

Issue 373

PS

December  
1983

THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY

1983  
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Page 29



RELAX, MEN...  
THE BLUE TEAM  
JUST LOST 2 TANKS  
TO POOR PM!

# Lock Those Sights and Scopes

When you're out ridin' the range, you don't need the extra worry of whether your optical sights and periscopes are gonna fall from their mounts.

That's why you're extra sure each sight and scope is securely mounted. Which also means you've got to take good care of the locks and latches. After all, what good's a busted sight on the battlefield?

SO-O-O-O, HERE'S HOW YOU KEEP THOSE LOCKS AND LATCHES HOLDING ON...

• If a latch doesn't seem to fit right, don't force it. Make sure everything's lined up right and try again. A little jiggle here and there might be all that's needed. If you break a latch, somebody's got a repair job. And you're out a sight 'til it's fixed.



Don't force latches

• If a latch is bent or broken, it's no good 'til it's fixed. Report it to your mechanic. You need 'em all working or they wouldn't be there in the first place.



• If you're having trouble hooking up a sight or scope, ask for help. Some sights are bulky, and another pair of



hands can be very welcome. Remember, that sight's not going to do anybody any good if you drop it.

## PS THE PREVENTIVE MAINTENANCE MONTHLY

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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

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# You Can't Hit When You Can't Aim!

DON'T BE SHOOTIN'BLIND... USE THESE TIPS TO MAKE SURE YOU CAN SEE OR AIM AT YOUR TARGET!

RATS! MISSED AGAIN!

IT'S PRETTY BAD IF WE CAN'T HIT THE BROAD SIDE OF A BARN!

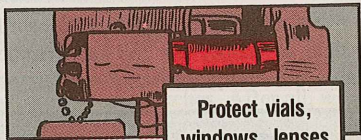
• Put the scopes on the mounts and the mounts on the vehicles exactly the way the TM's say. Before you mount 'em, check mounting surfaces for grime and damage.



Mounting surfaces clean?

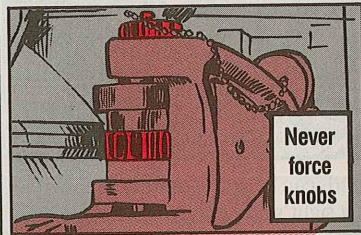
• Stick to your maintenance level specified in the Maintenance Allocation Chart. You'll do more damage than good if you try repairs you're not authorized to do.

• Protect all level vials, windows and lenses with their covers.



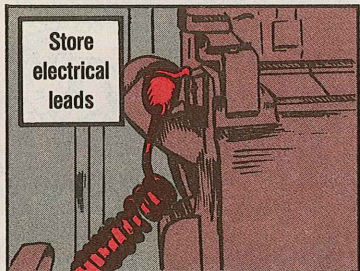
Protect vials, windows, lenses

• Know your knobs, their turning direction and stops. Use a light touch on all knobs, rings, screws, caps, latches, catches, covers and locks. Never, but never, force 'em.



Never force knobs

• Make sure you store electrical leads and hand-held lights in their receptacles. Dangling leads get caught, pulled and damaged.

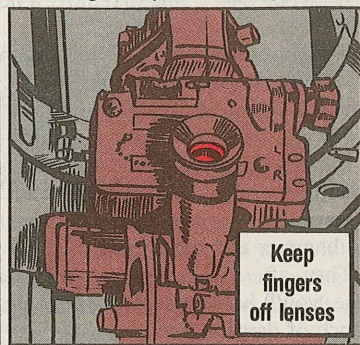


Store electrical leads

• Clean electrical contacts, plugs and receptacles before you mount optical equipment.

• Keep fire control equipment clean and dry. Never use a high-pressure hose inside a vehicle or above the tracks. Dampness and splattered water ruins seals, optics and bearings.

• Never touch lenses with your bare fingers—you'll smudge 'em.

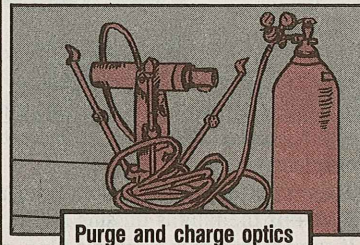


Keep fingers off lenses

• Dust and clean lenses exactly as shown in your vehicle or instrument TM. Use only the supplies called for. Never use cloth (your sleeve, cap, shirttail, etc.) to clean lenses.

• To clean head pads and eyeshields of oily sweat, wipe 'em with a cloth rinsed in soapy water. Be sure to remove the eyeshields before you clean 'em—and before you clean the lenses.

• Finally, purge and charge optics and mounts as needed, or as called for by TM 750-116, your vehicle's TM or the instrument's TM. SC 4931-95-CL-J54 covers purging and charging equipment.



Purge and charge optics

## Bore Evacuator TLC

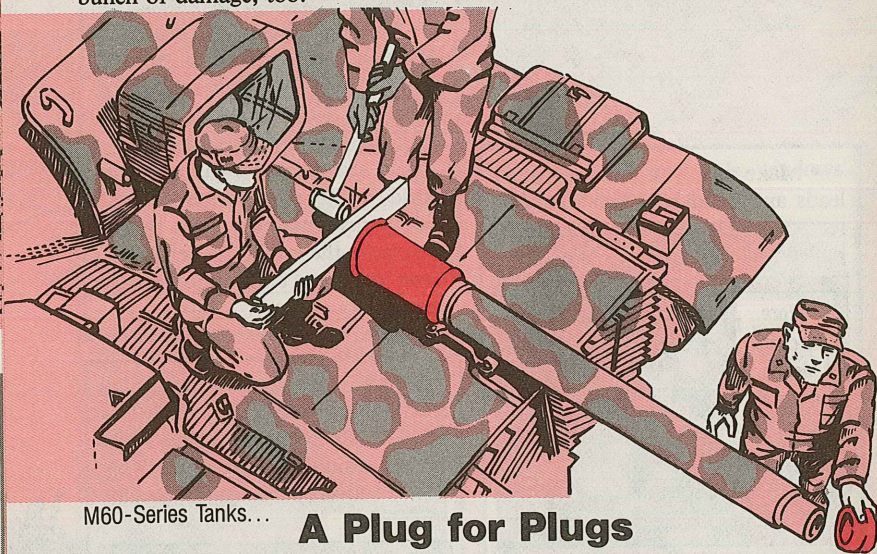
It's a real pain trying to remove a bore evacuator that's frozen on a tank gun tube.

Nothing new there, right? Well, removing the evacuator is a whole bunch easier if you've followed the cleaning and lubing instructions in your vehicle's LO.

When you clean and lube after each firing, or at least quarterly when you're not firing, that evacuator will come off slick as a whistle.

But what happens when an evacuator wants to make like a stubborn old mule and won't budge? You have to give it a little persuasion. Thing is, you don't beat the evacuator to pieces with a sledgehammer. You use a block of wood between the hammer and the evacuator.

Then, after you get the thing off, clean it up real good and lube it right. Next, time, you'll have less work getting the evacuator off, and you'll have saved a bunch of damage, too.



M60-Series Tanks...

## A Plug for Plugs

What's the easiest way to save a very expensive tank gun tube? Make sure the muzzle plug is in place any time your tank is not on the range.

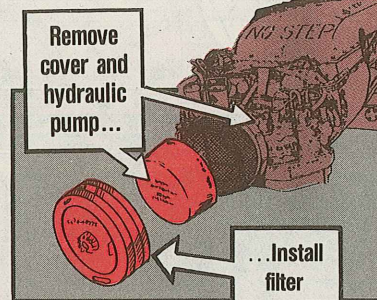
That plug keeps all sorts of things out of the gun tube—rain, dirt, windblown trash, etc. And if those things get in the tube, there's always the danger of blowing up the tube.

There's nothing healthy about firing a round with the tube obstructed. It could happen—if the plug is missing or not used.

If your tank needs a muzzle plug, get one with NSN 1015-00-769-9846.

Prevent FOD...

## Use the Filter!



Any time you tankers pull the turbine engine powerpack out of your M1 tank for maintenance and run-up, make sure you install the ground hop filter. It takes the place of the tank filters.

If you run the engine without the filter, it'll draw in dirt and damage the powerpack. You'll find a caution about that problem in Task 7, Page 2-45 in TM 9-2350-255-20-1-3-1 (Sep 82).

Aircraft types call the results of ingested material "foreign object damage." Whatever you call the damage, it's bad news because it can give you an engine failure.

'Course, there's no problem running up an installed powerpack. The on-board filters prevent damage.

Also, before ground hopping, be sure you remove the hydraulic pump. It could be destroyed due to lack of lubrication. That's the word on Page 2-39 of TM 9-2350-255-20-1-3-1.

M60-Series Tanks...

## Turret Motor Motoring?

Does the turret motor in your tank run longer or more often than you think it should?

It may be you're low on hydraulic fluid. The lower the fluid level, the longer and more often the motor must work to keep the pressure up. And the extra burden on the turret motor can cause it to burn out.

Check your hydraulic fluid level weekly and before firing, like it says in your -10 TM's PMCS. Add fluid as needed to keep the fluid level between



the FULL and ADD marks on the gage.

Then, keep an ear open for extra work by the turret motor. If it's running a lot, check the fluid level again. It might save you a turret motor.



## Telescope Shortout Check

Your new M118-series elbow telescope could go down for the count if its electrical connector receptacle shorts out when you install it.

An assembly error by the manufacturer has put a bunch of scopes into the supply system with the wiring reversed. When these scopes are installed in the M146 mount, they short out.

Before you fry a scope, have your DS repairman use a multimeter and check for a good ground on pin B of the scope's electrical connector receptacle.

If pin B is the ground, your scope is OK and you can install it. Otherwise, GS will have to repair it.

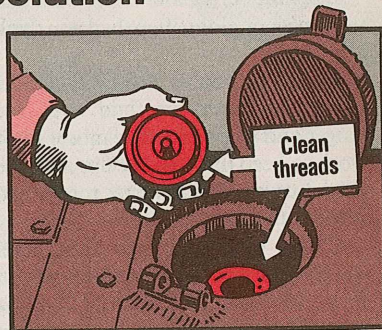
M109A2 Howitzer...

## Slick Solution

If radiator cap, NSN 2930-01-090-4932, is giving you fits because it sticks, try using a silicone-base oil on it.

First, clean the threads of both the radiator neck and cap. Then coat the cap's threads with lubricating oil, NSN 9150-00-543-7220 (1-lb can).

If you tear up the cap trying to get it off, replace it with NSN 2930-00-737-6626. That's the one used on M109A1 and A3 models.



6

100-Amp Generator Regulator...

## Give It a Second Chance



When the 100-amp generator regulator, NSN 2920-00-900-7993, goes on the blink in your M113-series carrier, M109-series howitzer or tactical vehicle, you just swap it for a new one, right?

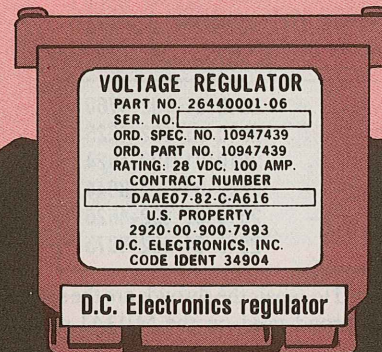
Maybe not.

Late model regulators have a voltage surge trip system built into them. They include D.C. Electronics Model #26440001-06 and some -05's. Check the data plate for the model number.

The regulator will trip off when voltage surges too high. That might make you think the regulator is faulty when it's still good.

Here's what you do to check it out: Shut your vehicle down and turn the master switch off. This will let the trip system reset itself.

The regulator will work right the next time you start unless there's an over-voltage condition in the electrical system.



WHEN VOLTAGE RETURNS TO NORMAL, THE REGULATOR RESETS ITSELF. IF IT DOESN'T, HAVE YOUR MECHANIC TROUBLESHOOT IT!



7

## A Shock-ing Omission

ALL THE UPPER BEARINGS ON THE SHOCKS ARE SHOT!

I GUESS WE SHOULD HAVE CHECKED THE BEARING SEALS!

Your M113A2-series carrier could be in for some rough going if the upper bearing on a shock absorber fails.

That's a possibility if the shock doesn't have bearing seals. Seems a lot of vehicles were built or converted without the seals installed.

Give your carrier's shocks a look-see for the seals. If they're missing, add 'em as soon as you can.

You'll need the same parts used on the bottom bearing: seal, NSN 5330-00-570-4060; seal, NSN 5330-00-570-4057; and washer, NSN 5310-00-059-3531.

## Track Shroud Parts

The -20P for the M113A2-series vehicles doesn't help a whole lot when you're looking for parts for the smaller track shroud used on those vehicles.

HERE'S A LIST OF PARTS WITH NSN'S THAT'LL COME IN HANDY ...

Track shroud—	2510-01-102-4760
Track cover (left rear)—	2510-01-102-4625
Track cover (right rear)—	2510-01-102-4624
Track cover (left forward)—	2510-01-105-3044
Track cover (right forward)—	2510-01-102-4626
Cover clamp—	2510-01-102-6875

All the other parts needed to repair the shrouds are the same as those for the larger shroud used on the M113A1-series vehicles.

## Ramp Seal Fix

Cut seal to fit!

Top seal

IF YOU'RE GOING TO GET WET, GET A GOOD SEAL!

Got a new ramp seal, NSN 5330-00-906-1034, that's too long or too short for the job?

Don't scrap it—use it. But take care in doing it or your carrier may leak the next time you go swimming.

To use the oversize seal, fit it around the bottom and sides of the ramp opening in one continuous piece. Then cut the seal ends so they'll fit against the top seal without leaving a gap.

Use the undersized seal only for the top edge of the ramp. Cut it to the right length and throw away all left-over seal pieces. 'Course, if you've got the right top seal, NSN 5330-00-906-1035, use it.

Check out TM 9-2300-257-20 for installation instructions and the adhesive to use. It'll help keep you afloat.

