


Issue 389

PS

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April  
1985

# THE PREVENTIVE MAINTENANCE MONTHLY



IT WON'T  
START AGAIN!

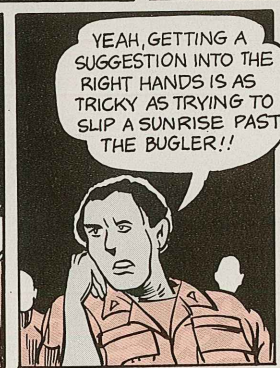
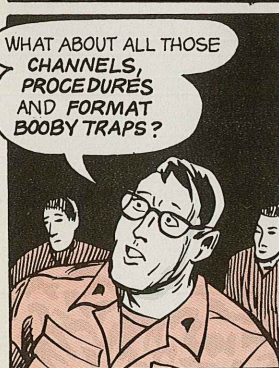
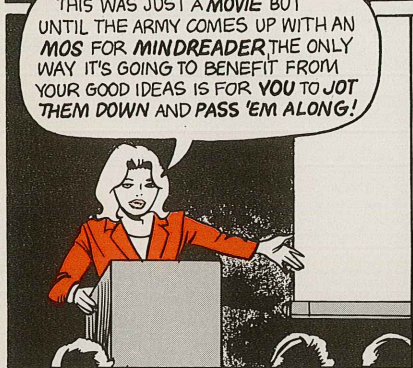
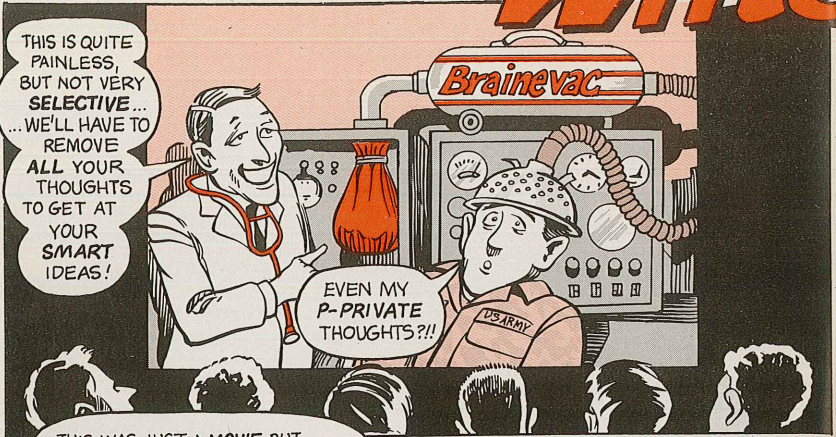
YOUR LAST MISTAKE WAS  
SHUTTING OFF YOUR ENGINE.  
YOUR FIRST MISTAKE WAS  
POOR BATTERY PM!

☺★☺  
!!G!

**Battery PM**  
See page 29

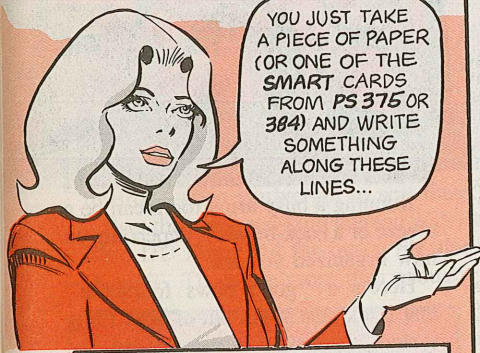
Don't Just Think Smart...

# Write SMART



There're a lot of places to send suggestions, but right now we're talking about the Supply and Maintenance Assessment and Review Team, the SMART program. It's concerned with the whole field of supply, maintenance, logistics, readiness, publications—you name it. You don't have to have the solution to a problem.

A good question arising from your personal experience is enough to trigger some constructive evaluation by those in a position to take some corrective action. Of course, suggestions and recommendations are welcome. But if you're a little shy about offering a solution, don't let that stop you from pinpointing the problem. You say putting words on paper is not your strong suit? Don't sweat the writing. Maybe all you need to do is fill in the blanks.



**Dear SMART,**  
 For \_\_\_\_\_ years now we've been pulling a scheduled (monthly, quarterly, semi-annual, annual) \_\_\_\_\_ service on \_\_\_\_\_ item, according to TM \_\_\_\_\_. Not once during this \_\_\_\_\_ service have we found a condition that justified all the work and expense of pulling that scheduled service. It seems to me that we may be over-maintaining on this item, and that the scheduled \_\_\_\_\_ service could be changed to a \_\_\_\_\_ service.

Cordially,  
 \_\_\_\_\_

**Dear SMART,**  
 I've been using and supervising the use of the \_\_\_\_\_ tool set (SC \_\_\_\_\_) for \_\_\_\_\_ years, and I've never seen any need arise for the following tool (or tools) \_\_\_\_\_. Could it be that we're buying and issuing something that's not really needed?

Cordially,  
 \_\_\_\_\_

See how easy it is! Just give some thought to all those situations where your personal experience raised some doubts about the wisdom or accuracy of the book procedures. You may not only be right—you may be a lot richer!

**SMART**  
 US Army Logistics Center  
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 Ft. Lee, VA 23801-6000

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PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to:

MSG Half-Mast  
PS Magazine  
Lexington, KY  
40511-5101

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# ARMORERS AT EASE!

Running a busy arms room can be a breeze or a back-breaker, depending on how organized you are.

Here's a "good news foursome" that'll take the sweat out of your filing system, save time in passing out and taking in weapons, and even protect equipment from damage.

1. A file for your scheduled maintenance records.
2. A chart that shows at a glance where a weapon's assigned.
3. A rack for timing and headspace gages.
4. An access file showing who is authorized to enter your arms room.

**Maintenance Records**

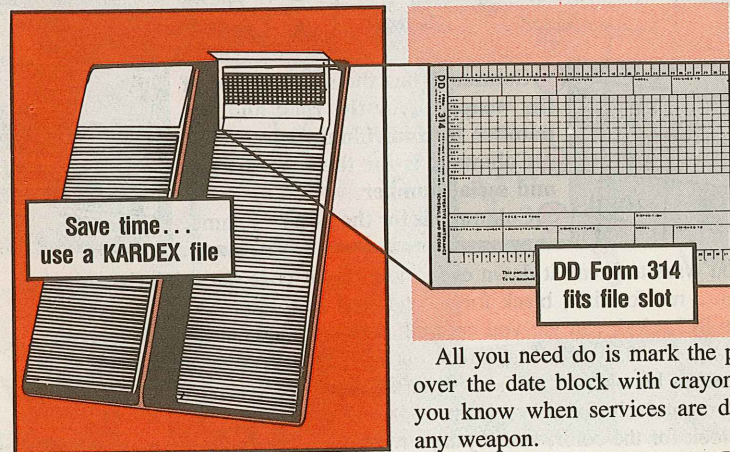
Stacking DD Forms 314 scheduled maintenance records in a drawer or on a shelf loses a lot of time—and some

# ARMY



records—when you've got to sort them out.

Beat the stack-and-hunt method with KARDEX file, NSN 7460-00-281-3195. Each DD Form 314 fits into a file slot... with the date blocks of every form showing. There are more than enough slots for the average arms room.



All you need do is mark the plastic over the date block with crayon, and you know when services are due on any weapon.

## Weapons' Roster

Cardboard or 1/4-in plywood cut to the size you need makes a handy weapons' roster. Hang it on the wall in your arms room.

YOU NEED THREE COLUMNS FOR EACH ASSIGNED WEAPON!

1

2

3

NAME	SLOT NUMBER	SERIAL NUMBER	NAME	SLOT NUMBER	SERIAL NUMBER	NAME	SLOT NUMBER
JACK	33	1824652	CASEY	65	1881203	SWEET	11
		M16A1		66	1882525	CUPTIS	12
	34	1826128	SHEPARD	67	1884804	PIRKIN	13
		M16A1		68	1885010	SHLESCHER	15
	35	1830616	ROBINSON	69	1886038	HAYES	16
		M16A1				DUREN	17
	36	1832262	WALDO			WILKINSON	18
		M16A1				FARRAR	19
	37	183	KIMBLE			MARTIN	2
		M16A1					
	38	184					
		M16A1					
	39	187					
		M16A1					
	40	188					
		M16A1					

- 1 Column 1 has the slot number of the weapon...or the rack and slot number for individual racks.
- 2 Column 2 is for the type weapon and serial number.
- 3 Column 3 is for the soldier's name.

If you want to break it down even more, color code the soldier's name by platoon...red for first, black for second, and so forth.  
 Your PLL clerk can get you colored embossing tape to go with embosser, NSN 7490-00-835-0443. Just punch out the soldier's name on the tape color that matches his platoon and stick it to the roster. It saves a lot of time when a platoon comes in for its weapons.  
 Just look for the color, and it jumps right out at you with the rack number.

## Gage Rack

If you've got M2 machine guns, you've got timing and headspace gages for each weapon. They're issued with the weapon.

Gages that lie around in boxes and drawers or on benches tend to get damaged. To beat the problem, cut a piece of 1/2-in plywood to the size you need. A 1-ft by 2-ft board will hold 12 to 15 sets of gages. Drive in headless nails at the intervals you want.

Stencil the gages' weapon rack number over each nail.

Presto! When you need the gages, reach for the ones hanging under the rack number!

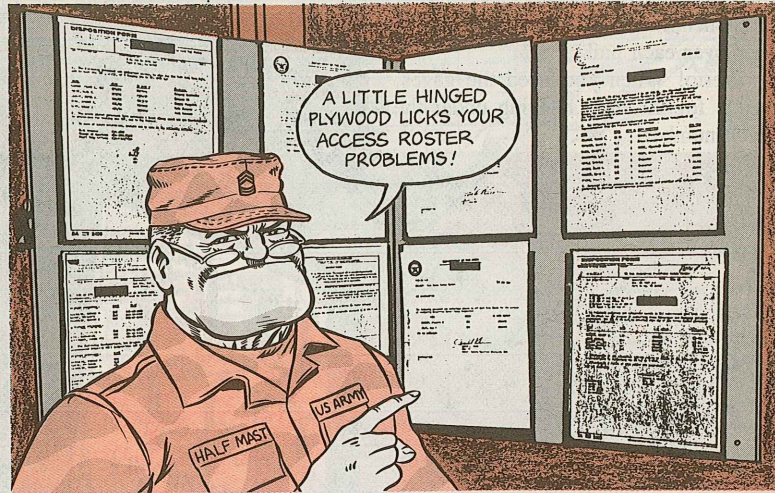


RACK 'EM LIKE THIS FOR QUICK ACCESS AND PROTECTION!

A-11A-12A-13A-14	
A-21A-22A-23A-24	
A-31A-32A-33A-34	
A-41A-42A-43A-44	
A-45A-46/A-81A-82	
A-83	

## Access Roster

You need to post the names of personnel who are authorized access to your arms room. Beat the problem with a 2-ft by 2-ft plywood roster board which you can hang in your arms room. Two square pieces of 1/4-in plywood do the job. Hinge them so one piece swings closed on the other, allowing only you to see the names.



Mount the plywood panels on your wall or keep them under a workbench. The roster holds eight letters, DF's or other access authorization documents.

### Bonus Tips

Here're some tips that'll make your maintenance better:

Return dirty weapons to users for proper cleaning and lubing.

Hold each soldier responsible for his assigned weapon, including damage.

Get with your supervisor and CO and try to arrange for a weekly armorers' session. Problems have been solved or smoothed by battalion armorers who have weekly sessions with each other, senior NCO's and maintenance supervisors.

Sharing solutions makes for smooth running arms rooms.



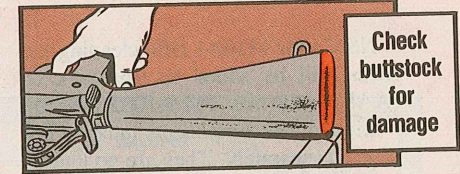
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## M16A1 PMCS Change

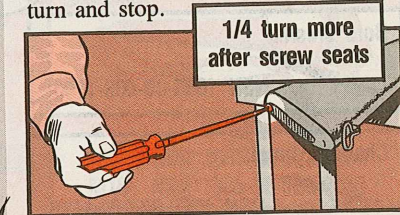
You can forget about removing the buttstock on M16A1 rifles during the quarterly PMCS. Reason: Buttplates are being damaged in the process of removal.

All armorers need do with the buttstock (gun stock assembly)—as far as PMCS on Page 2-6 of TM 9-1005-249-24&P goes—is to check it for damage, clean and lube it, and replace

parts as necessary. Cracked buttstocks are repaired by DS.



When you tighten the butt cap screw, turn it until the screw head seats and you get resistance. Turn it one more quarter turn and stop.



If the screw comes loose during rifle use, replace it.

The screw is self locking. Once it's removed, it must be replaced with a new one. Otherwise, it'll keep working loose.



## Suppressor Stays Put

When you clean or repair your M16A1 rifle, keep the flash suppressor in place.

Riflemen and armorers should not remove the suppressor because it takes special tools to put it back right.

If you remove it, your DS has to replace it so that it'll stay on.

Installed wrong, the suppressor could work off and stop a bullet...or be bent and do the same thing. A too tight suppressor can damage the barrel, gas tube or weapon finish.

Suppress the urge. If it's loose, DS must repair it. Otherwise, let your suppressor stay put.

APR 85



7

# Cleaning Kit NSN's


# M16 A1


# Auxiliary Items


NSN's for M16A1 rifle cleaning kit items will be added to Appendix C (AAL) of the new TM 9-1005-249-10.


Kit and rod components must be requested separately. They are no longer issued under one NSN.


GET THE CLEANING KIT ITEMS WITH THESE NUMBERS!


**Bore brush**  
  
 NSN 1005-00-903-1296

**Chamber brush**  
  
 NSN 1005-00-999-1435

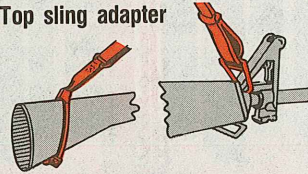
**Tooth brush** NSN 1005-00-494-6602  



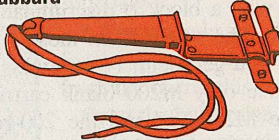
**Rod handle** NSN 1005-01-113-0321  


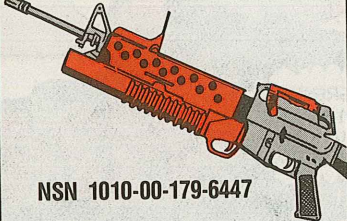
**Swab holder** NSN 1005-00-937-2250  


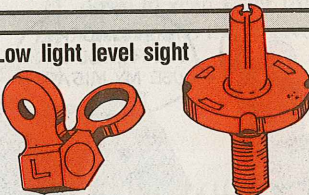
**Rod sections (3)** NSN 1005-00-050-6357  
  
 (NSN gets one each)

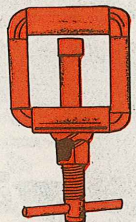
HERE'RE THE NSN'S FOR NINE ITEMS TO BE ADDED TO PAGE 4-1 OF TM 9-1005-249-24&P!


**Top sling adapter**  
  
 NSN 1005-00-406-1570

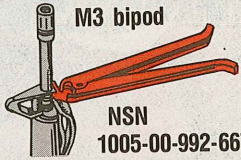
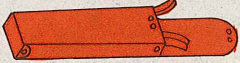
**M7 bayonet**  
  
 NSN 1005-00-073-9238  
**Scabbard**  
  
 M8A1 NSN 1005-00-223-7164  
 M10 NSN 1005-00-508-0339

**M203 launcher**  
  
 NSN 1010-00-179-6447

**Low light level sight**  
  
 Front NSN 1005-00-234-1568  
 Rear NSN 1005-00-071-8015

**M15A2 BFA**  
  
 NSN 1005-00-118-6192

**Lock plate (riot control)**  
  
 NSN 1005-00-233-9031

**M3 bipod**  
  
 NSN 1005-00-992-6676  
**Bipod carrying case**  
  
 NSN 1005-00-283-9439

The word is out: Units can now use the M15A2 blank firing attachment (BFA) with their M249 machine guns.

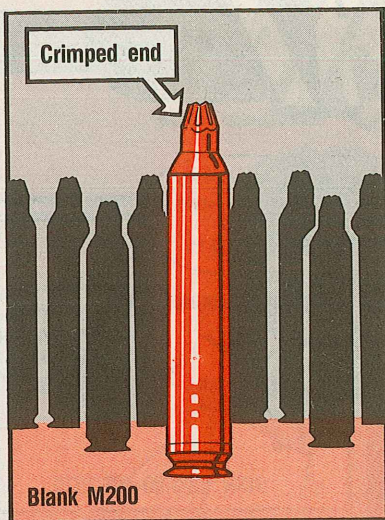
The M15A2, NSN 1005-00-118-6192, used with the M16A1 rifle, is listed in CTA 50-970.

Its use on the M249 requires special maintenance and cautions, like so:

- Be extra careful not to mix live ammo and blanks with the BFA installed. Mixed ammo can do a lot of damage to you and the gun.

Future blank ammo boxes will be built with a block ("discriminator"). Live ammo won't fit in those boxes. Until you get them, be careful.

- Use only M200 blank cartridges in the M249 and use the 200-round ammo box.

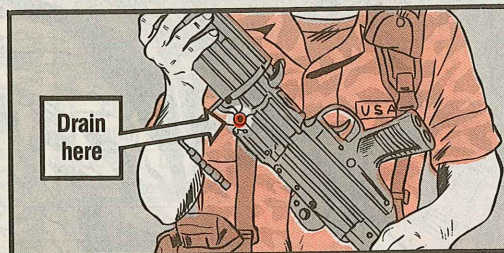
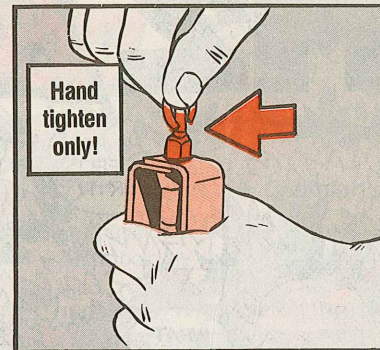


- You must use earplugs (such as NSN 6315-00-137-6345) when you are within two meters of the firing site. Other types of plugs must be fitted individually by unit medics.

