

Issue 412

PS

★
March
1987

THE PREVENTIVE MAINTENANCE MONTHLY



THIS SAND
IS SURE
GETTIN'
TO ME!

How to Fight Back at the NTC
(See Page 27)

TB 43-PS-412, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

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

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PS Now Technical Bulletin

Goodbye, PS Magazine! Hello, TB 43-PS-Series!

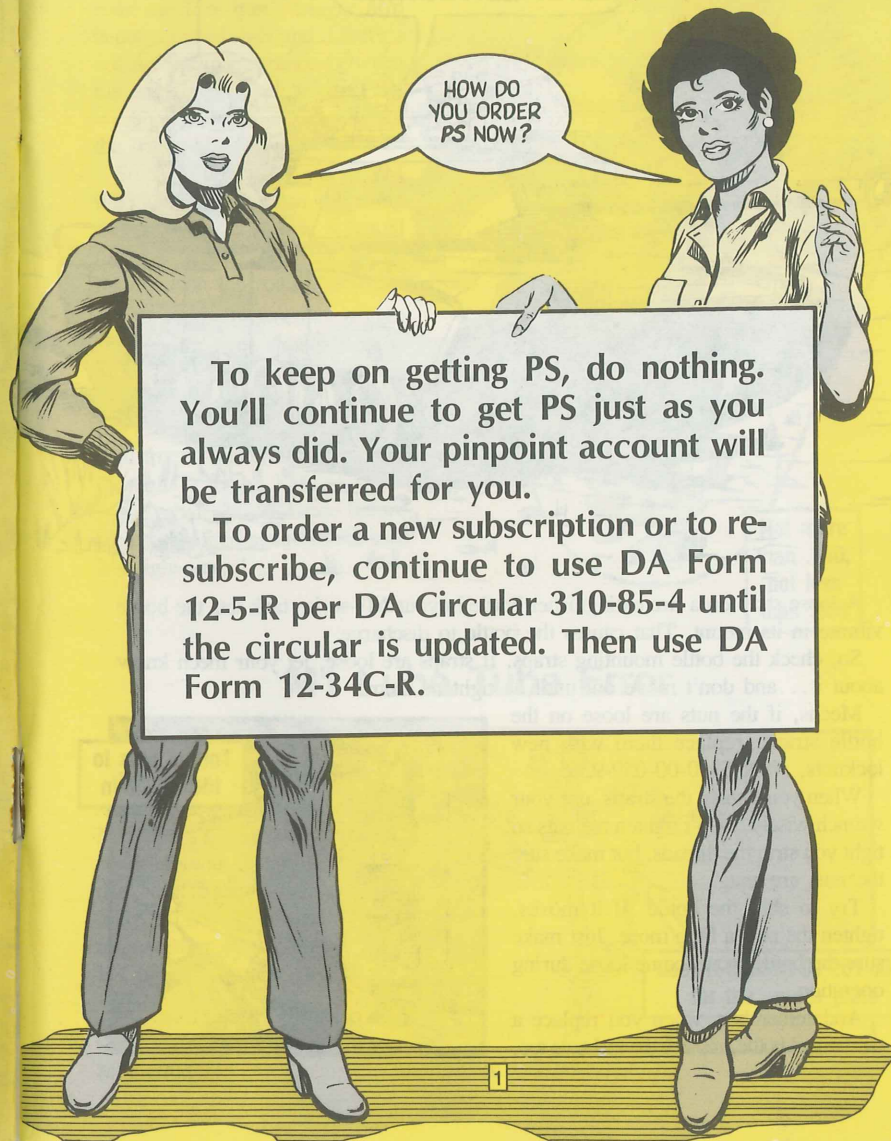
After more than 35 years as a magazine—or “periodical” in official terms—PS is now a technical bulletin. So this issue, instead of coming out simply as PS 412, is TB 43-PS-412 (the last 3 numbers are the issue number.)

PS will continue to be labeled “PS, The Preventive Maintenance Monthly,” dedicated to providing information for “all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties.”

As has always been Army policy, what use is made of PS information is up to local commands—or, as is stated in the masthead on these pages, “Use of the information is optional with the user.” This is the same policy that applies generally to the TB 43-0001-Series Equipment Improvement Report and Maintenance Digests—better known as EIR Digests.

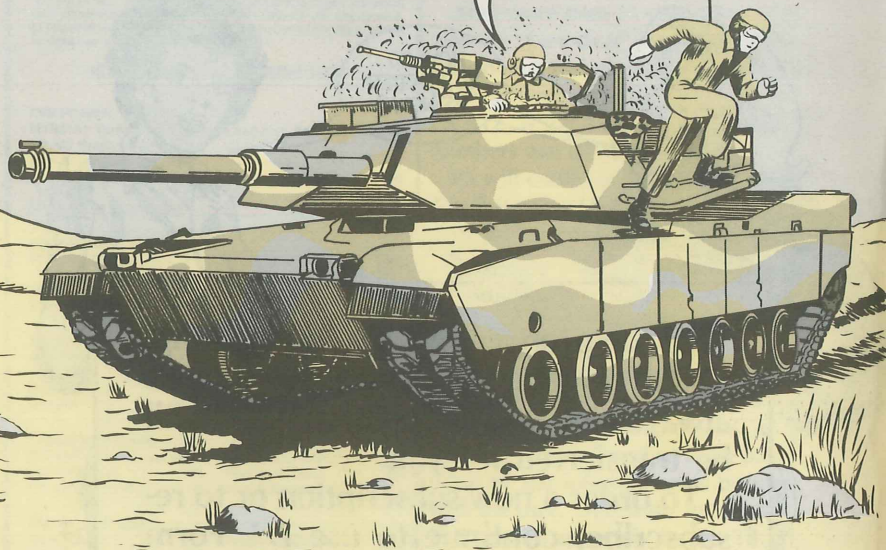
PS will also maintain its Reader Service Program, offering assistance in solving maintenance and supply problems in response to reader requests and inviting reader suggestions for PS articles.

P.S. For the benefit of readers who may wonder what PS means, it’s “P.S.”—postscript—like you put at the end of a letter to add information. But the TB 43-PS-Series is a postscript to your TM’s and other technical publications—helping you to better understand the requirements in those tech pubs.



Keep a Grip on the Bottles

DON'T PANIC, THERE'S NO FIRE! THE EXTINGUISHER ACCIDENTALLY DISCHARGED!



A loose strap on a fire extinguisher bottle in your M1-series tank lets the bottle vibrate in its mount. That causes the bottle to discharge.

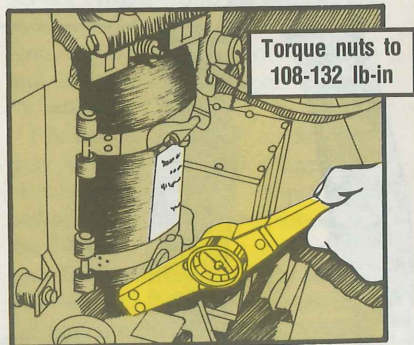
So, check the bottle mounting straps. If straps are loose, let your mech know about it... and don't move out until he tightens them.

Mechs, if the nuts are loose on the bottle straps, replace them with new locknuts, NSN 5310-00-059-9265.

When you tighten the straps, use your wrench wisely. Don't tighten the nuts so tight you strip the threads, but make sure the nuts are snug.

Try to shift the bottle. If it moves, tighten the nuts a little more. Just make sure the bottle won't come loose during operation.

And remember, when you replace a discharged bottle, replace the locknuts too.

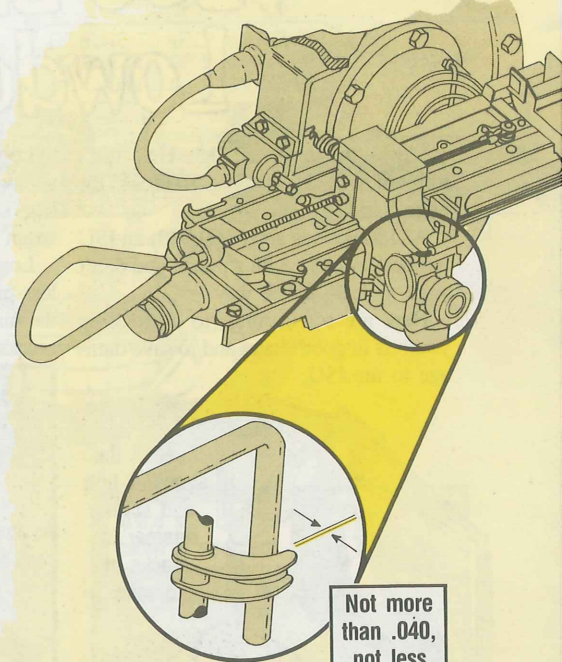


Machine Gun on the Loose!

Turret mechs, if an M240C coax machine gun's trigger arm is not adjusted right and if there's not minimum clearance between the trigger arm and trigger, the weapon can keep on firing when the trigger is released!

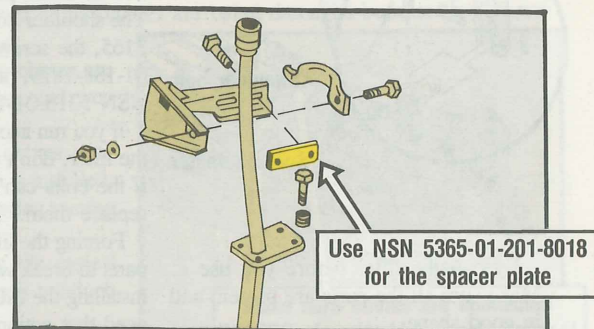
So add this to the info in TM 9-2350-252-20-2-3 on adjusting the coax machine gun solenoid linkage when the linkage is mounted on the rotor:

- Clearance between the trigger and trigger arm should not be more than 0.040 inch and not less than 0.004 inch.
- If clearance is off, follow the adjustment procedures (Steps 2 through 7) in the TM.
- Eyeball the clearance before the coax is fired again. Make sure it's right—now!



M1 Lube Tube Error

When you order the spacer plate to make the M1 tank's replacement oil filler tube assembly, use NSN 5365-01-201-8018. The NSN that appeared on Page 14 of PS 407 is wrong.



ISU Lifter Lowdown

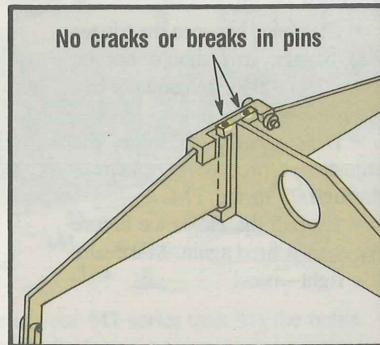
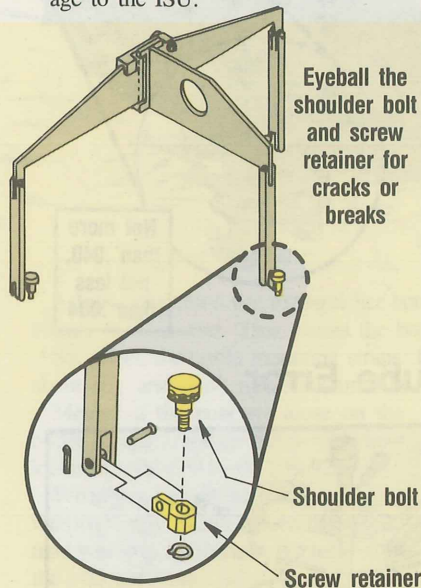
Mechs, the Integrated Sight Unit (ISU) lifting device, NSN 1240-01-116-4518, often breaks in use.

At 180 pounds and \$260,000, an ISU is a heavyweight with a punch you don't want to feel—either way.

Here are some things to do to keep yourself in good shape and to save damage to the ISU.

Look real close at the shoulder bolt and screw retainer on each "foot" of the lifter. The bolt and retainer take a lot of strain and are known to bend or break.

Look at each end of the straight headless pins that hold the two side arms to the main beam. Make sure there are no cracks or breaks in the pins.



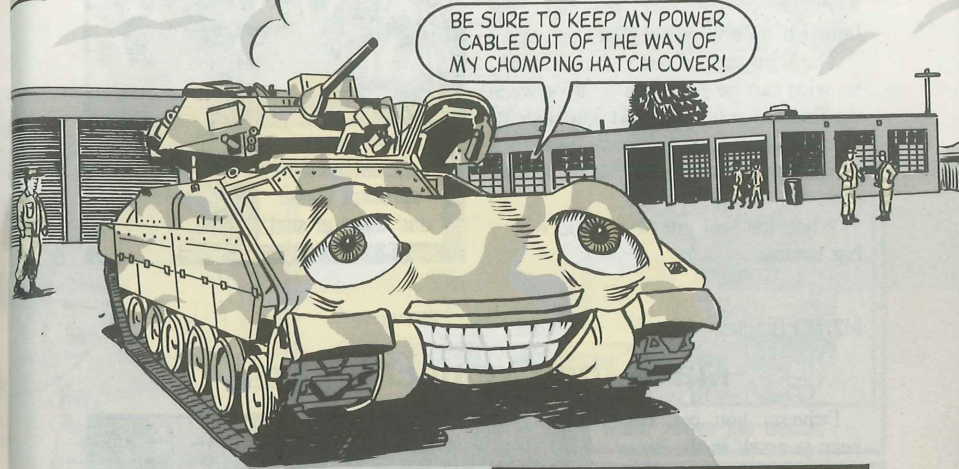
If any part needs replacing, you can find it in Fig 111 of TM 9-2350-252-20P-2. Some parts are missing NSN's. The shoulder bolt is NSN 5306-01-190-3165, the screw retainer is NSN 1005-01-188-7879, and the headless pin is NSN 5315-01-190-6840.

If you run into problems when attaching the lifter, don't use force. For example, if the bolts can't be tightened by hand, replace them.

Forcing the lifter into place may cause parts to break while you're removing or installing the ISU. Remember, you don't need that action.

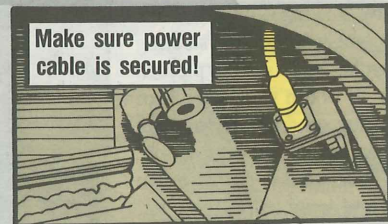
Eyeball the lifter before you use it. Make sure all the parts are present and in good shape.

You Make Your Own Breaks



Drivers, save yourselves some fast talking—always make sure the vehicle power cable is either hooked to the night viewer or screwed into the hatch cover adapter.