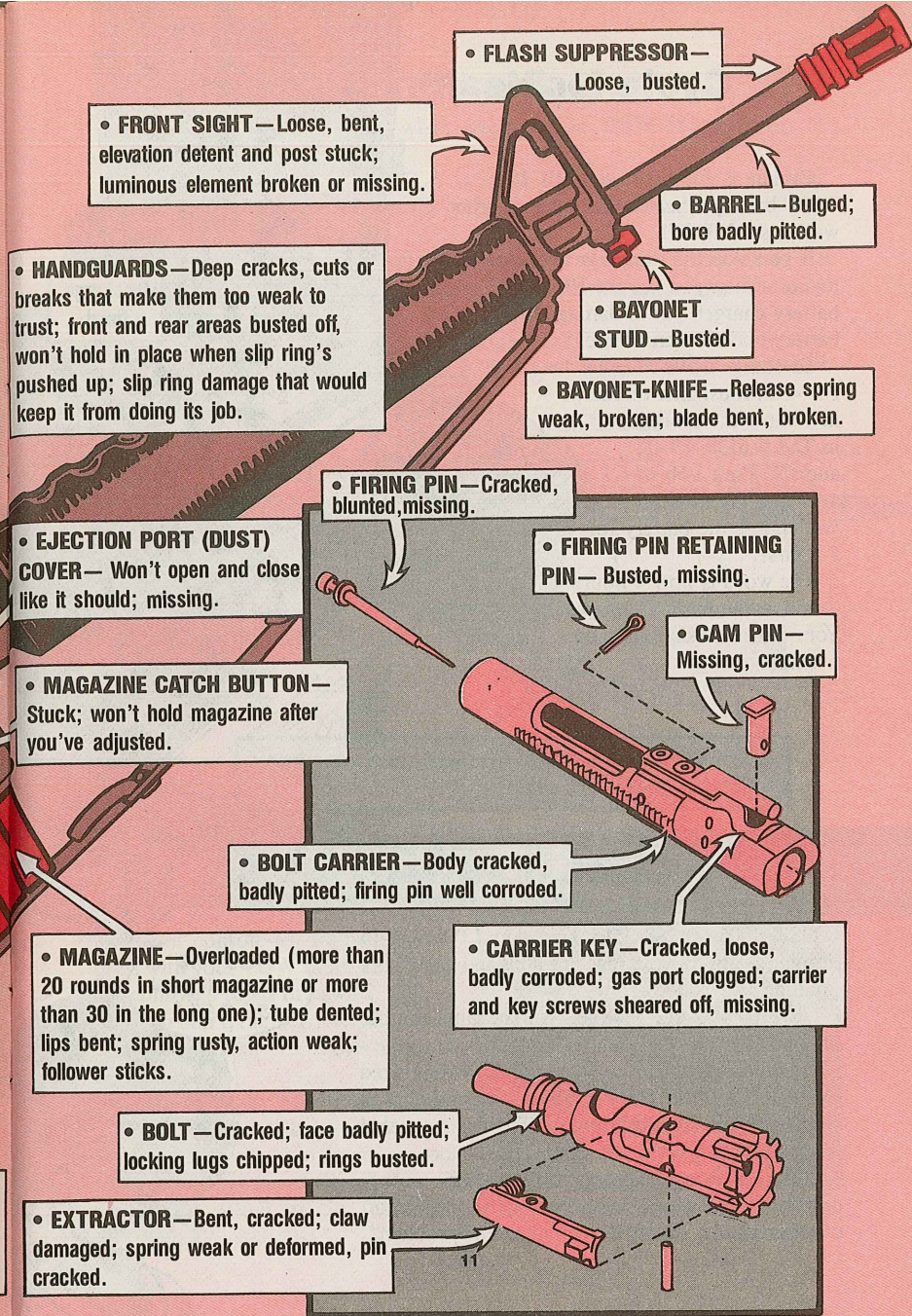
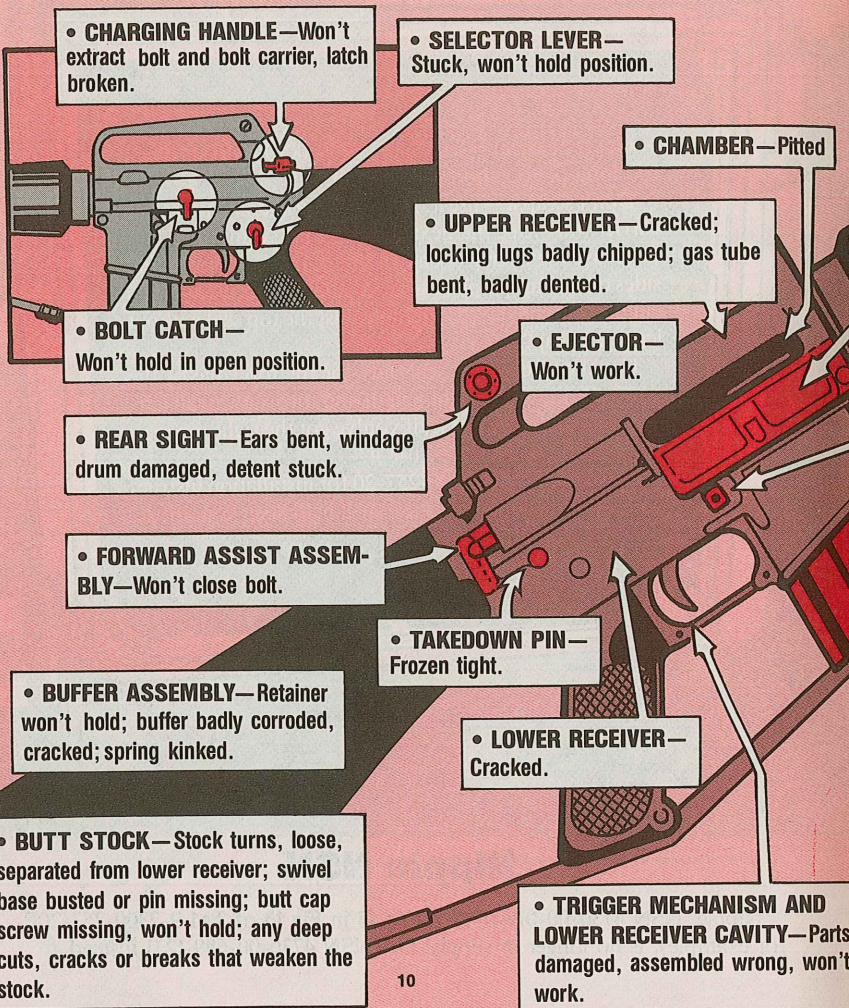
## Nipple NSN

Nipple, NSN 4730-00-019-0797, (Item 13 in Fig 13 of TM 9-2300-257-20P, for example), is no longer in supply. Use NSN 4730-00-689-1231 instead.

## Is Yours Ready Now?

You've cleaned and lubed your M16A1, all according to the TM. But when you have to go, you have to know: Is your rifle ready?

If your weapon has any of the faults listed here, it needs some work.



## Cycle for Healthy Batteries

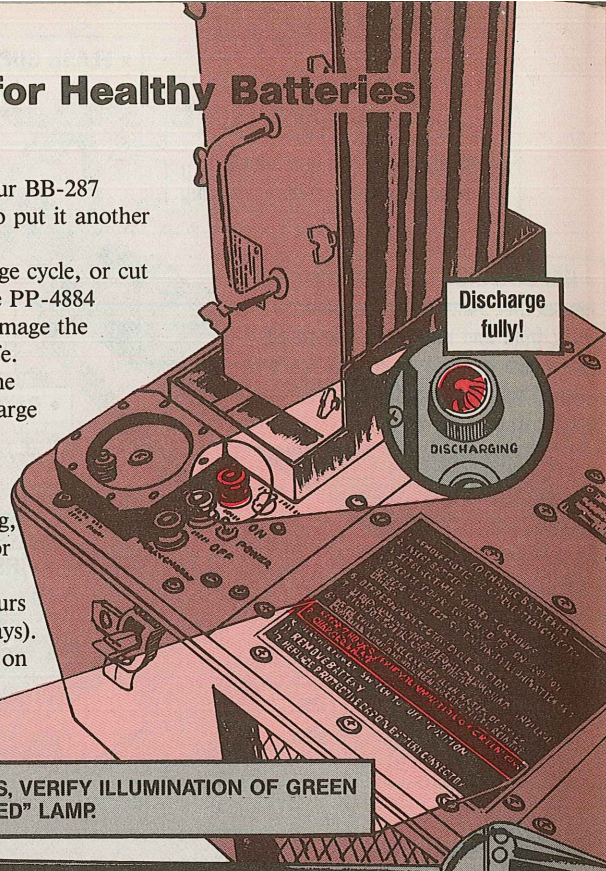
Cycling is good for your BB-287 TOW battery's health. To put it another way, it's a **MUST!**

If you skip the discharge cycle, or cut it short when you use the PP-4884 battery charger, you'll damage the battery and shorten its life.

To charge a BB-287, the PP-4884 must first discharge it. Follow the procedure in TM 9-6130-470-12 and Cl. Para 1-6b of Cl 1 says that after discharging, you charge the battery for 5 hours.

The word is now 4 hours (same as the basic TM says). Your battery lasts longer on a 4-hour charge.

9. AFTER 4 HOURS, VERIFY ILLUMINATION OF GREEN "FULLY CHARGED" LAMP



## Cleaning Swab NSN's

NSN 1005-00-288-3565 gets you 1,000 2½-in cleaning swabs for your machine guns and larger bore small arms.

NSN 1005-00-912-4248 gets you the same number of smaller swabs for your M16A1 rifles.

A packaging foul-up could get you the wrong-sized swab under those NSN's. Some old mis-packed swabs are still slipping through. The package label is wrong or the swab size is wrong.

If the swabs are right and the marking's wrong, or if you get the wrong size, submit an SF 364, Report of Discrepancy. Justify it as a "recurring problem."

PASS THE WORD WITH AN SF 364!



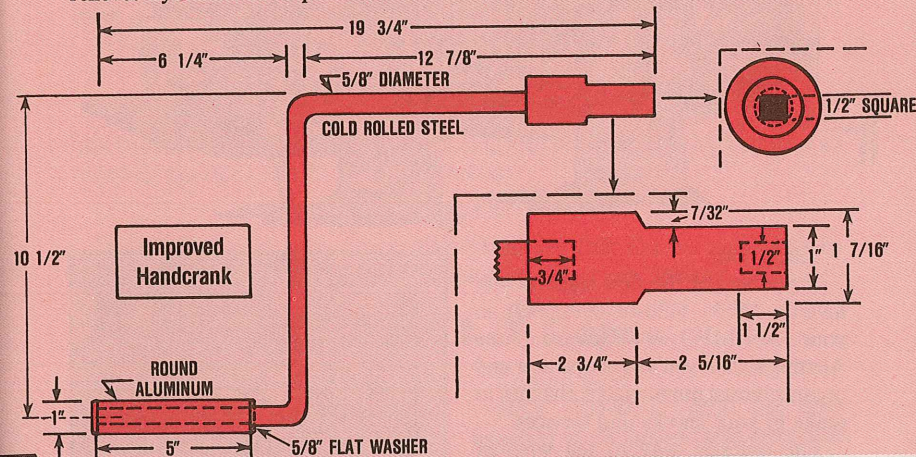
## ITV Handcrank Mod

Tired of busting your hump when erecting your TOW ITV launcher by handcrank?

The Maintenance Division at Fort Benning has come up with a stronger, improved handcrank which erects the launcher in less than 30 seconds and cuts the labor in half.

Your unit can request your support to make it for you. Plans are in TB 43-0001-39-6 (Jul 83), but the dimensions in the drawing are wrong. The good stuff's below.

When you use either the issue or the fabricated handcrank, keep inward pressure on the actuator arm as you turn the crank. That feeds current to a solenoid which relieves hydraulic back pressure.



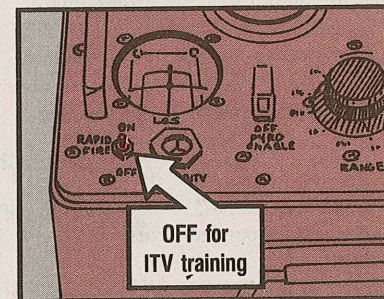
## Training & Your ITV

When you use your M70 trainer instructor console for training operations with your TOW M901 ITV, keep the console's rapid fire switch off!

If you don't, the TOW vehicle power conditioner (TVPC) will overheat and be damaged.

With the rapid fire switch on, the TVPC pulls a steady launcher electrical load and doesn't get a chance to cool off between simulated firings.

With the switch off, the TVPC gets a chance to cool down. Turn it off for all training operations.

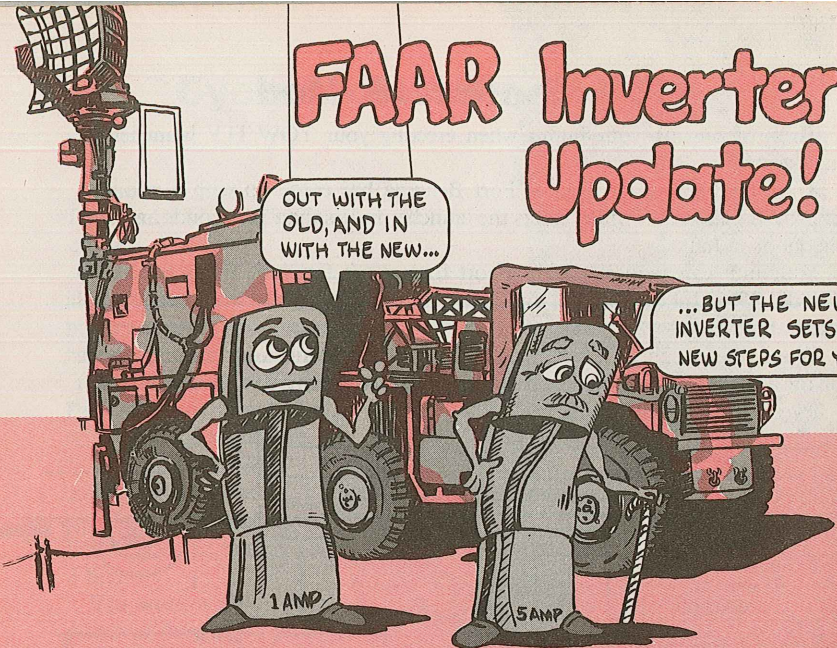




# FAAR Inverter Update!

OUT WITH THE OLD, AND IN WITH THE NEW...

... BUT THE NEW INVERTER SETS UP NEW STEPS FOR YOU!

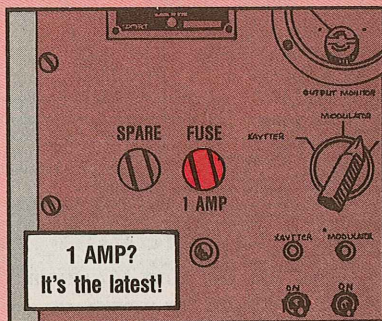


Take a look!

If you've got the new static power inverter (NSN 6130-01-099-4349) in your AN/MPQ-49 Forward Area Alerting Radar, you've got operator and organizational maintenance changes to make in your checks and services.

The quickest way to tell whether you've got the new inverter is to check the fuse marking on the front panel. If "1 AMP" is marked under the fuseholder, you've got the new inverter.

If "5 AMP" is there, you've got the old inverter, NSN 6130-00-280-2184.



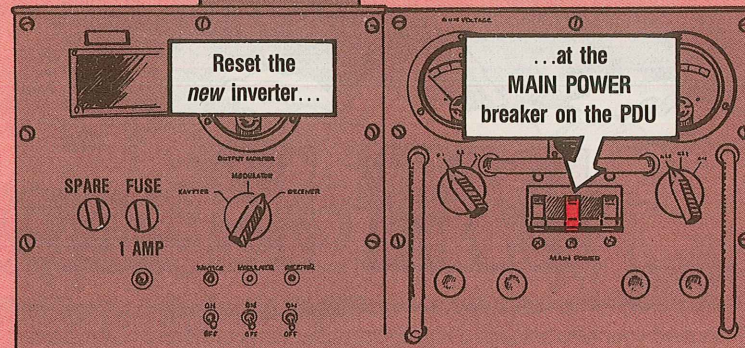
Check the spare fuseholders to be sure the fuses match the inverter you have.

## MDS Check

C2 to TM 9-1430-588-20-2 cuts out part of the MDS check on the new inverter. There is no current adjust on the A2 card, but you still adjust voltage on the A1 card.

Current is self-adjusting. The inverter allows .5 second or less of excess current and then trips the breaker. It gives better protection, but it sets up a new step for you.

Unlike the older inverter, the new one does not reset automatically. You must



reset at the MAIN POWER breaker on the power distribution unit (PDU). The voltage regulator still resets automatically when the fault is removed.

## New Transistors

If the A5 and A6 transistors are turned on at the same time in the new inverter, the base drive will shut down. There's no automatic reset. You have to reset by tripping the PDU MAIN POWER breaker.