- When you install the BFA, hand tighten it till it's snug. Do not tighten it with pliers or other tools, or you'll damage the BFA or the M249.

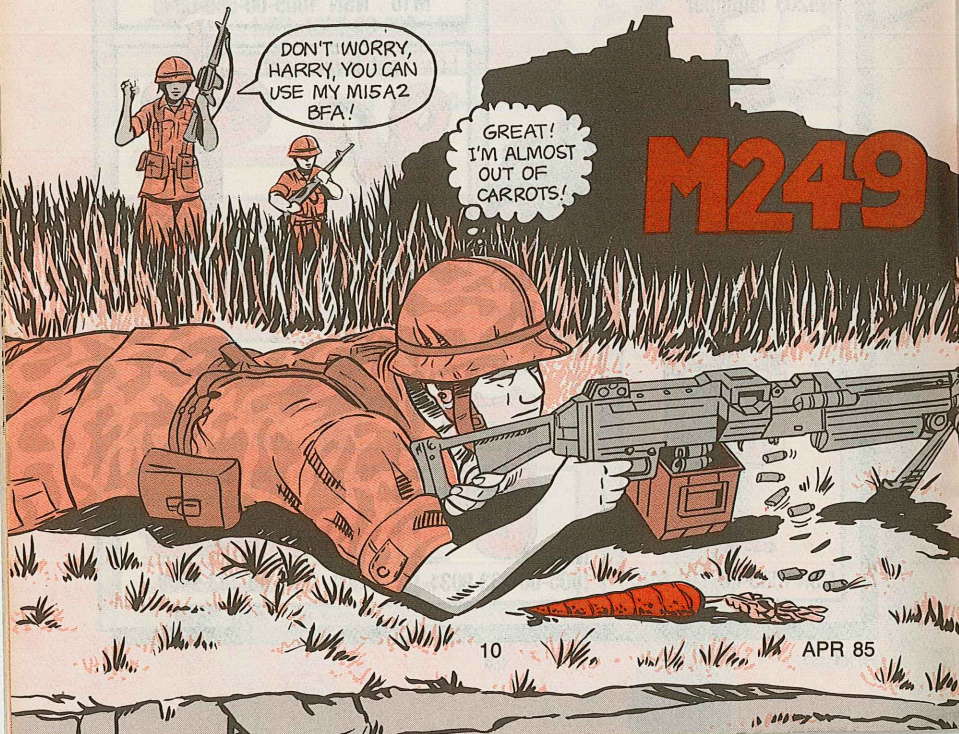
- Replace the BFA after using 8,000 rounds of blank ammo.

- Thoroughly clean the weapon and BFA after each 2,000 rounds. Blank ammo builds carbon quickly. Carbon affects weapon operation.



- During rain or after fording, remove water from the barrel this way:

Open the bolt, raise the muzzle and let water drain down. Hold the gun upside down to keep water from running into the receiver.



# M249 MG Gets a BFA

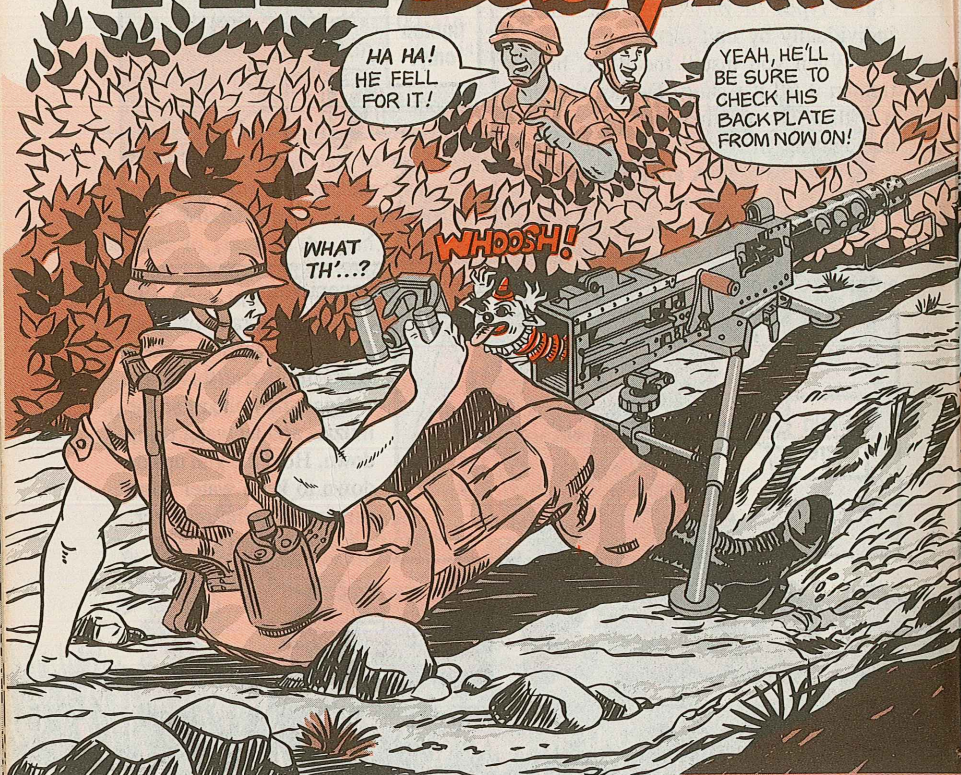


# M2 Backplate

# Installation

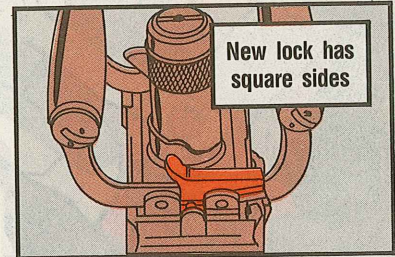
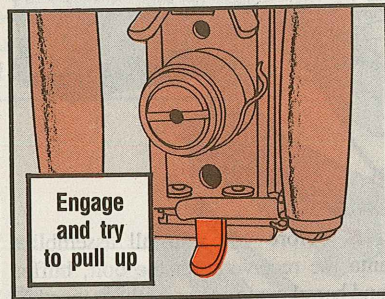


## Latch Lock Leftover



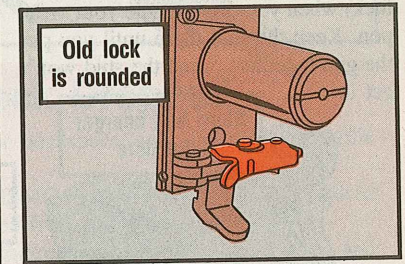
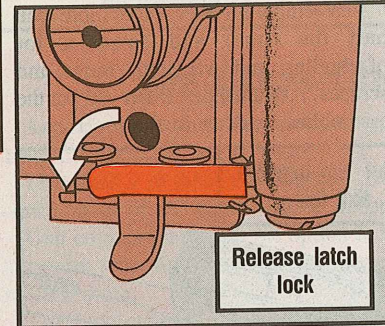
With the latch lock and latch engaged, try to pull up on the backplate. It should hold firm.

You should have the current, sturdy latch lock on your M2 backplate. It's black, square-sided and goes by NSN 1005-00-927-7273, PN 11010453.



Next, release the latch lock and try to pull the backplate up with only the latch in place. Again, the backplate should hold firm.

The obsolete latch lock has rounded sides, is gray, and tends to bend and warp. It can cause the backplate to come off.



If your M2 has an old latch lock, get it replaced. If an old one finds its way back to you in the supply system, turn it in.

One last reminder: Remember to release the latch lock and latch before you seat the backplate. That prevents damage.

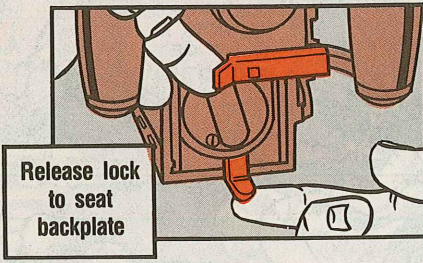
If the backplate comes up in either case, seat and lock the backplate again to be sure the latch and latch lock are engaging. If it fails either of the two checks, Direct Support must repair it.

The backplate latch lock on your M2 machine gun will do you right...if you do a couple of PM checks when you install the backplate.

The checks can keep the backplate from coming off during firing.

Slide the backplate partially into the receiver while supporting it with one hand.

Pull out on the latch lock with one hand and up on the bottom latch with your other. Push the backplate into place and engage the latch lock and latch.





# M2

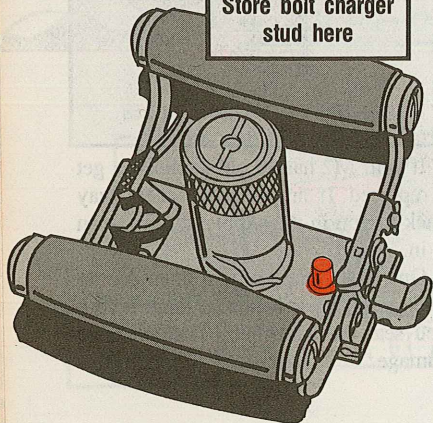
# Easy Riders



HERE'RE A COUPLE OF THINGS YOU CAN DO TO EASE THE STRAIN AND PAIN OF MAINTAINING YOUR M2 MACHINE GUN!...

■ Give the bolt charger stud a ride in the backplate hole (above the latch lock) when you disassemble your weapon. Keep the stud there until you put the gun together... and the stud won't get lost.

Store bolt charger stud here

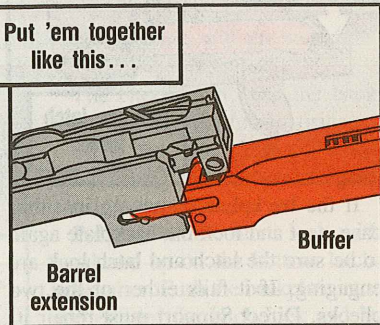


■ Before you reinstall assemblies into the receiver, put the bolt, buffer and barrel extension assemblies together outside the gun. Slide and ride all three into the receiver in one piece.

Then, replace the driving spring rod assembly and backplate.

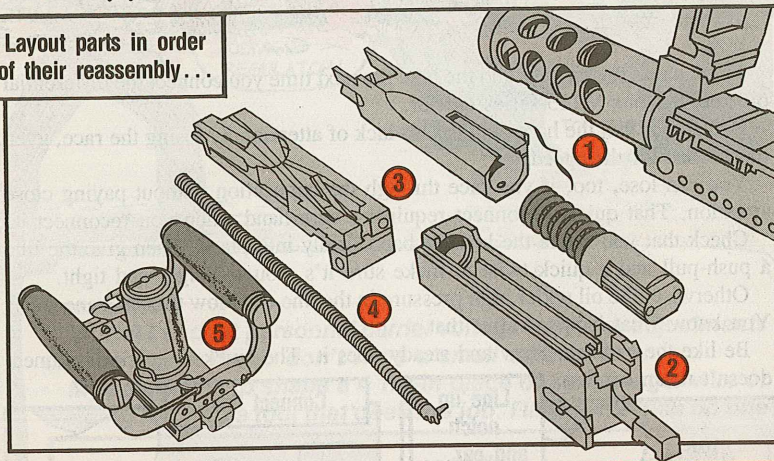
Reassembly is easier, saves more than half the time, and saves a lot of jiggling and wiggling, burrs and scrapes... that happen when you put the assemblies together in the receiver.

Put 'em together like this...



■ Another work and part saver: As you disassemble the weapon, set each component to the side of the receiver in the order in which they'll go back together. The first assembly to go in would be nearest to the gun... and so forth. That way you save time, lost parts... and a lot of wasted effort.

Layout parts in order of their reassembly...



## M2 Gage Check Dropped

Annual checks on M2 machine gun headspace and timing gages NSN 1005-00-535-1217 are no more.

The word's in AMCCOM Letter AMSMC-MAG-SD 30 Oct 84. Required certification of the gages will be dropped from TB 43-0196.

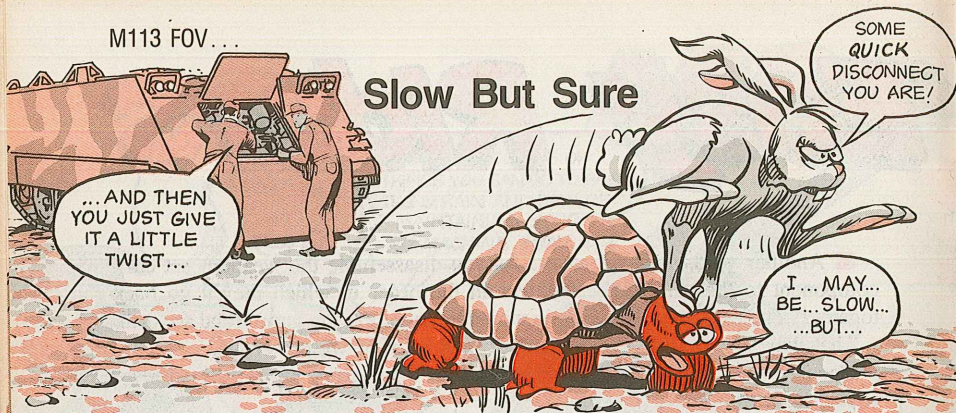
Unit commanders have the option to require two-year checks. Gun crews and armorers who find unserviceable gages (broken, bent, rusted, pitted) should replace them.

The requirement to headspace and time your M2 at the intervals noted in TM 9-1005-213-10 is still in effect.

## M2 Buffer NSN

Get your M2 machine gun buffer assembly with NSN 1005-01-141-1235. Requests for buffer, NSN 1005-00-726-6820, will be filled with the latest one.

## Slow But Sure



Think about the tortoise and the hare the next time you connect the differential oil line on your M113-series carrier.

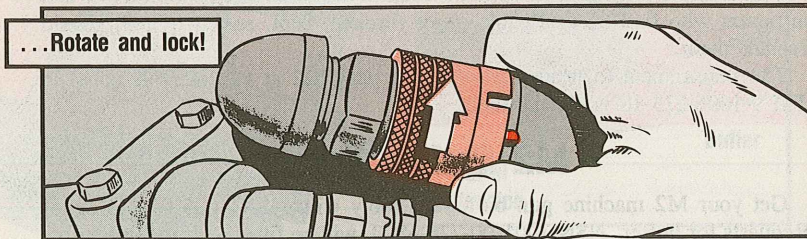
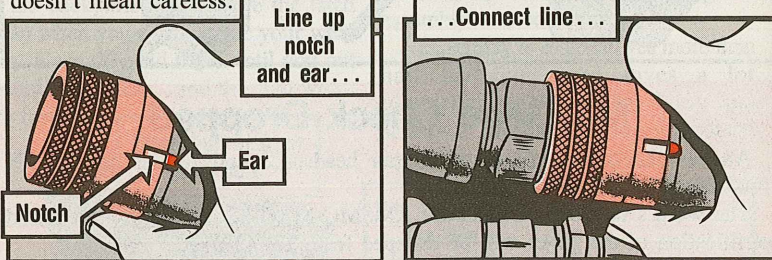
Remember that the hare paid for his lack of attention by losing the race, even tho he had all the speed.

You can lose, too, if you race through the connection without paying close attention. That quick-disconnect requires a sure hand when you reconnect it.

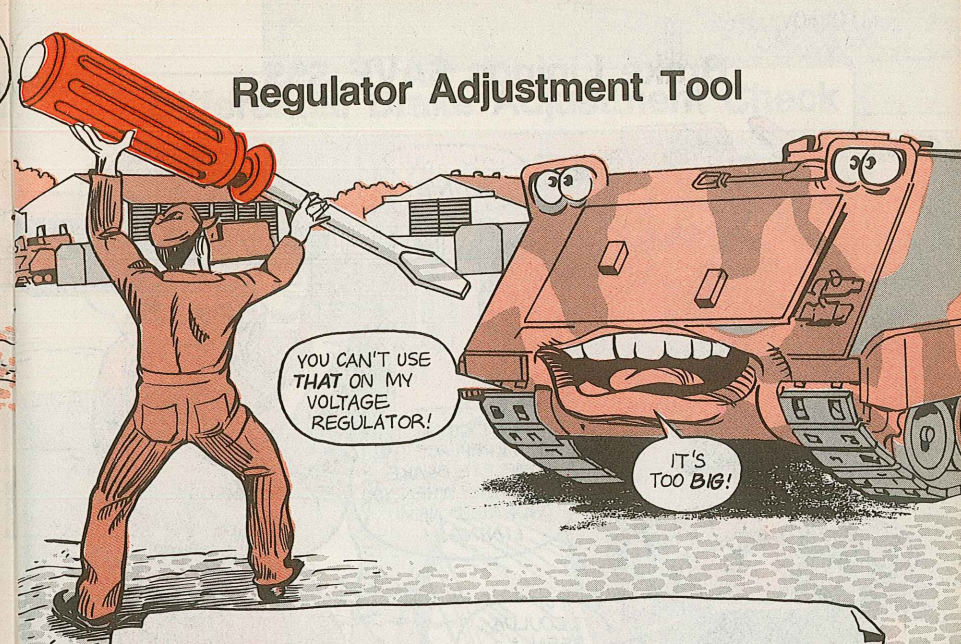
Check that you rotate the locking band firmly into place. Then give the line a push-pull and a quick twist to make sure it's mounted right and tight.

Otherwise, the oil under high pressure in the line can blow the disconnect off. You know what happens after that.