Otherwise, you'll have to explain how the cable got mashed to smithereens when the hatch cover slammed on it.



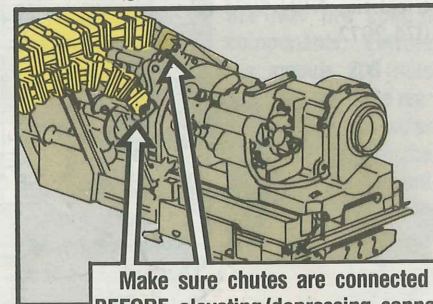
Spare the M2/M3 Chute

A lot of 25MM cannon ammo chutes are being damaged because they're not connected to the cannon.

Also, dangling ammo chutes are damaging cables and wires, and even locking up the turret.

So, keep all ammo chutes connected when the cannon is installed, especially when you're going to raise or lower the cannon.

Remember, too, that the easiest way to attach the chutes is to attach the bottom one first.



Wire's Death on Seals!

Make it part of your vehicle walk-around during halts to look for wire anywhere on the track, but especially bunched up around the final drives.

The wire cutters don't always work, so wire can be pulled in tight between the final drive housing and output shaft. Trapped there, it wears away at the final drive housing and chews up the output seal.

When the seal goes bad, you've got big trouble!



Wire wraps up behind the sprocket wheel and tears at seal

Make the Connection Last

Drivers, you can help keep yourself in the know by making sure the intercom switch on the steering yoke stays in one piece.

It doesn't take much of a tug on the wire to break the soldered connection. Then you're out of touch until your mech fixes it.

So, cut down on any possible snag or rip and snug up the wire to the steering shaft with an electrical tie, NSN 5975-00-074-2072.

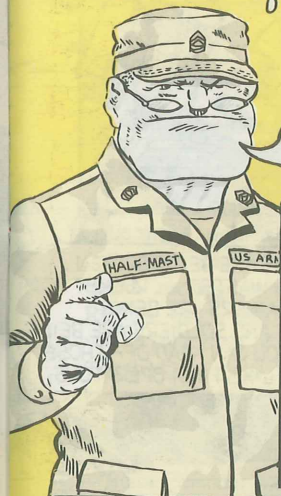


Snug up dangling wire with electrical tie, NSN 5975-00-074-2072

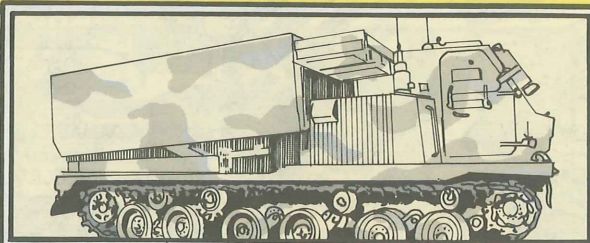


THIS WILL HELP KEEP YOU IN ON THE CONVERSATION!

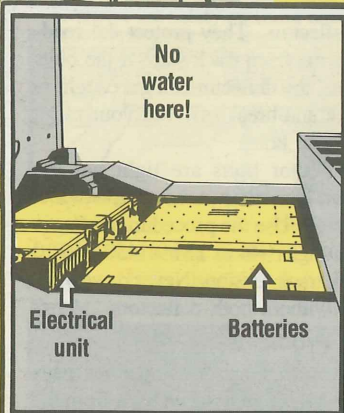
Water's the First Enemy!



HOSE-HAPPY ROCKETMEN ARE SHORTING OUT FIRE CONTROL SYSTEM COMPONENTS... AND WHEN THEY'RE DOWN, FIRING IS DOWN!



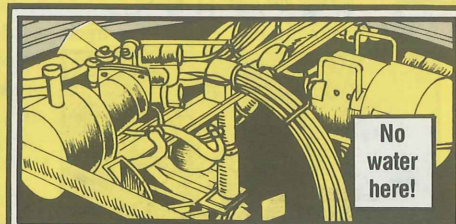
• Never use high pressure water above the tracks.



No water here!

Electrical unit Batteries

• Use water at 50 PSI or less for cleaning the rest of the hull. Careful with the hose, tho. Never get water on the system components in the hull or you'll short them out. Cover with plastic for protection.



No water here!



Open doors before washing

• Be extra careful when you wash the launcher/loader module or you'll get water in the rear fire control components. Elevate the module 200 mils and open the three rear doors. This keeps water from collecting in the components behind the doors and shorting them out.

REMEMBER — KEEP WASH WATER UNDER CONTROL SO YOU'LL BE ABLE TO RAIN ON THE ENEMY'S PARADE!



Gain without Pain

ROADARMS ARE BEING BROKEN... TIME IS BEING WASTED... ROCKET POD/CONTAINERS ARE BEING DAMAGED... AND SOLDIERS ARE BEING INJURED. YOU CAN HEAD OFF THOSE PROBLEMS LIKE THIS, OPERATORS:

Before moving out, eyeball the track guard/deflectors. They protect the road-wheel arms from track slap. If the bolts are loose, the deflector can get caught in the track and break off. Tell your mech about loose bolts.

If deflector bolts are tight but the deflector has taken a beating, suspect loose track. Use the procedure on Pages 3-40 through 3-44 in TM 9-1450-646-10 to check track tension. Never drive your MLRS without both deflectors.

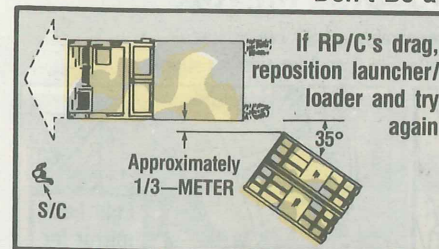
Bolts loose? Tell your mech!
Deflector worn? Test track tension!

Track Down Calibration Problems

If your Position Determining System (PDS) won't calibrate, count track pads before you call for the mechanics. Sometimes your MLRS may come back from the shop with one track pad too many. That means no calibration. The right side should have 88 pads, the left 89. If you spot one too many, remove the extra pad and calibrate again.

Won't calibrate?
Count track pads:
88 on right, 89 on left

Don't Be a Drag



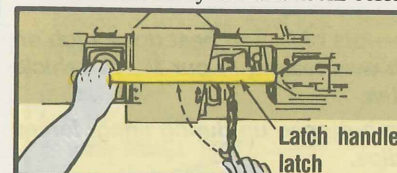
Cut no corners when loading Rocket Pod/Containers. If the launcher/loader isn't positioned right—1/3 meter from the RP/C's, like it shows on Page 2-288 of TM 9-1425-646-10—the boom will drag and damage the RP/C's and hoist. If the RP/C's start to drag, **stop!** Reposition the launcher/loader and try again.

Be sure to unlatch both latch handles before moving the RP/C's, like it tells you on Page 2-291 of TM 9-1425-646-10. If you miss a latch, the boom or cable will be damaged.



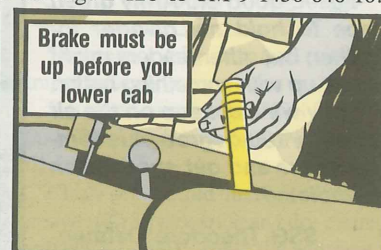
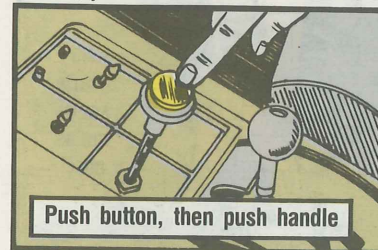
Remember the warning on Page 2-291:

Connect the safety restraint hooks before unlatching the latches—unless you don't mind losing a few teeth. The latches are under great pressure. They can shoot out and bang you in the face... if they're not wearing safety hooks.



Handle Handle Problems

Easy does it with the FUEL CONTROL HANDLE. It has a spring release button that must be pushed in before you move the handle. If you bang down on the handle, you can ruin it. Do it like it says on Page 2-128 of TM 9-1450-646-10.



Make sure the hand brake is up before you lower the cab. If the brake was released to shift the transmission and then not pulled back up, the cab will bend it or break it off. It's Step 12 on Page 2-198 of TM 9-1450-646-10.

Abuse Is Busting Mirrors

Broken mirrors...useless and unrepairable...80 bucks each!
That's what you get when you don't use 'em like you're supposed to.



The mirrors are not aids in helping you get into or out of the cab. Nor are they to be used when you're plowing through heavy underbrush. Just remember to leave them alone when you're mounting or dismantling the cab. Fold them against the doors when you're out in the boonies. See?

Keeping Radios Cool

Dear Editor,

Summertime usually means heat—lots of it. And heat does a job on radios. We had a big problem with overheating in our MLRS vehicle radios until I came up with this idea:

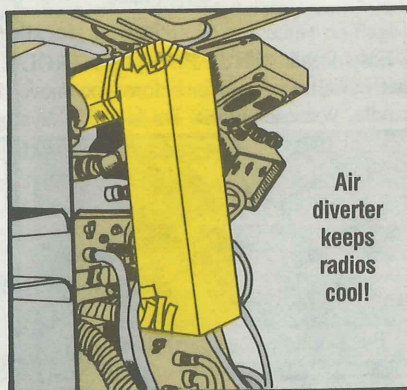
The ventilator blower, used when buttoned up during firing, forces air into the cab just above the radios.

I made this diverter out of cardboard to route the air behind the radios. It works like a charm.

I used good old Army green tape to hold my diverter together, but other readers might come up with something better.

Now we can keep on the air even in 100-degree-plus temperatures and get our mission completed.

SSG Theodore Oatman
Ft Hood, TX



(Editor's note: That's a good way to solve a hot problem.)

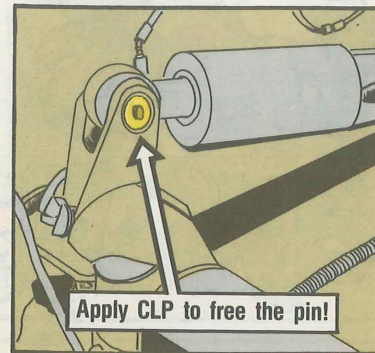
Spare the Torch, Save the Lever

You wouldn't cut off your nose to spite your face, so don't cut off the lockout cylinder control lever just because the connecting pin is frozen in place.

That's \$96 down the tube!
To free the pin, apply CLP or any other penetrating oil to the pin. Let it soak in. Then, usually, the pin can be loosened.

If that doesn't work, use the torch as a last resort.

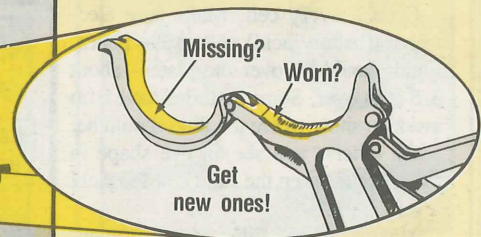
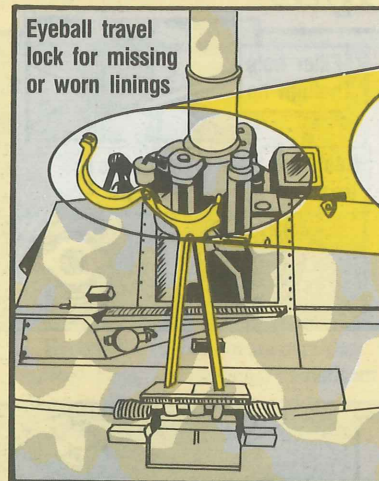
When you reconnect the lockout cylinder and control arm, coat the pin with corrosion preventive compound so it'll come out easy next time. NSN 8030-00-244-1293 gets a quart and NSN 8030-00-231-2345 gets a gallon.



Travel Lock Needs Linings

Missing or worn-out travel lock friction linings damage cannon tubes, mechs.

No linings? Worn-out linings? Then you've got no protection from shocks and vibrations!



To prevent tube damage, repair the travel lock.

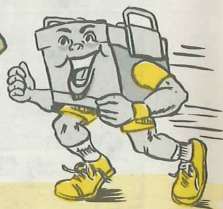
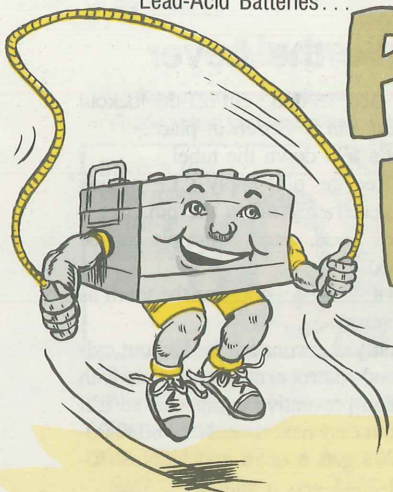
You need two linings, NSN 2530-01-060-7229, and adhesive, NSN 8040-01-048-2193.

Clean off the old lining and the adhesive with a putty knife and dry cleaning solvent P-D-680. Apply the adhesive to the new linings and install them.

Let the linings set for 1 hour and the job is done.

Linings cushion the tube when it's in travel lock, keeping metal from banging on metal.

Physical Fitness Pays



Your equipment's batteries—or battery, in some cases—must stay in shape to start the engine. You can count on batteries to do their job if they're fully charged and in good condition. But if they're weak, damaged or thirsty, they don't stand a chance of starting your engine. Here's how to keep batteries hot to trot.

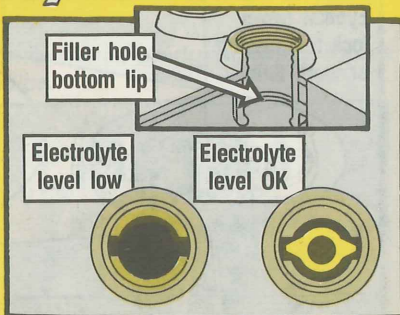
Electrolyte

Eyeball every cell. Make sure electrolyte (battery acid) covers the plates. Fluid should be over the plates—about 3/8 inch over. Some batteries have a lip inside to show where the fluid should be.

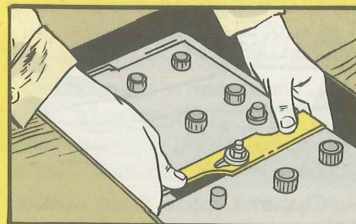
On others, you see an eye shape in the fill hole when the fluid's at the right level.

Make sure the filler caps are snug. Finger tight is just right.