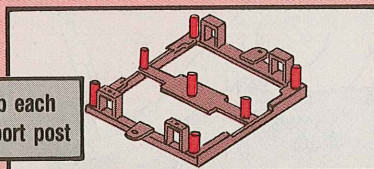
## Parts List

Parts for both inverters are in TM 9-1430-588-24P. Get the right parts by ordering those listed under the NSN for your old or new inverter.

## I-HAWK L-T Caps

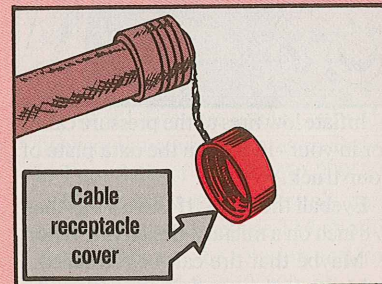
Check the serial number on your XM501E3 loader-transporters...and grab a pencil.

If the serial number is 08101 or under, you can now get a rubber cap for each of the 7 support posts on your L-T's battery retainer. NSN 5340-00-679-9659 gets you 1 each of the caps.



L-T's with a serial number 08102 and above have sturdier battery retainers and do not need the caps.

Make a note: NSN 5935-00-137-4670 has been assigned to the boom cable receptacle



cover (Item 13, Fig 53, TM 9-1450-500-24P). The part number has been changed from 9098691 to MS 25043-22D.

Tires...

# PM Keeps 'em Rolling

Tires need your help to keep rolling up the miles. Forget PM and you're headed for heavy tire wear or early tire failure.

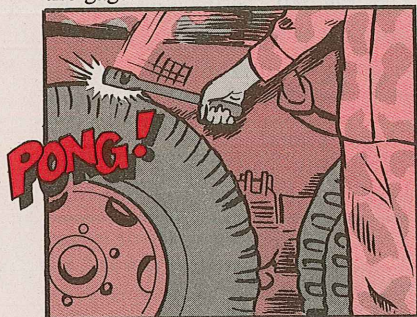
## Operator

During your daily before-operations checks, look for cuts, bulges, nails or any kind of damage.

If there's rocks stuck between duals, get 'em out.

Check the pressure of any tire that looks low. Hit duals with a hammer or lug wrench to spot a soft tire.

A "pong" is good. A dull, mushy "thunk" tells you to doublecheck with a tire gage.

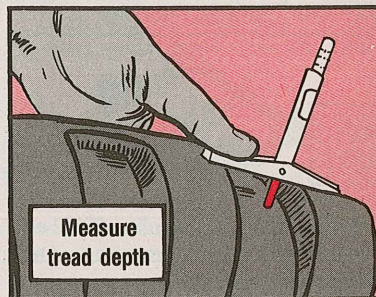


Inflate low tires to the pressure called for in your -10 TM on the data plate of your truck.

Eyeball the tread. If there's less than 1/8 inch on a military-design tire, report it. Maybe that tire can be retreaded.

Measure the tread depth with gage, NSN 5210-00-019-3050. It's in the No. 1 and No. 2 Common Shop Sets.

Check pressure in all tires weekly... while the tires are cool.



## Mechanic

Look for unusual tread wear during scheduled maintenance. Uneven wear could be caused by alignment, steering or suspension problems.

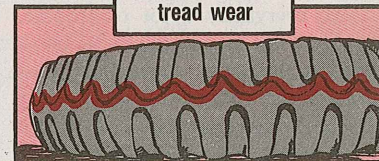
Match tires by tread design and size. Each pair in duals must be of nearly the same circumference. If one is bigger, it'll take most of the load—and wear faster or fail. See Para 2-1f of TM 9-2610-200-20 for details on matching.

Check wheel nuts, rims and side rings for damage. Replace cracked rims—they can't be repaired.

Never skimp on safety. Use a tire inflation cage and other safety procedures spelled out in TM 9-2610-200-20.

Turn the front wheels fully in both directions. Check that tires clear the body.

Look for unusual tread wear



## To Rotate or Not To Rotate

PMCS tables in some vehicle TM's read like tire rotation is required during every scheduled maintenance.

Not so! Tires are rotated only when they show uneven wear, as spelled out in Para 2-1h of TM 9-2610-200-20.

If tires are wearing unevenly, rotate as shown in your vehicle TM. Nothing there? Then use the rotation pattern in Fig 2-5 of TM 9-2610-200-20.

Uneven tire wear is a tipoff something's wrong. Could be the front end's out of line, or maybe there are steering or suspension problems.



## Front-End Alinement Blues

Front tires on your 1/4-tonner wearing unevenly? Your truck pull to one side or wander all over the road? Too much play in the steering?

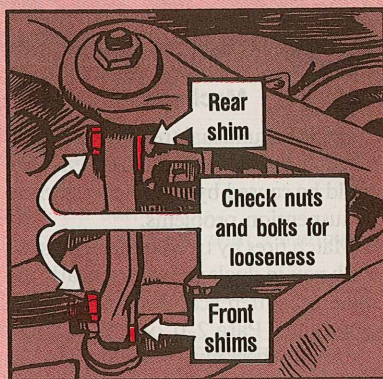
These are signs that something's out of whack—low tire pressure, loose or missing wheel nuts, or loose tie rod ends.

Another good bet is, your front end is out of alinement—because of loose nuts and bolts on the lower suspension arms.

Maybe you've already lost the shims and spacers used to adjust alinement. Worse, the nuts can back off till you lose the suspension arms altogether!

Save everybody a lot of trouble. Check the nut 'n' bolt mounting hardware on the lower suspension arms closely during your monthly underbody PMCS. If they're loose, have your mech re-torque 'em—40-55 lb-ft for the two front nuts and 45-65 lb-ft for the rear nut.

If the shims are missing, turn your vehicle in to support.



## Damaged Wheel Is No-Go

Dear Half-Mast,

Is there a TM that covers inspection of vehicle wheels? Are any cracks allowed? Can cracks be welded?

SFC L. H.

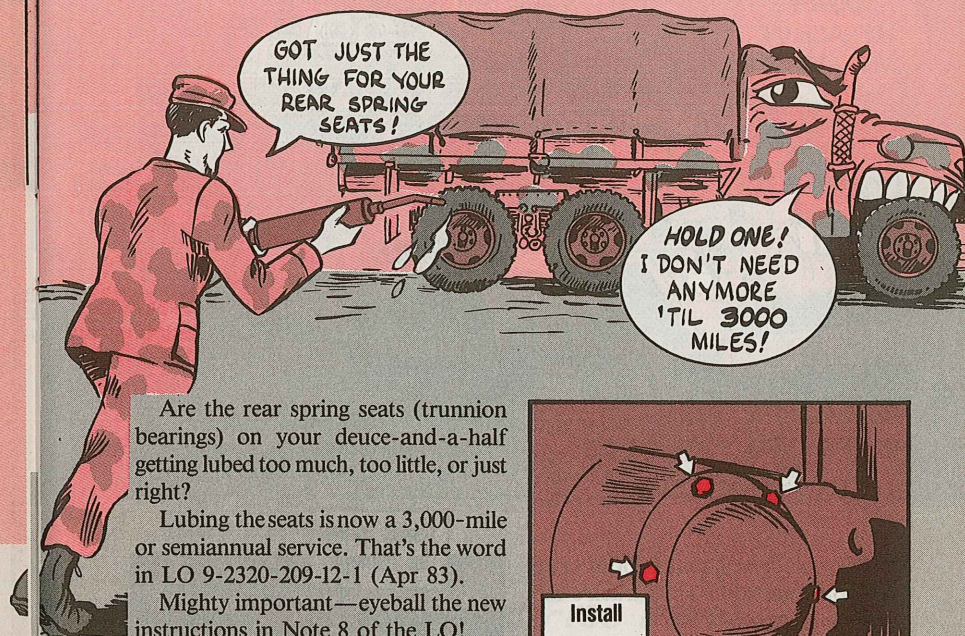
Dear Sergeant L. H.,

There's no TM that covers wheel inspection. But you can use the inspection rundown in Para 2-15 of TM 9-2610-200-20, Organizational Care, Maintenance and Repair of Pneumatic Tires, Inner Tubes and Radial Tires.

Never operate with a cracked wheel...replace it. Welding is not allowed. Wheels are not repairable, according to the SMR code in vehicle -20P TM's.

Half-Mast

## New Info on Rear Spring Seat Lube



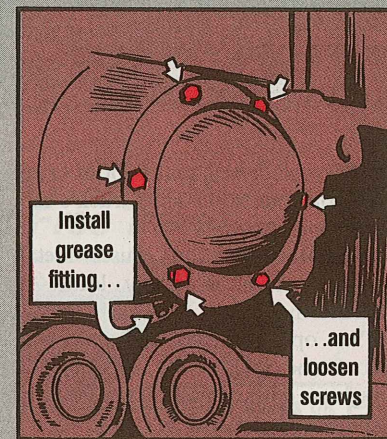
Are the rear spring seats (trunnion bearings) on your deuce-and-a-half getting lubed too much, too little, or just right?

Lubing the seats is now a 3,000-mile or semiannual service. That's the word in LO 9-2320-209-12-1 (Apr 83).

Mighty important—eyeball the new instructions in Note 8 of the LO!

If your spring seat is missing the grease fitting hole, have DS make one like it says Chap 16 of TM 9-2320-209-34-2-1.

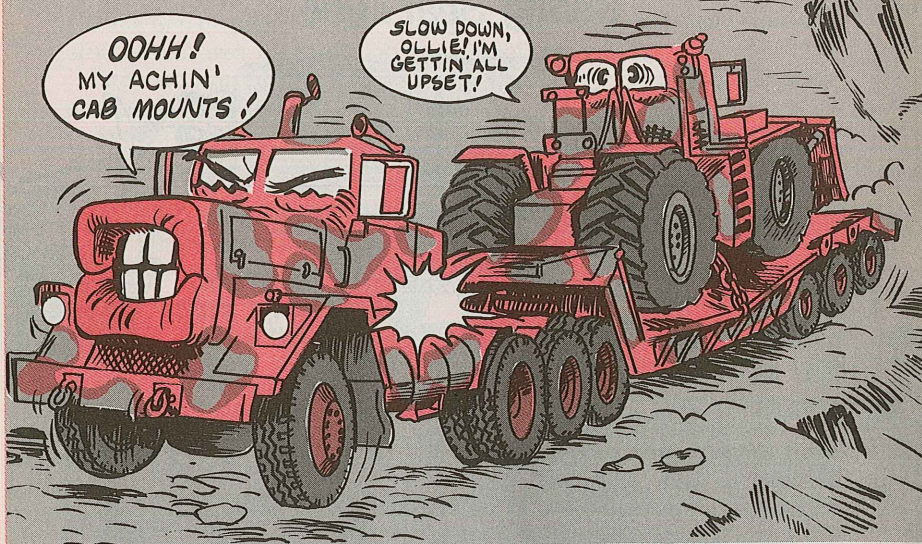
Have it done at the next annual or 6,000-mile service, or when the seat is being serviced.



## Truck Winch

When you're trying to find parts for the front or rear winch on your 2 1/2-ton truck, TM 9-2320-209-20P is not much help. Don't give up, tho. Look in your support's TM 9-3830-206-34P. In addition to support parts, it also lists a lot of organizational parts.

## Call Out the Reinforcements

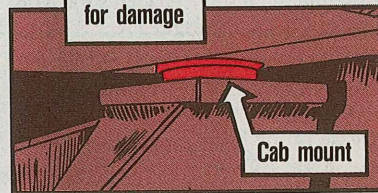


Off-road driving puts a lot of extra stress on your M915-series truck's cab frame and mounts.

Constant vibration causes metal fatigue, which eventually leads to cracked mounts.

You operators need to inspect the cab frame around the mounts for cracks or other damage. If you find any problems, report 'em.

Check frame for damage



Support can reinforce the frame and mounts using instructions on Pages 2-86 thru 2-91 of TB 43-0001-39-6 (Jul 81).

## Transmission Trouble?

Having a problem shifting gears in your M915-series truck? Hear or feel a constant leak of air under pressure from any of the 12 transmission breathers? If so, your truck's got some kind of internal problem. Could be serious. Send it to DS to get it fixed, like the troubleshooting section on Page 6-5 of TM 9-2320-273-20 says.

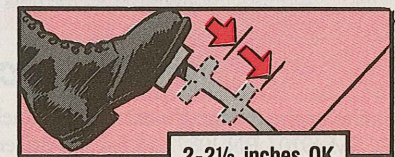


## 5-Tonner Kit Dropped

The troop seat and tarpaulin kit, NSN 2540-00-064-6589, for the M817 dump truck is no longer available. You have to order each component separately, as listed in TM 9-2320-260-20P, Page 576. The NSN for the right side rack assembly is wrong, tho. NSN 2510-00-860-0517 is correct. Make a note for your TM.

## Clutch Pedal Free Travel

The amount of clutch pedal free travel allowed in the TM for TM-211-series 5-ton trucks is not right. Instead, it's 2 to 2½ inches. This info is on Page 4-40.3 of TM 43-0143, C1.



## Stick to Steel

Copper tubing for hydraulic brake lines makes your tactical wheeled vehicle Not Mission Capable. TACOM Msg DRSTA-MTB 051100Z Aug 83 has the word. Copper's not as rugged as steel. It won't stand up to the job.

Check those brakes...now! Use your pocketknife—anything—'n' scrape the line. If you can nick it, it's copper. Report it.

## Tarp Tiedown Rope

Dear Half-Mast,

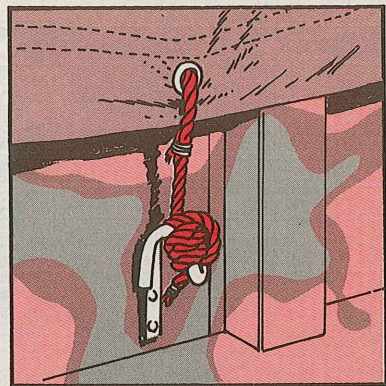
How do we get the black 3/8-in rope used on our truck and trailer tarps?

SGT J. K. M.

Dear Sergeant J. K. M.,

That black rope is a one-time issue with the tarp. To replace it, use NSN 4020-01-058-3483 for OD 3/8-in polypropylene rope.

*Half-Mast*



## 3/4-Ton Trailer Wheel Studs

Need wheel studs for your 3/4-ton trailer? You don't have to order the whole brake drum to get 'em, like Page 22 of TM 9-2330-202-14P says. Get the left-hand stud with NSN 5306-01-009-7117 and the right-hand stud with NSN 5306-01-130-4240.

## Nut for Battery Bolts

No matter what your TM says, battery hold-down bolts NSN 5306-00-739-7754 come without nuts. Get the nuts separately with NSN 5310-00-732-0558.

## 2 1/2-Ton Access Panels

Get engine compartment access panels for your 2 1/2-ton truck by ordering FCSM 19207 PN 10872116 for the driver's side and FCSM 19207 PN 10872117 for the passenger's side. Use a DD Form 1348-6 when ordering.

## 2 1/2-Ton Compressor

You may get a new type air compressor air cleaner under NSN 2530-00-986-0013 that has a thicker mounting base. You'll need two 2 1/4-in mounting bolts, NSN 5306-00-632-1660. That NSN's not on the AMDF, so order on a DD Form 1348-6. The RIC is S9I. Each bolt is 5 cents.

There is no separate filter element available for the air cleaner. When the element needs replacing, get a new cleaner assembly.

## Brake Freeze Free-up



HAVE YOU... UH... EVER NOTICED YOUR TRAILER DRAGGIN' A LITTLE?

