink, NSN 5133-00-995-1864.

Fuel Tankers...

**NO BUTTS
ABOUT IT!**

Mark Tanks for Safety

Make sure all your tactical fuel transport vehicles are stenciled with 6-in "FLAMMABLE" and 3-in "NO SMOKING WITHIN 50 FT" letters on both sides and the rear of the tanker.

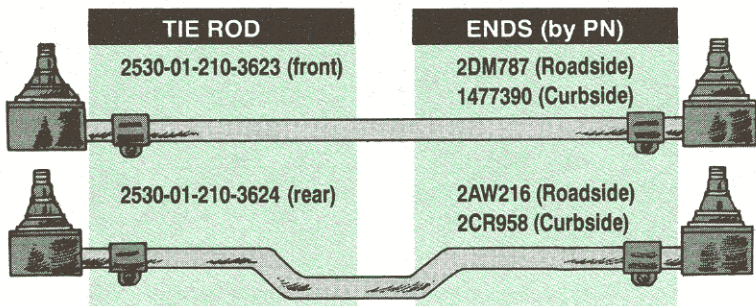
Instructions for stenciling are found in TB 43-0209 and TM 43-0139.



HEMTT ...

Tie Rod Ends Available

No need to replace tie rods on a HEMTT, mechanics, just because one of the ends goes bad. Order the tie rod ends by part number.



The CAGE for each tie rod end is 45152. Request them on DD Form 1348-6 from RIC S9C.

Tactical Vehicles ...

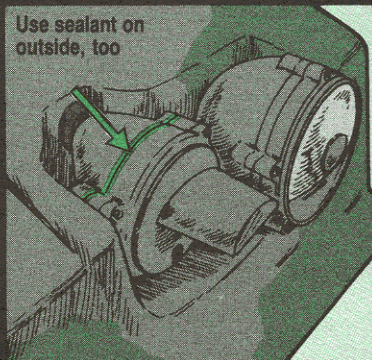
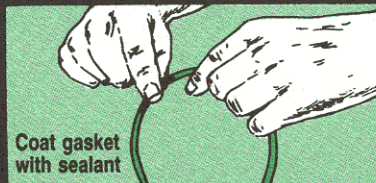
Water Means Lights Out

Blackout drive lamps really do black out if moisture gets inside.

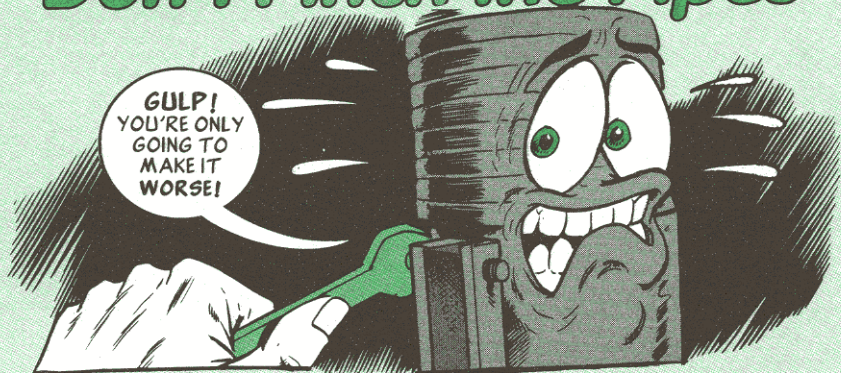
Water trapped inside the assembly creates rust or shorts, both of which will turn out the lights.

Keep moisture out by using a new gasket each time you replace a bulb. Coat the new gasket with joint sealing compound, NSN 8040-00-833-9563.

Run a coat of the sealer around the outside of the light, too, where the assembly goes together.



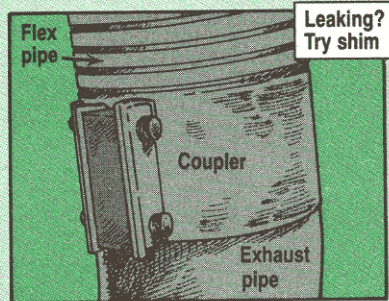
Don't Pinch the Pipes



When the exhaust flex pipes on M915-series and M915A1 trucks start leaking, mechanics, tightening the clamps won't stop it. It'll just make it worse.

The flex pipes don't fit over or inside the exhaust pipes. They are fitted at the factory to butt against the exhaust pipes. Once that mating is disturbed, leaks start.

Tightening the clamps (which are really couplers) will just make the leak worse.