Maintenance-free batteries have a green dot showing a good charge. If you don't see green, you've got trouble. Tell your mechanic!



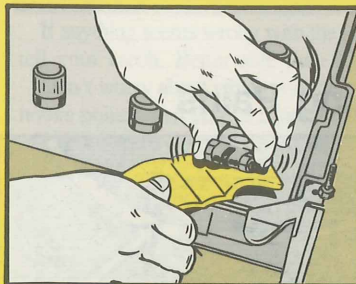
Hold-downs



Hold-downs should be snug. Try to move the battery. If it shifts, let your mechanic tighten the hold-downs.

Connections

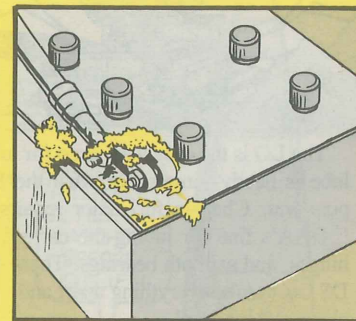
Using your thumb and two fingers, try to twist the cable clamps on the posts. Try to move the cable-to-clamp connections, too. Loose? Report it.



Eyeball for rubber covers over the battery posts and terminal clamps. They protect against dropped tools or other metal that might cause a short circuit across the battery. Covers missing? Report it!

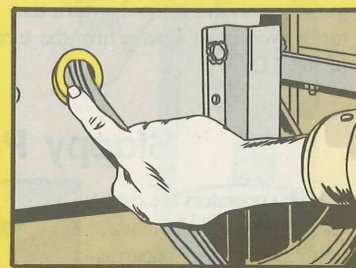
Corrosion

Clean light corrosion off the battery and nearby metal parts with a

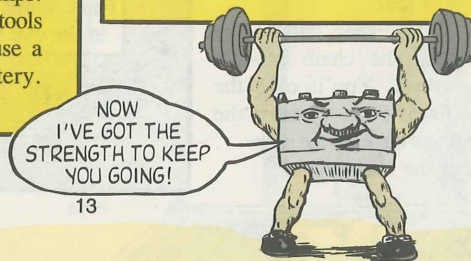


dry rag. Careful—there's acid on that rag! Dispose of it in a trash can right away.

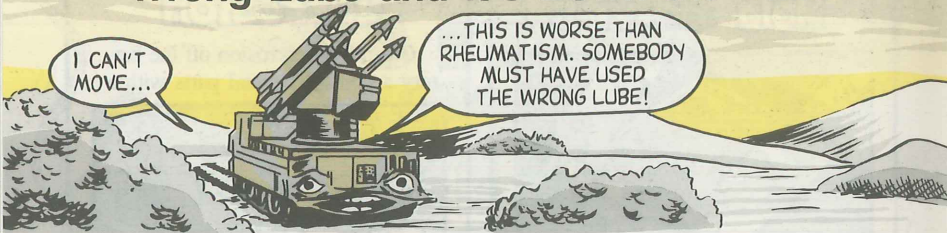
If corrosion is heavy, get your mech to clean it off.



Look for grommets where the cables pass through holes in metal parts of your equipment. Grommets missing or damaged? Report it!



Wrong Lube and It's Down the Tubes

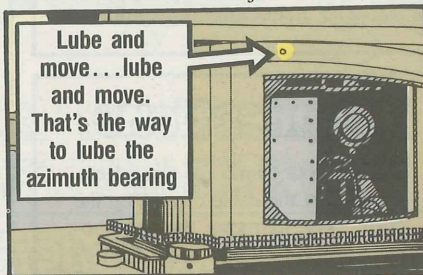


The LO is the only way to go for lubing your Chaparral, mechs. Using whatever lube is handy—instead of what the LO says—freezes bearings, bursts seals and puts your Chap in for major repairs.

GAA's fine for lubing the carrier, but it hardens and binds jack screws, door hinges, and azimuth bearings. Then DS has to take everything apart and clean out the gunk.

LO 9-1440-585-12 tells you what the turret needs. Follow it!

Remember, during semiannual maintenance you don't just squirt lube in the azimuth bearing access plug and get the job done. To get grease to all the gears that turn the turret, you must slowly turn the turret as you lube. The procedure's on Card 5 of the LO.

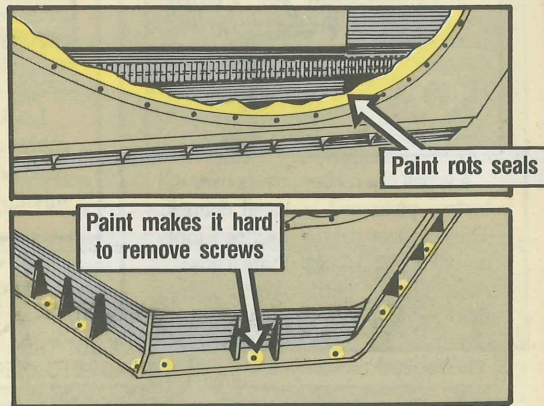


Sloppy Painting Pains

If you operators are careless in your spot painting, you'll paint your Chaparral right into a spot.

Paint causes the chain guard cover seal to crack and rot. Then you need a new seal.

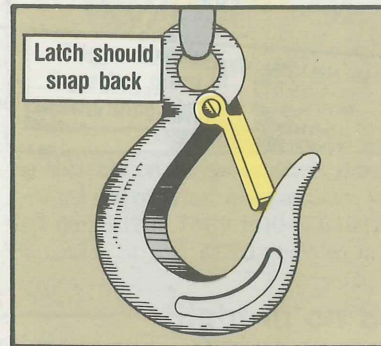
Also, keep paint away from the chain guard's screws. You'll clog the slots. Then getting the screw out ruins the screw . . . or the chain guard.



Latch Up Danger

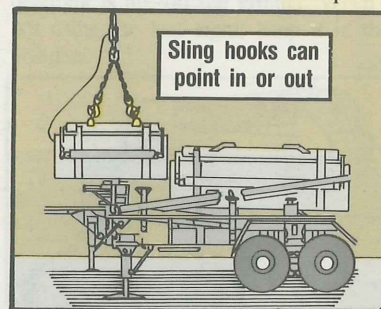
The sling hooks for the Pershing II carry some mighty big loads—things like the second stage. If the hooks slip off, everything comes crashing down. That means damage to equipment . . . and possible injury to you crewmembers.

So test hook latches before you lift. Press down on each latch with your thumb. When it's released, the latch should snap back and align evenly with the hook.

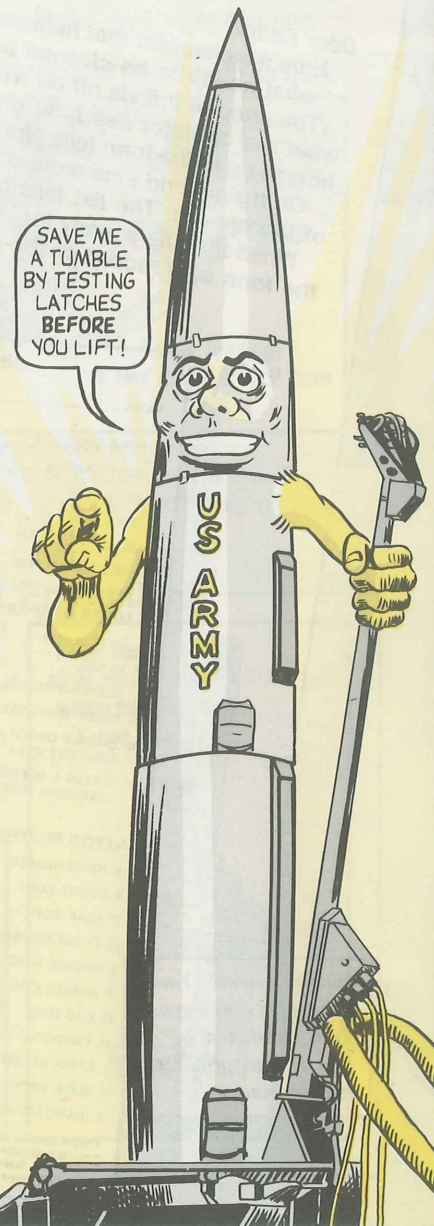


If anything seems wrong with the latch, tell your mech. Better safe than sorry.

Don't worry about which way the sling hooks point when you're lifting. TM 9-1425-386-10-3-1 shows the hooks point-



ing both in and out. Both positions are fine, no matter what you're lifting.



Forming Up PM

Dear Editor,

Here's a checklist that helps armorers and operators keep track of what needs to be cleaned and lubed on the M16 rifle. The armorer initials off on what's OK and leaves blank lines for what the operator needs to do. And, if the operator's unsure of how to do it, the form tells him where to look in TM 9-1005-249-10. On the second time around, the armorer won't have to make all of the checks. The list tells him what the operator did again. When the rifle's ready for storage, the armorer dates and keeps the form as a record of the rifle's service.

SP4 Duane Cavalier
St Paul, MN

M16A1 CLEANING AND LUBRICATION CHECKLIST

NAME _____	DATE _____	WEAPON# _____	REFERENCE TM 9-1005-249-10
	INITIALS OF INSPECTING PERSON WHEN FOUND O.K.		PAGE# 3-34
1. BOLT ASSEMBLY			
A. BOLT CARRIER	_____	_____	3-36
B. FIRING PIN	_____	_____	3-36
C. BOLT CAM PIN	_____	_____	3-36
D. BOLT	_____	_____	3-35
E. BOLT EXTRACTOR	_____	_____	
2. LOWER RECEIVER GROUP			
A. BUTT SCREW	_____	_____	3-38
B. SWIVEL	_____	_____	3-39
C. BUFFER & BUFFER SPRING	_____	_____	3-39
D. INSIDE MAGAZINE HOUSING	_____	_____	3-38
E. TRIGGER GROUP AND ADJACENT AREA	_____	_____	3-39
F. BUFFER & BUFFER SPRING EXTENSION TUBE	_____	_____	
3. UPPER RECEIVER GROUP			
A. HAND GUARDS	_____	_____	3-32
B. FRONT SIGHT	_____	_____	3-33
C. REAR SIGHT	_____	_____	3-28
D. FLASH SUPPRESSOR	_____	_____	3-33
E. BARREL BORE	_____	_____	3-29
F. BARREL CHAMBER	_____	_____	3-29
G. GAS TUBE	_____	_____	3-30
H. CHARGING HANDLE	_____	_____	3-37
I. UPPER RECEIVER GROUP	_____	_____	3-28
J. SLING SWIVEL & SLING	_____	_____	3-28
K. HAND GUARD SECURING SLEEVE	_____	_____	3-28

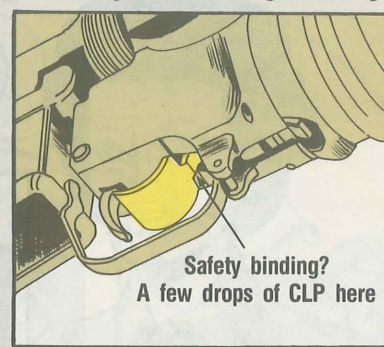
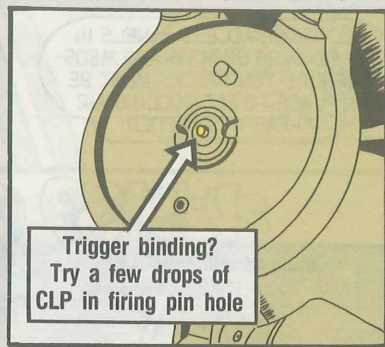
(Editor's note: Your suggestion shows good form. It should be a big help to armorers and operators.)

* NO WATER IS TO BE USED TO CLEAN ANY PARTS OF THIS WEAPON!
 * NOTIFY ARMORER OF ANY BROKEN OR MISSING PARTS AND ANY PROBLEMS THE WEAPON MAY HAVE.
 * COAT ALL SURFACES OF WEAPON, EXCEPT HAND GUARDS & BUTT STOCK, WITH LIGHT COAT OF CLP.
 * PUT HEAVIER COAT OF CLP ON BOLT ASSEMBLY AND FLASH SUPPRESSOR.

Launch to Good PM

If you don't give your M203 a daily lube, operators, you'll soon be fighting things like binding triggers that put you in a firing bind. Lubing's especially important where dust and sand can clog moving parts.

If the trigger or safety bind during firing, a few drops of CLP through the firing



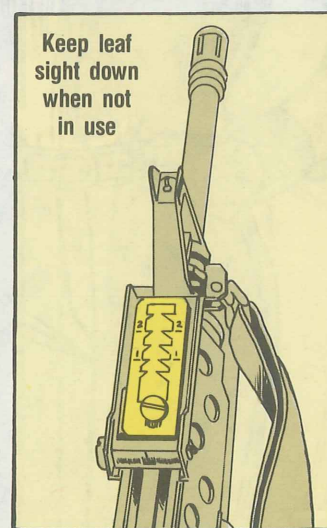
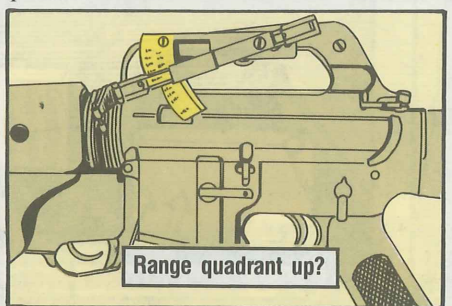
pin hole and on the safety detent should cure the problem.

At the end of firing, clean and lube your M203 with CLP like it says on Pages 3-11 thru 3-12 in TM 9-1010-221-10 (Dec 84). Be sure to wipe off any oil from the outside of your M203—oil's an invitation to dirt.

Sight in on Sight Protection

The quadrant and leaf sights on your M203 grenade launcher are fragile. One good knock can bend . . . or break . . . them. That's why you must protect them.

Always lay your rifle down so that the range quadrant is up, off the ground. When you're not using the leaf sight, keep it in the stow position.