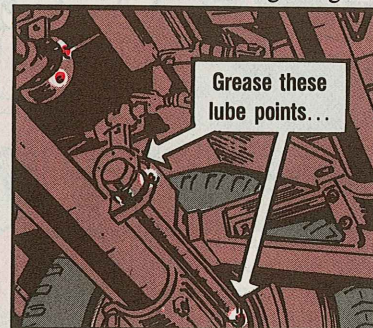
YEAH, WE LET IT SIT WITHOUT LUBING THE BRAKE SHAFTS!

Brakes on these semitrailers can freeze up if you miss a vital lube service.

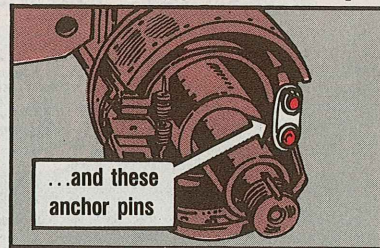
Brake camshafts and brake shoe anchor pins need to be lubed semi-annually to keep 'em moving freely.

Lube the camshaft through the grease

Pull the brake drum. Loosen the shoes and lightly grease the anchor pins.



Grease these lube points...



...and these anchor pins

Use just a little grease, tho—too much and it'll get on the brake shoes.

Check the brakes between servicings so you won't be surprised by frozen brakes. Have a buddy watch while you apply the trailer brakes and try to move out.

If the trailer's wheels stay locked, everything's OK. Don't slide the wheels, tho, or you'll put flat spots on the tires.

If the wheels turn, or jerk, you've got a problem. Get it checked out pronto!

fittings at the mounting brackets. For the M172 series, see the lube chart on Page 3-3 of TM 9-2330-211-14. For the M127 semitrailers, see the lube chart on page 4-2 of TM 9-2330-207-14.

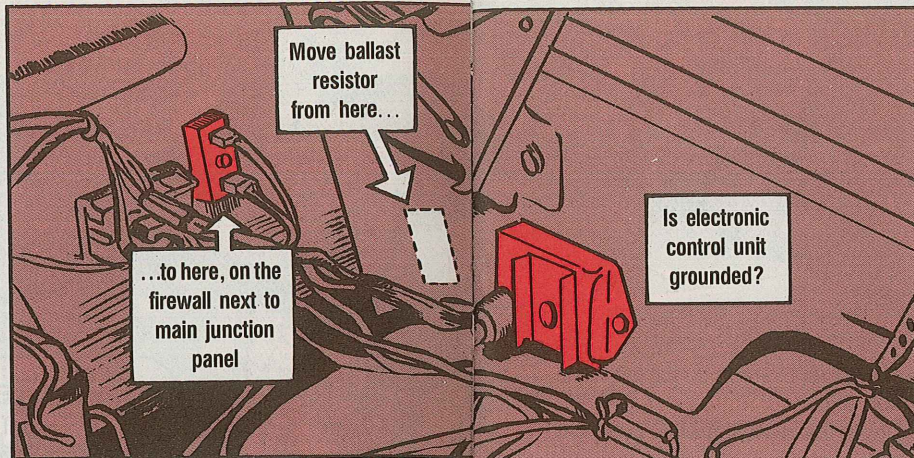
## Protect the Ballast Resistor

The location of the ballast resistor—on the left inner fender well—can lead to its failure.

When you lift the hood, any water on the hood is dumped on the resistor. If the resistor's hot from operation, the cold water cracks it—breaking the wires inside. Then the resistor's shot—and the engine won't start.

To prevent this, move the resistor to the firewall next to the main junction panel.

Mount the resistor with the same self-tapping screw.



## Tire Brand Mix

Matching tires is not confusing if you keep these points in mind:

- Use 2 tires of the same size, same brand, same tread design, and about equal wear on an axle.
- You can use 2 tires of one brand on the front and 2 tires of a different brand on the back.

## Ground Electronic Control Unit

An M880-series truck operator comes to you with a problem—his truck won't start. You check the battery, but it's OK. The engine turns over fine. There's just no fire. What next?

Maybe the electronic control unit's not grounded. Check it by the instructions in Para 2-22b(8)(b), Page 2-27 of TM 9-2320-266-20.

If you don't get 0 ohms resistance on your ohmmeter the first check, tighten the bolts holding the control unit to the fender.

Doublecheck for continuity. Still no resistance? Remove the control unit— but don't chuck it like the TM says.

Clean the fender well, mounting bolts and backside of the control unit shell with a wire brush.

Put it back on and recheck. Still no continuity? Replace the unit.

## No Bumper Hookup

Be sure to use the front tow hooks when you have to pull your M880-series 1 ¼-ton truck out of the mud. The tow hooks are mounted to the frame and meet the requirement in Para 2-16b of TM 9-2320-266-10 for towing.

Never hook up to the bumper or the bumper mounts—they can't take the pull.

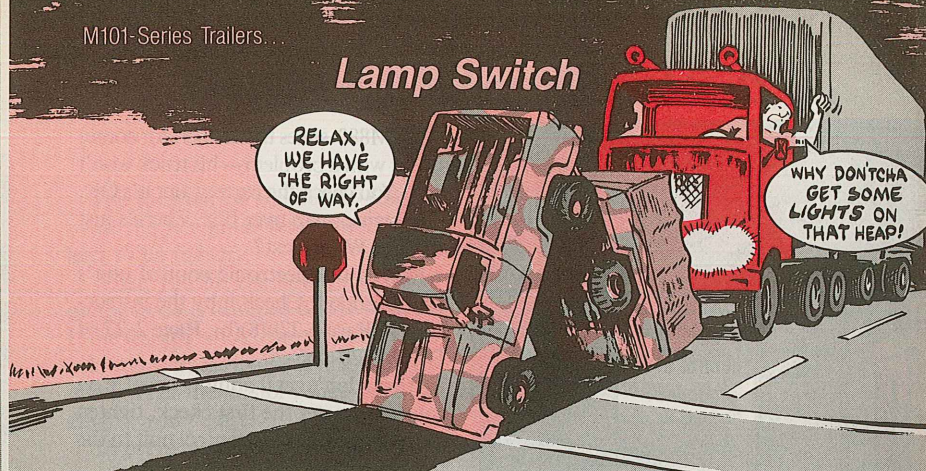
## Distributor Cap

When you need just a distributor cap for your M880-series truck with the suppressed ignition system, use NSN 2920-01-082-2636. Don't order Item 1, Fig 24A of TM 9-2320-266-20P, unless you need the complete shielded cap assembly.

## TM Goof

The cover on the latest reprint of TM 9-2320-266-10 for M880-series trucks should say the manual contains Changes 1 through 7 instead of 1 through 6.

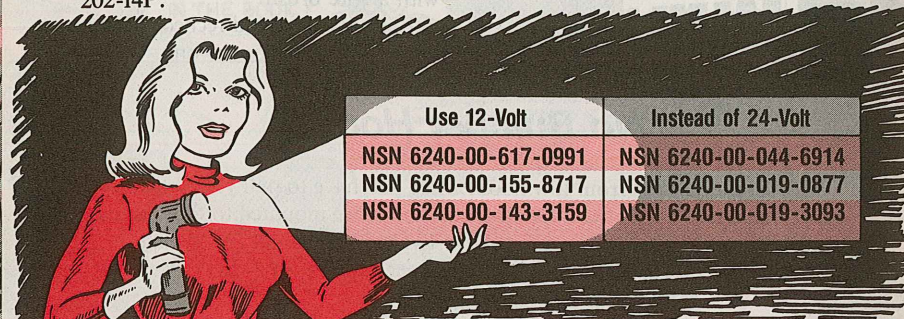
## Lamp Switch



The standard 24-volt lamps in your ¾-ton trailer lights won't do the job when you're towing with an M880-series truck. Too dim.

The truck's 12-volt electrical system doesn't put out enough juice to push 'em up to full brightness.

So use these 12-volt lamps instead of the 24-volt lamps listed in TM 9-2330-202-14P:



Use 12-Volt	Instead of 24-Volt
NSN 6240-00-617-0991	NSN 6240-00-044-6914
NSN 6240-00-155-8717	NSN 6240-00-019-0877
NSN 6240-00-143-3159	NSN 6240-00-019-3093

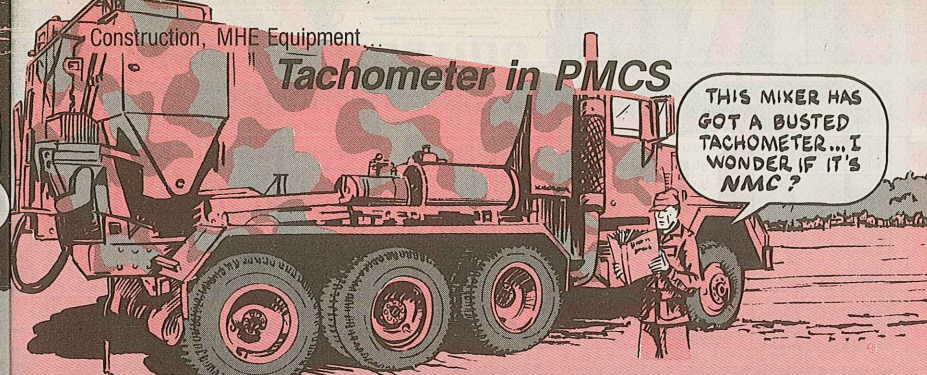
## M747 Beacon Out

There's no need to repair or replace the rotating beacon that's on the left rear corner of some M747 semitrailers. Only early models got the light. It's no longer required.

## M911 Highway Tires

TM 9-2320-270-20P lists NSN 2610-00-554-6250 for off-the-road tires on M911 tractor trucks. If you need highway-tread tires, order NSN 2610-00-489-8045.

## Tachometer in PMCS



Most construction and material handling equipment (MHE) does not need a working tachometer to be mission capable. In fact, there're only 5 items—all construction equipment—that do, according to TACOM Msg DRSTA-MVB 121400Z May 83. Under certain operating conditions, this equipment is not mission capable if the tachometer fails to work:

Equipment
M919 Concrete-Mobile Mixer (1620-1720 RPM operating speed)
Grove TMS300-5 25-Ton Hydraulic Crane
P & H MT250 25-Ton Hydraulic Crane
P & H M320T 20-Ton, Truck-Mounted Crane
P & H M320T2 20-Ton, Truck-Mounted Crane

On the M919 mixer body, the tachometer is required only for concrete mixing. On the cranes, it's required only when the crane is driven to a new site. Otherwise, tachometer operation does not affect the crane PMCS rating.

## Demounting M747 Tires

Getting M747 semitrailer tires on 'n' off the rims can be a bear—even when you use the Bishman Model 931A mounter-demounter. It's easier, tho, when you use the Bishman duplex adapter, NSN 4910-01-147-1403, designed to work with the 931A. The adapter will be added to the special tools in TM 9-2330-294-24P.

## 5-Ton Dropside/T&P Tiedown Kit

You can now get tiedown assemblies to secure the tank-and-pump unit to your 5-ton dropside truck. Until an NSN is assigned, order FSCM 97403 PN 13217-E7157. The RIC is B17.

# 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.

### Miscellaneous

**TB 9-1425-1585-14** Jun Chaparral vehicle evaluation  
**TB 43-182** Jun Calibration workload requirements

(UIC) (microfiche)

### Technical Manuals

**TM 9-1290-262-24P** Apr Aiming circle, M2 and M2A2  
**TM 9-1430-1533-12-3** Jun HAWK AN/MPQ-57  
**TM 9-2320-272-20P** Sep M939-series 5-ton trucks  
**TM 9-2320-282-20P** Jun M.A.N. 10-ton trucks  
**TM 9-2320-283-10** Jun M915A1 tractor truck

**TM 9-2320-283-10-HR** Mar M915A1 tractor truck  
**TM 9-2320-289-10-HR** Apr ¾-ton and 1¼-ton commercial utility cargo vehicles  
**TM 9-2320-289-20** May ¾-ton and 1¼-ton commercial utility cargo vehicles  
**TM 9-2350-222-20P-1** Aug Combat engineer vehicle M728  
**TM 9-4935-451-14** Aug

AN/TSM-153, TOW 2, Bradley FVS  
**TM 9-4935-451-24P** Jul AN/TSM-153, TOW 2, Dragon, Bradley FVS  
**TM 11-5855-263-10** Jul Aviator's night vision imager AN/AVS-6(V)1 and AN/AVS-6(V)2  
**TM 11-5855-263-20** Jul Aviator's night vision imager AN/AVS-6(V)1 and AN/AVS-6(V)2

### Audio-Visual Stuff

Available at battalion or post Learning Center

### TEC Lessons

**020-171-5724-A** START/STOP M60/M48A5 tank engine in normal/hot or cold weather  
**600-551-8801-F** Removing

the collective control hydraulic cylinder—UH-1D/H  
**600-551-8817-F** Removing rigging and installing magnetic brakes—CH-47C

**610-091-6031-A** Supervision of vehicle preventive maintenance before, during and after a motor march  
**621-113-6314-A** TA-312 telephone PMCS

**939-071-0217-F** Automatic rifle shooting  
**948-071-0057-F** ITV firing position

## 3-Level Maintenance Circular

DA Cir 750-83-2 (1 Sep 83) gives you the scoop on the new 3-level maintenance system that's replacing the current 4-category system.

Unit Level, Intermediate Level and Depot Level will replace Organizational, Direct Support, General Support and Depot.

The major change is the combining of DS/GS categories into an Intermediate Level. This level is organized with a Forward and Rear orientation.

The 3-level system streamlines the maintenance structure, stresses repair by replacement and gives more responsive support to users.

## Need Back Issues?

Need extra copies of PS 371, the cold weather issue? Or other back issues? Drop a note to Bonnie, PS Magazine, Lexington, KY 40511. Or call AUTOVON 745-3367.

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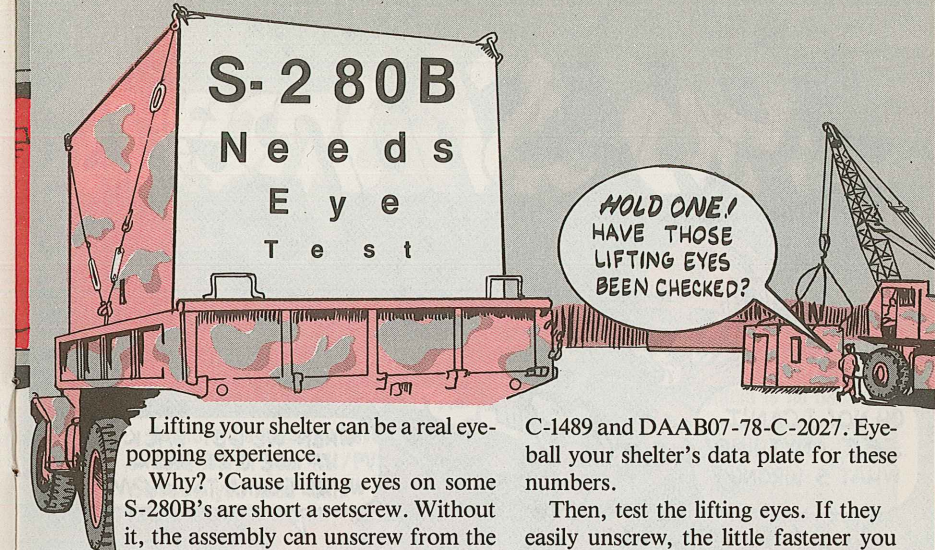
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Lifting your shelter can be a real eye-popping experience.

Why? 'Cause lifting eyes on some S-280B's are short a setscrew. Without it, the assembly can unscrew from the shelter.