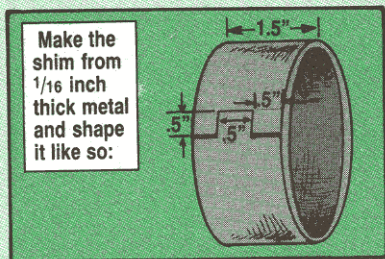


Make sure all parts of the exhaust system are in good shape and mating properly. If they're not, replace them.

Flex Pipes Too Big?

On the other hand, there are reports of flex pipes that have a too-large diameter. Instead of about 5 inches across, they are about 5 $\frac{1}{4}$ inches across. This keeps the flex pipes and exhaust pipes from matching up with the coupler.

If you find flex pipes that are too big, use a metal shim until you get the right pipes.



Wrap the shim around the end of the exhaust pipe. This brings the exhaust pipe's diameter to about 5 $\frac{1}{4}$ inches. The flex pipe can then be butted up to the shim. Secure the pipes with the couplers.

Starter Gasket Leak



Drivers, early model M915-series trucks with the air shift transmission have a bad habit. They leak oil.

If you see a puddle of oil under the engine, you can bet the starter gasket is leaking.

On these brutes, oil settles in the flywheel bell housing. That's because these trucks have a "wet flywheel".

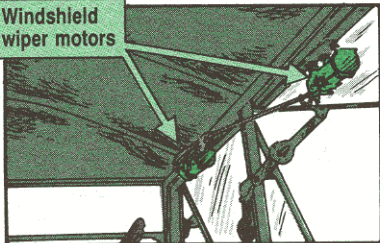
The input clutch group, which connects the engine flywheel to the transmission input shaft, is operated and cooled by oil. Pressure builds up and is released by forcing oil into the flywheel housing where it drains back into the input clutch group. The gaskets that seal the starter to the bell housing keep that oil in place.

So if you see a puddle of oil, report it ASAP. Your mechanic will replace the two seals. Seal, NSN 5330-00-143-7737, goes on the inside, then the spacer, then seal, NSN 5330-00-252-3274, on the outside. Torque starter bolts to 130-170 lb-ft.

WIPER PARTS REPLACED

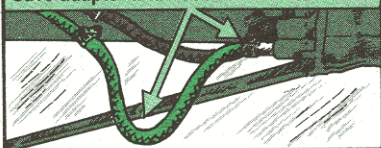
You can no longer get a windshield wiper motor, NSN 2540-01-131-2090, or control valve assembly, NSN 2540-01-134-3671, on your M939- and M939A1-series trucks. Now you have to order wiper motor kit, NSN 2540-01-303-0600, when you need either piece.

Windshield wiper motors



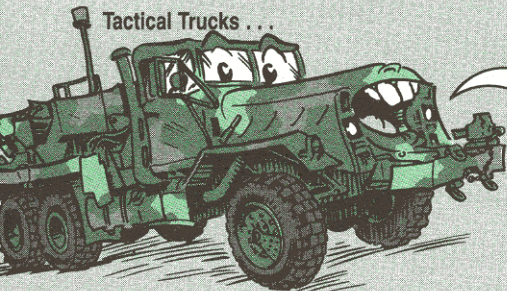
Don't throw out adapter, NSN 4730-00-782-7102, or hose, PN 12277085-2, though. You'll need 'em to hook up the new motor and valve.

Save adapter and hose



If you already have the new kit installed, and just need a new wiper motor, ask for NSN 2540-01-310-4854. NSN 5930-01-321-4866 gets the control valve.

Tactical Trucks . . .



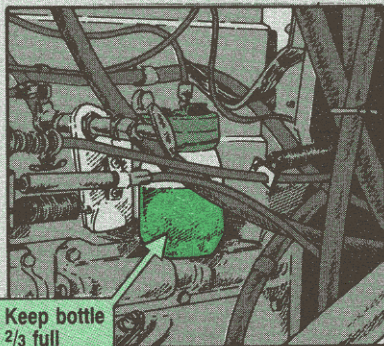
KEEP
THE BOTTLE
FILLED!

Keep the alcohol evaporator bottle in your truck's air brake system filled $\frac{2}{3}$ full, especially during cold weather.

The alcohol protects both the bottle it's in and the air lines it serves.

One reason to keep the bottle filled is that a diesel engine gets real hot. An empty plastic bottle gets hot and melts or warps.

More importantly, alcohol keeps moisture out of the air lines.