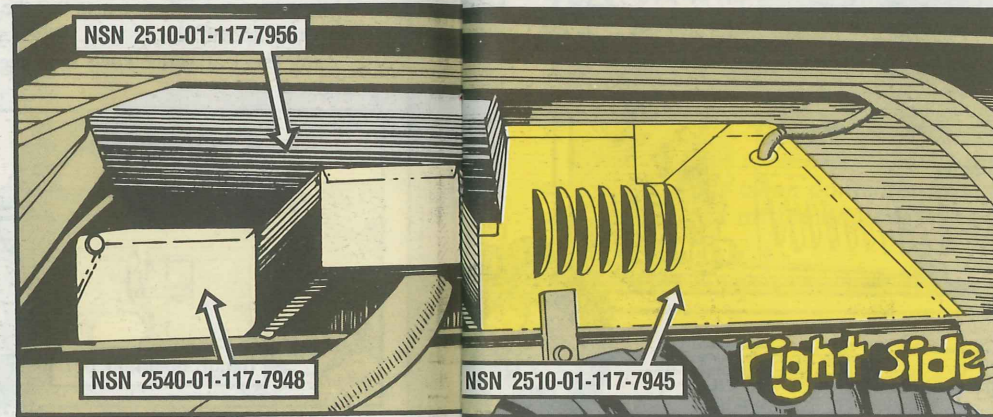
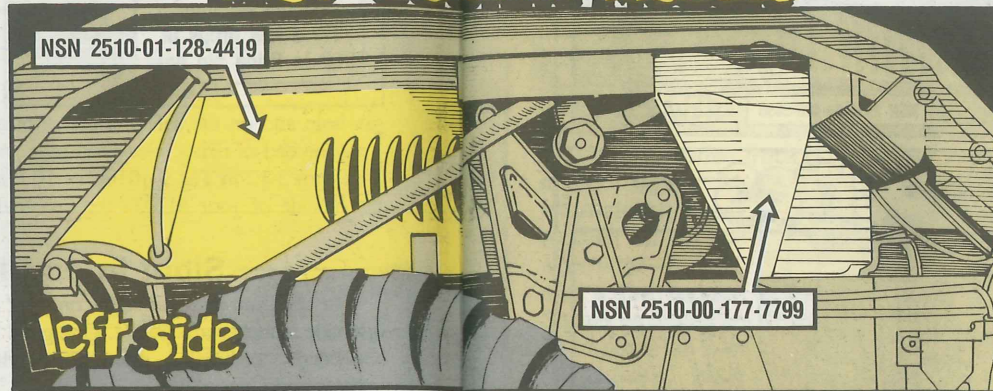
5-Ton Trucks...

PANELS ILLUSTRATED

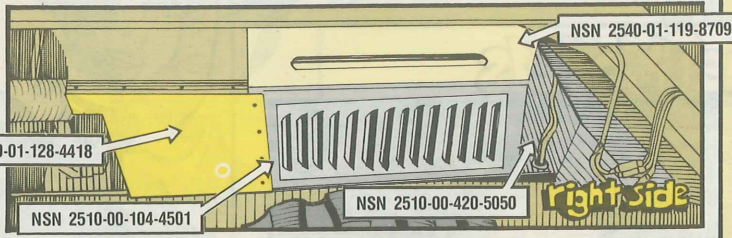
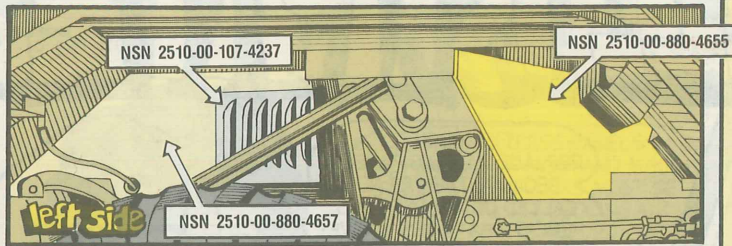
ALL THOSE ACCESS PANELS IN THE FENDERS OF M39- AND M809-SERIES 5-TON TRUCKS MUST BE IN PLACE TO GET COOLING AIR WHERE IT'S NEEDED!

IT'S TOUGH TO REPLACE MISSING PANELS, BECAUSE THEY'RE NOT CALLED OUT IN THE TM'S. HERE'S WHAT GOES WHERE:

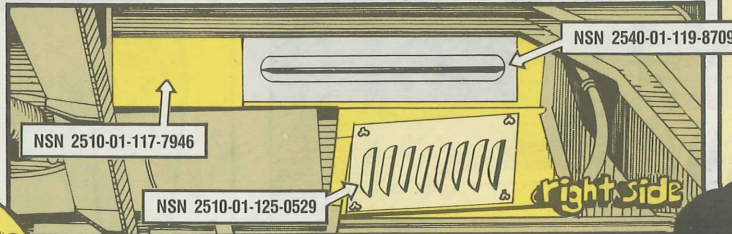
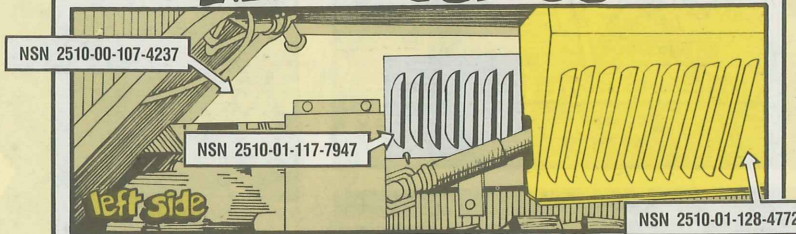
M39 Gasline Models



M39 Diesel/Multifuel



M809-Series



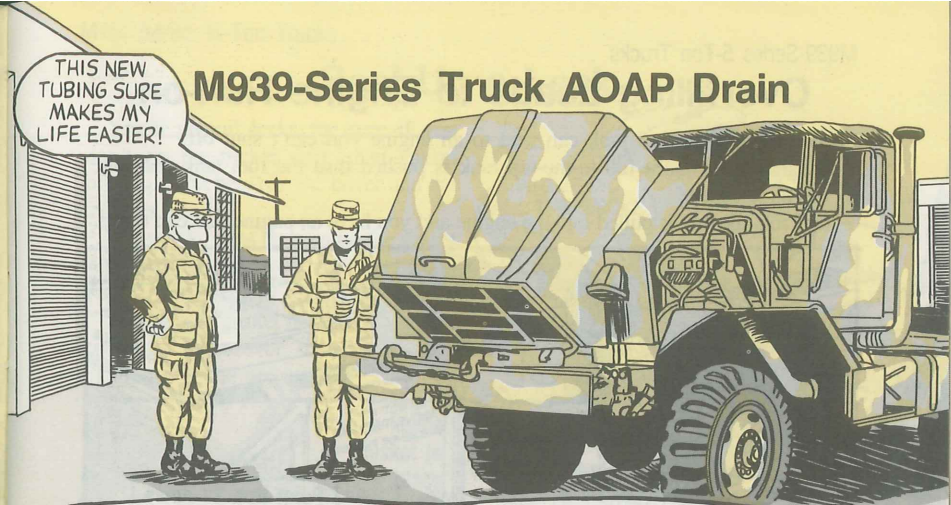
REMEMBER... ACCESS PANELS ARE IMPORTANT TO KEEP YOUR ENGINE RUNNING COOLER!

20

BE SURE YOU GET THE RIGHT NSN FOR ORDERING!

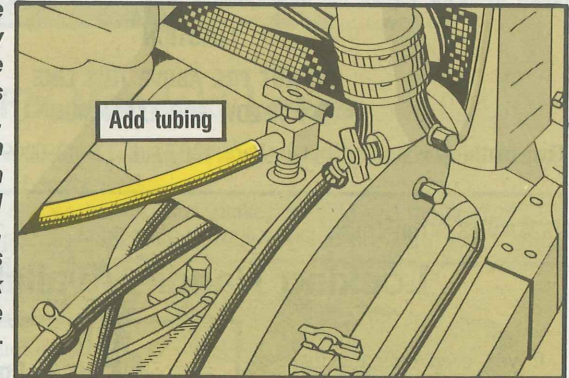
THIS NEW TUBING SURE MAKES MY LIFE EASIER!

M939-Series Truck AOAP Drain



Dear Editor,

On M939-series trucks, the AOAP sampling valve for the engine oil is right above the alternator. It's easy to spill oil on the alternator—a mess and a fire hazard. So, we've added an 18-in piece of 1/4-in ID tubing, NSN 4720-01-014-4915, to the valve. It's listed in the bulk materials on Page 840 of TM 9-2320-272-20P.



When it's time for a sample, start the engine and drain about a pint of oil into a clean container to flush the line. Then take your oil sample. Shut off the engine, and pour the pint of oil back into the engine.

Mr. William S. Kennedy
Ft Ord, CA

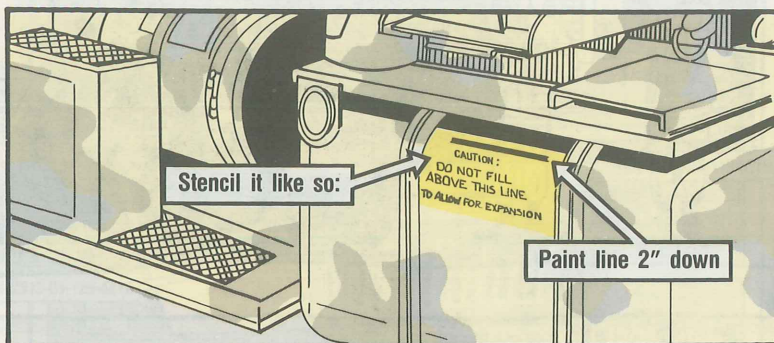
(Editor's note: Good idea! That piece of tubing can save a \$400 alternator!)

MAR 87

Overfilling Leads to Engine Run-on

Overfilling your fuel tank can lead to an engine you can't shut off. Expanding fuel in a full-to-the-top tank is pushed thru the fuel tank vent line to the air cleaner.

This fuel-air mix is pulled into the engine and you have an engine you can't stop.



Help head off run-on by painting a 1/4-in wide, 8-in horizontal line two inches down from the top of the tank. Stencil in 1-in black letters:

CAUTION
DO NOT FILL ABOVE THIS LINE
TO ALLOW FOR EXPANSION

That marking is spelled out in Para 12f(3) of TB 43-0209.

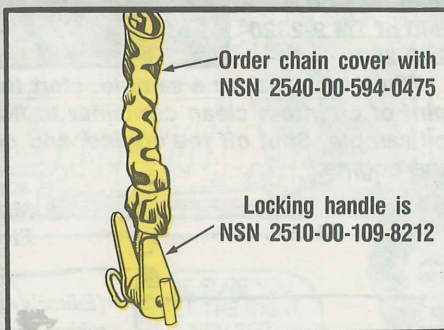
Locking Handle Available

If you need only the locking handle for your dropside cargo truck's tailgate, order NSN 2510-00-109-8212.

If chain's all you need, get 550 feet with NSN 4010-00-149-5583.

The chain cover is NSN 2540-00-594-0475.

Watch for these in a -20P TM update.



Seal Up a Leak

You'll get oil leaks for sure if you don't get the rocker arm cover gasket lined up right between the cover and the cylinder head.

It's easy to mess up because the gasket slips out of the groove in the cover when you turn it over during installation.

To keep the gasket in place while you put on the valve cover, smear a thin layer of grease in the groove.



Press the gasket into the groove. The grease holds the gasket in place until you get the valve cover on.

Fix Manifold Leaks

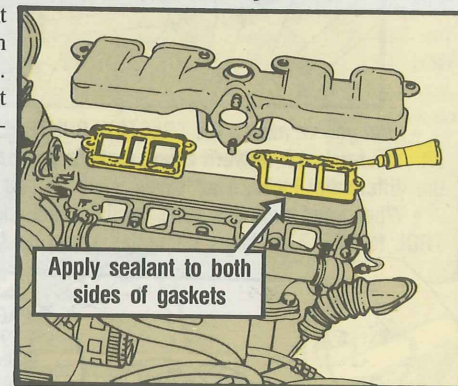
There's a new exhaust manifold sealing kit available to stop troublesome exhaust manifold leaks on M151-series trucks.

But the kit can cause leaks between the intake manifold and the head.

So use sealing compound, NSN 8040-00-225-4548, to prevent a leak.

Apply a 3/32-in bead of sealant around the intake ports on both sides of the intake manifold gasket.

Install the intake manifold. Let the sealant cure for 24 hours before you start the engine.



PARA 2-8 OF TB 43-0001-39-1 (JAN 86) HAS THE WORD ON THIS.



HEMTT's...

When the Going Gets Slick

THANK
GOODNESS
FOR TRACTION
CONTROL!



Your HEMTT can keep on trucking—if you work the TRACTION CONTROL properly.

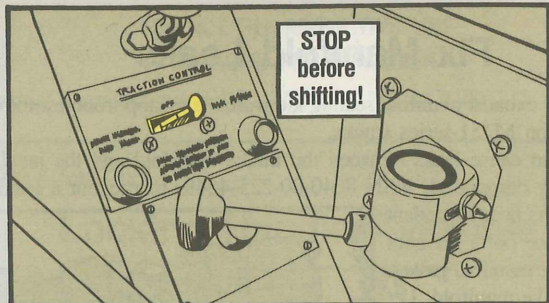
But TM 9-2320-279-10 doesn't have the right word on working it.

The TRACTION CONTROL makes sure wheels with traction keep on pulling.

You move out smartly!

These tips will keep you moving:

- Never move the TRACTION CONTROL lever while your truck is moving. This updates the CAUTION on Page 2-175 which tells you not to engage it while a wheel is slipping or while you're turning a corner.



- After you've moved the TRACTION CONTROL lever to a different position, let your truck roll forward a few feet—if you can—to engage or disengage the differential locks. That saves wear 'n' tear on the shift collars.
- When your truck has good traction, stop and move the TRACTION CONTROL to OFF. That takes unneeded strain off the drive train.



PAGE 2-175 OF TM 9-2320-279-10 IS BEING REVISED TO BRING OUT THESE POINTS. IN THE MEANTIME, USE TACOM Ms6. AMSTA-MTC 241700Z JUL 86 AS YOUR AUTHORITY!

Snatch Block Added to M747

Some winching operations to load or unload an M747 semitrailer—like unloading a tank—need more than the snatch block mounted on the semitrailer and the 60-ton snatch block in the BII.

An additional 60-ton snatch block, NSN 3940-00-181-2776, is being added to the Items Troop Installed or Authorized List in TM 9-2330-294-14.

Your authority to order the extra block is CTA 50-909.

M871 Semitrailers...

Rear Stake Mistake

Dear Half-Mast,

There's no NSN called out in Fig E33 of TM 9-2330-358-14&P for the right rear corner stake assembly for the M871 semitrailers. There are two NSN's for Item 1, the left rear corner stake assembly. Can you clear this up?