Do your eye exam before lifting or tying down the shelter. If the eye is partially unscrewed, it could pop out while you're working on it.

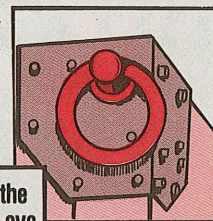
All S-280B's should be checked, but most of the bad eyes are on shelters made under 2 contracts, DAAB07-80-

C-1489 and DAAB07-78-C-2027. Eye-ball your shelter's data plate for these numbers.

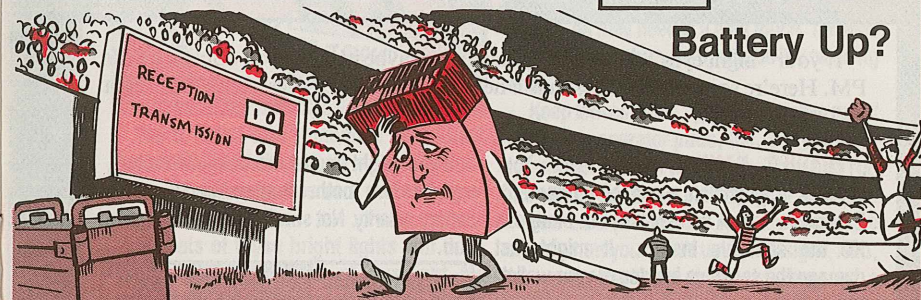
Then, test the lifting eyes. If they easily unscrew, the little fastener you need is missing.

If you find a bad eye, tell your support. They'll repair it per TB 43-0124.

Test the lifting eye



## Battery Up?



'Reception 10, transmission 0.

If that's the score on your battery-powered radio set, hold one before turning it in for repair.

Even a nearly-dead dry cell can receive. But it probably won't transmit past the antenna tip.

So, before you send your set to support, try a good battery. Still no go? Turn it in.

# PM Sharpens



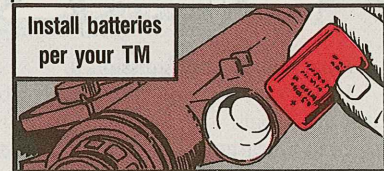
If your "night eyes" seem to be going dim, maybe it's time you applied a little PM. Here're some general tips that'll help you keep 20-20 eyesight in your night vision equipment.

**FRAGILE, HANDLE WITH CARE.** Your sight is a precision piece of equipment. Expensive, too. A careless toss or bang can KO the sensitive insides. It might just damage the sensitive insides of your wallet, too.

**GOING, GOING, GONE.** When the sight image starts to weaken or disappear, it's time to switch batteries.

Before you install a new one, tho, turn the power OFF. That protects the image intensifier.

If your sight uses more than one battery, replace 'em both. Remember to watch battery polarity. Not sure? Check your sight's pub.

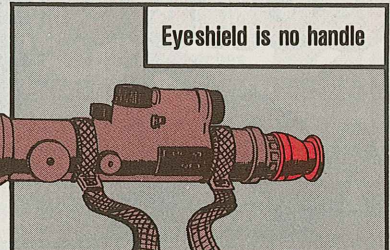


If new batteries don't improve the picture, turn in your sight for repair. Never go inside

# Night Vision!

the sight—not outside giving away your location.

You protect it by not using it as a handle. Pick up the sight by the carrying strap or

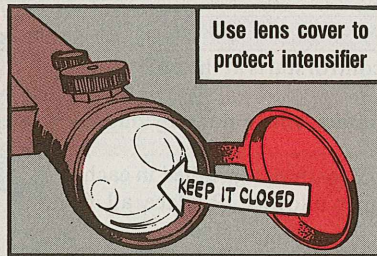


trying to improve things. Chances are you'll make 'em worse.

Aviators, be sure you have a good batch of batteries for your AN/PVS-5 goggles before you need 'em.

Pages 44-45 of PS 357 tell you how to test 'em.

**LIGHTS OUT!** You know better than to take off the lens cover during daylight. It's there to protect your night sight.



the body. You protect the leaves inside by not cutting them out or poking around with a stick or pencil. They do their job by opening when you press against the shield.

**IT'S THE LITTLE THINGS.** You also keep your sight on the job by doing the little things.

F'rinstance, go easy on switches and knobs. All they need is a light touch. If knobs start to bind or turn hard, maybe it's cleaning time.

Keep lenses clean. Use the supplies called for in your operator pubs, tho. Shirttails and handkerchiefs are too rough. They just rub the dirt around, scratching your lens.

You also protect the lens by using the cover when you aren't using the sight. And, for sure, don't set the sight down on a capless lens.

Keep your gear dry and clean by putting it in the carrying case when you're through with it.

Finally, before you put the sight into its case, remove the batteries to protect it from corrosion.

You'd better also remember that direct doses of bright artificial light—vehicle headlights, howitzer flashes or a searchlight—can also zap a tube.

Repeats of those bright lights can burn spots on the viewing area of your sight. No sweat if those spots are pinhole size. Bigger ones, tho, can hide something you should be seeing. Turn that sight in for repair.

**THE EYES HAVE IT.** The sight's eyeshield protects your equipment by keeping dirt and grit from the lens.

It also protects you by keeping light inside

# PM Gives Remote Control

HM-M-M... IT LOOKS LIKE THOSE GUYS HAVE SEEN SOME BETTER DAYS!

PM on your AN/GRA-39 radio set control starts at the bottom—in the battery box.

Without good batteries and good contact, you're not only out of sight, you're out of mind.

So, make sure you have 6 good BA-30 batteries installed in each set. No swelling, corroding or bulging allowed. Replace all 6 batteries if you find a bad one.

WE'VE BEEN IN THERE FOREVER!

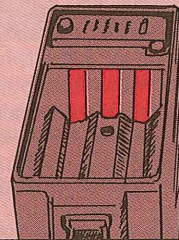
OUT OF SIGHT, OUT OF MIND!

Use proper polarity. The case tells you. Just make sure the raised end of each battery touches or points toward a battery contact strip.

Keep fresh batteries on hand, too. Your remote set uses up a BA-30 in about 24 hours. The local set gets about 72 hours from each dry cell. Always remove batteries when the sets will be idle awhile.

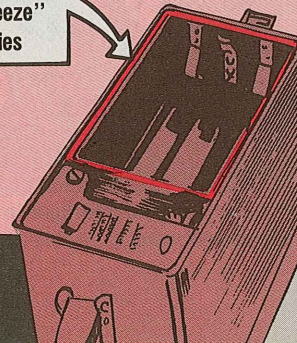
Stay in touch. You can shine up tarnished contacts with a rubber pencil eraser. If the contacts are loose, have your org repairman glue them down.

Clean contact strips



You can also insure good contact by snugging up the battery box. If the batteries move around too easily, slip a piece of cardboard between the box and the set's chassis.

Use cardboard to "squeeze" batteries



Once the batteries are installed correctly, don't lose contact when closing the lid. Lay the lid down flat on the batteries. Press it down until it's seated. Then fasten both latches at the same time.

Fasten latches at the same time

If you feel the batteries shift, reseal 'em. Don't wait until you're trying to communicate to find out you have poor contact.

Latching one side before the other is bad 2 ways. First, it puts a lot of pressure on the case. It also increases the chance your batteries will slip around.

To keep batteries from sliding, have your org shop cut a 5/8-in notch down the center of the pad. TB 43-0001-9-1 (Jan 81) OK's the work at org level.

Cover gasket tight?

Notch will hold batteries

While they're notching the pad, have 'em check the gasket. If it's flattened out, it won't give you good moisture protection.

On Your CVC Helmet...



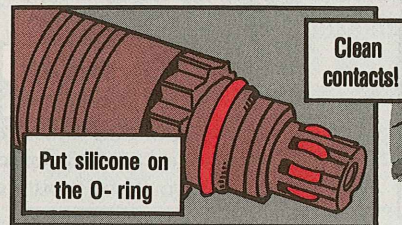
Careless handling of your DH-132 CVC helmet can make you the Missing Link in your tracked vehicle's intercom system.

And, it can get mighty lonely without that little voice in your ear telling you what's happening "on the outside".

You can head off the silent treatment, tho, with a little helmet PM.

Start by cleaning all contacts with a plain rubber pencil eraser.

Clean any dirt from the mating surface. Put a little silicone on the O-ring. It makes mating smoother and water-proofs your connection.



Clean the microphone and earphone openings—but not with a sharp object! You might puncture moisture seals.



Remove and wash the liner in mild detergent and water.

Once the CVC is clean, keep it off the floor of your vehicle. Water, oil and dirt will put a quick end to your intercommunicating.

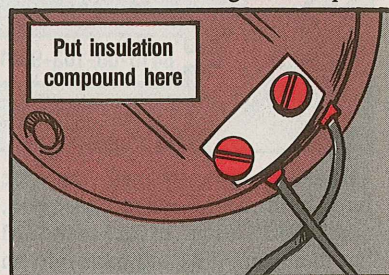
Stow the helmet carefully away from spots usually reserved for stowing or throwing other gear. Don't leave it where a dangling cord or helmet can be snagged and dragged if the turret moves. Another no-no is stowing it under the APC driver's seat. The adjustable chair can crack the shell if lowered on top of the CVC.

For extra protection, you can get a padded, zippered and waterproof bag with NSN 8415-00-782-2989. It's the same one used for flight helmets. CTA 50-970 OK's a bag per CVC.

If your helmet does get wet, let it dry naturally. If the soaking was salty water, rinse it with fresh water before drying.

You can waterproof your earphones by having your support check the gaskets and replace bad ones.

Then, dab a little insulating compound, NSN 5970-00-181-0190, on the screws and cord leading to the earpiece.



Protect the CVC cord. A hatch cover or APC ramp will cut a cable in a heartbeat if given the chance.

Another saver is to use the clothes clip. That lets your BDU take sudden tugs and pulls, instead of cords or connectors.

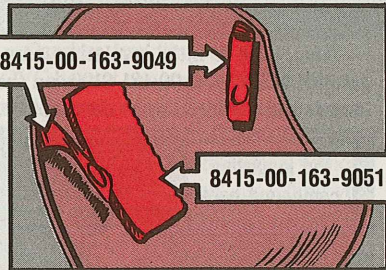
Pick up the CVC by the shell, too. A quick yank on the cord can kill commo before you get the helmet on your head.

## Keep It Whole

Turn in a cracked shell. Wearing the liner without the hard hat doesn't give your noggin much protection.

Your org shop orders new shells by part number. A small or medium shell is Federal Supply Code for Manufacturer (FSCM) 97427 and PN 72-D-2504-1. The large shell (97427) is 72-D-2504-2. Tell your support to order 'em from RIC S9I, with an ATTN: DPSC-TPS line to insure it gets to the right place.

If you get the shells, but not the Velcro pads or adjustable head straps to hold the liner in, NSN 8415-00-163-9049 brings the straps and NSN



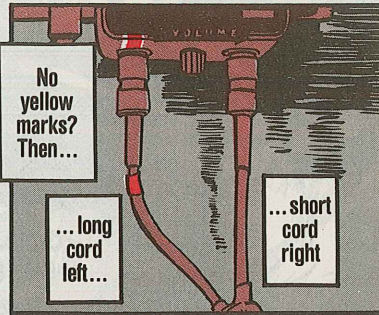
8415-00-163-9051, the pad. Both are listed in the helmet maintenance pub, TM 10-8400-201-23. Chap 5 of the TM has more good PM and parts info on the helmet.

Parts info for your MK-1697 headset-microphone kit is in TM 11-5965-286-23P.

## Be a Smooth Operator

Once your PM is under control, be a smart operator. When you hook up your retractile cord assembly, watch the color code.

The control box and the long cord each have yellow tabs. Hook the 2 together. If you have no colored tabs, just remember it's the long cord to the left, short to the right.



If you reverse your CVC's connections, you'll be hot-miked. That means when you key the helmet switch, you override all other comms on your net.

A quick test is to move the helmet switch forward. If it keys the radio, you're OK. If you don't break squelch, switch your connectors at the control box.



Then, when you finish for the day or change boxes, remove the connectors at the control box, not the breakaway.

A cord hanging from the box is open to all sorts of knocks and dings, and the connector is open to water and dirt damage. Besides, you'll need the whole cord next time you hook up.

## Which Switch?

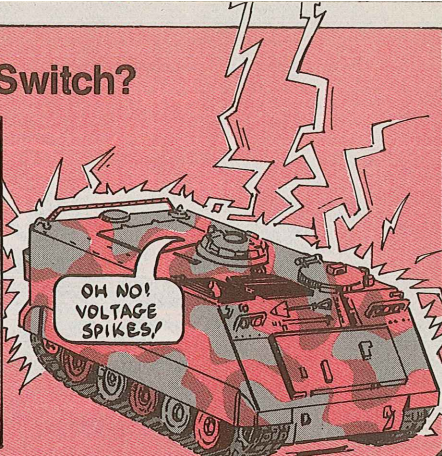
Dear Macon,

I want to protect my tracked vehicle's comms gear from voltage spikes.

I think the easiest way is to use the MX-7778A transient suppressor circuit breaker's ON-OFF switch. When it's OFF, no current can get through. Once my vehicle's started, I can turn it ON for comms operations.

What d'ya say?

SGT R. L.



Dear Sergeant R. L.,

Go by the NOTE in Para 2-1 of your suppressor's pub, TM 11-5915-224-14: "Do not use the circuit breaker as an equipment ON-OFF switch."

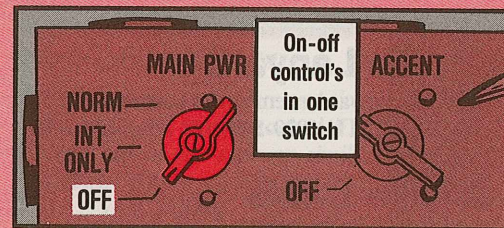


Good reason for it, too. Constant use can wear out the switch. When it wears out, you lose.

If it fails when you switch it OFF, you won't have power to run your gear.

If it goes out while ON, those big surges that can KO your gear have a clear path to your set.

Your best bet is to use the one-switch protection offered in Para 2-10b of TM 11-5820-401-12. Your org mech can switch the power control link in your radio set mount that puts on-off control in your AM-1780 audio-frequency amplifier's MAIN PWR switch.

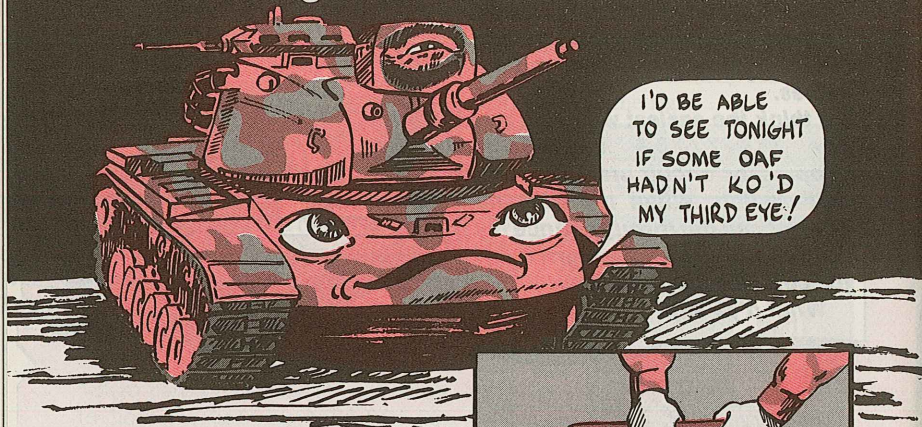


THE LINK SWITCH, ALONG WITH YOUR SUPPRESSOR, GIVES YOU ADDITIONAL VOLTAGE SPIKE PROTECTION





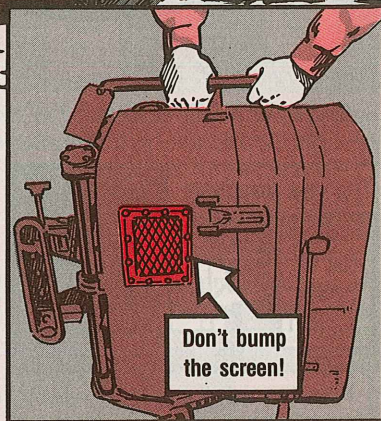
## Lights Punched Out?