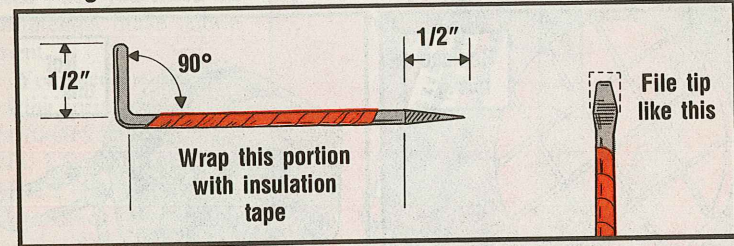
Be like the tortoise. Slow and steady does it. The quick in quick-disconnect doesn't mean careless.



## Regulator Adjustment Tool



**Dear Editor,**  
**M113A1, and A2 personnel carrier voltage regulator adjustments can be a pain if you don't have a small screwdriver.**  
**My solution is to shape a 4 1/2-in piece of coat hanger wire or welding rod into a tool that does the job. Flatten 1/2 inch on one**



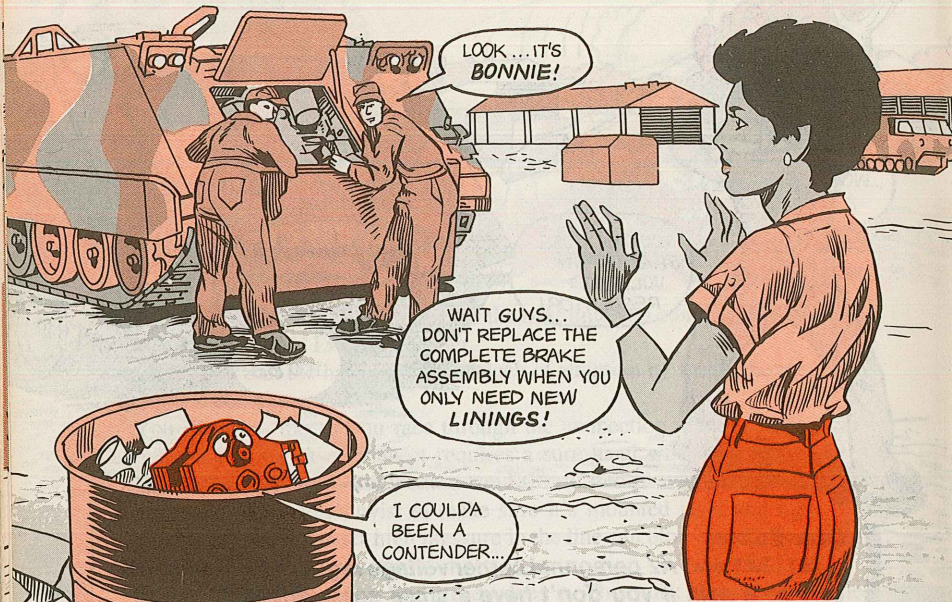
**end and bend the other end up 90 degrees. Wrap the shaft with insulation tape and shape the tip with a file.**

**This tool works on all the M113-series regulators.**

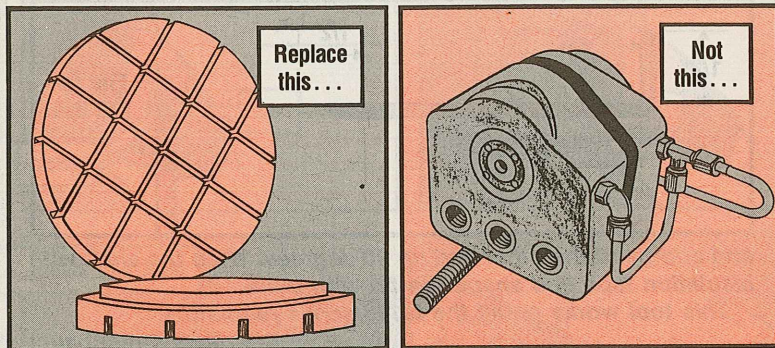
**SP4 Mark Greenbaum  
 APO New York**

*(Editor's note—Thanks for the small tip!)*

# Brake Linings \$AVE \$\$\$



When your M113-series vehicle needs new pivot steer brakes, save your unit big bucks by replacing only the brake linings, not the complete brake assembly.



The brake assembly costs \$168, while linings cost only \$3.16. That's a saving of more than \$160! Procedures for replacing brake linings are already in your -20 TM's, and the parts will be added to the -20P's. In the meantime, order new brake linings with NSN 2520-00-096-9649.

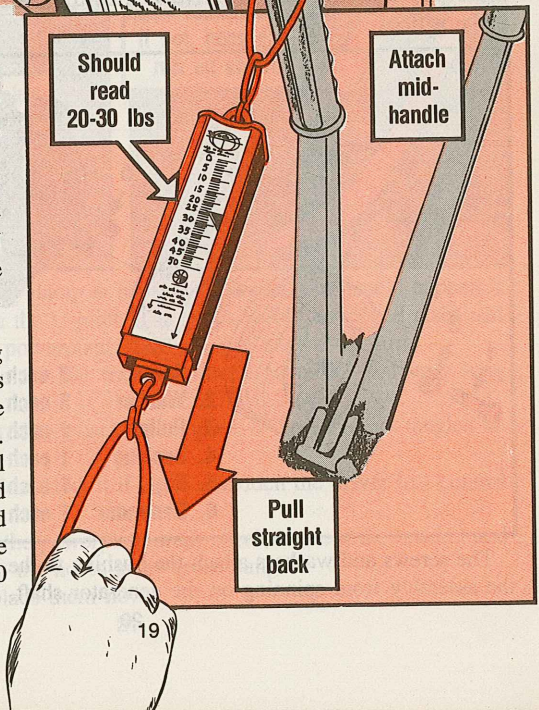
# Differential Brake Adjustment Check



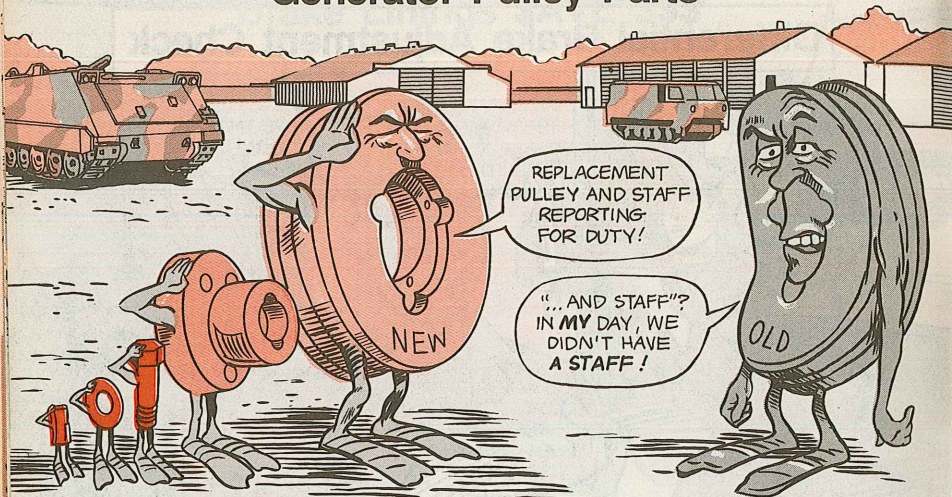
The -20 TM's don't tell you mechanics how to measure the pressure needed to release the lever lock when you check the differential brake adjustment.

You need the dial indicating spring scale, NSN 6670-00-254-4634, in the No. 1 Common shop set. Here's how you use it:

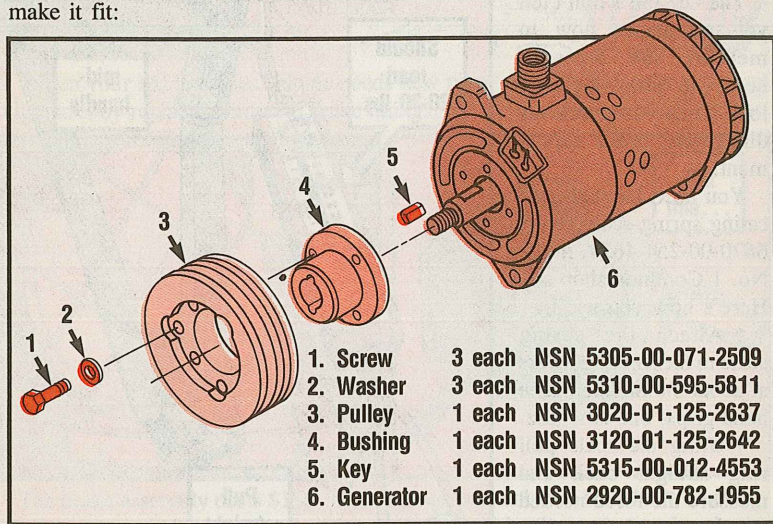
- Attach the spring scale to the steering levers at about the middle of the hand grips, one at a time.
- Bring the scale pull ring straight back and measure the force needed to release the button. The correct pull is 20 to 30 pounds.



## Generator Pulley Parts

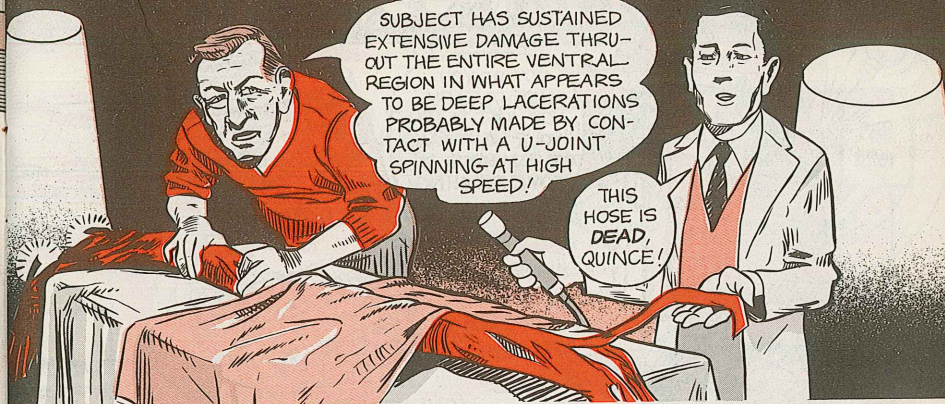


Puzzled by the replacement generator pulley you're getting for your M113-series vehicle? As you've figured out, it won't work on the generator without some more parts. The new pulley, NSN 3020-01-125-2637, needs these parts to make it fit:



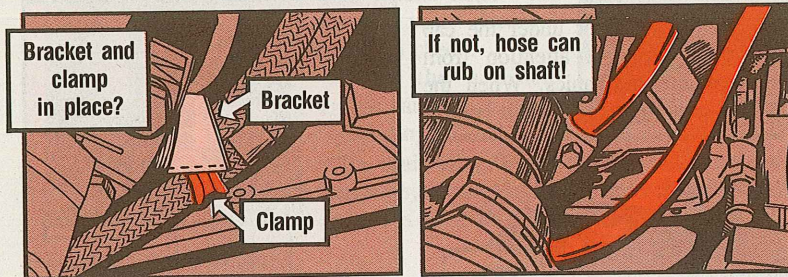
The screws and washers attach the bushing to the pulley, and the key keeps the assembly from spinning on the generator shaft.

## Oil Cooler Hose Woes



Your favorite English teacher may have raised a ratchet when you dangled a participle, but that's nothing to the ratchet that could be raised if you leave the transmission oil cooler hoses dangling.

Those hoses run just under the differential U-joint and to the left of the steering linkage on your carrier. A bracket and clamp hold them clear of both.



But what if the bracket or clamp is missing? Imagine what could happen if the hoses got tangled up in the U-joint. The hoses would be ripped apart and there'd be oil all over the powerplant. That's a fire hazard for sure!

Plus, there'd be no lube for the transmission. It wouldn't last very long that way.

That's mild, tho, compared to what could happen if the hoses got tangled up with the steering linkage.

Your friendly crew wouldn't like it if all of a sudden the driver lost control of the vehicle.

Next time you peer into the powerplant area, check to see if the bracket and clamp are in place holding the hoses away from danger.

If they're not there, replace them now.

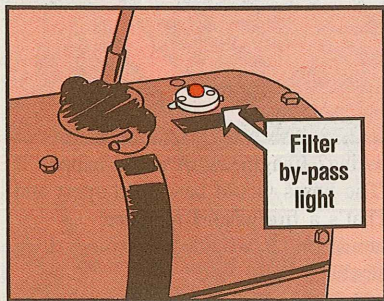
# Keeping Up with Hydraulics



How many filter systems on your vehicle clean hydraulic oil?

There are two—and it's a good bet one of them doesn't get enough attention.

The hydraulic filter under the cab floor gets plenty of attention from crewmen and mechanics. When the filter by-pass light on the cab control



panel comes on, that means the filter is clogged. You crewmen know to get your mechanic on the job pronto.

He'll use NSN 2520-00-478-5862 to get the repair kit to clean up that problem.

But there's another filtering system that needs attention, too. It's in the hydraulic reservoir. It's part of a strainer-screen assembly that can be



pulled out of the reservoir for servicing. You mechs know this used to be a quarterly job. But TM 9-2350-238-20 also says clean the strainer and screen more often if needed.

The strainer can clog up in real dusty conditions. And there are a couple of gaskets on either side of the strainer that can leak and let water get into the reservoir.

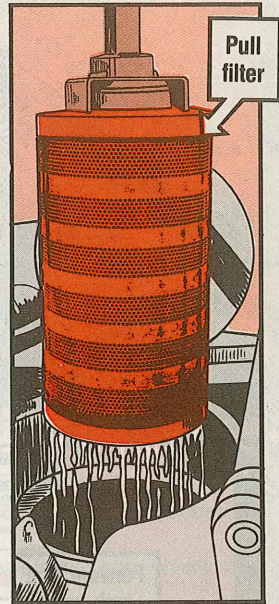
You can tell if there's any water in the oil by the milky, creamy color or by foaming oil. Both dirt (dust) and water will cause erratic operation, and controls that don't work right.

If you need new gaskets, use NSN 5330-00-991-8401.

The strainer-screen assembly in the reservoir must be cleaned whenever it gets dirty. You crewmen would notice this during your before-operation check.

Clean the strainer-screen assembly with drycleaning solvent.

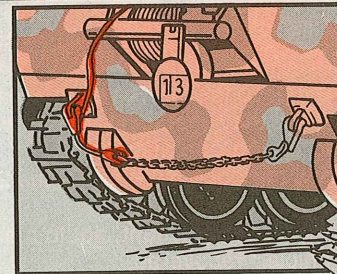
The main thing to remember is that there are two filtering systems at work in your vehicle's hydraulic system. Keep both of them clean.



Combat Vehicles...

## Winch Info Available

The details for installing the clevis assembly on winch cables for M548/M548A1 cargo carriers, M730/M730A1 missile carriers and M1015 electronic shelter carriers are in Para 2-7d of TB 43-0001-39-2, Jul 84.



## Starved for Fuel?

HOW EMBARRASSING, TO BE A RECOVERY VEHICLE THAT NEEDS RECOVERING!

COUGH

HEART-BREAK HILL

Did you hear the one about the driver who stranded his "88" near the top of Heartbreak Hill? He thought he had a breakdown, until the recovery team pointed out the forward fuel tank valve was open.

If you try to go up a steep hill with the forward tank valve open, all the fuel in that tank will drain to the rear.

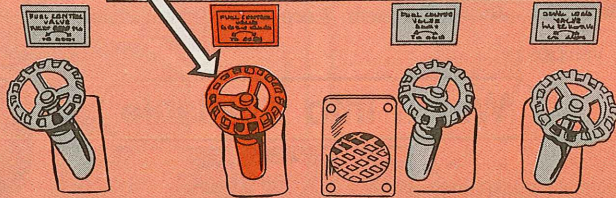
There will be no fuel for the fuel pump to pump to the engine. The engine will starve and leave you stranded.

FUEL VALVE POSITIONS				
(DIESEL FUEL ONLY)	RIGHT TANK	FORWARD TANK	DRAW	LEFT TANK
NORMAL VEHICLE OPERATION	OPEN	CLOSED	CLOSED	OPEN
REFUEL/DEFUEL OPERATION	OPEN	CLOSED	CLOSED	OPEN
APU OPERATION	OPEN	CLOSED	CLOSED	OPEN

NOTE: IF RIGHT AND LEFT TANKS ARE LOW, OPEN FORWARD TANK VALVE. CLOSE WHEN RESUMING VEHICLE OPERATION.

FUEL TANK DRAIN				
	FORWARD TANK	RIGHT REAR TANK	LEFT REAR TANK	
BEFORE ATTEMPTING TO DRAIN FUEL TANKS REMOVE HILL DRAIN VALVE AND SAFETY PLUG FROM TANK DRAIN VALVE	CLOSED	OPEN	OPEN	CLOSED
	OPEN	CLOSED	OPEN	CLOSED
	CLOSED	OPEN	OPEN	OPEN

Forward fuel tank valve closed?



Check that the fuel control valves on the rear crew compartment wall are open or closed as they should be. The forward fuel tank valve should always be closed during operation.

Be sure to follow the good word on Pages 2-41 thru 2-43 and 2-69 in C2 to TM 9-2350-256-10.

Saves a heap of embarrassment, not to mention the time lost having your recovery vehicle "recovered."

## Getting Rid of Water

...CONTINUED HOT AND HUMID DAYS, WITH MOISTURE BUILDUP IN ALL FUEL TANKS AT NIGHT...

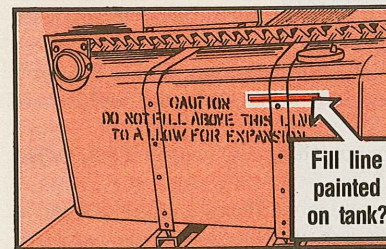
...AS YOU CAN SEE FROM OUR SATELLITE REPORT, CONDENSED MOISTURE SETTLES TO THE BOTTOM OF YOUR TANK AND IS THEN PUMPED INTO THE ENGINE!