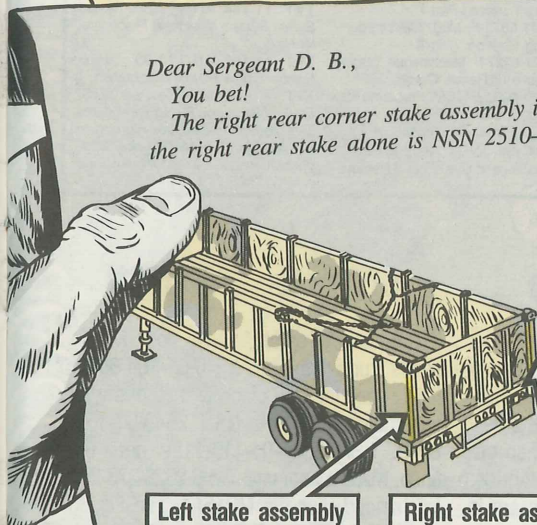
SGT D. B.

Dear Sergeant D. B.,

You bet!

The right rear corner stake assembly is NSN 2510-01-096-9349, and the right rear stake alone is NSN 2510-01-096-9350. Get the left rear corner stake assembly with NSN 2510-01-096-9347. The left rear stake alone comes with NSN 2510-01-096-9348. By the way, the corner post spreader chain assembly is now NSN 4010-01-114-1333.

Half-Mast



PUBS

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

TM 9-1425-626-24P Sep Roland missile
TM 9-5855-247-24 Sep AN/TAS-4 night vision sight, AN/TAS-6, night vision sight
TM 9-6920-742-14&P-6 Jul RET car-

rier mechanism, target moving M79
TB 55-1520-228-20-38 Oct Inspect OH-58A/C with MWO 55-1520-228-50-26 installed
TB 55-1520-228-20-39 Oct Inspect OH-58A/C for proper fuel filler cap retention cable
TB 55-1520-237-20-83 Nov Repetitive inspection of UH-60A/EH-60A eyebolts PN 70209-02136-102 (NSN 5306-01-102-8797)
TB 55-1520-241-20-40 Nov Inspection of engine transmission breather

lines CH-47A, B, C, D
TB 55-1520-243-20-10 Nov Inspection of main rotor blade for secure ballast weight AH-1/UH-1 and EH-1
TB 55-1520-243-20-11 Nov Inspection of hydraulic servo rod end bearing for AH-1, TH-1, TAH-1, UH-1C/M
LO 9-1015-221-12 Sep M40A2 and M40A4 recoilless rifle
LO 9-2320-355-20 Oct HIAB crane for M985E1 HEMTT
PAM 310-1 Sep Index of Army publications and blank forms

AUDIO-VISUAL STUFF

Available at battalion or post Learning Center

TEC Lessons

011-331-4331-F Disassembly and Reassembly of M2 Machinegun
011-331-4334-F Operate and Maintain Machinegun Mark 19 Mod 1
474-091-1847-A Troubleshoot M101 CUCV Ambulance Charging System, Part II
476-091-1013-A Repair M109A2/A3 Howitzer Cab Slip Ring Contact Arm Assembly
476-091-1214-A Replace M110A2 Rammer Pivot Arm
479-091-2476-A Troubleshoot and Diagnose M3A3 Smoke Generator
482-091-2036-A Troubleshoot M109 Series Howitzer Brake System
487-091-1693-A Check and Service M2/M3 Bradley Coolant System
499-091-2931-A Troubleshoot M88A1 Transmission

811-551-7859-F Performing Vehicle Self-Recovery Using the Winch
916-013-0023-F Unit Safety Officer/NCO Training Course - Hearing Conservation (Part I)
931-031-0012-F Maintain an M17 Series Protective Mask
931-031-0016-F M256 Chemical Agent Detector Kit
931-031-0018-F CBR Agent M34
941-071-0074-F M60 Machinegun Fighting Position, Part I
941-071-0075-F M60 Machinegun Fighting Position, Part II
941-071-0227-F Machinegun Target Engagement Range Cards
948-071-0021-F TOW-Preparing for Ground Operation

Films, TV Tapes

TVT 11-139 AN/TTC-39 Installation, Preparation and Operation of Remote

Call Service Position
TVT 11-140 AN/TTC-39 Circuit Switch Single ADP Processor Start-Up
TVT 11-141 Prepare Page Printer, AN/UGC-74 Teletypewriter Communications for Operation
TVT 11-142 AN/TTC-39 Circuit Switch System Shutdown Procedures, Single Shelter
TVT 11-143 Prepare Module Test Set (MTS) for Operation
TVT 11-144 AN/TTC-39 Circuit Switch System Shutdown Procedure, VI Model
TVT 11-145 AN/TTC-39 Circuit Switch Single Power Initialization
TVT 11-146 Module Test Set (MTS) Fault Isolation and Repair Procedures
TVT 20-640 Hazard Communication Program for ARNG Maintenance Shops (Health Hazards in the Workplace)

Lube CUCV Front Hubs, Too

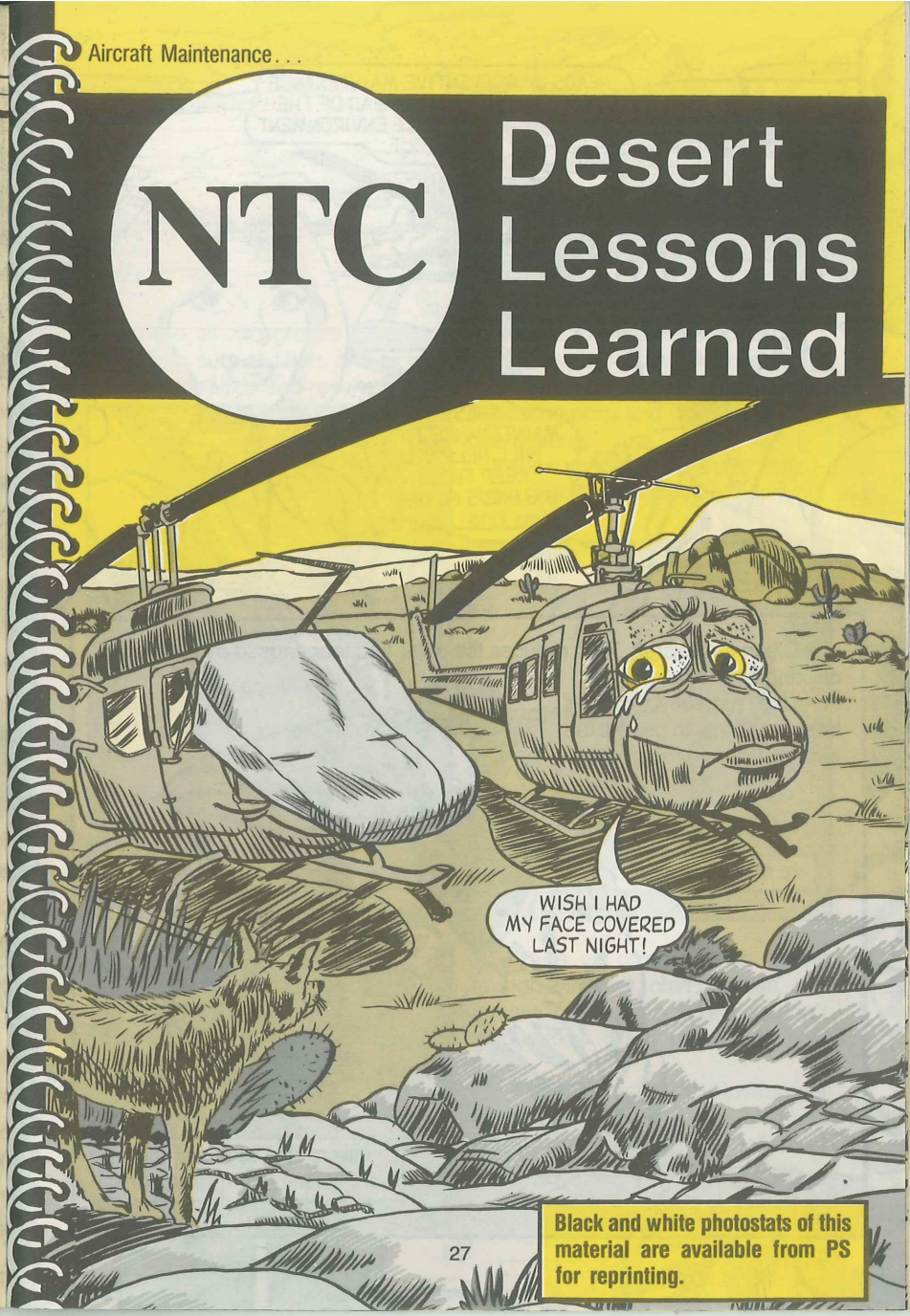
LO 9-2320-289-12 doesn't say so, but the front hub on your CUCV need lubing too. Make them part of the semiannual service when you repack the front wheel bearings. Lube 'em with GAA. When updated, the LO will add the front hubs. Instructions for servicing the hubs are in Para 10-8 of TM 9-2320-289-20.

Defroster Fan NSN

Get the defroster fan for your M915-series truck with NSN 2540-01-104-8948. If you need the nut, bracket, knob or switch assembly, order kit, NSN 2540-01-104-8949. NSN 5355-01-116-1129 gets the knob. Make a note until TM 9-2320-273-20P is changed. For the M915A1, see Fig 86 of TM 9-2320-283-20P.

NTC

Desert Lessons Learned



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

HEADS-UP PREVENTIVE MAINTENANCE IS THE WAY TO STAY AHEAD OF THE DAMAGE THAT A HOSTILE ENVIRONMENT DISHES OUT.

THESE MAINTENANCE TIPS WILL HELP YOU KEEP THOSE BIG BIRDS FLYING:

- Clean the aircraft. That reduces the wear and tear caused by a buildup of sand and dirt.
- Use protective covers between flights to protect the aircraft from excess heat.

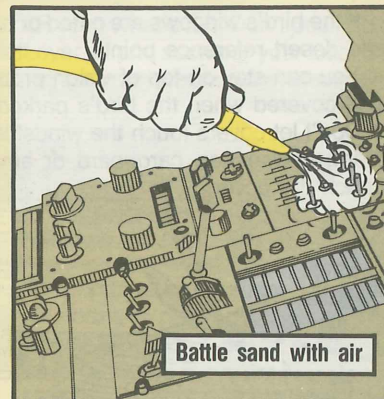


Covers stop sand and dirt from getting into moving parts

- Wipe oil and grease off engine decks and cowling-covered parts.
- Make sure all filters and air cleaners are inspected and cleaned daily.
- Cover radios and receivers with dust covers whenever possible. Clean ventilating ports and channels to stop overheating.



Sand collects in cockpits



Battle sand with air

- Blow sand and dirt out of instrument panels, switches, flight controls and cables.



Tape openings that are rarely used

- Tape all openings or seams around windows, chin bubbles, and access panels. Be sure you don't stop airflow that's needed to cool parts.
- Clean all fuel, oil and instrument filters daily.
- Lubricate the main and tail rotors after every flight or at least daily.
- See that lubricant and fuel containers are covered when not in use.

- Replace damaged sealant around windows, doors and chin bubbles.
- Remove the oil cooler compartment access panel daily and clean caked dirt and sand off the fan's inner lip.

Inspect weather stripping for damage

Windows

If the bird's windows are pitted or crazed, you can be sure the pilot can't see desert reference points.

You can stay on top of vision problems by keeping the windows clean and covered when the bird's parked.

Don't let covers touch the windshield, tho. Protect windows with Styrofoam, newspaper, cardboard or any other non-abrasive material—then attach the cover.

YOUR BEST DEFENSE AGAINST PITTING CAUSED BY TAKEOFFS AND LANDINGS IS TO CLEAN, INSPECT, AND POLISH THE WINDOWS.

Contamination

Add lubricant from the container

Add oil and hydraulic fluid directly from their original unopened containers. That helps stop sand and dirt from getting into the helicopter's lubrication and hydraulic systems.

When a POL can is opened, NEVER save what's left. Don't pour it down the nearest drain, tho. Dispose of left over oil and such per your local SOP.

Lube

GREASE ACTS ALMOST LIKE A MAGNET FOR SAND AND DIRT.

A combination of grease, sand and dirt forms a paste that grinds and wears lubricated parts. Wipe off excess grease every time you lube.

Sand and dirt get trapped in excess grease

Inspect and purge all lubricated bearings daily.

Temperature Changes



The desert is a land of extremes. Temperatures can top 100°F during the day and dip below 50°F at night. These temperature changes cause O-rings, seals and gaskets to continually expand and contract. If they warp out of shape, you're stuck with seals that don't seal. Watch for leaks. Change the seals when you find one.

Engine Temperature

YOU CAN EXPECT YOUR ENGINES TO RUN HOT IN THE DESERT! KEEP OIL TEMPERATURE DOWN BY FLUSHING THE ENGINE LIKE YOUR BIRD'S -23 MANUAL SAYS. IF THE ENGINE'S USING MORE OIL THAN NORMAL, CHANGE THE OIL. THAT'LL REDUCE ENGINE WEAR.

Flush after 25 flight hours or daily



MAR 87

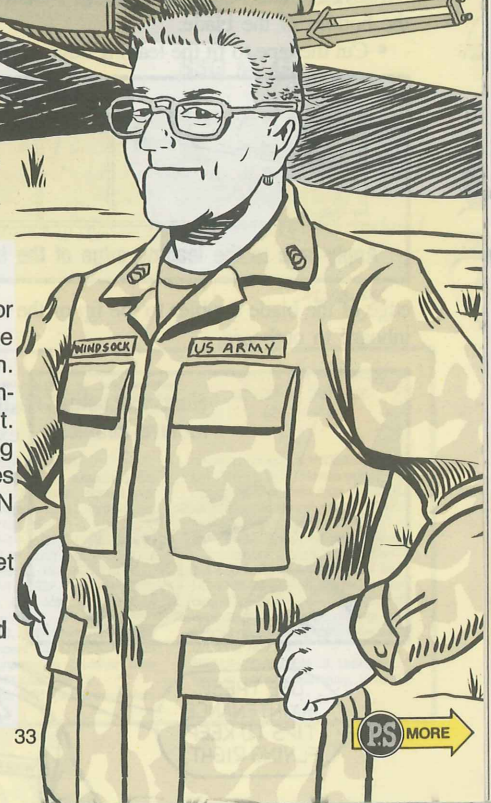


Rotor Blades

High winds combined with sand or dirt landing pads can sandblast the paint off your birds' blades in a flash. Stay on top of blade erosion by inspecting the blades after every flight. You can slow erosion by covering the leading edge of main rotor blades with pressure sensitive tape, .NSN 7510-00-145-0171.