A careless bump or kick and you end up with a big, black eye—a burned-out AN/VSS-1, -2 tank searchlight “eye”, that is.

Any bending of the light’s blower outlet screen causes trouble. The screen’s soft metal hits the igniter relay panel. That blows the light. If you make the contact, it could put out your lights, too.

The answer is to handle the light with care when you mount, dismount or move it.



## RATT Clock

The clock on the wall of your AN/GRC-142 or 122 radio teletypewriter set is NSN 6645-00-150-6526. The clock NSN in TM 11-5815-334-12 has been dropped from the system.

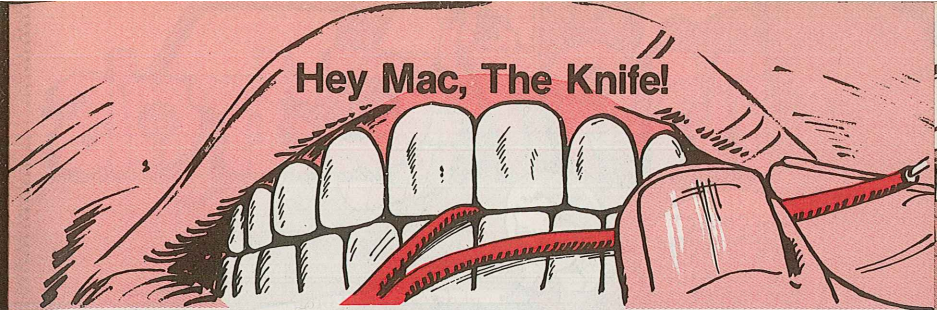
## Squad Radio Lanyard

NSN 5985-00-933-2454 brings you the lanyard assembly for your AN/PRT-4 transmitter and AN/PRR-9 receiver. See TM 11-5820-549-20P. Your -12 has the wrong NSN.

## CVC Mike Cable

A new microphone cable assembly for your MK-1697 headset-microphone kit comes your way with NSN 5995-01-100-6255. Jot that number down in your TM 11-5965-286-23P next to PN SC-C-883822.

## Hey Mac, The Knife!



Taking a spool of new WD-1A wire to the field for the first time? Take your TE-33 tool kit, too.

You won’t be able to do your splicing thing without the kit’s TL-29 knife.

That’s ‘cause the new wire uses molded insulation to hold the wire pair together. Without a knife, you’ll have trouble separating the strands.

‘Course, once the strands are apart, you use the same splicing techniques you do for plain WD-1. They’re covered in FM 24-20.

Need a TE-33? It’s NSN 5180-00-408-1859. The parts are:



TL-29 Knife NSN 5110-00-240-5943



TL-13 Pliers NSN 5120-00-247-2063



CS-34 Pouch NSN 5140-00-498-8898

## Protective Cap Replacement

*Dear Half-Mast,*

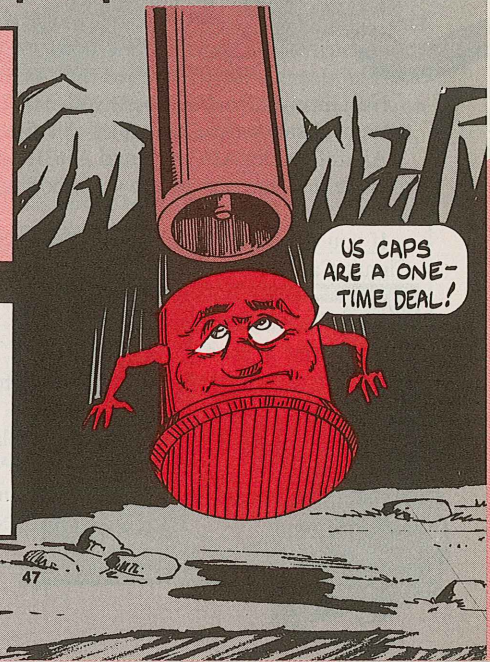
*How do we get the protective caps for the IM-93 and IM-147 radiacmeters? I’m using clear plastic tape now, but I’d like the real thing.*

*SFC H. R. M.*

*Dear Sergeant H. R. M.,*

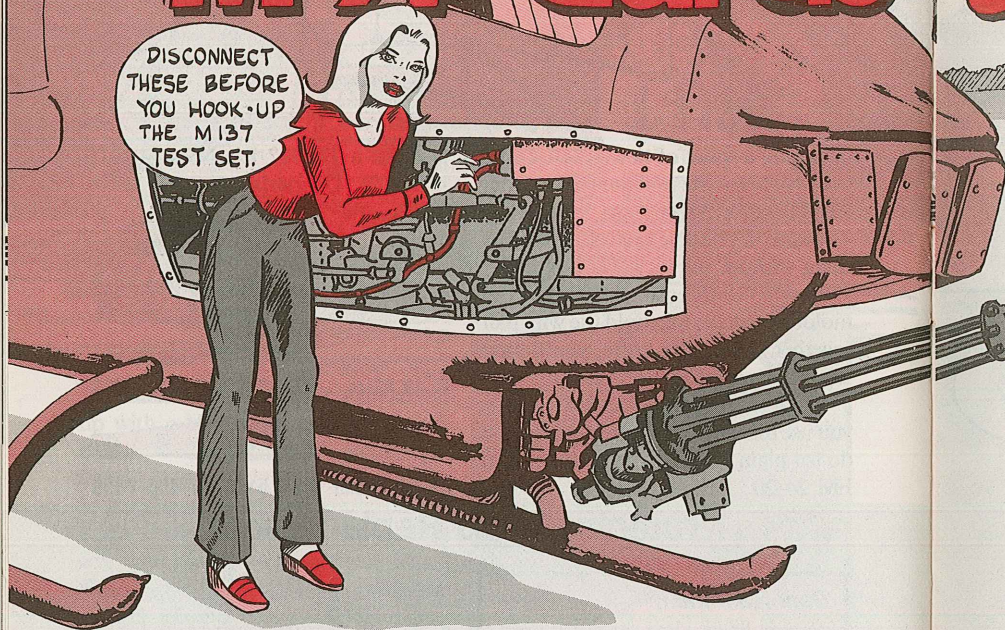
*The protective caps are one-time issue only and are not stocked. The clear cellophane tape or similar material you’re using is just what the doctor ordered.*

*Half-Mast*



# M97 Cards

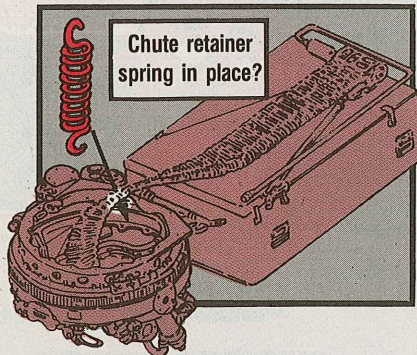
DISCONNECT THESE BEFORE YOU HOOK-UP THE M137 TEST SET.



Next time you're about to use your M137 test set on the TCA of the M97-series armament subsystem, be sure of this first:

Aircraft cables A162A4N and A163B4 on the TCA (turret control assembly) must be disconnected **before** you hook up the M137 W8E1 and W8E2 cables to the TCA.

If you don't disconnect the aircraft cables first, you'll blow the M137's A-11 Circuit Card.



## Shoot the Chute

Want to save 20MM ammunition chute end assemblies? Read on.

Be sure the chute retainer spring is in place.

Never operate the turret unless the ammunition chute is connected to the feeder.

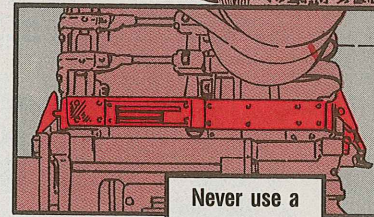
Remove the end assembly with a back

48

# and Chutes

and forth motion...and lift up. Push in the end of the chuting latch as you lift. Never pry the end assembly off the feeder with a screwdriver or such (during safing or unloading operations).

Follow those cautions and chances are the chute end assembly will be around next time you need it.



Never use a screwdriver to pry assembly

## Avionics Pubs

You now use DA Form 12-36B to get on initial distribution for avionics pubs. Fill out and send in the new form now to keep those pubs coming.

## Oil, Fuel Spill Cleaner-Upper

NSN 7930-01-145-5797 gets a 25-lb bag of absorbent/anti-slip compound that cleans up oily, greasy spots on motor pool and hangar floors...stops maintenance downtime and parts replacement costs...not to mention personnel injuries.

The NSN is not on the AMDF, so use DD Form 1348-6 and write "Not on the AMDF" in the "Remarks" block. The RIC is GO.

## Aviation Messages

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

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

**CH-47-83-07** SOF Technical, Inspection of CH-47C&D FRB sealant installation 111517Z Aug 83.

**OH-58C-83-04** SOF Technical, Inspection of certain OH-58C (round glass) at Ft Lewis, WA, and Ft Hood, TX 301605Z Aug 83.

**UH-60A-83-07** SOF Operational, Operation under hot ambient conditions of aircraft prior to S/N 81-23612 without fuel boost

pumps 052000Z Aug 83.

**MIM-47-83-MEC-07** CH-47A/B/C/D Droop stop bolt torque check 111514Z Aug 83.

**MIM-47-83-MEC-08** CH-47C Aft rotary wing drive shaft overhaul interval 242000Z Aug 83.

**MIM-54-83-MEC-02** CH-54A Caution advisory panel operational check 111515Z Aug 83.

**MIM-UH-60A-83-MEA-12** Weighing intervals of UH-60A 122100Z Aug 83.

**MIM-UH-60A-83-MEA-13** Main rotor BIM system 231500Z Aug 83.

**MIM-GEN-83-MEA-03** Forthcoming change to TM 55-1500-204-25/1 221900Z Aug 83.

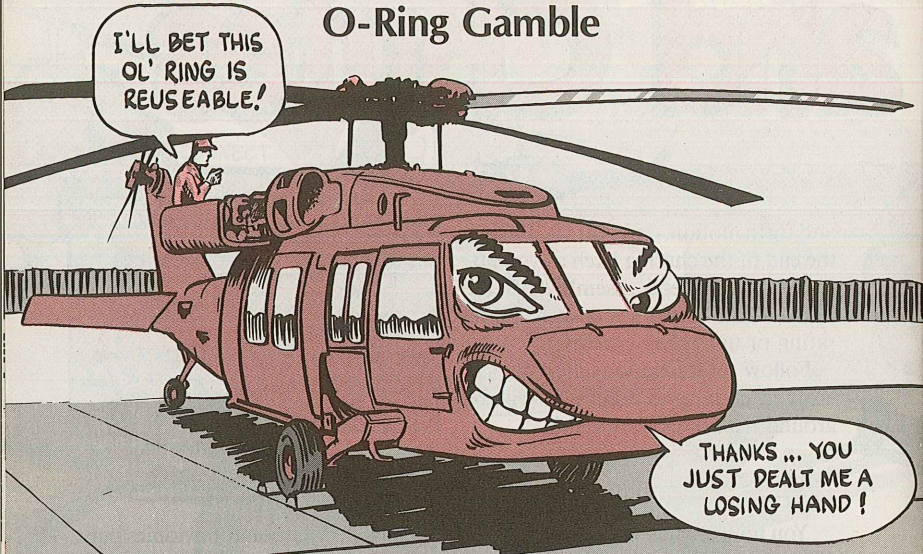
**MIM-T53-83-MEA-02** Governors on all T53 fuel controls being sent in for analytical teardown 151650Z Aug 83.

**MIM-T53-83-MEA-03** SOF Maint Mandatory. Special requirements on all T53-L-7A/15/701A engines 181930Z Aug 83.

**MIM-T53-83-MEA-04** Fuel regulator drive shaft and accessory drive gearshaft spline inspection 191545Z Aug 83.

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# O-Ring Gamble



Some Black Hawk mechanics are playing Russian roulette with O-rings.

F'rinstance:

When replacing a rotating Line Replaceable Unit (LRU) on the T700 engine's Accessory Gear Box (AGB), they use the old O-rings—or forget to replace 'em with new ones.

It's a losing game!

Oil from the starter, Hydromechanical Control Unit (HMU) and the fuel boost pump drains into a common passageway inside the AGB to an overboard drain on the belly of the Black Hawk.

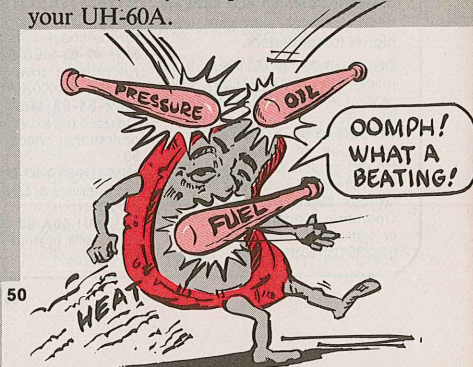
Installing one of these units without an O-Ring, or with a damaged one means a lot of maintenance downtime while you try to pinpoint which unit has the oil leak.

The Inlet Particle Separator (IPS) blower—mounted on the AGB—ejects directly to the exhaust area. When oil

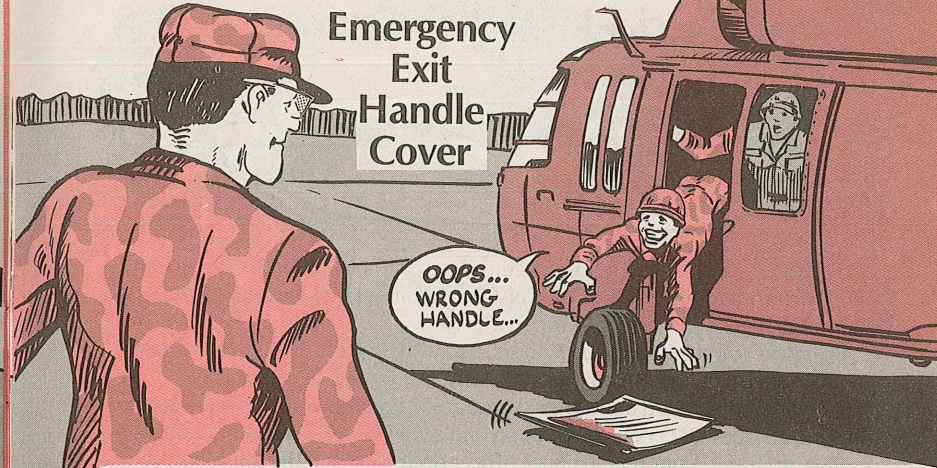
leaks past the blower shaft—because of a damaged or missing O-ring—it messes up the side of the Black Hawk. More downtime and cleanup.

O-rings take a beating from fuel, oil, heat and pressure. No wonder they get swollen or out of shape. If you re-use O-rings, you'll probably stretch 'em more, or cut or nick 'em. Getting a good seal with bum O-rings is impossible.