Even when it's hot enough to fry an egg on your vehicle during the day you can get condensation—water—inside your vehicle's fuel system.

Moisture in the air at the top of the fuel tank condenses when the temperature drops at night—causing "rain" inside your tank.

To get rid of the water, drain the fuel filter daily, or as often as your vehicle's TM says.

To reduce condensation, keep the fuel tank full. Don't overfill tho, because the fuel expands and can run over. To prevent this, have your mech paint a fill line on the fuel tank, and never overfill it. Page 40 in TB 43-0209 tells how to mark the tank.



Add icing inhibitor to the fuel tank every other month.

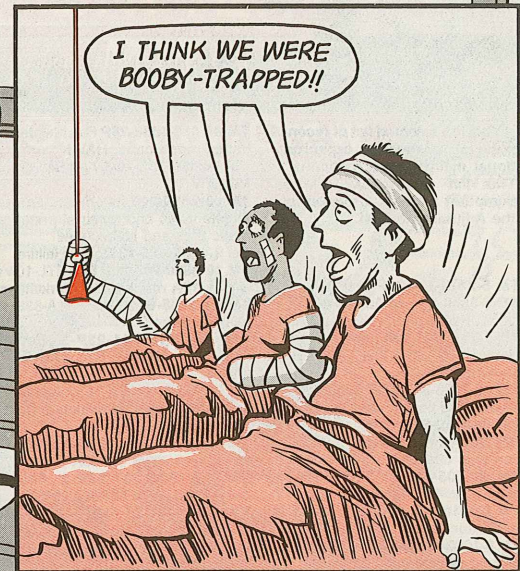
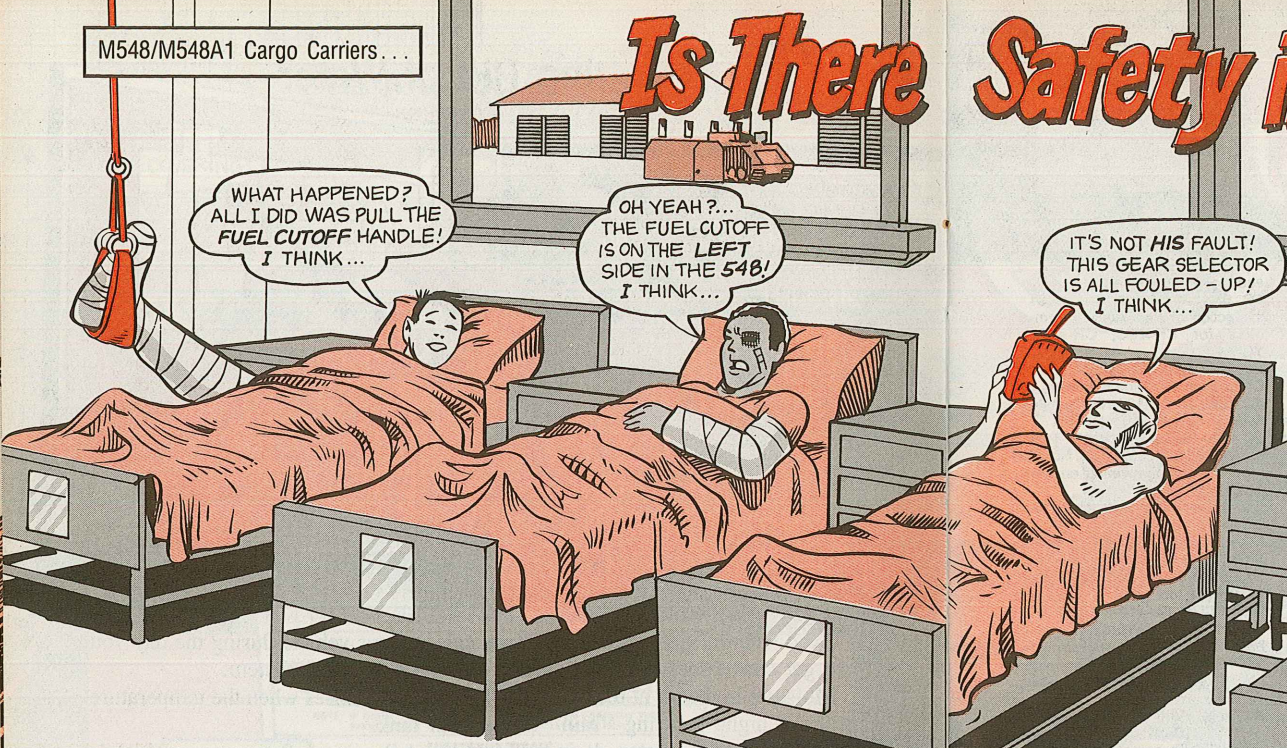
Icing inhibitor, believe it or not, can help solve your water problems. It lets water pass safely thru the fuel system.

For multifuel and diesel engines, use NSN 6850-00-753-5061 for a 5-gal can or NSN 6850-00-060-5312 for a 55-gal drum.

Methanol is used in gasoline vehicles. Use NSN 6810-00-597-3608 for a 1-gal can or NSN 6810-00-275-6010 for a 5-gal can.

The recommended dosage is 1 pint for every 40 gallons of fuel, as shown on Pages 2-3 thru 2-7 of FM 9-207. Put the inhibitor in first, then the fuel.

# Is There Safety in Neutral?



Drivers, your carriers may be booby-trapped!

You say you wouldn't drive a booby-trapped vehicle? Let's see:

- Have you ever bypassed the neutral start switch on the range selector lever? That would let you start the engine with the transmission in any range, which is like playing Russian roulette with five bullets.

If your vehicle's neutral start switch doesn't work or is poorly adjusted, let your mechanic know about it now.

- Have you ever pulled the wrong T-handle on your control panel? As you know, one's for the fuel cutoff (on your left) and the other's for the hand throttle (on your right).

You don't need a fortune teller to figure out what could happen if you pulled the wrong one at the wrong time.

Remember, they're identical in looks but mighty different in results. There's an accident waiting to happen if you're not careful. Especially if you also drive another vehicle, such as the M109-series SP howitzer. The fuel cutoff is on the right on the M109's.

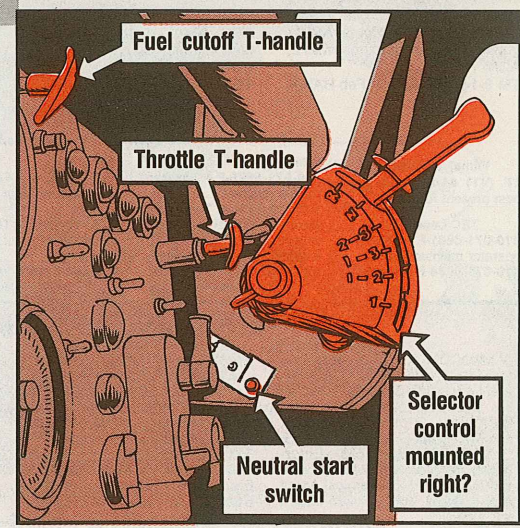
- Have you ever put the gear selector in neutral, only to find out that the transmission is still in reverse or 2-3 range?

It can happen if the selector control is not mounted right. Most times the upper or lower cap screw is loose or missing. That lets the control slip out of place.

Looking at the control, you might think you're in neutral but the carrier's still in gear.

Again, you know what could happen in a situation like that.

Don't drive a carrier that's booby-trapped. Get your mech on the scene as quick as you can.



# PUBS

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

TM 5-2410-214-20P Feb D7E  
 TM 5-3810-303-24 Aug 84 40-ton crane, Harnischfeger Model 5060  
 TM 5-3815-200-23P Feb 3/4 cu yd clamshell buckets and 3/4 cu yd dragline buckets  
 TM 5-4120-377-14-HR Nov 84 18,000-BTU vertical air conditioner  
 TM 5-4610-215-10-HR Dec 84 Reverse osmosis water purification unit, 600 GPM trailer mtd  
 TM 9-1005-249-10 Feb M16A1 rifle  
 TM 9-1010-205-10 Feb M79 grenade launcher  
 TM 9-1095-205-20-2 Sep 84 M128 ground vehicle mine dispenser  
 TM 9-1270-224-10 Oct 84 MILES, M79 for UH-1H helicopter  
 TM 9-1425-475-20 Oct 84 AVUM guided missile launcher, M272, AGM-114A  
 TM 9-1425-1525-24P Feb HAWK

TM 9-1430-1533-24P Feb Maintenance repair parts, HAWK  
 TM 9-2350-252-10-1 Aug 84 M2/M3 BFV  
 TM 9-2610-200-24 Feb Care, maintenance and repair of pneumatic tires and inner tubes  
 TM 9-4935-475-13 Oct 84 Hellfire  
 TM 10-3930-243-20P Feb RTL-10 & RTL-10A rough terrain forklifts  
 TM 11-5805-650-12 Jan TA-838 telephone set  
 TM 55-1510-204-23P-3 Feb AVUM and AVIM RPSTL, OV-1B, OV-1C, OV-1D and RV-1D  
 TM 55-1520-237-23-1 Feb AVUM and AVIM UH-60A wiring data manual  
 TM 55-1520-237-23P-1 Feb AVUM and AVIM UH-60A RPSTL  
 TM 55-1520-237-23P-2 Feb AVUM and AVIM UH-60A RPSTL  
 TM 55-1740-203-138P Oct 84 Manual for transporter, airmobile, Model D761

## Miscellaneous

TB 9-4940-325-30 Jan Installing light contact repair shop equipment in M151A2 truck  
 TB 43-180 Feb 85 Calibration

## AUDIO-VISUAL STUFF

Available at battalion or post Learning Center

Films, TV Tapes  
 TF (VT) 44-6311 Stinger past present future

TEC Lessons  
 010-071-6661-F 4.2 mortar operator maintenance  
 010-071-6664-F 4.2 mortar

safety checks  
 010-071-6675-F 4.2 mortar misfire removal  
 102-113-5571-A Test operate digital AFCS of UH-60A: Part IV  
 102-113-5573-A Test operate digital AFCS of UH-60A:

Part II  
 010-113-5583-A Test operate digital AFCS of UH-60A: Part III  
 102-113-5584-A Test operate digital AFCS of UH-60A: Part V  
 202-113-5186-A AN/TRC-

117 operator's PM  
 916-013-0032-F Safety precautions for handling, preserving, firing projectiles, propelling charges, fuses, primers, shoulder fired and aircraft rockets

## Maintenance Advisories

AMCCOM MA 85-2—Replacement Criteria for M10A1 Canister, NSN 4240-00-127-7186, Used on the M24/M25 Series Chemical-Biological Protective Masks, AMSMC-MAR-C 161810Z Jan 85.  
 AMCCOM MA 85-3—Emergency Procedures for Long Term Storage of the M8 Chemical Agent Alarm (NSN 6665-00-935-6955),

AMSMC-MAR-C 251720Z Jan 85.  
 AMCCOM MA 85-4—Outlet Valve, NSN 4240-00-712-6090, Used on Chemical-Biological Protective Masks (M9, M17, M24/M25 Series), AMSMC-MAR-C 311730Z Jan 85.  
 AMCCOM MA 85-5—Chemical Equipment Operations: Back to Basics (Top 10), AMSMC-MAR-C

011500Z Feb 85.  
 AMC SOU—Operational, AB-577/GRC Antenna Mast (safety hazard when used with MK-806/GRC Extension Kit), AMCSF-E 091845Z Jan 85.  
 If you need a maintenance advisory, contact your direct support unit or your local Logistic Assistance Office (LAO).

## BATTERY PM for Operator/Crew



Black and white photostats of this material are available from PS Magazine for reprinting



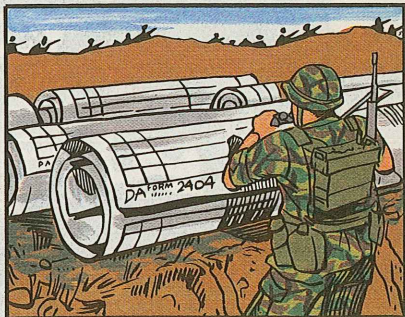
# THE WAR ON BATTERY FAILURE...

The enemy is as close as the whites of your eyes if you let battery failure happen.

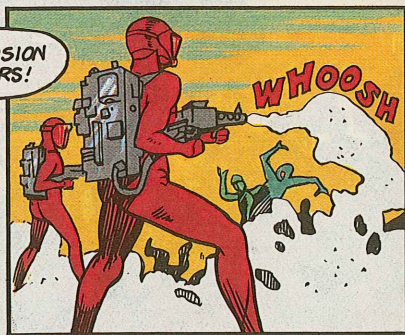


RECONNAISSANCE is your mission in the battle. Anything bad? Report it!

You are the first line of defense. Your PMCS and 2404's keep the enemy at bay.



FIRE POWER comes from Org Maint. Something wrong? They'll fix it!



## Look...Feel...Report...!!!

EQUIPMENT INSPECTION AND MAINTENANCE ROUTING SLIP  
For use of this form, see TM 38-750; the proponent agency is the Office of the Deputy Chief of Staff for Logistics.

1. ORGANIZATION  
2. NOMENCLATURE AND MODEL  
3. RE  
4. HOURS  
5. DATE  
6. TYPE INSPECTION

7. TM NO.  
8. C  
9. C  
10. C

11. SIGNATURE (Person (s) performing inspection)  
12. INITIAL WHEN COMPLETED

DEFICIENCIES AND SHORTCOMINGS

**MOST IMPORTANT** of all battery checks is the electrolyte (battery acid) level. This acid-water mix is the lifeblood of your batteries. All you need to do is unscrew the caps... look inside... see if the level is over the tops of the plates. It should be up to the lip (in some batteries) or making an eye-shape (in other batteries).

This cut-away view shows lip inside

Electrolyte level low

Electrolyte level OK

Report it!

TM ITEM NO. STATUS DEFICIENCIES AND SHORTCOMINGS

Battery electrolyte low

Why is it low? Could be normal—due to charge and discharge cycles. But if a battery needs water often, look for cracks in the case. Suspect overcharging. Report it!

Bad? Report it!

DEFICIENCIES AND SHORTCOMINGS

Mechanic adds water

High demand for battery water

Make sure battery caps are screwed in tight—just finger-tight.

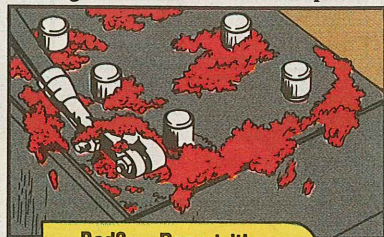
4. which will be used

FORM DA 1 APR 79 2404

PS MORE

YOU CAN'T MISS that fluffy or caked white stuff—corrosion! It comes from the acid in your batteries. It eats up metal parts. It causes your batteries to discharge.

It's got to be cleaned off—report it!



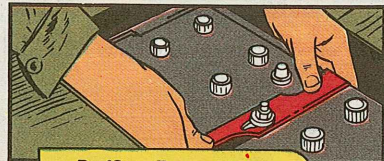
**Bad? Report it!**

DEFICIENCIES AND SHORTCOMINGS

*Batteries corroded*

LOOSE BATTERIES crack... and leak acid. They're shot—can't be fixed. Make sure holdowns are snug. Grab hold. Try to move the batteries.

Loose? Get that holddown tightened!

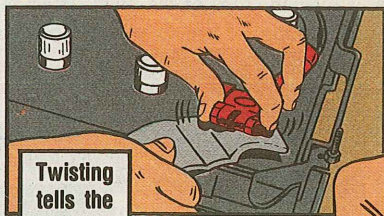


**Bad? Report it!**

DEFICIENCIES AND SHORTCOMINGS

*Battery holddown loose*

HEAD OFF TROUBLE with engine starting—make sure battery connections are tight. Clamp tight on post. Cable tight on clamp.



Twisting tells the story

**Bad? Report it!**

DEFICIENCIES AND SHORTCOMINGS

*Battery clamps loose*



Use fingers and wrist—not arm muscle

**Bad? Report it!**

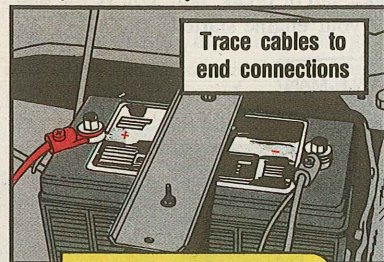
DEFICIENCIES AND SHORTCOMINGS

*Battery cable terminal loose*

Make sure all clamp connections are protected by rubber covers. Check the other ends of those cables too... negative (-) ground connection

on the engine or chassis (or both on some equipment)... positive (+) connection on the engine starting motor.

Any loose? Get your mechanic on it!



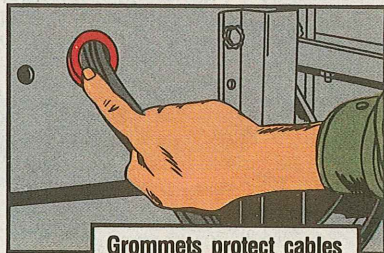
Trace cables to end connections

**Bad? Report it!**

DEFICIENCIES AND SHORTCOMINGS

*Battery ground cable loose on engine*

THAT POSITIVE CABLE—and other "hot" cables—may be routed through holes in your equipment. Rubber grommets protect the cables from getting cut and causing short circuits. Make sure the grommet's in place. Slipped out? Put it back. Missing? Report it!



Grommets protect cables

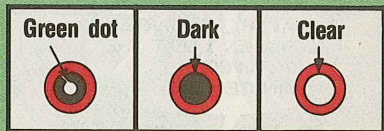
**Bad? Report it!**

DEFICIENCIES AND SHORTCOMINGS

*Battery cable grommet missing*

MAINTENANCE-FREE batteries are easiest.