Before you try this fix, tho, get approval from:

US Army Aviation Systems Command
ATTN: AMSAV-E
4300 Goodfellow Blvd
St Louis, MO 63120-1798



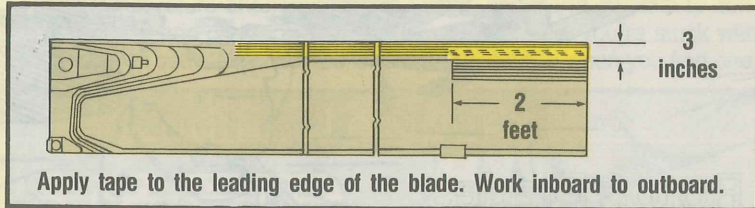
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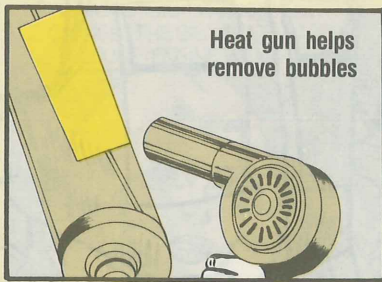
THIS BIRD'S GONNA NEED NEW BLADES SOON!

Here's the fix:

- Clean the blades with aliphatic naphtha, NSN 6810-00-238-8119.
- UH-1H and AH-1S mechanics should first put a 2-ft long piece of tape on the bottom of the blade.
- Cut the tape to fit the leading edge of the blade, measuring from the outboard



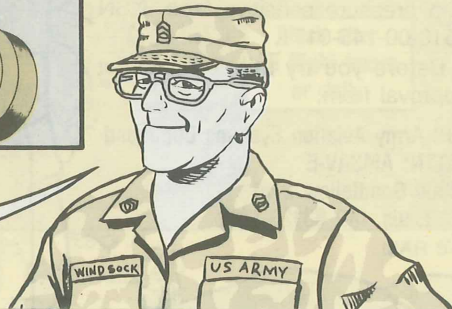
edge of the blade doubler to the tip of the main rotor blade. Apply the tape from inboard to outboard.



Heat gun helps remove bubbles

- Use a heat gun to make the tape stick to the blade. Don't let the gun exceed 200°F during installation.

USE THESE MAINTENANCE TIPS TO KEEP FLYING RIGHT!



Maintenance & Safety-of-Use Messages

TACOM SOU-MES-86-88—M48/M60 family of vehicles new safety warning decals available, AMSTA-M 171335Z Nov 86.

TACOM SOU-MES-86-85—Advisory Technical/Maintenance, M998 series (HMMWV) vehicles battery box fires, AMSTA-MTA 241400Z Nov 86.

TROSCOM SOU-MES-34-86—Inspection criteria for canopy release

on MT1-X family of military parachutes, AMSTR-MES 161400Z Dec 86.

TROSCOM SOU-MES-32-86—Inspection criteria for MT1-XX interim ram-air free fall parachute systems, three ring canopy release, AMSTR-MES 201700Z Nov 86.

TROSCOM SOU-MES—Generator set inspection procedures correction, AMSTR-MES 250900Z Nov 86.

MICOM SOU—Advisory, operational, OE-349/MRC Patriot antenna mast group defective pin replacement, AMSMIL-C-AM 151605Z Dec 86.

Your Direct Support or Logistic Assistance Office (LAO) can provide you with more information.

PMP Inspections...

How Much Tolerance Allowed?

Dear Windy,

Our aircraft is under the Preventive Maintenance Periodic inspection system. Our maintenance manual, TM 55-1510-213-23-1, also requires us to perform an additional special inspection every 100 hours. Are we allowed a tolerance of plus or minus 5 hours, or 10-percent in performing that service?

SSG M. G.

Dear Sergeant M. G.,

The 100-hour inspection required by TM 55-1510-213-23-1 is a special inspection that supplements inspections required under PMP.

Special inspections may be accomplished within a 10-percent tolerance of their scheduled due dates.

Your PMP requirements have a tolerance of plus or minus 5 hours of the scheduled due dates.

Windy

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.

AH-1-86-07, SOF, Maintenance Mandatory, Inspect main rotor blade PN 204-011-250-5/113 for secure ballast weight, 121930Z Nov 86.

AH-1-86-08, SOF, Emergency, AH-1, TH-1, TAH-1 and UH-1C/M aircraft, retirement interval change of hydraulic servo rod end bearing, 142140Z Nov 86.
AH-1-86-09, SOF, Emergency, AH-1/TH-1/TAH-1, mandatory removal of specific root fitting, K747 main rotor

blade, 210030Z Nov 86.

AH-64-86-17, SOF, Maintenance Mandatory, Directional control rod thread engagement inspection, 122300Z Nov 86.

AH-64-86-18, SOF, Operational, Restriction on firing Area Weapons system (AWS), 182200Z Nov 86.

AH-64-86-19, SOF, Maintenance Mandatory, Connector wire sealing, 282300Z Nov 86.

CH-47-86-10, SOF, Maintenance Mandatory, Inspect CH-47A/B/C/D with engine transmission breather lines installed, 141400Z Nov 86.

OH-58-86-10, SOF, Maintenance Man-

datory, Landing gear, 132330Z Nov 86.
UH-1-86-11, SOF, Maintenance Mandatory, Inspect main rotor blades for secure ballast weights, 121930Z Nov 86.

UH-1-86-12, SOF, Emergency, Retirement interval change of hydraulic servo rod end bearing, 142140Z Nov 86.

UH-60-86-20, SOF, Maintenance Mandatory/Operational, Inspect first three tail rotor drive shaft spline couplings and remove material from under crew seats, 070030Z Nov 86.

MIM-UH-60-86-MEM-15, Leakage criteria for actuator assembly, 191800Z Nov 86.

Strut Your Stuff

WHEN I'M THROUGH HERE, THIS SHOCK WON'T BE STRUTTING ANYWHERE! HA! HA! HA!

LET ME HELP WITH THOSE SEALS, GRUNGY!

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

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

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

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



Use hydraulic fluid to remove dirt and crud!



Use crocus cloth to remove rust from actuator rod

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

The Pressure Is Off

TEST THE BIM ONLY AS SCHEDULED BY THE TM!

Some of you Black Hawk pilots are testing the BIM (Blade Inspection Method) pressure indicators during every pre-flight inspection, even though it's not required.

Every time you make the test, some of the nitrogen inside escapes. There's no way to avoid it, even if the manual lever on the pressure indicator is pressed in firmly to prevent excessive nitrogen bleed-off.

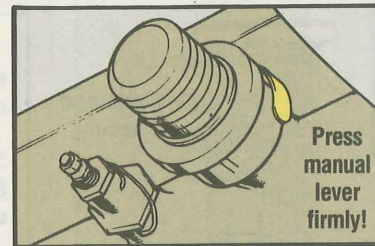
When enough pressure escapes, the BIM indicators change from yellow (safe) to red (unsafe) and the system has to be serviced.

That means an extra burden on the mechanic and taxpayer.

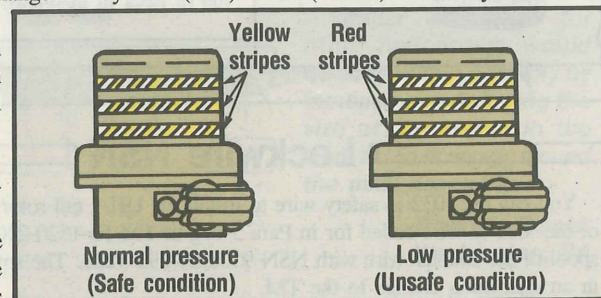
Sequence No. 6.9 of TM 55-1520-237-PMS-1 calls for testing the main rotor blade pressure indicators

every 10 flight hours or 14 days, whichever comes first.

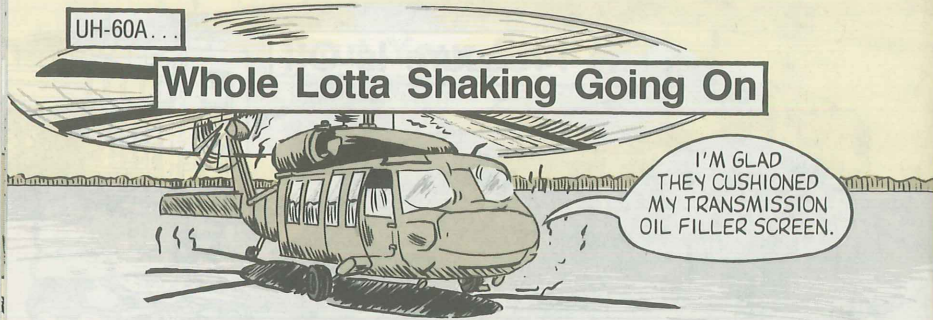
That's all that's required, birdmen. Let well enough alone.



Press manual lever firmly!



Whole Lotta Shaking Going On



Engine vibration gives your Black Hawk's main transmission oil filler screen the shakes.

Too much vibration for too long puts the whammy on the filler screen. It will disintegrate and contaminate the transmission lube.

Vibration also causes the screen's shoulder to wear through and lets the screen fall into the transmission.

HERE'S HOW TO CUSHION THE SCREEN:

Preformed packing

- Open the oil filler cap and lift out the screen. Clean the screen with methyl-ethyl-ketone or a lacquer thinner.
- Install a preformed packing, NSN 5330-00-579-3163, using adhesive, NSN 8040-00-142-9193, to bond it in place right under the screen's shoulder.
- Put the filler screen back in and you're back in business.

Lockwire NSN

You can use .032-in safety wire to install the UH-1 tail rotor dust boot instead of the .042-in wire called for in Para 5-97g of TM 55-1520-210-23-1. Get a 1-lb spool of the smaller wire with NSN 9505-00-293-4208. The smaller wire will be in an upcoming change to the TM.

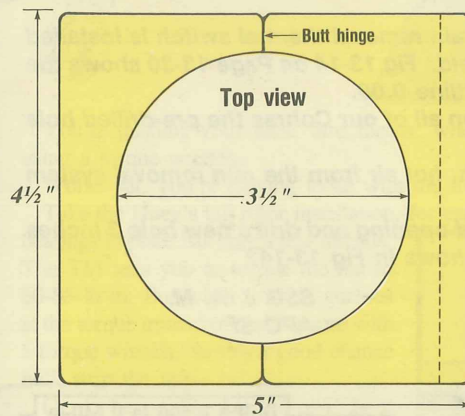
Work Aid Helps Check Bearings

Dear Editor,

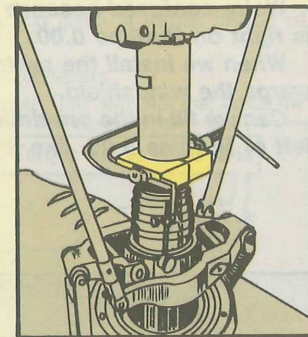
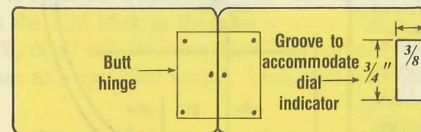
It's almost impossible to get accurate bearing readings using dial indicator, NSN 5210-00-277-8840, because there's no place to securely mount the indicator without using heavy clamps or some other makeshift apparatus which can damage the flight controls or mast assembly.

I suggest using a wooden work aid that mounts to the main rotor mast. Because of the design and hardwood material, it eliminates any chance of damage to the mast.

Make a 3/4 x 3/8-in groove in one side of the block to accommodate the dial indicator. Then attach the work aid and dial indicator to the mast with an 8-in steel clamp. It allows mechanics to take accurate readings of all flight control bearings in the mast area.



End view

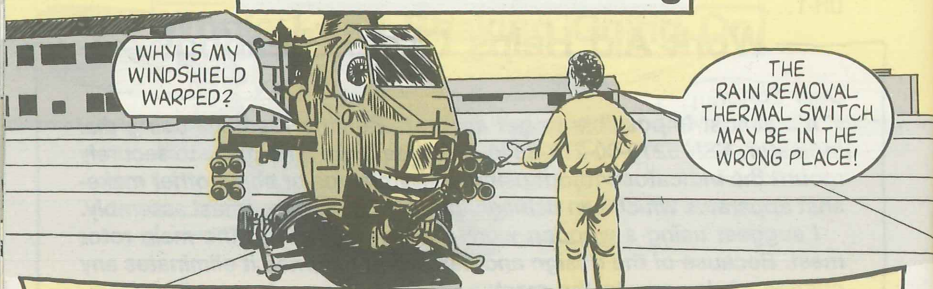


Similar work aids for other helicopters would be easy to make simply by increasing or reducing the size of the cutout in the work aid to fit snugly around the mast assembly.

David A. Placek
Washington, PA

(Editor's note: Sounds like an easier and better way to do the job.)

Switch Hole Confusing



Dear Windy,

There seems to be a conflict between TM 55-1520-236-23-2 and our Cobras.

Para 13-105 says that the rain removal thermal switch is installed in an opening in the windshield. Fig 13-14 on Page 13-30 shows the opening 3 inches left of Buttline 0.00.

We're confused because on all of our Cobras the pre-drilled hole is right on Buttline 0.00.

When we install the switch, hot air from the rain removal system warps the windshield.

Can we fill in the pre-drilled opening and drill a new hole 3 inches left of Buttline 0.00, like it shows in Fig 13-14?

SSG J. A. M.
APO SF

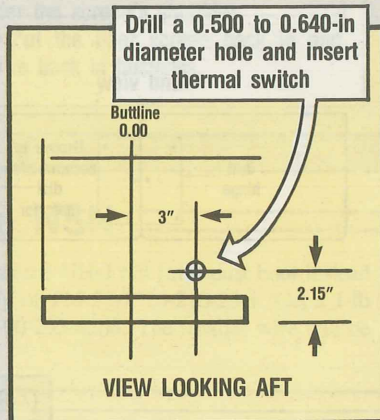
Dear Sergeant J. A. M.,

You and Fig 13-14 of the -23-2 are right. The hole should be 3 inches to the left of Buttline 0.00.