Double check your TM. Read and heed the info about discarding O-rings the next time you replace an LRU on your UH-60A.

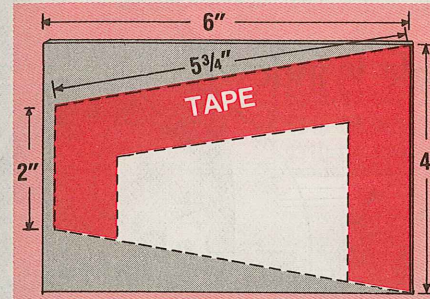


# Emergency Exit Handle Cover



Here's a fix to stop chopper passengers from accidentally jettisoning the cabin door windows.

Cut a 4 × 6-in plate from clear plastic sheet, NSN 9330-00-634-8631. Trim to the dimensions shown.

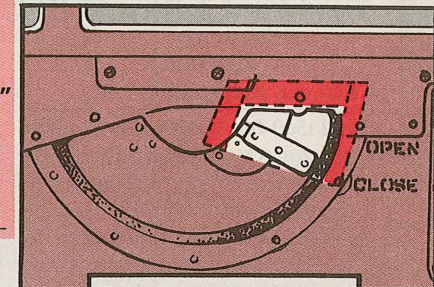


Clean one side of the plate.

Cut 3 pieces of 1-in wide adhesive-backed pile fastener tape, NSN 8315-

00-106-5974. Install them on the clean side of the plate.

Clean an area on the door to match the plate. Cut 3 pieces of 1-in wide adhesive-backed hook fastener tape, NSN 8315-00-106-5973. Install them on the helicopter door...so they'll match the strips on the plate.

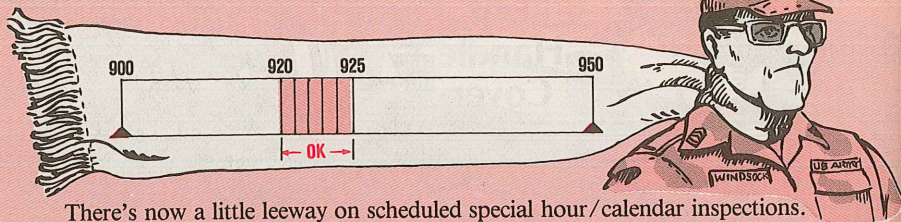


Press the plate to the door

# Ultraclean?

Don't strain your eyeballs looking for an ultrasonic cleaner for the T63 engine oil filter element—there is none. Just clean that baby like it says in Para 8-4 TM 55-2840-231-23. The note about alternate use of the ultrasonic cleaner is being removed from the engine pub.

## Special Inspection Leeway



There's now a little leeway on scheduled special hour/calendar inspections. That's the word in MIM-MPSD-GEN-83-01. You can pull those inspections up to 5 hours before the sequence for that period.

As long as you stay within the 5 hours, the next service is due on your original schedule. Only the inspection you pull early will be out of sequence.

For example, your bird undergoes a phase at 900 hours. The first 25-hour special inspection is due at 925 hours and the second at 950 hours. Because of a mission or other priorities, your maintenance officer decides to pull the inspection early at 920 hours.

The second inspection is still due at 950 hours—not 945 hours.

This leeway applies to all your birds—unless the specific bird's -23 manual says otherwise.

Course, unscheduled special inspections will be done before the next flight.

No leeway on those!

## Chinook Bubble Window

NSN 1560-01-124-1048 gets a bubble window for your big bird. Use one on each side of the aircraft...in the next to the last cabin window frame.

The bubbles will help you monitor the engine condition and fuel cells during flight and give you a good view of the landing area when the ramp is up.

Paras 2-121 thru 2-126 and 2-250 of TM 55-1520-209-23-1 have all the how-to on window replacement.

This information will show up in a change or revision to TM 55-1520-209/240-23P manuals.



## New Mohawk Parts

Some Mohawk non-NSN repair parts made by Waldes-Kohinoor, Inc. (FSCM 79136) are no longer available.

Here're their replacements. All parts—except Item 38A—are listed in Fig 9, TM 55-1510-204-23P.



NSN	Item No.	Item
5325-00-406-5455	35	Stud, turnlock fastener
5365-00-947-0159	36	Ring, retaining
5340-00-947-0160	38*	Receptacle
5310-01-070-9640	38A	Shim (used with Item 38)

\*Also Item 3, Fig 34

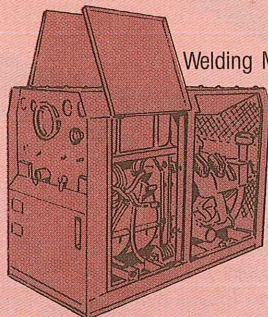
## OH-58A/C Oil Changes

The 150-hr oil changes shown in Fig 1-1 of TM 55-1520-228-23 are for the OH-58A T63-A-700 engine only. The lube chart will be updated to show those oil changes every 100 hours for the OH-58C T63-A-720 engine.

## Tool Gap Closed

When you inspect the OH-58 main driveshaft according to Para 6-13f of TM 55-1520-228-23, you need a special wire gage (T-28) to measure the coupling wear limits.

Ask for gage, NSN 5210-00-189-9537. It's being added as Item 14 in Fig A-8 of TM 55-1520-228-23P.



Welding Machine...

## Rectifier Mounting Bracket Fix

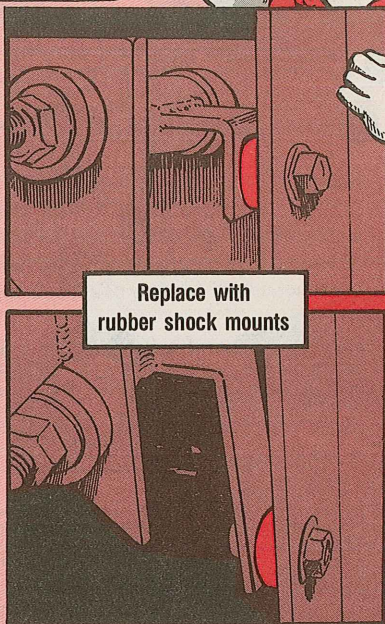
The rectifier (diode) mounting brackets on your Hobart Co. welding machine model GCC-300, NSN 3431-01-032-6289, have little protection from vibration.

The constant strain can cause 'em to break off.

If they do, give the replacement brackets a fighting chance against the shakes with rubber shock mounts.

Any rubber under MIL-C-6130 in FSC 9320—1/16-to-1/8-in thick—will do the job.

If your welding machine is vibrating more than normal, check the spark plugs, timing and fuel adjustments. Instructions are in the commercial manual that came with the machine. Use this manual until TM 9-3431-254-14&P comes out.



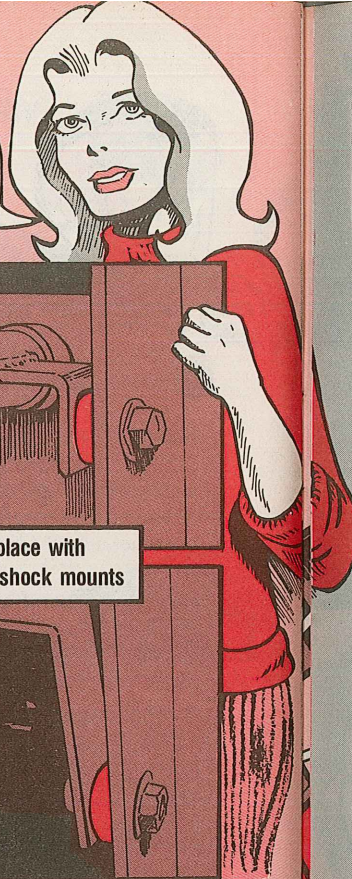
Replace with rubber shock mounts

## Steam Cleaner Cleaner

Use a liquid cleaning compound in your steam cleaner and save maintenance cleanup and downtime. NSN 6850-00-753-5000 gets a 5-gal pail. Avoid using a powdered soap, if possible. It's hard to mix and leaves a heavy residue in the soap solution tank that'll require daily cleaning.

## ID Plate & Shield

PN 13216E7604-3 (FSCM 97403) gets the identification plate for your PU-619/M generator set. The plate's listed in Group 2210, TM 5-6115-365-15. Use DD Form 1348-6 and RIC B17. NSN 2510-00-919-7866 gets the front shield plate listed in Group 1801.



## Wick Warning

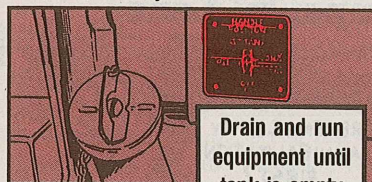
*Dear Half-Mast,  
I'm putting my immersion heater, field range, lanterns, small engines and such into storage. Is it OK to use wicks to empty the fuel tanks?  
SSG D. M. T.*

Dear Sergeant D. M. T.,

That's a big negative, Sarge. Putting a wick in a fuel tank is more dangerous than leaving the fuel in. The slightest little spark could set off a powerful explosion.

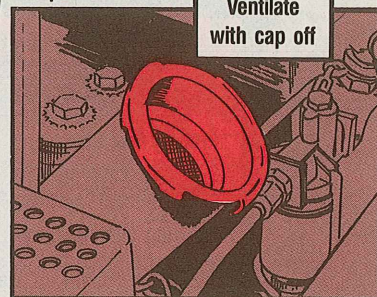
Here's how to clean out a fuel tank for storage:

1. If required, drain it.
2. Run the equipment to get rid of all the fuel still in the system.



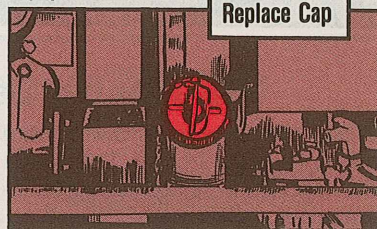
Drain and run equipment until tank is empty

3. Take the cap off and ventilate the tank in open air.



Ventilate with cap off

4. Put the cap back on and store the equipment.



Replace Cap

*Half-Mast*

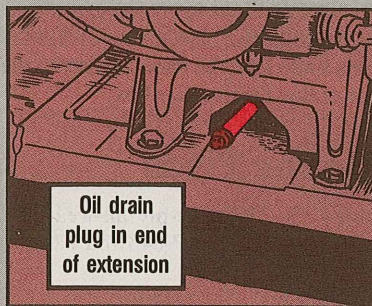
3-KW GED Generators...

## Oil Drain Extension

Here's a tip that'll make the messy job of changing engine oil in your 3-KW GED generators a lot easier.

Screw a drain pipe extension, NSN 2805-01-045-9735, into the engine oil drain opening. The magnetic oil drain plug, NSN 4730-00-788-0441, then screws into the end of the extension.

Use a box- or open-end wrench on the plug. Never butcher it up with lock pliers or the wrong size deep well socket.



Oil drain plug in end of extension

## RS-28 SP Roller Filter NSN's

HERE'RE THE NSN'S FOR THE FILTERS/ELEMENTS NEEDED FOR YOUR SCHEDULED SERVICES!

FILTER/ELEMENT	NSN
Engine oil filter element	2940-00-580-6283
Primary fuel filter	2910-00-792-8985
Secondary fuel filter	2910-00-377-5548
Steering filter element	2940-00-950-8410
Hydraulic system oil filter element	4330-00-355-7750
Air cleaner filter element	2940-00-857-1982

## PU Knobs, Lamps, 'n' Lens

Here's how to get a new transfer switch knob for PU's in TM 5-6115-365-15. Order it only after trying cannibalization.

Switch Knobs	
PN	Set
06000-1	5-KW
07000-1	10-KW
03524-2	3-KW

Use DD Form 1348-6,  
FSCM 82121 and RIC A12

REMEMBER! TRY CANNIBALIZATION FIRST!

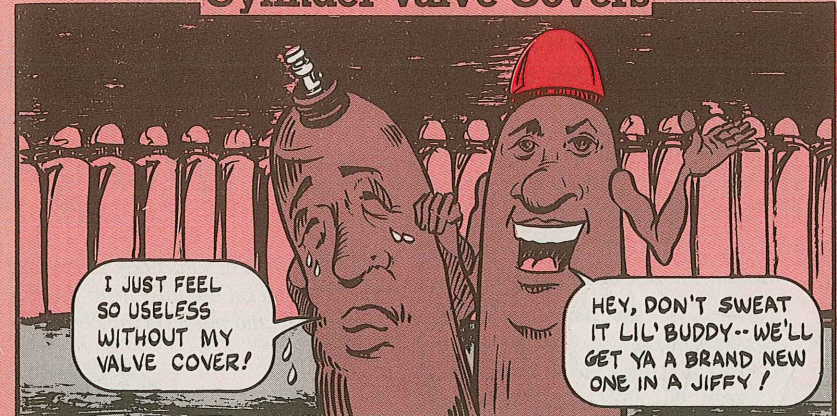
NSN 6240-00-892-4420 gets a new glow lamp, and NSN 6210-01-107-5829 gets a new lens. All items are part of the generator distribution box.

## SP Vibratory Roller Tires

Use NSN 2610-01-091-5500 to get those 23.1 x 26 10-ply all-weather, diamond tread tube-type tires for your Rexnord Model SP-848 and Tampo Model RS-28 rollers.

NSN 2610-00-528-7701 gets a tube for this tire.

## Cylinder Valve Covers



Got an oxygen or acetylene cylinder that needs a valve cover? Try NSN 8120-00-179-0076 for oxygen tanks with 3 1/8-in diameter necks. NSN 8120-00-178-9814 is for acetylene tanks with 3 1/2-in diameter necks. These are the most common.

## Generator Operator Training

Want to train and license your unit generator operators in short order...like 3 days? The US Army Engineer School has developed this pub: Special Text—Operator Training and Licensing for Power Generation Equipment (Unit Level). It meets all DA requirements for training and licensing operators. Get it from:

Commander  
US Army Engineer School  
ATTN: ATZA-BDO  
Ft. Belvoir, VA 22060

## Chemical Scrub Brush

Need help in removing thickened chemical agents from equipment when you're using the M11 decon? NSN 7920-00-255-7536 will get you a chassis and running gear brush. It'll be listed in TM 3-4230-204-12&P as a disposable accessory of the M11.

## M2 Burner Parts

Need the sash chain (Item 8, Fig D-4) in TM 10-7360-204-13&P? Order NSN 4010-00-171-4512. Get the O-ring on the end of the chain with NSN 5365-00-933-3596.

Use NSN 7690-01-082-2865 for the CAUTION decal, PN 5-11-1242-28, Fig D-6, TM 10-7360-204-13&P.

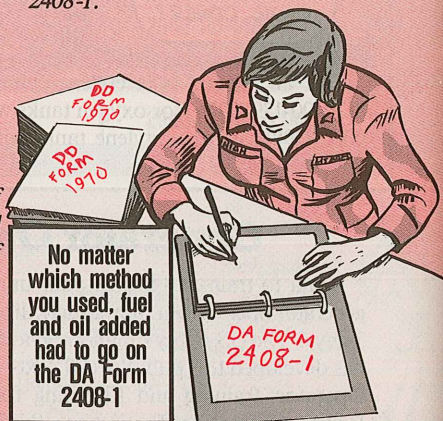


nce upon a time, TM 38-750 gave you two ways to dispatch equipment. You could use the DD Form 1970, Motor Equipment Utilization Record, or the DA Form 2408-1—with or without the rest of the logbook.



But a lot of CO's wouldn't let go of the DA Form 2408-1. They worried about losing the form and the hassle of re-making or finding the missing info. Using the DD Form 1970 was OK, but a little awkward. The dispatcher,

TAMMS clerk or *somebody* had to take the fuel and oil use info from the DD Form 1970 and put it on the DA Form 2408-1.