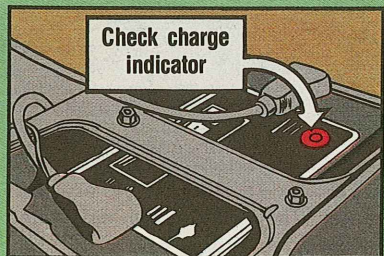
You can't check the electrolyte level. Just eyeball the charge indicator. If you don't see a green dot, you're in for battery trouble. Report it!



**Bad? Report it!**

DEFICIENCIES AND SHORTCOMINGS

*Battery charge indicator shows dark*



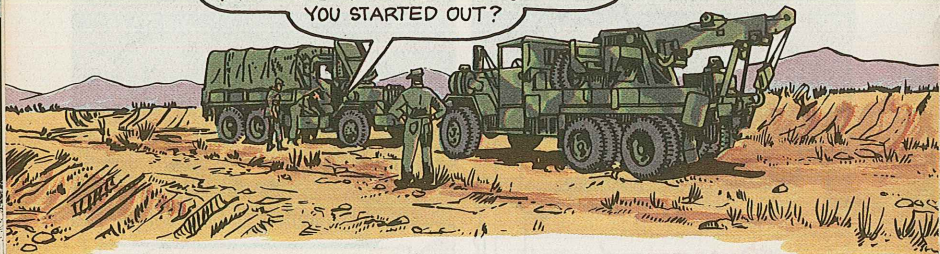
Check charge indicator

Of course, you also check to make sure batteries are clean... holdown is snug... cable connections are clean and tight.

## You're in the driver's seat!

GO OR NO-GO... it's mostly up to you. Nobody else has a better handle on the condition of your batteries. You make 'em or break 'em. You're the one who's stuck when bum batteries can't get your engine started.

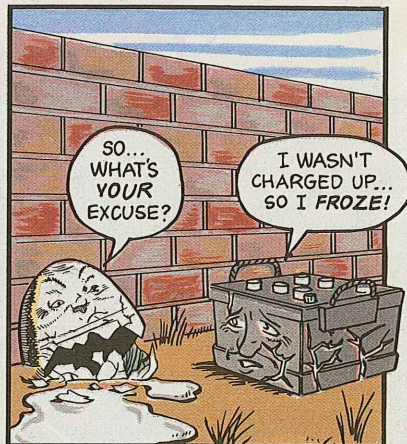
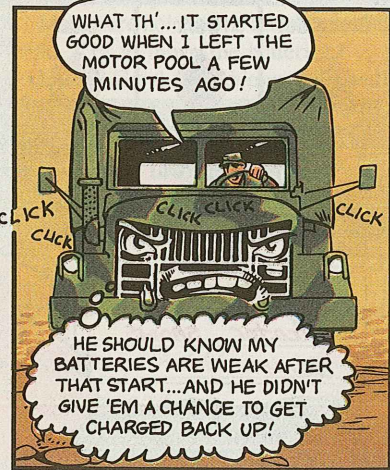
Y'GOT A LOOSE BATTERY CABLE, MAN!  
DIDN'T Y'CHECK YOUR BATTERIES BEFORE  
YOU STARTED OUT?



DEAD BATTERIES are a sure bet if you suck all of the power out of 'em and don't put it back.

This can happen in cold weather... when your engine's hard to start... and you use up all of the battery power to get started... and you make a short

trip... and you shut your engine down... and your batteries don't have a chance to get charged back up.



Freezing is another threat to weak batteries. They can freeze solid—and break!

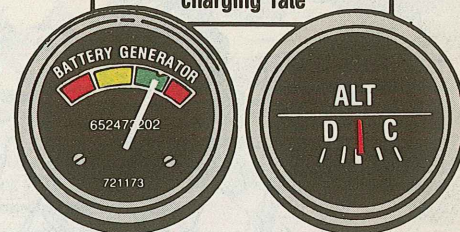
A fully-charged battery can take cold down to  $-90^{\circ}$  F.

So how can you tell when your batteries are charged back up?

Just eyeball your bat-gen indicator or ammeter... before you shut down... with your engine running at high idle. If the gage shows a high rate of charge, the charging system is still putting power back into your batteries. Keep your engine at high idle until charging drops back.

Then your batteries will be rarin' to go again when you need 'em.

Keep your engine running until the needle moves from the high charge rate (right side of gage) to this normal charging rate

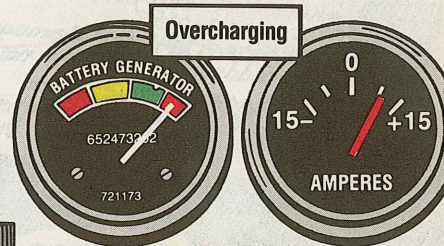
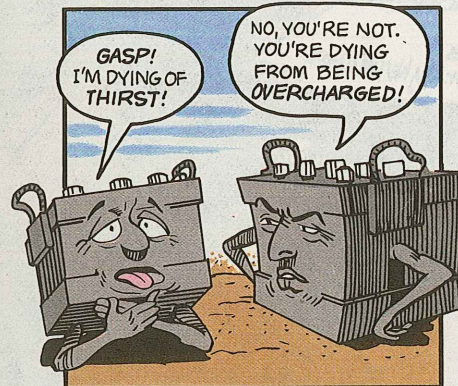


RUINED BATTERIES are a sure bet if you let the charging system work on 'em too hard and too long. Overcharging makes heat. Those plates inside the battery buckle. The battery's ruined—it can't be charged up again. Overcharging boils off the water part of the electrolyte—the battery always needs water.

So how can you tell when your batteries are being overcharged?

Your bat-gen indicator or ammeter tells you.

If the gage shows a high rate of charge when your engine's been running for 30 minutes, there's a good chance your batteries are being cooked to death!



Bad? Report it!

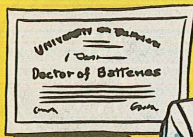
DEFICIENCIES AND SHORTC

Bat-Gen  
indicator shows  
overcharging

Make sure your shop checks out the charging system. Maybe all that's needed is voltage regulator adjustment. Get overcharging fixed—before you find yourself in a fix!

# The Prescription for Long Battery Life

is simple...

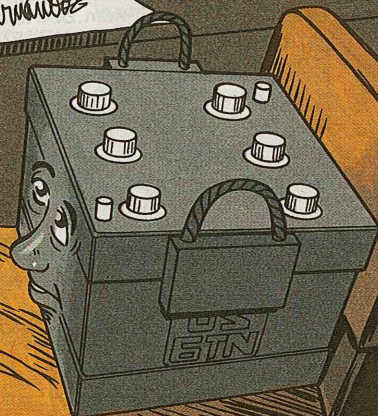


JUST HAVE YOUR OPERATOR GIVE YOU A REGULAR DOSE OF THIS AND...

- Rx**
- Keep plates covered with electrolyte (battery acid).
  - Keep dirt and corrosion cleaned off.
  - Protect against damage. Keep hold-downs tight - but not too tight.
  - Detect and report charging problems.

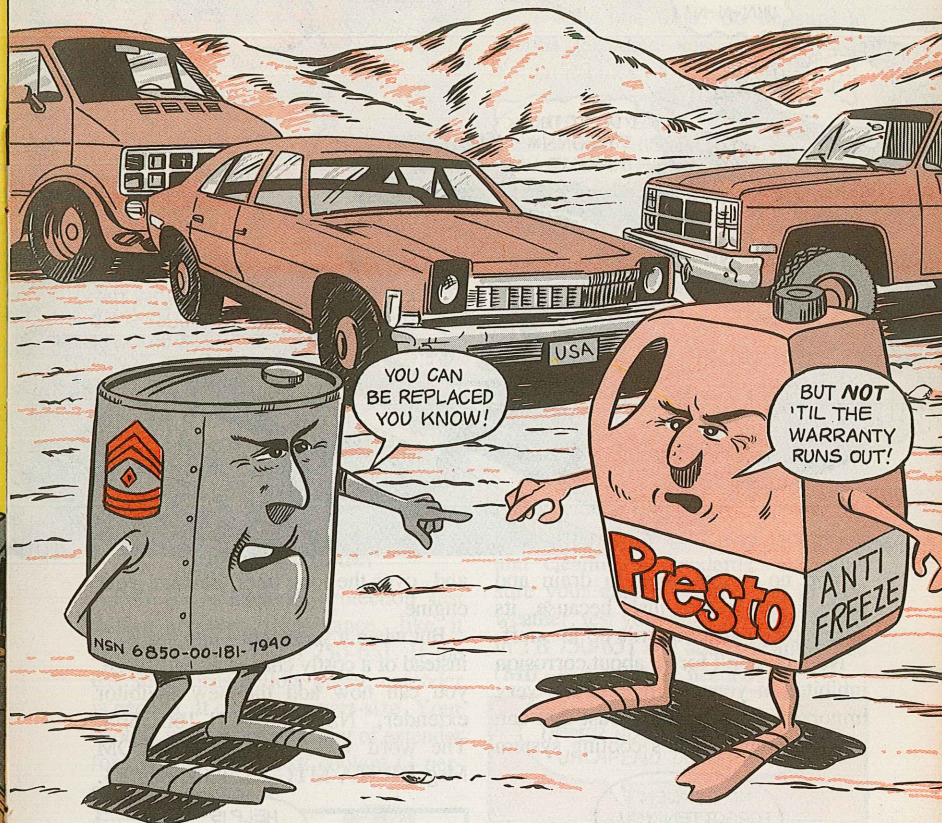
*Dr. Roy Hernandez*

...YEAH, I KNOW... COME BACK AND SEE YOU IN A WEEK!



Commercial-Design Vehicles...

## Nix on Coolant Mix



YOU CAN BE REPLACED YOU KNOW!

BUT NOT 'TIL THE WARRANTY RUNS OUT!

Some non-tactical vehicles, such as staff cars, vans and pickups, come with commercial antifreeze.

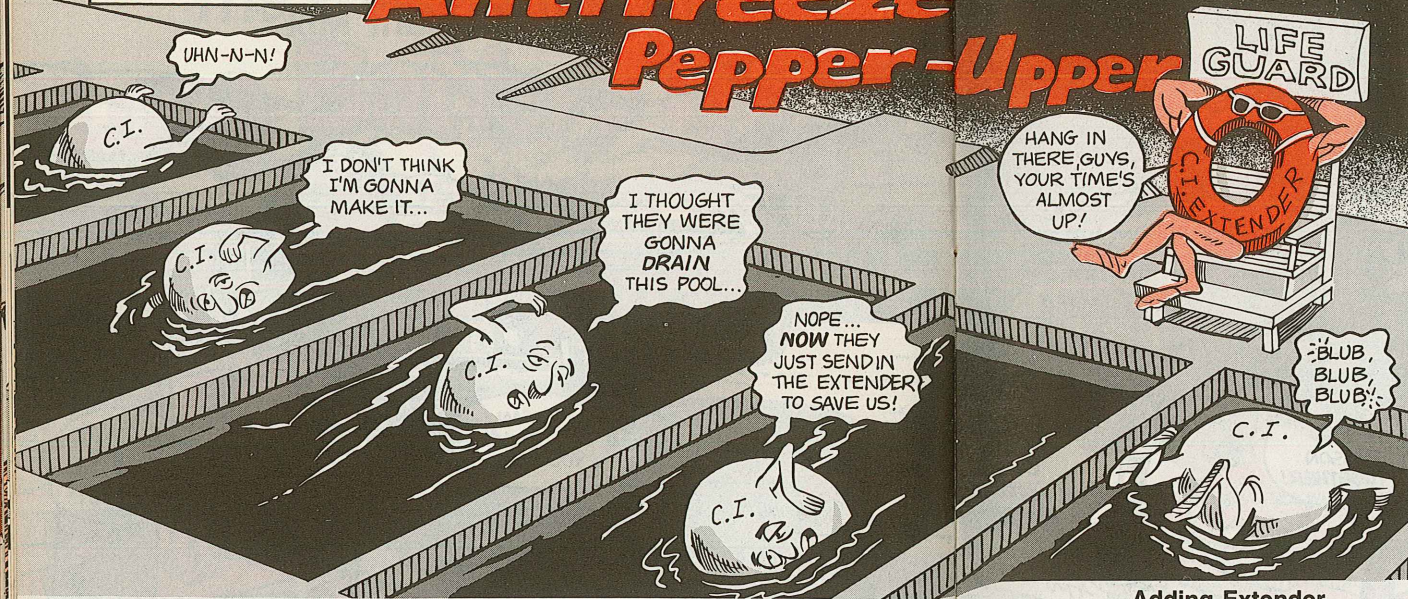
Never mix commercial and military-type antifreeze—or you'll mess up the cooling system with corrosion buildup.

When the vehicle's warranty runs out, drain the commercial-type antifreeze, flush the system and refill with MIL-A-46153 military-type antifreeze rated for -55° F. NSN 6850-00-181-7940 gets 55 gallons and NSN 6850-00-181-7933 gets 5 gallons. Mix antifreeze like it says in TB 750-651.

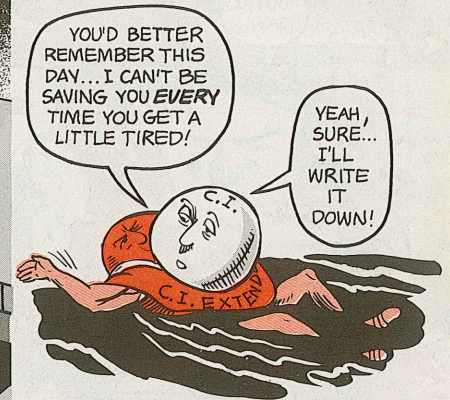
Or, in extremely cold climates like Alaska, use MIL-A-11755, rated for -90° F. NSN 6850-00-174-1806 will get 55 gallons.

No need to be concerned with commercial tactical vehicles, like CUCV trucks. They're issued with military-type antifreeze already added.

# Antifreeze Pepper-Upper



Keep in mind, the extender can be used only one time. So be sure to record the date you use it in the Remarks block on your DD Form 314.



You no longer need to drain and replace antifreeze just because its corrosion protection isn't up to snuff.

No, you don't forget about corrosion inhibitor in your antifreeze. It's very important for preventing rust that can clog up your engine's cooling system

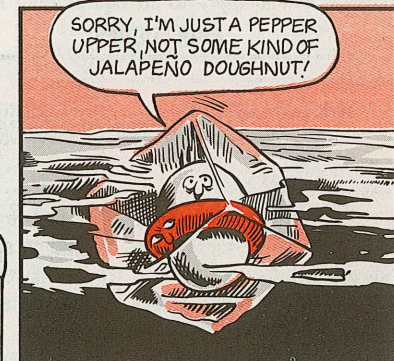
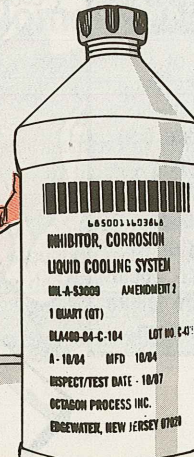
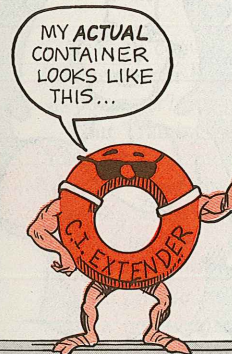
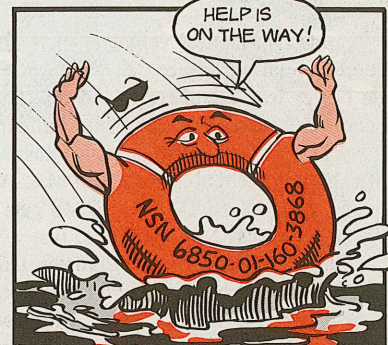
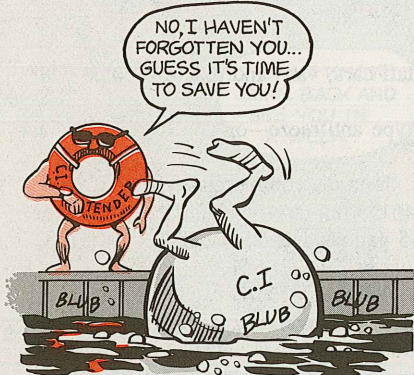
and, over the long haul, damage your engine.

But when it wears out—and it does—instead of a costly change of antifreeze, you can now add the new inhibitor extender, NSN 6850-01-160-3868. The word was put out in TACOM Msg DRSTA-MTC 232300Z Sep 83.

## Adding Extender

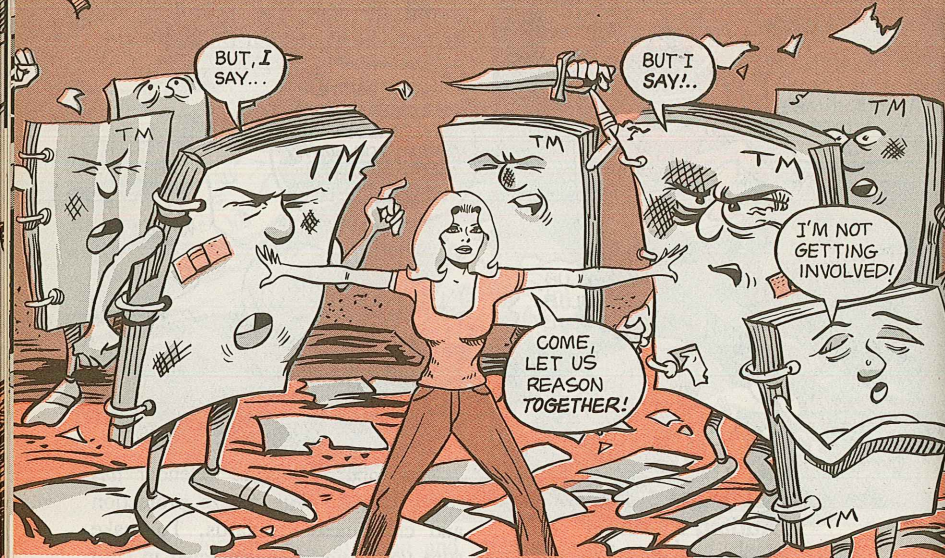
Pull the corrosion protection test during regular maintenance, like it says in Para 5 of TB 750-651. If the test stick turns yellow-green, extender is needed. It comes in quart-size. Your cooling system gets one pint of extender for every 17 quarts of coolant (3 percent by volume).