Plug the original hole with a button plug, NSN 5340-00-816-3423. Apply a light coat of sealing compound, NSN 8030-00-616-9191, to the plug before inserting it in the hole.

Drill a new hole and install the thermal switch like it says in Para 13-105 and Fig 13-14.

Windy



Lives Hang by Threads



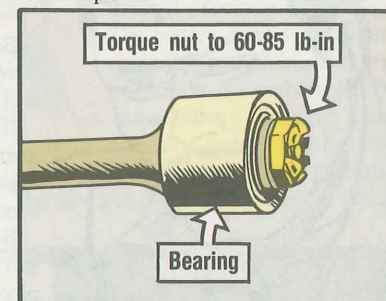
You're pushing your luck, bird mechs, when you guess at torque instead of using a torque wrench.

Worse yet, you're playing loose with the lives of others.

Take the Huey's tail rotor installation, for example. The slim nut that holds the bearings in place has only a few threads. The TM tells you to torque the nut to 60-85 lb-in. But when a mech guesses at the torque instead of making sure with a torque wrench, there's a good chance he'll strip the nut.

Or, if he overtorques the nut, he'll probably stretch the threads on the pitch change rod, too. Then both parts have to be replaced. There's no other way to get the bird back in the blue.

So don't rely on your "feel" for torque. If your TM tells you to tighten hardware to a specified torque, latch onto a torque wrench and do it right.



Battery Life Extended

Good news, Apache mechs. The replacement time for the AH-64's fire control computer battery, NSN 6135-01-185-3614, has been extended from 6 months to 42 months from original installation date. Change 6 (Oct 86) to TM 55-1520-238-23-1 has the new info.

Keep Perk

-77 at Peak

Eyeball Gaskets...

First, make sure you have them—front panel, battery box and battery connector plug. Your repairman can replace a battery connector gasket, NSN 5330-00-109-6450. The others are DS.

If gaskets are on the job, make sure they're not cracked, broken or too compressed to do their moisture-fighting job.

THE BATTERY BOX SHOULD HAVE A PRESSURE RELIEF VALVE. IF YOUR SET HASN'T BEEN MODIFIED, SUPPORT DOES THE WORK. NSN 5820-00-110-0714 BRINGS FIVE KITS.

When you get the BA-5598 lithium battery, NSN 6135-01-034-2239, remember it needs special handling. The lithium battery is saved for turn-in through channels to DRMO. The battery creates safety and environmental problems if you just toss it out or burn it.

When using lithium batteries, make sure the CY-2562 battery box has two additional pads installed to keep the active battery and a spare or spacer in place.



Before Operations...

WHEN YOU'RE HEADED FOR AN FTX WITH YOUR RADIO SET, MAKE SURE IT'S NOT JUST DEAD WEIGHT. IF YOU CAN YELL FARTHER THAN YOU CAN TRANSMIT, THAT RADIO'S JUST THAT — DEAD WEIGHT! MAKE THE RADIO CARRY ITS OWN WEIGHT BY PULLING PM DURING AND AFTER YOU HIT THE ROAD.

Before you leave home base, eyeball all moving parts. Make sure switches and knobs will switch or turn.

If the audio contacts are glazed, brighten them up by rubbing them with a rubber pencil eraser. That helps guarantee good commo contact.

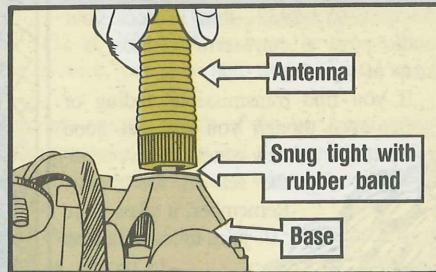
Be sure your set is weatherproof by making sure all connector covers are on hand and in place.

THAT INCLUDES THE POWER SHORTING CAP, NSN 5935-00-973-1859. WITHOUT IT, YOUR RADIO WILL NOT WORK ON BATTERY POWER.

Antennas, too...

Be sure your antennas are in good shape, too. Screw one into its base. If it's not snug, try a sliver of rubber band between the threads. If that doesn't snug up the fit, get another antenna.

Screw the antenna all the way down to the mount. Leaving a gap makes it a snap to break off.



During Operations...



NOW THAT YOU'RE IN THE FIELD, PUT IN THE BATTERY. DO IT CAREFULLY OR YOU'LL BREAK A RADIO CONNECTOR OR BATTERY RECEPTACLE. MAKE SURE YOUR POWER SWITCH IS SET TO OFF!

Set the radio on its front panel guards. Holding the battery even with the set, carefully mate the battery's receptacle with the radio's pins. Now, keep the battery straight and push it onto the pins.

Next, make sure the power shorting cap is in place. The power plug is there for vehicular use. The cap completes the circuit when no power cable is used.

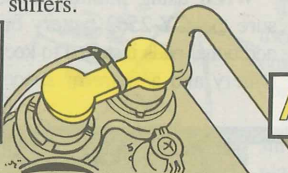
Likewise, when you put your receiver-transmitter on a vehicle, take out the battery. It can overheat and may explode.

Once you've hooked up an accessory to the audio connectors, never use the cable as a handle. You'll break the cable or front panel.

Another no-no is picking up the radio by the antenna. That's another panel—*or antenna—breaker.*

Set the radio down carefully, too. The cable connector extends past the panel guards. If you bump it or let it hit something, the panel or connector suffers.

Dumbbells gone? Use tape for now

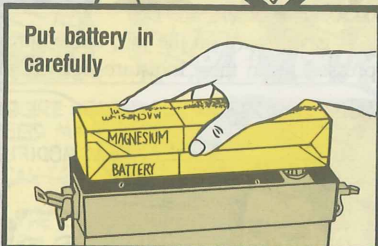


If you lose the dumbbell covers, NSN 5340-00-973-1732, that protect your audio pins, a short-term solution is a strip of tape.

If you find transmissions fading or gone, even though you still get good reception, try a new battery before sending the set off for repair.

Remember, it takes more juice to transmit than to receive.

Put battery in carefully



After Operations...



Take out the battery. Left inside the radio it'll corrode and make a maintenance headache. If two BA-5598's are on hand, take out both of them.

Then, go back over the "before" checks. Make sure you're ready for the next mission...no matter when it comes.

Field Wire...

Put a Tag on It

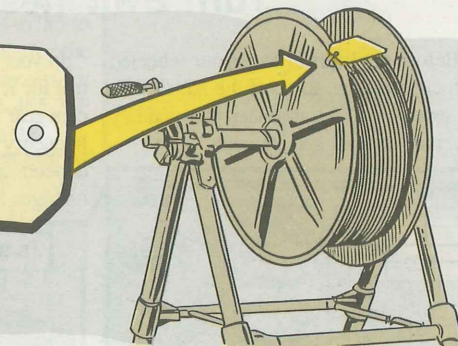


IF SHE HAD TAGGED IT IN THE FIRST PLACE, SHE WOULDN'T BE GOING THROUGH ALL OF THIS NOW!



Tag your WD-1() field wire. Then you'll know at a glance what shape it's in. Once you've recovered, repaired and re-spooled your wire after a field exercise, test it.

Continuity test: 7 Jan 87
Resistance: 30 ohms
Splices per mile: 3
Tested by: SP4 Hill



Mark the test results on a tag, NSN 8135-00-292-2354, and put the tag on the wire. Then next time you need a spool of wire, you'll be able to get a good one before you go.

Good info to include on a tag is the date and the result of the last continuity and resistance checks, how many splices per mile of wire and the tester's name. If you like the idea of knowing what wire is good to go and what is good only for training, tags are it.

Other uses for the tags are given on Page 9-13 of FM 24-20, Tactical Wire and Cable Techniques.

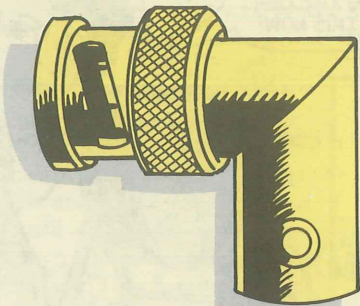
MAR 87

45

Adapter Protects Receptacles

Front panel receptacles on your TD-353 multiplexer take a beating from connecting and disconnecting a CG-1040/B coax cable.

You can beat this wear and tear by adding a UG-306B adapter, NSN 5935-00-847-2600, to the cable.



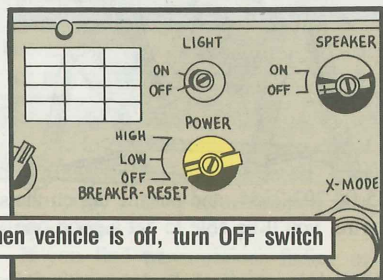
Add adapter, NSN
5935-00-847-2600,
to the cable

The adapter'll take any damage aimed at a panel receptacle during connecting and disconnecting. Besides, the adapter's easier to replace than a panel receptacle.

Turn Switches Off

Before you start or stop your wheeled vehicle's engine, turn off the AN/VRC-12-series receiver-transmitter, the auxiliary receiver and all secure gear.

In your tracked vehicles, ON/OFF control for RT's, auxiliary receivers and secure gear may be in your AM-1780 audio-frequency amplifier's MAIN PWR switch, depending on how the mount's internal linkages have been set up. If you're not



When vehicle is off, turn OFF switch

That surge of power from your vehicle's electrical system blows radio circuits and the wiring inside the secure gear.

Be on the safe side. Set the switches on all equipment to OFF.



Turn off commo gear in track

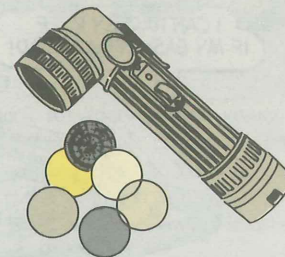
sure, have your organizational shop let you know how the ON-OFF switches operate.

Flashlight Filters

Need filters for your MX-991, -992 or -212 flashlight? Try to get them from an unserviceable light.

No luck? Use these NSN's:

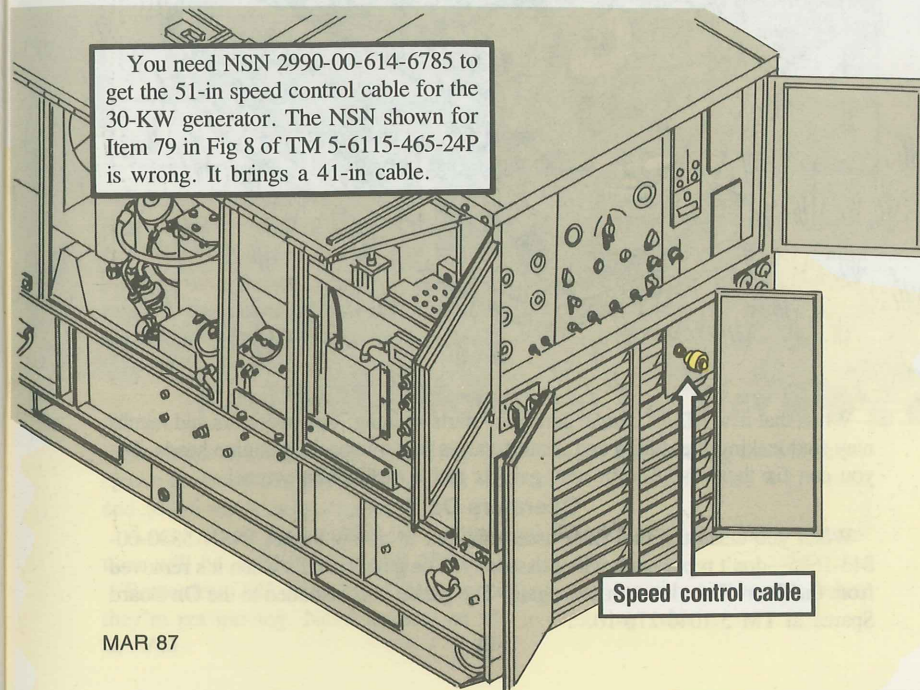
NSN 6230-	Filter
00-111-0190	Red
00-128-2464	Opaque (blackout)
00-356-4825	Diffusion
00-504-8341	Green
00-504-8342	Amber
01-189-1480	Blue



NSN 6240-00-155-8675 is for the flashlight bulb.

Generator Cable NSN Change

You need NSN 2990-00-614-6785 to get the 51-in speed control cable for the 30-KW generator. The NSN shown for Item 79 in Fig 8 of TM 5-6115-465-24P is wrong. It brings a 41-in cable.



Speed control cable

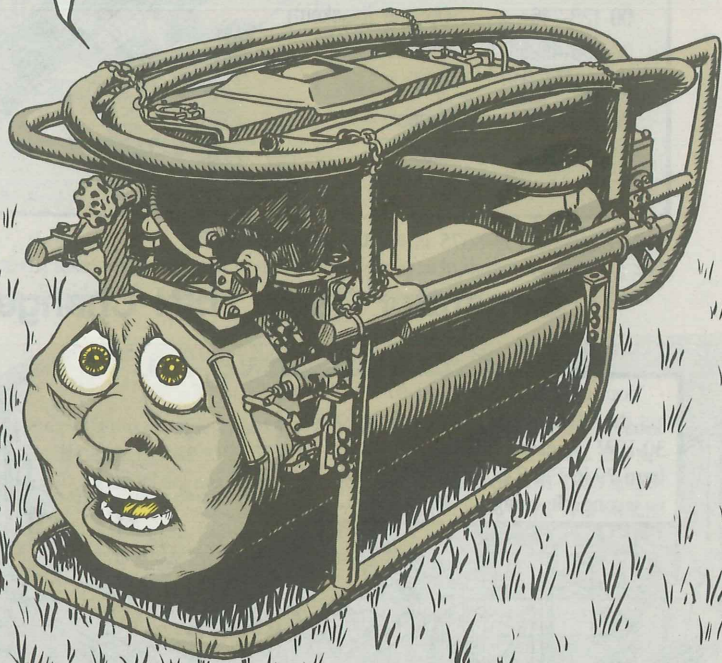


M3A4 Smoke Generator...

Kill

the Bugs!

I CAN HARDLY PUFF
IF MY GASKETS ARE BAD!



When that new M3A4 smoke generator starts running, you operators and mechs may find leaking fuel filters and shutoff valves and overheating engine heads. But you can fix them 1-2-3 with new gaskets and a turn of the wrench.