The *only* reason TM 38-750 asked for that info was to keep track of excess fuel and oil use—so you could spot trouble coming.

But then along came the Army Oil Analysis Program (AOAP). For gear under the AOAP, keeping up with the amount of oil added became a requirement. But since everybody was doing it anyway, no sweat.

When Interim Change 2 to TM 38-750 came out, the shock wave hit. No more DA Form 2408-1. No more form, no more need for that info. Right? Wrong!

# The Story of Oil and Fuel Use

Turns out CO's were using that POL info on the DA Form 2408-1 for budgeting, planning and all kinds of things—without telling the TM 38-750 folks.

Interim Change 2 said if that info was critical, you could take it from the DD Form 1970 and put it on the DA Form 2401, Organizational Control Record for Equipment.



Nobody liked that! The nails and gnashing of teeth were heard around the world as dispatchers and CO's struggled to extract the info from the DA Forms 2401.

Well, relief is on the way. Hold off on grinding the pearly whites. This info will be in the new TAMMS pub.

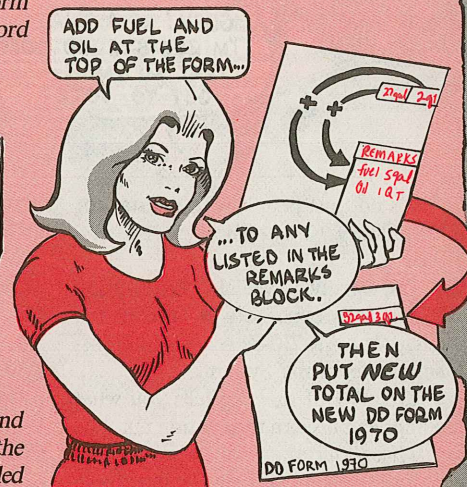
You dispatch only on the DD Form 1970 now. You put the oil and fuel added in the Remarks Block of that form. So why move it to another form?

Here's how the new system works. The DD Form 1970 now has two blocks at the top of the form marked FUEL and OIL.

For equipment under the AOAP, you need oil added to the gear since the last sample. When a new sample is pulled, you start over with 0.

For other equipment and POL usage, your command decides how long you carry the numbers.

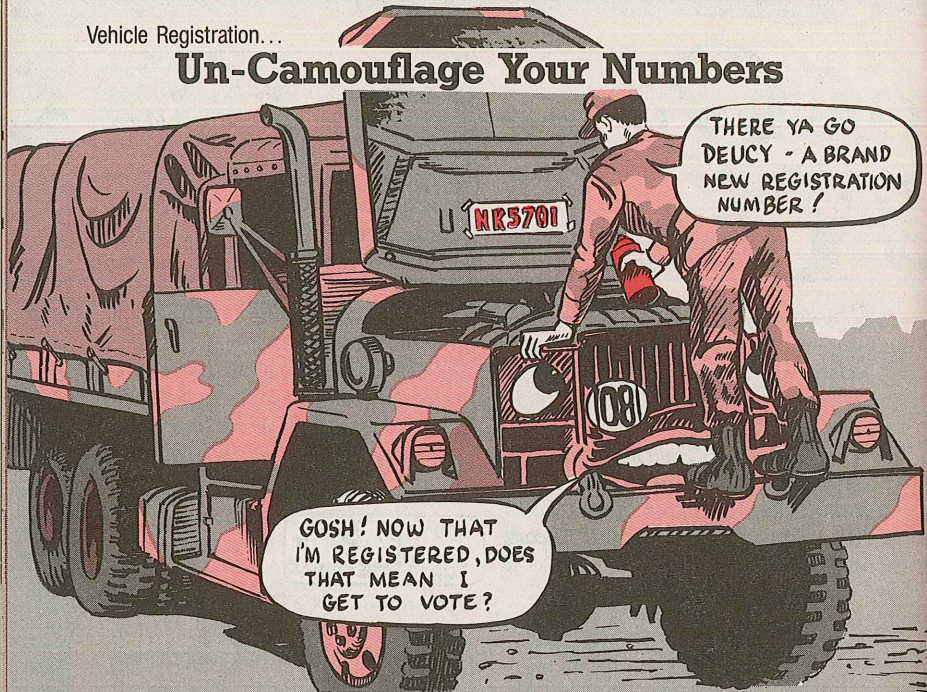
When you fill out a DD Form 1970, the total fuel and oil added to date goes in the blocks at the top of the form. If you add any more while that form's in use, put it in the Remarks Block.



When the DD Form 1970 is filled up, the dispatcher will add any fuel and oil in the Remarks Block to the totals at the top of the form. That new total goes in the blocks at the top of the new DD Form 1970.

When the info's no longer needed—you take a sample or make a report—the totals go back to 0.

# Un-Camouflage Your Numbers



GOSH! NOW THAT I'M REGISTERED, DOES THAT MEAN I GET TO VOTE?

It's not just people who register for the military. Army equipment registers, too!

The Army's Vehicle Registration Program is explained in Section III, Chap 7 of AR 710-3, Asset and Transaction Reporting System.

Table 7-1 of that reg tells you what equipment needs a registration number.

These numbers are sometimes painted over during camouflage painting. Be sure to restencil them after you camouflage your equipment.

Stencil the number in a place that you can get to when the vehicle is locked. But it can't be on the outside of the vehicle! A good place to put the number is under the hood.

AR 750-58, Painting, Camouflage Painting, and Marking of Army

Materiel, says make the numbers no larger than 4 inches in height.

Maybe you have some gear that was camouflaged so well you can't find the registration numbers? Check the equipment's DA form 2408-9, Acceptance or Gain Report. No luck there either? Then contact the people at the Materiel Readiness Support Activity (MRSA):

**Commander**  
**US Army Materiel Readiness Support Activity**  
**ATTN: DRXMD-MS**  
**Lexington, KY 40511**

They may be able to track down the vehicle's original registration number. If they can't, they'll give you a new one.

# One Form for Many Items

TM 38-750 slips in a little info on the DA Form 2404 that could save you a lot of time!

Para 3-4b(1)(c) tells you to use the DA Form 2404 to show the results of an inspection of several like items of equipment.

That means you can cover, say, 25 rifles on one form!

Using the form for a bunch of items is easy.

Fill out the top of the form as usual.

Pull your inspection. Find a problem that needs a part or one you can't fix?

Put the serial number for that weapon in Column c.

Under it, print the TM item number in Column a. The status symbol for the fault goes in Column b. Explain the fault in Column c. In Column d, explain any action you take on the fault.

Finish the inspection on that item? Move on to another one. Find a fault? Put that item's serial number in Column c and so on.

ONE FORM ALL... AND ALL FORM ONE!



**EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET**

For use of this form, see TM 38-750. This form is the property of the Office of the Director, Chief of Staff for Logistics.

1. OPERATIONAL STATUS: **BYPASSING ACR, APO 08030** 2. OPERATIONAL STATUS AND MODEL: **RIFLE, 5.56mm, M16A1**

3. REGISTRATION/SERIAL/NSN: **NR5701** 4a. MILES: **0** 4b. HOURS: **0** 5. ROUNDS FIRED: **0** 6. ROY: **0** 7. DATE: **23 Jul 83** 8. INSPECTOR: **QUARTERLY**

9. TM NUMBER: **9-1005-249-20065** 10. TM DATE: **11 Sep 71** 11. TM NUMBER:  12. TM DATE:

**COLUMN a** - Enter TM item number.  
**COLUMN b** - Enter the applicable condition status symbol.  
**COLUMN c** - Enter deficiencies and shortcomings.

**COLUMN d** - Show corrective action for deficiency or shortcoming listed in Column c.  
**COLUMN e** - Individual ascertaining completed corrective action initial in this column.

**STATUS SYMBOLS**

"X" - Indicates a deficiency in the equipment that places it in an inoperable status.  
 CIRCLED "X" - Indicates a deficiency, however, the equipment may be operated under specific limitations as directed by higher authority or as prescribed locally, until corrective action can be accomplished.  
 HORIZONTAL DASH "-" - Indicates that a required inspection, component replacement, maintenance operation check, or test flight is due but has not been accomplished, or an overdue MWO has not been accomplished.

DIAGONAL "/" - Indicates a material defect other than a deficiency which must be corrected to increase deficiency or to make the item completely serviceable.  
 LAST NAME INITIAL IN BLACK, BLUE-BLACK INK, OR PENCIL - Indicates that a completely satisfactory condition exists.  
 FOR AIRCRAFT - Status symbols will be recorded in red.

**ALL INSPECTIONS AND EQUIPMENT CONDITIONS RECORDED ON THIS FORM HAVE BEEN DETERMINED IN ACCORDANCE WITH DIAGNOSTIC PROCEDURES AND STANDARDS IN THE TM CITED HEREON.**

13a. SIGNATURE (Person performing inspection): **Mary Ann Philips** 13b. SIGNATURE (Maintenance Supervisor):

TM ITEM NO.	STATUS	DEFICIENCIES AND SHORTCOMINGS	CORRECTIVE ACTION	INITIAL WHEN CORRECTED
1	X	SN 47897 CRACKED HANDGUARD 4H	REPLACED	TM/P
2	/	SN 48712 BENT FIRING PIN	NSN 1005-00-017-9547 3205-0003	TM/P
2	/	SN 23641 LOOSE BOLT CARRIER KEY DA FORM 2407 (SPT)		TM/P
1	/	SN 97222 EJECTION PORT COVER		
1	/	INOPERATIVE SN 32117	DA FORM 2407 (SPT)	TM/P
2	X	FIRING PIN MISSING SN 1005-00-017-9547	NSN 1005-00-017-9547 3205-0003	TM/P

14. SIGNATURE (Inspector):  15. TIME:  16. HOURS REQUIRED:

**THEEZ FORM WILL MAKE EET EEZIER FOR Y'ALL!**

DA FORM 2404  
1 APR 75





# Microfiche Pubs

Everything you've always wanted to know about supply—well, almost everything—is on microfiche pubs.

When you've got fiche handy, a quick glance can get you stock numbers, part numbers, substitutions, transportation info and much more!

Here's a list of pubs that will keep you up on supply:

FICHE	USE
Army Master Data File (AMDF) distributed monthly	Gives NSN, price, unit of issue, accounting requirements and recoverability codes...and more.
History File distributed annually	Lists replaced and dropped numbers by NSN/MCN (management control number). (Support has this one if you need it.)
Quarterly Packaging File	Has info on cleaning, protecting, preserving and packaging items—in NIIN sequence. (Support'll have this one, too.)
Monthly ARMS Interchangeable and Substitute (I&S) index and I&S group files*	I&S index gives you interchangeable and substitute items by NSN and MCN. I&S group identifies related NSN/MCN and gives their order of use.
Quarterly Automatic Return Items List (ARIL) File*	Lists items that are in a short supply and should be returned to CONUS depots without waiting for disposition instructions.
<b>Master Cross Reference List (MCRL)</b>	
MCRL-1	Crosses manufacturers part number to NSN.
MCRL-2	Crosses NSN, by NIIN, to manufacturers part number.
*Note: Files with an asterisk (*) are distributed with the AMDF and appear at the end of the AMDF file.	

GET ON DISTRIBUTION FOR THESE HANDY PUBS!



If you need any of these pubs, your unit/activity can open an ARMS (Army Master Data File Retrieval Microform System) Products Account by writing:

**Chief  
USA DARCOM Catalog Data Activity  
ATTN: DRXCA-BTM  
New Cumberland Army Depot  
New Cumberland, PA 17070**

Or, call AUTOVON 977-6741 (during duty hours) or AUTOVON 977-7431 (off-duty hours) and leave a message.

**4 Pubs in 1**

AR 710-2  
AR 735-5  
AR 735-11  
DA PAM 710-2-1



YOU WON'T BELIEVE IT UNTIL YOU SEE IT! GRAB A COPY AND SEE WHAT WE MEAN!

A bunch of other pubs come on microfiche, too. You'll find them listed in DA Pamphlet 310-1, Consolidated Index of Army Pubs and Forms.

Order them through your regular pubs channel.

Use the DA Form 12-21 or 12-34—depending on the pub you need—to get regular distribution. Or, tell the pubs people to use DA Form 4569 to get a hurry-up copy.

Microfiche pubs save more than space. They also save you time and work!



## Getting the Goofs Out!



It's a fact of life. You'll goof on forms from time-to-time.

Correction fluid and tape are the easiest fixes. But not all forms allow them. So how can you tell when to use fix-it juice and tape?

First, check the form's instructions. Some tell you exactly when and how to fix a goof. Property books, document registers and aircraft forms are picky about that. Usually no correction fluid or tape's allowed!

Permanent and historical records tend to limit correction fluid and tape.

Too much rides on those forms to "cover up" info.

And forms like the DA Form 2401, that may be used in an investigation, get a little sticky on correcting goofs.

Your best bet on those forms is to line out the bum entry and initial it. Put the good info above the line or on the next open space.

Temporary and local use forms are your best candidates for correction fluid and tape.

Unless SOP says no, go with fix-it juice and tape on those local forms.

Pub Changes...

### Not Necessarily in Order

Changes to pubs are numbered in order. But you may not get them in that order. Sometimes a change carries a higher priority than the change before it. If both are in for printing, the later change may make it out before the one before it.

Put the change to work, but make a note that the earlier change is missing.

Then, when the earlier-numbered change comes in, post it, too. But make sure you leave the latest numbered change pages in!

For example, C18 to TM 55-1520-237-10 hit the field before C17. C18 goes into effect as soon as you get it. When C17 comes in, post it to the basic pub.

But make sure you do not pull any C18 pages when you post C17!



## TAMMS UPDATE

The Army Maintenance Management System (TAMMS) just split at the crossroads. A change 1 to the current TM 38-750 (May 81) is on the way to drop everything in that pub **except** the forms and records on aircraft. The current TM 38-750 will then become TM 38-750-A TAMMS — Aviation **only**. Non-aircraft forms and records are now in DA PAM 738-750. This pam, along with AR 750-1, is included in the new Maintenance Management UPDATE (Dec 83).

**Maintenance Management UPDATE**

Now contains AR 750-1 and non-aircraft records and procedures from TM 38-750

# 1

AR 750-1 AND DA PAM 738-750

## Maintenance Award

MACOM nominations for the Army Award for Maintenance Excellence, calendar year 1983, are due at the Ordnance Center and School, APG, by 1 March 1984. That's 2 weeks sooner than called for by DA Cir 750-83-1.

The Evaluation Board will meet 5-16 March. Winners and runners-up will be announced by message NLT 21 March. Awards will be presented 29 March at the American Defense Preparedness Association annual convention.

The awards hotline is AUTOVON 283-4195/3832.

## Flame Heater Turn-Off

All M109-series SP howitzer drivers take note: During a cold-weather start, turn off the flame heater master switch just as soon as the engine runs smoothly. If you don't, the cold-start air pump will soon be burned out. Make a note of this in your -10 TM until a change picks it up.

\* U.S. GOVERNMENT PRINTING OFFICE: 1983—759-008 / 1

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

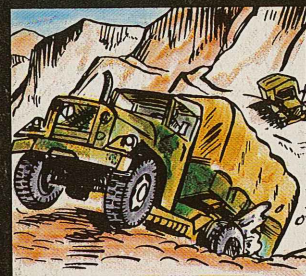
**No matter how urgent the training...**



**Allow enough time for maintaining!**



**The wear and the tear...**



**... Will need some repair—  
Equipment is not self-sustaining!**