Remember, too, the extender has nothing to do with freeze protection and cleanliness standards. To make sure your engine is protected in cold weather, test your antifreeze as directed in TB 750-651 and add new antifreeze (MIL-A-46153) as needed.



Disregard the procedure for restoring corrosion protection currently in TB 750-651. When updated, the TB will include the new extender.

## Harmony in Tire PMCS



When it comes to rating the mission capability of tires, some TM's say one thing, some say something else... and some say nothing at all!

Well, the vehicle experts got their heads together and came up with a PMCS table that will apply to all equipment. TM's will be changed like so:

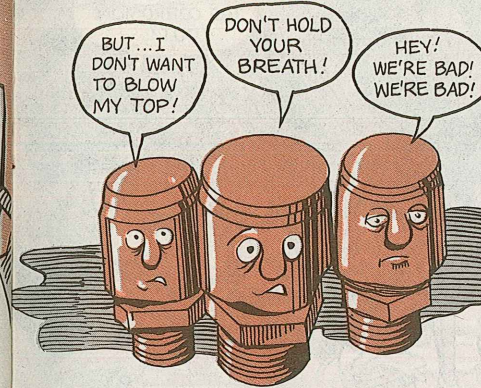
### PROCEDURES:

<p><b>TIRES:</b> Check for and have repaired, filled, or adjusted as needed.</p>	<p>Equipment is not ready/available if:</p>
<p>Visually check for under-inflated and unserviceable tires (including spare if normal equipment). Check tires for leaks, cuts, gouges, cracks or bulges. Remove all penetrating objects.</p>	<p>Any tire (including spare tire) is missing or unserviceable. Tire has cut, gouge, leak, crack or bulge which would result in tire failure during operation.</p>



## Check Breather Valves

Before you install a new breather, check it by blowing into the threaded end. If you can't easily blow through

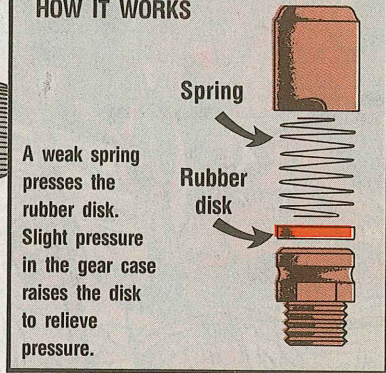


Some bad breather valves were issued under NSN 4820-00-726-4719—and they could create some problems. They're used on a lot of equipment.

The valve may require too much pressure to open—maybe as much as 60 PSI—and that pressure can be too much for the seals on transmissions, transfers, axle housings and other gear cases.

The right breather will open at a little under 1/2-lb PSI—almost no pressure at all.

### HOW IT WORKS



the breather, it's wrong for your equipment. Order another—and check it too.

Send the bum breather to:

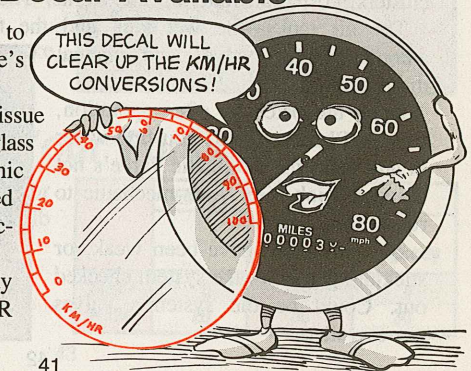
**Commander**  
**US Army Tank-Automotive Command**  
**ATTN: AMSTA-GBW**  
**Warren, MI 48090**

## Kilometer Decal Available

Need to convert miles-per-hour to kilometers-per-hour on your vehicle's speedometer?

Your Training Aids Center will issue you a decal that mounts on the face glass of your speedometer. It's Graphic Training Aid (GTA) C 55-3-1, listed in DA Pam 108-1. Mounting instructions come with the decal.

New production vehicles already have a combination MPH-KM/HR speedometer.





ALACAZAM!  
CLEAR THIS  
AIR LINE  
AS FAST AS  
YOU CAN!

IF WE TAKE  
THE WATER OUT...

...WE'LL KEEP  
THE CORROSION  
OUT!

SPLOSH!

GURGLE!

SLOSH!  
SPLASH!

175B Scoop Loader...

## Keep Water Out of Brakes

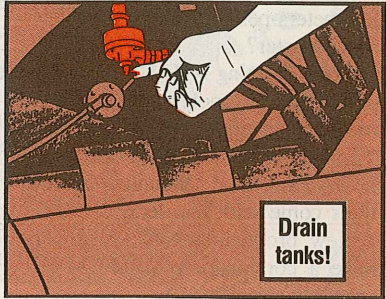
Water in the brake air lines on your 175B scoop loader causes brakes to lock up or fail.

When water gets into the emergency quick-release valves or the power clusters, corrosion fouls up the works. Then...no brakes!

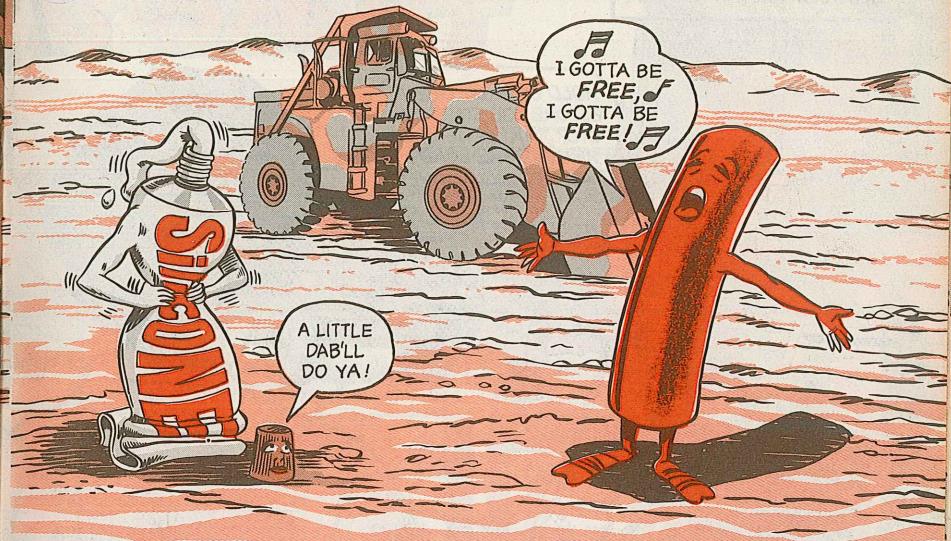
The air tanks—the wet tank and the two emergency tanks—have both automatic drain valves and manual drain petcocks.

Open the petcocks after operation, like the PMCS says. If you find water in any tank, the automatic valve's not doing the job. Get your mechanic to replace the valve.

If your brakes have been weak, or sticking, get the brake system checked out. Could be the system's valves are corroded.



## Grease the Boom Pins



I GOTTA BE  
FREE,  
I GOTTA BE  
FREE!

A LITTLE  
DAB'LL  
DO YA!

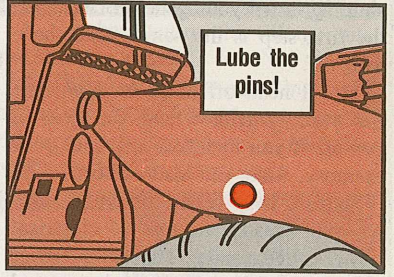
Pins that attach the lift cylinders to the boom on your 175B scoop loader freeze up in the boom.

That makes it mighty tough when you have to remove the cylinder or boom for servicing.

The lift cylinder has a grease fitting to keep it lubed, but there's no way to grease the pin where it passes thru the boom.

Next time you have the pins out, give them a light coating of silicone grease, NSN 9150-00-145-0161.

That'll keep the pins free and make removal a snap.



## Classify Your Forklifts

There's no weight classification for the M4K 4,000-lb or M10A 10,000-lb rough terrain forklifts in FM 5-36.

Here's what to display:

	EMPTY	LOADED	
		Cross-Country	Highway
M4K	5	9	9
M10A	20	36	36

Generator Start 'n' Stop...

HOLD ONE, SOLDIER!  
BEFORE YOU START OR  
STOP THAT GENERATOR,  
REMOVE THE LOAD!

# Take a Load Off

GET CRANKING SAFELY  
BY FOLLOWING THESE SIMPLE  
STEPS WHEN YOU START YOUR SET!

Whether you're cranking up or shutting down your generator set, the first step is the same—take the load off.

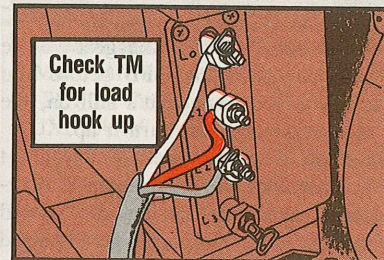
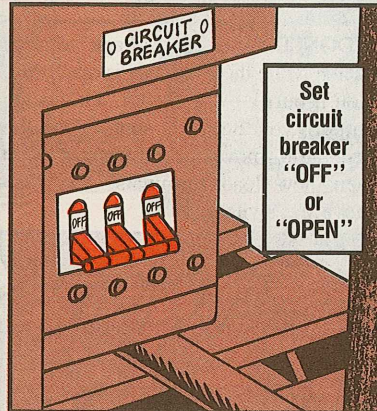
You'll head off a lot of downtime for your generator and the gear it powers if you lock that step into your memory. Take the load off first.

Starting your generator with a load attached creates a surge of electrical power called a spike. That spike carries a lot more electricity than the normal power provided by the generator.

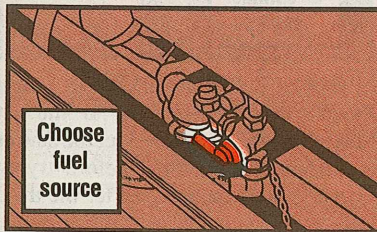
The spike surges through the cable to the gear you're powering. That's big trouble for fragile circuits.

Likewise, stopping with a load connected can ruin the voltage regulator and rotating diodes in your set's exciter system.

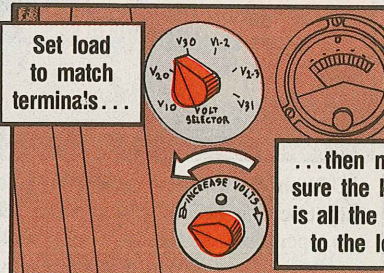
1. Set the circuit breaker switch to OFF or OPEN. That removes the load.
3. Select the proper load and hook up your cable to the load terminals.



2. Set the fuel selector switch to the right source. That's either your set's tank or an auxiliary supply.



4. Set that load on the voltage output selector switch.
5. Turn the voltage adjusting knob all the way to the left. Move it back to the right only when you're ready to apply the load to your gear.



6. Now start your engine.



Stopping is easy, too. Cut the load by reversing your circuit breaker setting. Move the voltage adjusting knob back to the left.

After you start your generator and before you shut it down, let the set run at rated speed with no load for a few minutes. That lets it warm to its task and cool down gradually.

**BE POWER WISE** by remembering your generator is just a machine. You do its thinking. Think wrong and all that power it puts out will KO equipment.

HERE ARE SOME OTHER TIPS TO REMEMBER!

DO make sure all the gear you're going to power is OFF before you apply a load to it. If it's still on, the electrical surge can burn it up.

DON'T try to connect or disconnect power cables while equipment is operating. You'll get arcing and burned pins for sure. You might get damaged equipment.

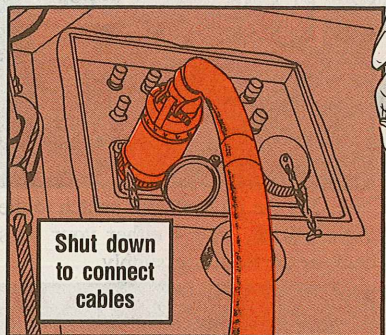
Make sure gear's OFF



DO check the generator's voltage output setting before you put the set into operation. If the set's just back from support maintenance, it's probably not on the setting you remember.

DON'T move the voltage selector switch while the generator is operating. You'll burn up the switch. To change output, you have to shut down the generator, move the power cables to their new load terminals, and then move the switch.

Shut down to connect cables



DON'T hold a start switch or button longer than 15 seconds. If the set doesn't start in that time, let the starter cool for a full minute before trying again. If it doesn't start after the third try, get your mech to check it out.

## Getting That Empty Feeling?

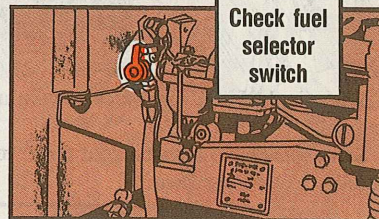


No sign of life in your generator's engine? Not even a sputter or two? Stop cranking!

Could be no fuel is getting to the engine. Your battery and starter suffer if you keep cranking.

But you've looked, you say, and the tank is full.

Check fuel selector switch



Make sure the fuel selector switch is on SET for the engine's gas tank or on AUXILIARY for an outside source.

If your switch is right, your problem may be in the fuel feed system. Have your mech check the lines, pump and filter.

## Stopping Generators

Dear Half-Mast,

What's the correct way to stop the 10-KW GED generator? Step 4 in Fig 2-8 on Page 2-12.3 of C 3 to TM 5-6115-275-14 says to close the fuel selector switch. It would seem easier on the equipment to use the START-STOP switch. Which is right?

Mr. J.E.H.

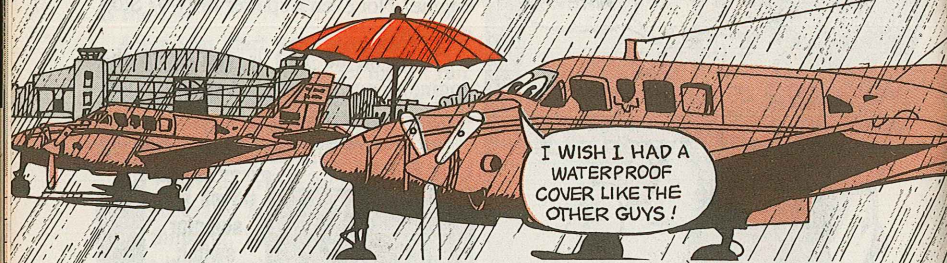
Dear Mr. J.E.H.,

The TM's are wrong. Here's how to shut down: Switch the circuit breaker to OFF. Idle the engine with no load 3-5 minutes. Press the START/STOP switch to STOP. Then close the fuel selector valve, and flip the EMERGENCY STOP-RUN switch to EMERGENCY STOP.

In an emergency, of course, just flip the EMERGENCY STOP-RUN switch to STOP.

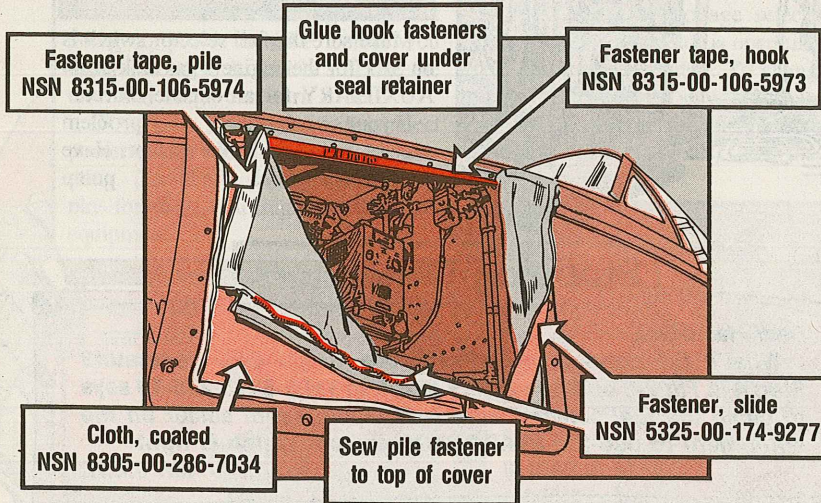
Half-Mast

## Wipe Out Water Damage



Water in the U-21's avionics compartment can really bring its radios to wrack and ruin.

Some Utes have a waterproof cover to keep out moisture. If yours lacks this goodie, make your own.

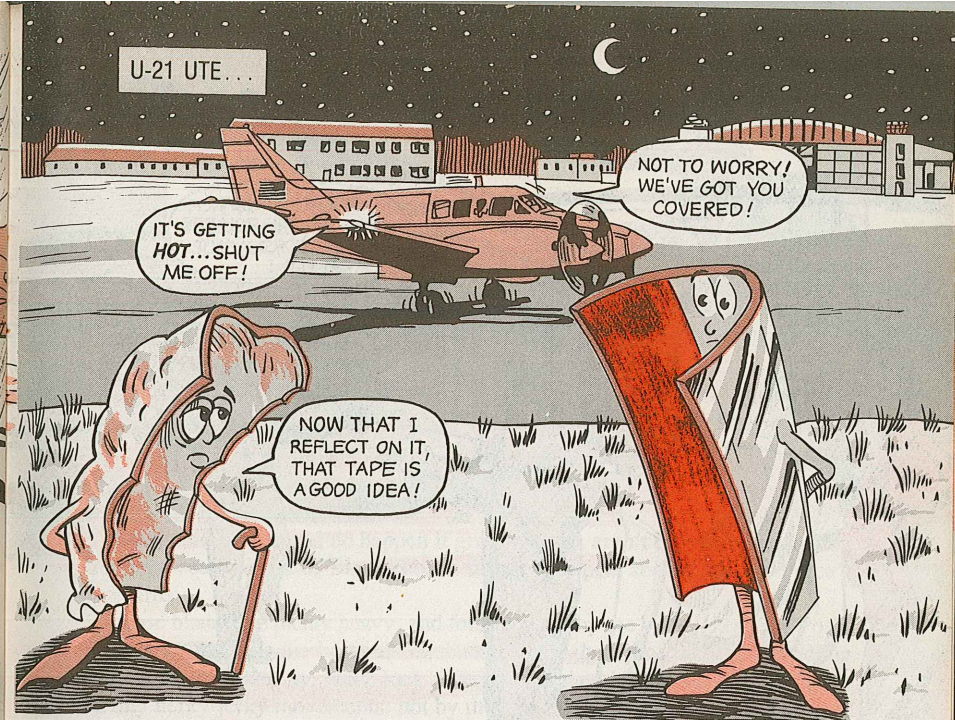


Your authority to order these items is Appendix A of CTA 50-970.