Keep bottle $\frac{2}{3}$ full

Baby Your Batteries



A DIRTY
NEGLECTED
BATTERY
DISCHARGES
FAST...

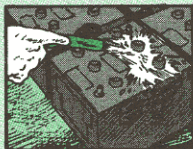
... But a little TLC will keep a battery from running down.

Pamper your batteries like so:

Clean them by scrubbing with a baking soda solution (a mixture of 1 pound of baking soda and 2 gallons of water). Be careful not to get the solution inside the battery, though.

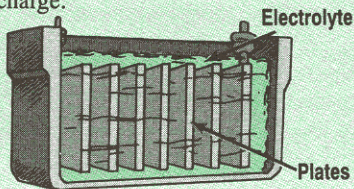


Once the foaming stops, rinse the battery well with fresh, clean water.



Make sure to keep the electrolyte level at least $\frac{3}{8}$ inch over the plates.

Then bring the batteries up to full charge.



Tires ...

Need New? Order New!



Retreaded tires are OK for most trucks and trailers — but not all. If your vehicle needs new tires, make sure your supply request says so.

Since new and retreaded tires carry the same NSN, make sure you get new tires by ordering them on a DD Form 1348-6.

In Block 8, tell supply you need “Condition Code A, New Tires Only”. In Block 11, tell them your authority is Para 4-45 of AR 750-1 in Maintenance Management Update 13.

New tires are a must for all wheels on M747 trailers and the steering axles of buses and M911, M916, M920, M915, M915A1 trucks.

P/M Grab Bag

HERE ARE SOME HANDY
P/M TIPS FOR KEEPING YOUR GEAR
READY TO ROLL.

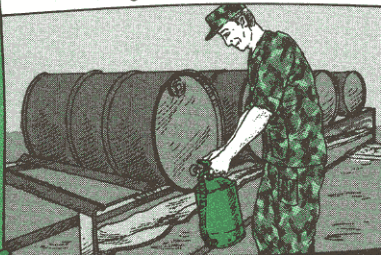
Measure track tension before moving out. Adjust as needed.

Cover freshly lubed parts that are awaiting reassembly.

Keep road wheels, road arms and support rollers lubed.

When you refuel, cover any gap between the nozzle and the fuel tank opening to keep dirt, rain or snow out of the tank.

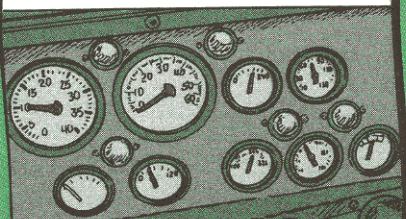
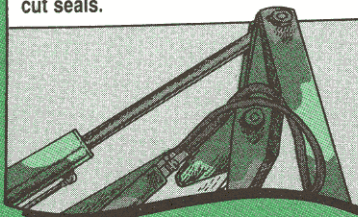
Keep cans of grease or other lubes sealed. Try to refill grease guns away from blowing winds.



Keep clean filters in all refueling equipment.

Exercise hydraulic systems at least once each month to keep seals from drying out and leaking. If possible, wipe off the piston rods before operation to remove ice, snow, dirt, sand or crud that would cut seals.

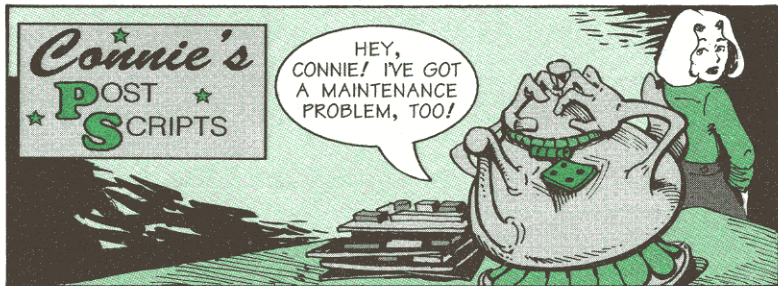
Idle cold diesel engines at 1,000 RPM for at least 5 minutes or so to warm up.



Before shutdown, let diesels idle at 600-800 RPM about 5 minutes to cool down.

Connie's POST SCRIPTS

HEY,
CONNIE! I'VE GOT
A MAINTENANCE
PROBLEM, TOO!



M809-Series Pump Cap

The cap, chain and clip assembly that goes on your 5-ton truck's power steering pump is NSN 6680-01-063-0266. Make a note until TM 9-2320-260-20P is updated.