Measure the compartment opening and cut the cloth to fit.

Support can stitch a strip of pile fastener to the top of the cover. Then attach the hook fastener and the cover to the compartment opening. Put the access door back on.

The fasteners give easy access to water-sensitive gear—and the closed cover prevents unwanted moisture from seeping in during wash jobs or rain storms and shorting out your bird's voice.

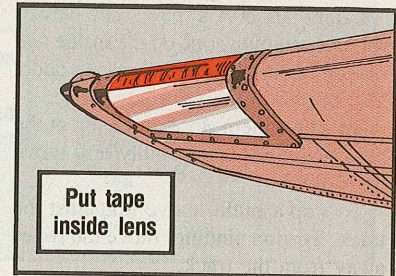
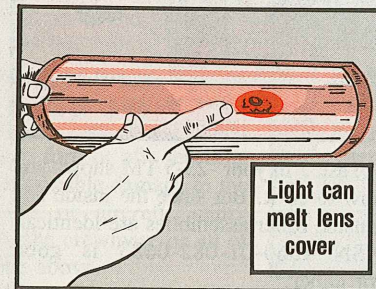


## Lighten Up on the Lens

Landing lights are handy for letting the U-21 pilot see his way safely to the ground.

But if the pilot forgets to switch the lights off while taxiing or parking, the heat can melt the plastic landing light panes.

Save the hassle of replacing damaged panes by covering the inside of the upper edge with reflective tape, NSN 7510-00-816-8077. It's the same width as the painted strip on the pane. But unlike the black paint, the tape will reflect the light's heat away from the plastic.



## Adjust Roller to Stop Rattle



If your Black Hawk's cargo doors bind or rattle, you may be able to do something about it. But, then again, you may not. It depends on how old your bird is.

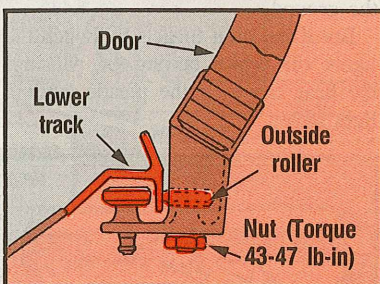
Early UH-60A's have only **inside** rollers on the lower track of their cargo doors. And they aren't adjustable.

Later UH-60A's have two lower roller assemblies, one on the inside and one on the outside of each cargo door. The outside rollers **are** adjustable.

To adjust them, loosen the nut at the base of the roller assembly and move the roller.

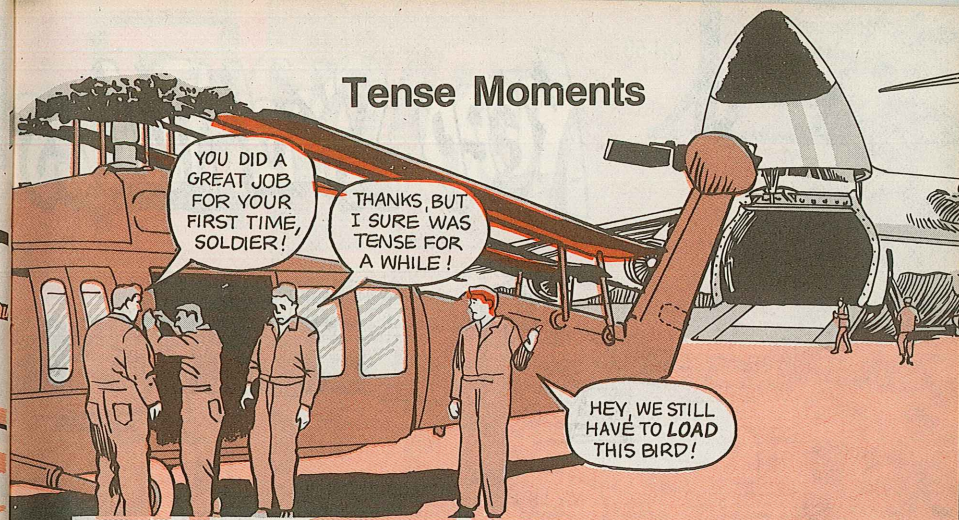
To stop a rattle, move it against the track. To stop binding, move the roller away from the track.

After you've adjusted the roller, torque the nut to 43-47 lb-in.



Task 7 in your -23-5 TM shows you how to do it. But since the inside and outside roller assemblies are identical, NSN 1560-01-082-0683 is good for either.

## Tense Moments

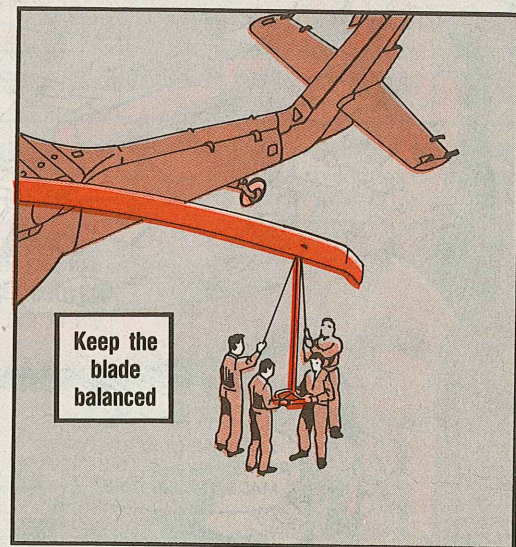


Strange things can and do happen if ground crews aren't careful when folding the main rotor blades of Black Hawks for air transport aboard the Air Force's big birds.

Those blades are plenty heavy, and folding them by the book takes teamwork. Slow and easy is the best rule of thumb. Once the tip of the blade-handling pole is inserted into the blade lock receiver and the blade is lifted, there can't be any herky-jerky movements: not by the two crewmen handling the pole, nor by their two crewmates handling the nylon straps attached to the pole.

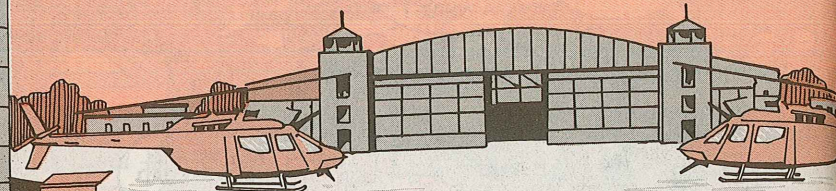
Balance and tension are the key words. Keep the blade balanced as you walk it back until it is above the support fittings on the tail cone. Maintain that balance by keeping tension on the straps.

If just one of the four crewmen gets in a hurry or out of sync with the others, the blade could slip fore or aft, resulting in possible damage to the pole or aircraft, injury to the crewmen, or all of the above.



# Keep Skid Tubes

# Off Skid Row



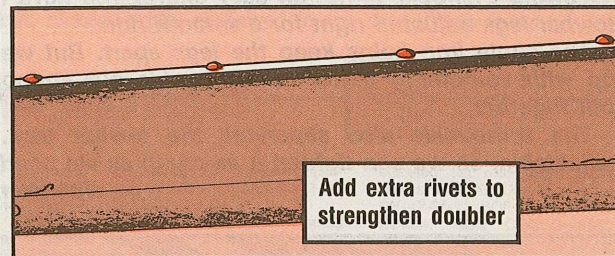
MY LIFE IS OVER... WASTED!

WISH THEY'D HAVE COME UP WITH THIS REINFORCEMENT THING BEFORE WE HIT THE SKIDS!

JUST FOUR MORE RIVETS AND I COULD'A MADE THE BIG TIME!

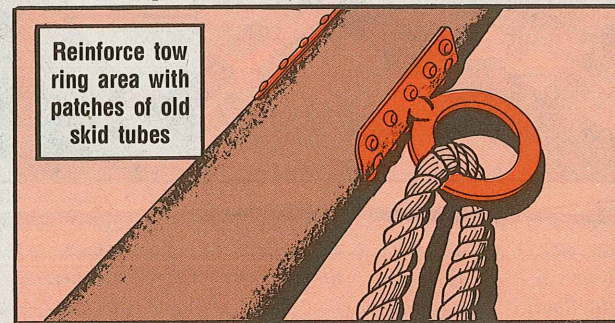
HERE'RE TWO PM TIPS TO GIVE THOSE SKID TUBES LONGER LIFE...

■ The doublers under the skid tube are bonded, then riveted in place. Strengthen that bond by adding at least four more rivets.



Add extra rivets to strengthen doubler

■ Reinforce the tube's tow ring area before it gets damaged. Make patches from old skid tubes and rivet them on both sides. Follow the steps in Para 3-15e of TM 55-1520-228-23-1.



Reinforce tow ring area with patches of old skid tubes

## Tow, Tow, Tow Your Bird

HEY...THIS  
NEW TURNBUCKLE  
SURE WORKS GOOD!

TOW'D  
YOU SO!



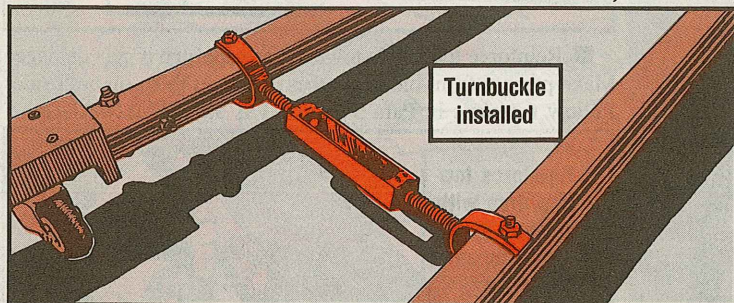
Dear Editor,

Towing Chinooks is not an easy chore. You have to get the towbar legs adjusted right for a smooth ride.

The angle iron helps keep the legs apart. But we've come up with something better—a turnbuckle our support people put together.

The turnbuckle also separates the towbar legs. But it's adjustable, so we can tighten it as much as we need.

W01 Herman Huck  
Ft Hood, TX



(Editor's note: Your idea will help other CH-47 maintenance types tow the line!)

## Pressure Adjustment Soothes Shakes

If your bird's windshield wipers have the shakes and shimmies, they may need adjusting.

Check the wiper arm pressure with a dial indicating spring scale, NSN 6670-00-240-5821, like it says on Page 4-17/4-18 of TM 55-1520-237-23-5.

After you've adjusted the wipers, apply corrosion preventative compound to the tension spring under the wiper arm. Apply CPC often in wet or damp weather. That'll put the skids on rust and corrosion, two culprits responsible for decreased arm pressure. NSN 8030-00-231-2345 gets a gallon can of CPC.

## Aircraft O-Rings

If the next package of aircraft O-rings you pick up has an expiration date stamped on it, ignore it.

O-rings used in aircraft maintenance have an indefinite shelf life.

But one thing you never ignore is a visual inspection of the packaged rings.

If an O-ring's cut, nicked, brittle or flawed in any way, throw it out.

## Aviation Messages

Cat 1 EIR Phone  
AUTOVON 693-2066  
(24 hours)

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

U-3-84-02 SOF Maintenance Mandatory, U-3 series—Operational check of landing gear system. 121915Z Dec 84.

AH-1-84-03 SOF Maintenance Notice concerning service life extension on the AH-1S (PROD, ECAS, MC) canopy removal system's arm/firing mechanisms. 071900Z Dec 84.

UH-1-84-12 SOF One-time inspection, all UH-1H/V and EH-1H/X. 281900Z Dec 84.

UH-60A-84-16 SOF Maintenance Mandatory, T700-GE-700 engines, removal and replacement of GG rotors at certain life limits. 111700Z Dec 84.

UH-60A-84-17 SOF Technical, Inspection of main gearbox dowel pins. 271615Z Dec 84.

OH-58-84-02 SOF Technical, One-time inspection of all OH-58A with MWO 55-1520-228-30-24

installed tail rotor drive shaft covers. 271600Z Dec 84.

CH-47-84-13 SOF Maintenance Notice, RCS CSGLD-1860; change to inspection of CH-47C/D and YCH-47C rotor head assemblies. 281830Z Dec 84.

CH-54-84-03 SOF RCS CSGLD-1860, Inspection of CH-54A for defective main rotor blades. 191600Z Dec 84.

MIM-GEN-84-MEM-07 Forwarding of maintenance historical data to CCAD. 191555Z Dec 84.

## Bugged By Biting Insects

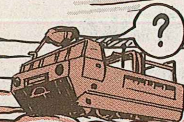
Protect yourself from insect bites with insect repellent. NSN 6840-00-753-4963 gets a 2-oz bottle of liquid Deet.

Deet also comes in a 6-oz spray can, NSN 6840-00-082-2541. But that NSN isn't on the AMDF. Order on a DD Form 1348-6 using FSCM 81348 and RIC S9G.

Apply Deet to exposed skin and tight fitting parts of your clothing. See Page 21 of FM 21-10 for more details.

C-2296, -2297, -2298 ... ?

# BOX UP



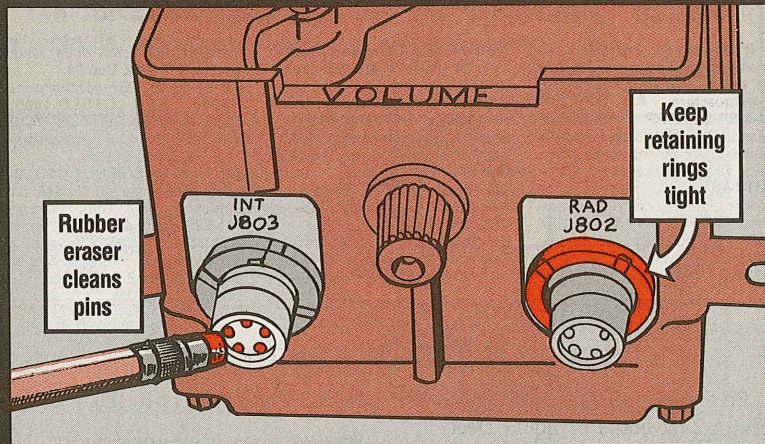
I CAN'T HEAR ANYTHING!

WHAT'D YOU SAY?

You've got to start at the bottom when you want top-notch PM on your AN/VIC-1 intercom set's control boxes.

The audio connectors on the bottom of the box sometimes get the out-of-sight, out-of-mind treatment. They need PM, too.

Eyeball connector pins for corrosion. If you see any, wipe it off with a rubber eraser.



Make smooth, tight connections with your handset or headset by keeping the connector's O-ring lightly lubed with silicone, NSN 6850-00-880-7616. Be sure it's a light coat, tho. Too much grease can insulate the connection.

# PRPM



DO YOU HEAR A BUZZING NOISE?

WHAT WAS THAT, STATIC?

WE'RE SURE IN THE DARK WITHOUT GOOD COMMO PM!

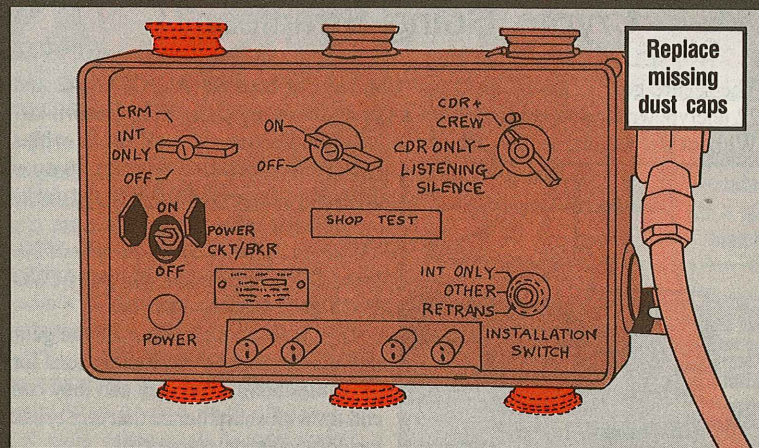
Never use spit as a lube. It can lead to rust and shorts.

Keep the connector's locknut snug. Left loose, it lets the connector twist when you attach the cable. When the connector turns, inside wiring does, too. In time, wires will break.

If locknuts are missing, organizational maintenance replaces them. The NSN is 5310-01-062-6473.

Support has to replace locknuts missing from the power and comms cable receptacles on all boxes and the AM-1780 audio frequency amplifier. You keep them snug, tho.

Protect the receptacle from dirt with a dust cap, NSN 5935-00-933-3752.