Battery Box Goes Plastic

You can no longer get the metal battery box on your 2 1/2-ton trucks. The truck headshed decided to replace that maintenance intensive box with a plastic box. To get it, order NSN 6160-01-318-0763. Jot down the NSN.

2 1/2-Ton Ether Starting Kits

NSN 2910-01-364-1044 brings you the ether starting aid kit for the M44A2-series trucks. It replaces the old flame starting system on LDT-465-1C and -1D engines. Installation instructions come with the kit.

HMMWV Seat Cushions

The AMDF is wrong when it tells you to fabricate cushions, NSN 2540-01-185-6771, for M998 HMMWV commander's seats. Get the seat cushion with NSN 2540-01-314-7834 and the back cushion with NSN 2540-01-314-9378.

M113 Switch Guard

To protect the IR powerup switch on M113-series carriers, use a switch guard, NSN 5930-00-250-5852. The cover is held closed with a spring. That keeps it from coming open accidentally.

AH-64A Thermocouple

Ignore the EGT thermocouple test advice on Page 36 of PS 488. Bypassing the thermocouple could lead to APU overheating and fire. Instead do the troubleshooting check, Para 15-16 of TM 1-1520-238-T-8, to find a bad thermocouple.

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

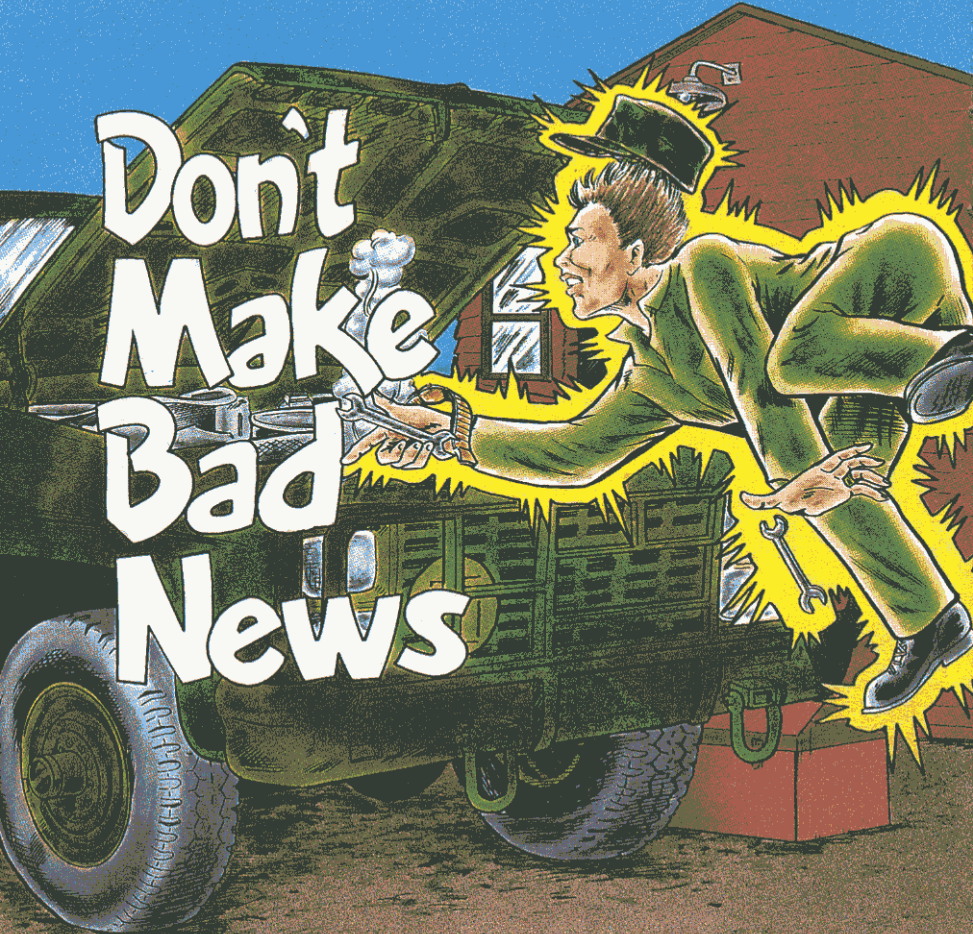
**Would You Stake Your Life *right now* on
the Condition of Your Equipment?**

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Make
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News



Shorts can burn you, or worse.

TAKE OFF RINGS, WATCHES AND CHAINS
BEFORE WORKING AROUND BATTERIES.