## Crypto Going Strapless?

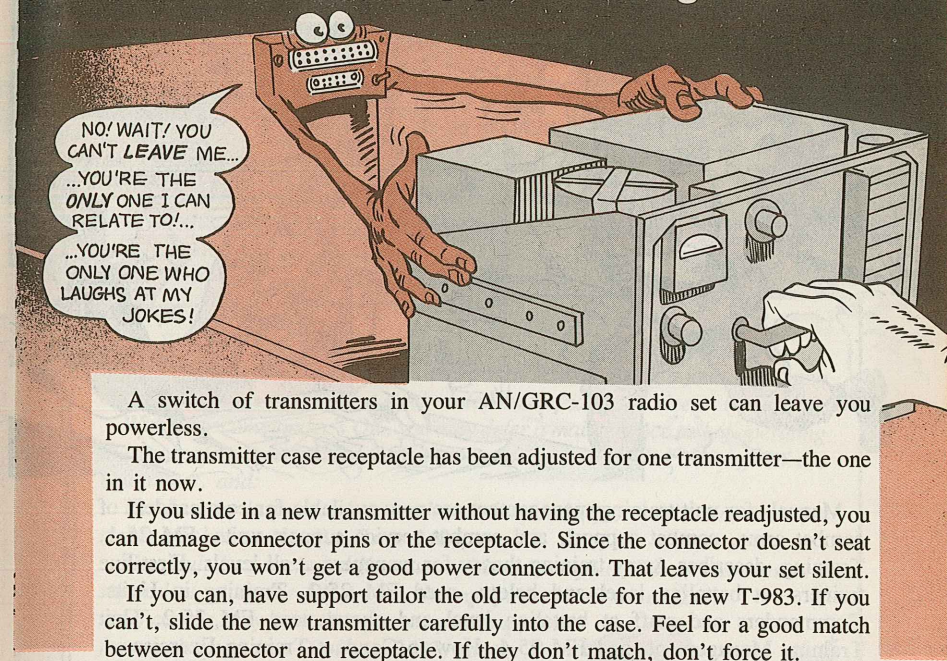
The secure gear in the A, B, D and E models of both the AN/GRC-142 and -122 teletypewriter sets is heading for a fall if you're not using its holddown kit. Without the kit, the crypto set can fall out of the commo rack. Both cables and connectors take a beating. So does the secure gear when it hits the rack, the floor or other equipment.



The kit is NSN 5815-01-100-2520. Your DS installs it for you per MWO 11-5815-334-30-2, Mar 82.

Take it easy when you slide the gear into place. There's not much room for the cables behind the rack and they can end up with sharp bends that can break inside wiring or connectors.

## Keep "Angry" Pair Together

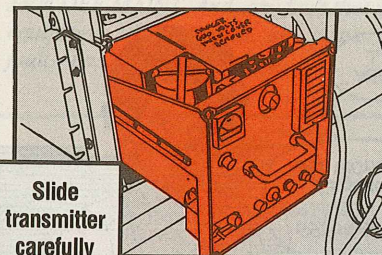


A switch of transmitters in your AN/GRC-103 radio set can leave you powerless.

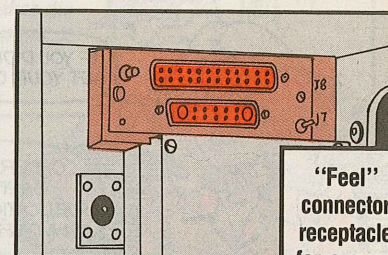
The transmitter case receptacle has been adjusted for one transmitter—the one in it now.

If you slide in a new transmitter without having the receptacle readjusted, you can damage connector pins or the receptacle. Since the connector doesn't seat correctly, you won't get a good power connection. That leaves your set silent.

If you can, have support tailor the old receptacle for the new T-983. If you can't, slide the new transmitter carefully into the case. Feel for a good match between connector and receptacle. If they don't match, don't force it.



Slide transmitter carefully into case

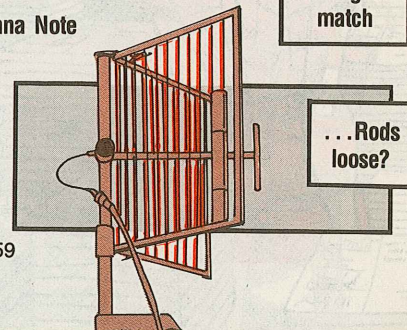


"Feel" connector receptacle for a good match

### Antenna Note

If you've got rods knocking in your radio's flyswatter antenna, have them tightened.

The sleeve bushing is NSN 3120-01-156-8756 and the retaining clip is NSN 5340-01-069-4843. The rod is a DS item, NSN 5340-01-069-4900.



...Rods loose?

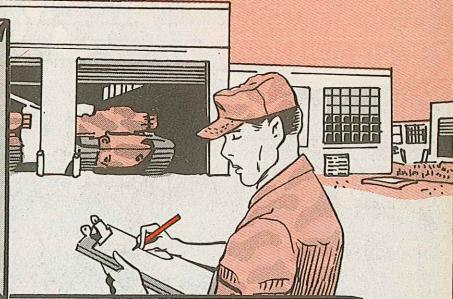
## Unit Training FM's



Manuals for unit training management are now available for commanders of combat arms, combat support, and combat service support units. FM 25-1, Training, describes Army training theory for managers at all levels. First-line trainers—at battalion level and below—need FM 25-3, Training in Units. Commanders and staff at battalion level and above need FM 25-2, Unit Training Management, and FM 25-4, How to Conduct Training Exercises.



## Deferred Maintenance Defined



Dear Half-Mast,  
Para 3-4 and Fig 3-8 of DA Pam 738-750 tell how to fill out a DA Form 2404 for deferred maintenance. But, what exactly does "deferred maintenance" mean? What faults or scheduled maintenance may be deferred?  
SFC C.R.O.

Dear Sergeant C.R.O.,

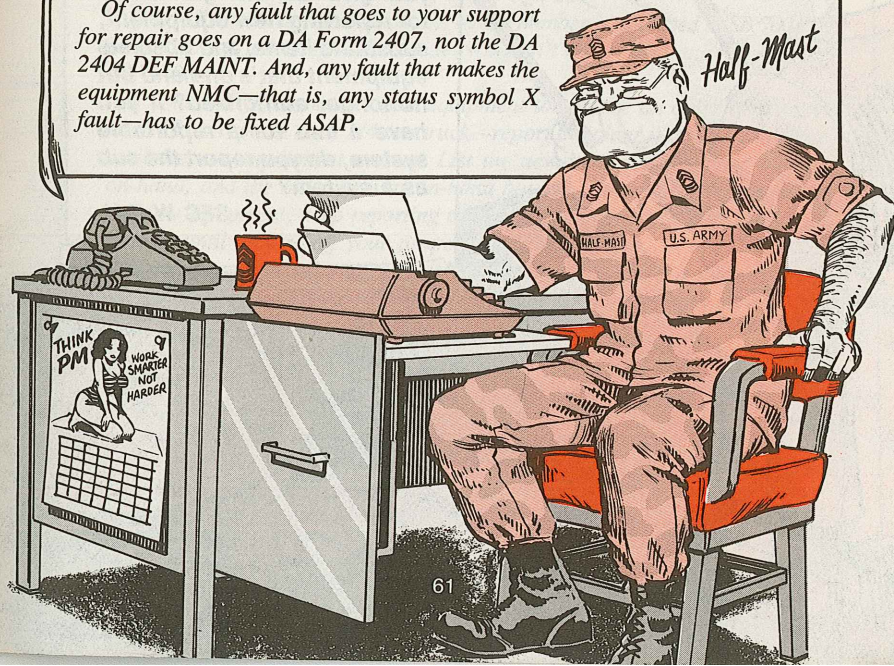
Deferred maintenance means an authorized delay in fixing a fault, replacing a component, or carrying out a scheduled maintenance service or inspection.

With your commander's OK, you may defer a maintenance task if operating the equipment won't mean danger to personnel or further damage to the equipment, and:

The fault or inspection/service has a diagonal (/) or horizontal dash (-) status symbol on the DA Form 2404, or:

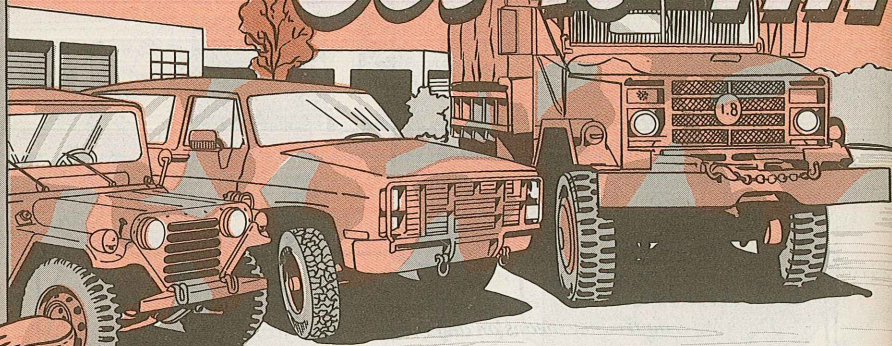
The fault has a circled-X status symbol, and your CO or maintenance supervisor gives the OK to run the equipment until a set date.

Of course, any fault that goes to your support for repair goes on a DA Form 2407, not the DA 2404 DEF MAINT. And, any fault that makes the equipment NMC—that is, any status symbol X fault—has to be fixed ASAP.





# Got it?...

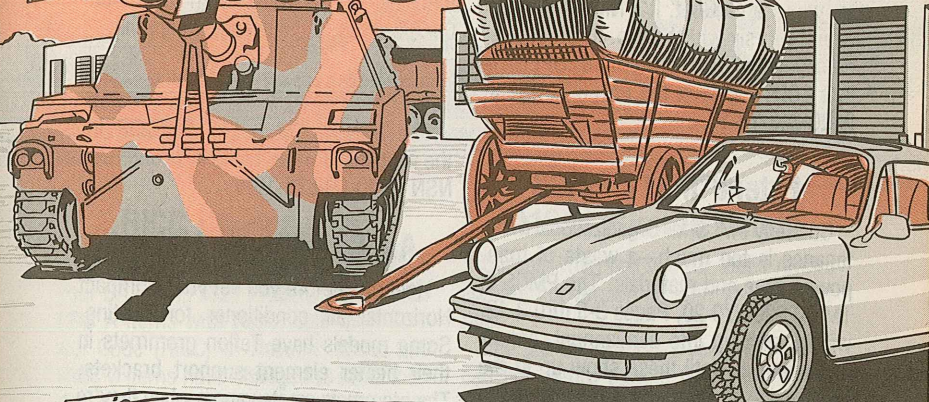


OMIGOSH...  
WHAT DO I  
REPORT?

AUTH ON HAND  
CUCV 9 1

**Dear Half-Mast,**  
Our unit's having trouble with the DA Form 2406. Can you give us the guidelines for reporting new equipment, substitute items, and obsolete equipment that's on-hand but no longer authorized? If you have a sub for a reportable system, do you report the sub as a system?  
**SFC W.R.U.**

# Report it!



**Dear Sergeant W.R.U.,**  
Go by Para C-2 of DA Pam 738-750. Report equipment on the DA Form 2406 only if its LIN is listed in Appendix B, and the item has a code of A, B, F, T or U in the LCC column of SB 700-20.  
If the LIN is not in Appendix B, the model number is not listed in SB 700-20, or the LCC is not a reportable code, you don't report the equipment on the DA 2406.  
If your MTOE authorizes new equipment to replace an older item—say, a CUCV to replace each 1/4-ton truck—report the older item as a substitute until the new equipment arrives. List the new item as authorized but not on-hand, and the older item as on-hand but not authorized. When you get the new equipment, keep reporting the older items until you turn them in—that is, until they're off your property book.  
If you have a substitute for an item that's reportable as a system, check Section I of Appendix B to see if the sub's LIN is marked with an asterisk. If it is not, don't report the sub as a system.  
If your unit gets an item so new it is not listed in SB 700-20, or if you think an item's LCC is wrong, you can take your complaint to the headshed. Para 1-9 of the SB tells how.  
You can also suggest that an item of equipment be added to Appendix B of DA Pam 738-750. Para C-9 of the DA Pam has the details. Use the same channels to suggest equipment for reporting as a system.  
*Half-Mast*

## Gama Goat PMCS

Six-wheel drive capability is required for your Gama Goat. It's NMC if it won't operate in six-wheel drive. This requirement will be added to Item 18, OPERATING CONTROLS, in the PMCS of TM 9-2320-242-10-2.

## Extend M911 PMCS

Quarterly PMCS for Organizational Maintenance is too much—a waste of manpower, time and materials. The PMCS in TM 9-2320-270-20, Pages 3-5 thru 3-12, will be split up into semiannual, annual and biennial. Until these show up in the TM, make all quarterly services in the PMCS semiannual.

## 5-Ton Tow Hazard!

Your M52-series 5-ton tractor doesn't have enough air for safe towing of an M871 semitrailer. You can run out of compressed air for extreme braking needs. The only 5-ton tractor trucks that can safely pull an M871 are the M818, M931 and M932.

Have this stencilled between the M871's air hookups:

**DO NOT USE WITH M52, M52A1 or M52A2 5-TON TRACTORS**

The word's in TACOM Msg AMSTAMTB 011600Z Nov 84.

## Barbed Tape/Wire Gloves

Protect your hands when you handle barbed tape or wire with tape/wire handler's gloves, NSN 8415-00-926-1674. The authority for them is Chap 2, Section II, of CTA 50-900.

## M3A1 Magazine Pouch

You can get a pouch for M3A1 sub-machine gun magazines with NSN 8465-00-705-2438. It holds one magazine.

## M548 Carrier Wiper Blade

The NSN in TM 9-2350-247-20P for the windshield wiper blade is wrong. Use NSN 2540-00-523-1997.

## Air Conditioner Hazard

Hold one before you set your Compact Horizontal air conditioner for heating. Some models have Teflon grommets in their heater element support brackets. The grommets create vapors when they're heated up—and those vapors can make you sick. Remove the grommets before you use the unit as a heater.

TROSCOM Msg AMSTR-WX 181800Z Jul 84 tells which models have the problem and how to get a replacement bracket.

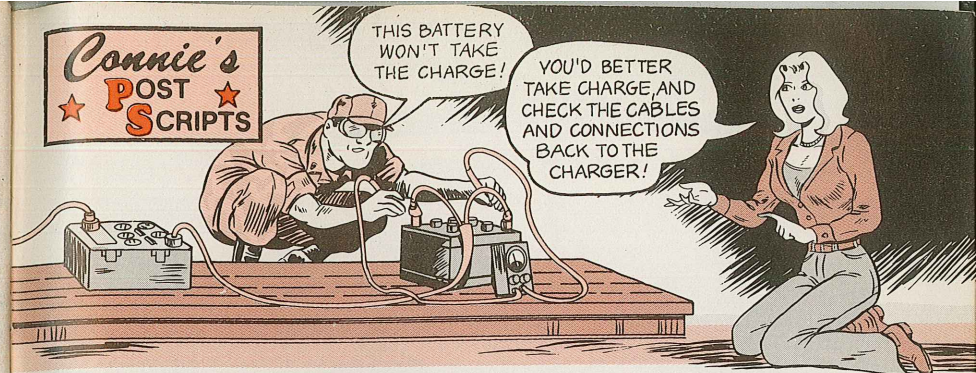
## Ramp Pump Danger

Don't use M113-series vehicle ramp pumps painted light forest green. They're dangerous. If they fail during operation, the ramp can free-fall. They were made under contracts DAAE07-82-C-A026, DAAE07-82-C-0593 and DAAE07-82-C-A586.

If you get one, turn it in. Use only pumps that are painted gray and marked AA or LFE.

## Field Desk Stool

Get the folding stool for the field desk, NSN 7110-00-267-1999, with NSN 7105-00-282-0684.



## RICC Change Alert

Attention, property book types! Check your DA Forms 3328 Property Records for ERC A items with Reportable Item Control Code (RICC) 0. Reason: about 250 RICC 0 items have changed to RICC 2 on the 1 Mar SB 700-20. You'll have to start reporting them under Chapters 2 and 7 of AR 710-3. Follow your command's reporting procedures.

## TOW Verification Labels

You can get the new verification labels for your TOW 2 and basic TOW system components with NSN 9905-01-143-9414.

## SC for Welder's Tool Kit

Use SC 5180-90-CL-N39 (May 84) to keep your welder's tool kit, NSN 5180-00-754-0661, up to date. The pub's good, but it's not listed in DA Pam 310-1 yet.

## PU-628/G Hose

Use NSN 4720-00-235-4131 to get the rubber fuel hose shown as Item 29 in Fig 18-10, TM 5-6115-365-15. The TM shows only a part number. Order 2 feet of the hose.

## M16A1 Rimfire Safety

Careful when you use the M261 rimfire adapter conversion kit with your M16A1 rifle!

The .22 cal cartridges used with the kit can fire before they're fully chambered, and ruptured brass can hit your eyes.

Wear safety goggles and use cartridge deflector, NSN 1005-01-171-4778.

Stay clear of the ejection port side of the rifle during firing. Minimum space between shooters must be two meters.

## Chaparral IFF Screws

If you're authorized to remove the IFF antenna cover on your Chaparral system, **use the right screwdriver!**

You need a Phillips-head cross tip No. 2 and minimum muscle. Otherwise, the screw heads will round out and make a small job big. It's helpful to clean crud from the screw head first.

## AB-1089 Tripod

NSN 5985-00-453-9439 brings you the AB-1089 tripod adapter used with your AB-155 mast. This info will be added to TM 11-5820-251-14P.

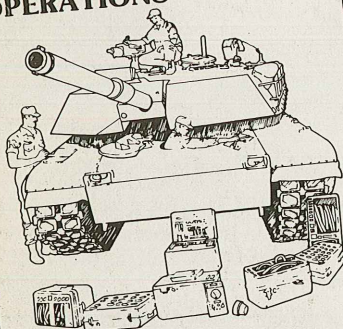
☆ U.S. GOVERNMENT PRINTING OFFICE: 1985—559-008—5

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

# Two for the money...

## ORGANIZATIONAL MAINTENANCE OPERATIONS

FM 29-2  
JULY 1984



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## MOTOR POOL OPERATIONS FIELD CIRCULAR 43-2



JULY 1984

ARMY ORDNANCE CENTER & SCHOOL  
ABERDEEN PROVING GROUNDS

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# ... One for the GO!

## VEHICLE RECOVERY OPERATIONS

FM 20-22  
AUGUST 1984



HEADQUARTERS  
DEPARTMENT OF THE ARMY

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