Operators Do It

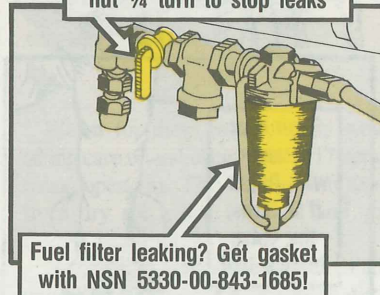
When you clean the fuel filter assembly, put in a new gasket, NSN 5330-00-843-1685—don't replace the whole assembly. The gasket swells when it's removed from the filter. Then it won't seal again. The gasket will be added to the On-Board Spares in TM 3-1040-276-10.

Mechs Do It

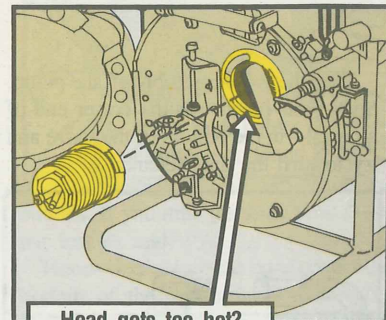
If the fuel shutoff valve leaks, the generator keeps running after you turn it off. Stop the leak by tightening the valve's nut $\frac{1}{4}$ turn.

Check for sooty carbon around the head where it seals against the engine combustion chamber. You should see clean metal all around. If you find carbon, replace the old gasket in the interfacing

Fuel shutoff valve—tighten
nut $\frac{1}{4}$ turn to stop leaks



Fuel filter leaking? Get gasket
with NSN 5330-00-843-1685!



Head gets too hot?
Install new gasket here

Exhaust gas leaking around the engine head causes the head to overheat, cutting smoke output. If you feel a lot of heat radiating from the head while the engine's running, shut down and remove the head like it says on Page 3-11 in your -10 TM.

ring of the combustion chamber with a copper gasket, NSN 5330-00-507-4900. It seals better. The gasket will be added to TM 3-1040-276-23P.

New M3A4 Mount on the Way



Don't use the M2 mount, NSN 1040-00-347-2434, for installing the M3-series smoke generator in the HMMWV. The M2's only for the M151-series $\frac{1}{4}$ -ton truck and M416-series $\frac{1}{4}$ -ton trailer.

A new mount for the HMMWV will be available in 1987. Mounting instructions will be in TM 3-1040-281-20&P, due out this month.

Remember, M3-series generators are supposed to generate smoke only when they're not moving. Never operate an M3 in a moving vehicle.

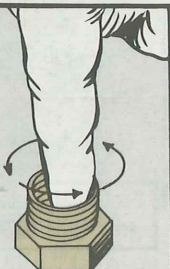
Check Air Check Valve

NO SMOKE? COULD BE A FAULTY AIR CHECK VALVE ON THE FOG OIL PUMP — THE VALVE BODY'S NO GOOD. CHECK IT OUT LIKE SO:



Take the valve assembly off the pump. Stick your finger—or the eraser end of a pencil—in the bottom of the valve and try to turn the disk retainer.

Turn disc retainer with finger. If it turns, the valve body's bad

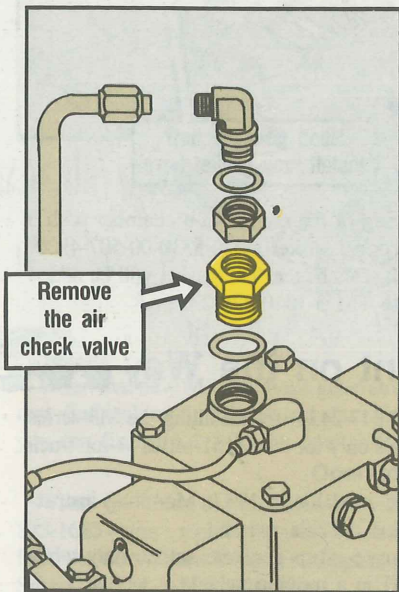


If the retainer turns, get a new valve body, NSN 1040-00-953-4642. Put the old parts—disk, retainer and snap ring—in the new body. Try turning the retainer.

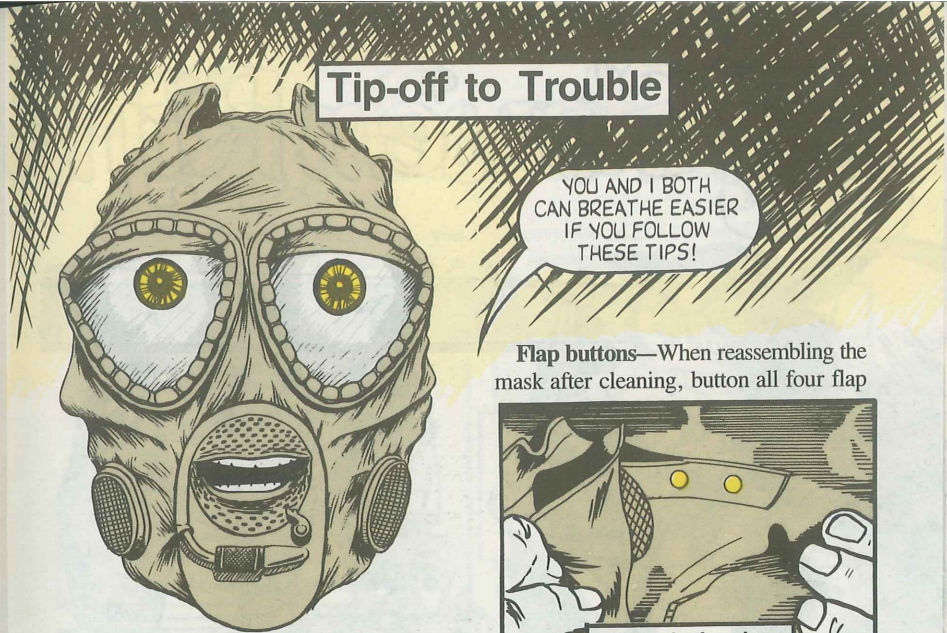
Another bad body? Keep testing until you get a good body—one that won't let the retainer turn.

When you've got a valve that's OK—retainer won't turn—test it under operation. Put the valve back in the pump and run the M3A4 for 15 minutes—using fog oil, of course. If the M3A4 smokes OK, the air check valve's OK.

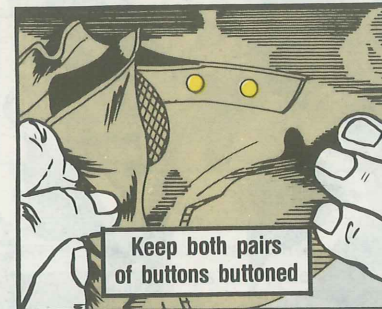
But if there's little or no smoke, tag the pump defective and turn it in.



Tip-off to Trouble



Flap buttons—When reassembling the mask after cleaning, button all four flap



buttons. If you miss just one, your mask has lost its seal.

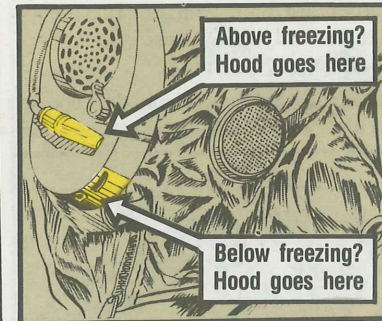
Hood—Make sure the hood covers the bottom of the voicemitter-outlet valve

Watch for these trouble spots while taking care of and using your M17-series mask, operators. They'll save your mask from dry rot and a bad seal and you from a bad chill.

Nosecup—Clean the area around and under the nosecup. That's one of dirt's



favorite hiding spots. If you don't keep it clean, mildew gets a foothold and dry rot's on its way.



assembly cover—except when it's below freezing. In freezing weather, keep the hood below the cover. That prevents your breath's moisture from making your shirt wet and chilly.

DON'T MAKE A BIG STINK IF YOUR MASKS DON'T WORK PROPERLY 'CAUSE YOU STORE 'EM LIKE THIS!

Stow 'em Right or Say Good Night



Stow it wrong and it won't be strong. That's a bad story on your NBC mask. If you don't put your NBC mask in its carrier just right, you can ruin things like the seal and eyelenses.

Here's the way to go:

On your M17 mask, fold the hood up so it's not covering the chin opening. Let



Keep hood off chin opening

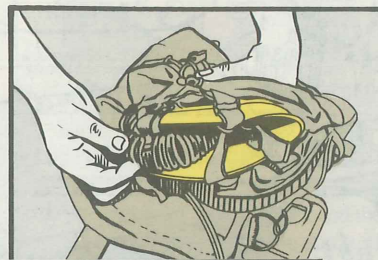
the head harness hang free. Place your mask in the carrier upright with the eye-



Let harness hang free. Put mask in carrier upright with eyelenses facing out

lenses facing out of the carrier. Pages 2-69 through 2.70.2 of TM 3-4240-279-10 have the dope.

On your M24 or M25A1 mask, you must use a faceform if your mask is



Use face form if you're not going to use mask for several days

going to be in its carrier for more than a few days. Otherwise, the facepiece will lose its seal.

The M24's hood should be allowed to hang on the hose. Fold the hood to the side of the facepiece and wrap the hood's straps and neck cord around the hose.



Hang the M24's hood on the hose

Leave the M25A1's hood attached to the facepiece and wrap it around the

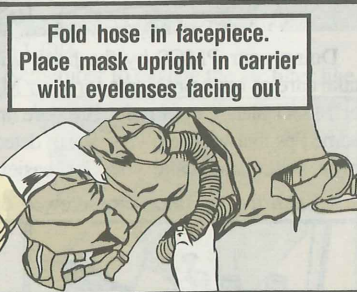


On the M25A1, wrap the hood around the mask

facepiece.

Always install antiglare eyelens outserts before you stow either mask in its carrier. That protects the eyelenses.

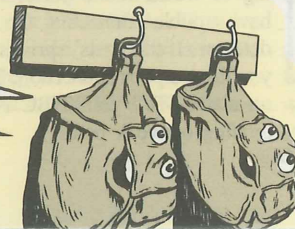
On both masks, fold the hose in the



Fold hose in facepiece. Place mask upright in carrier with eyelenses facing out

facepiece. Put the mask in the carrier upright with the eyelenses facing away from the cannister. Pages 2-68 through 2-74 of TM 3-4240-280-10 have the info.

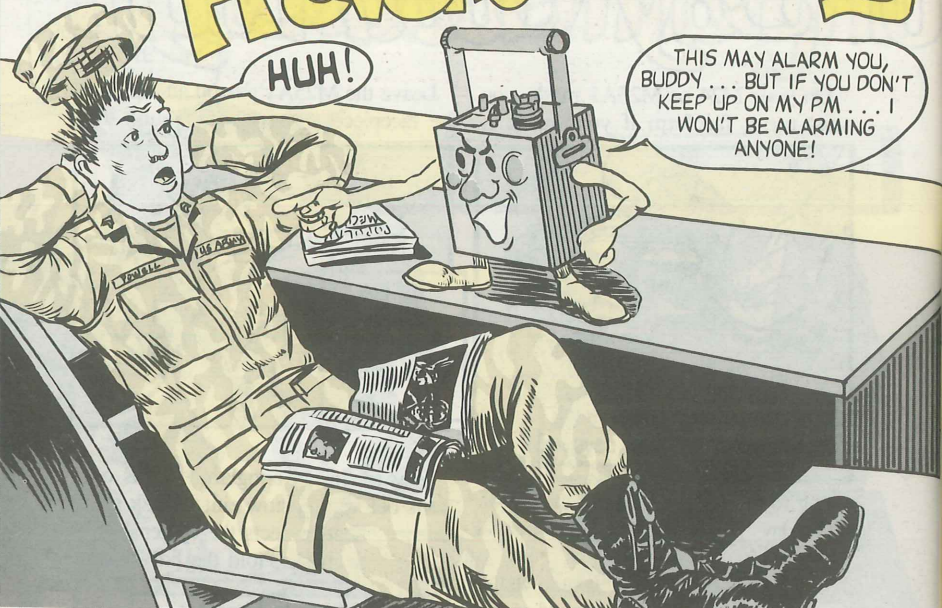
YOU'RE NOT SUCH A STINKER AFTER ALL!



DON'T FORGET TO STOW 'EM IN THEIR CARRIERS!



Prevent Alarming Surprises



Doing your PMCS by the book will take care of most problems for your M8 or M8A1 alarm, operators. But here are some tips that will help your alarm detect even better and make your job easier:

- Keep the air filter cap screwed on



tight on both the M8 and M8A1. If it's loose, air flow is reduced in your M8 or

M8A1 and it can't do its detecting work.

- Make sure the remote binding posts



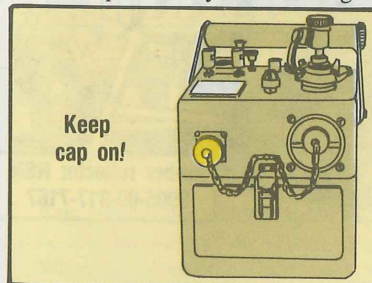
on both the M8 and M8A1 aren't sticking or weak. If the posts stick, you'll have trouble connecting the alarm and detector. If the posts' springs are weak, you'll get a poor connection. That means no alarm. Tell your NBC NCO about binding or weak posts.

- Never muscle up on the M8's hand crank. If you press down and turn it too



hard, you can break the knob or bend the stem. Then you can't prime the pump. If the crank turns hard, tell your NBC NCO. Remember, when you shut down your M8, you must pull the crank all the way up to the stow position. When you release the crank, a spring pops it up part way. But you still need to pull the crank up till it clicks in place. That prevents damage to pump tubing.

- Keep the M8 and M8A1's 24 VDC INPUT cap on when you're not using the



connector. Then water and dirt can't get in and cause power problems.

- Dry off your M8 or M8A1. If you've been out in the rain, dry off your unit's outside before you turn it in so screws, the chain, and the 24 VDC INPUT cap won't rust.

• Purge your M8. If you're not going to use your M8 for more than 72 hours, run distilled water through the pump to keep the reservoir solution from damaging the pump. The procedure's on Page 5-1 in TM 3-6665-225-12.

- Keep the M8's reservoir assembly hose and weighted ball clean. Even a little



dirt can clog the ball's tiny holes. When you remove the reservoir assembly, be careful to keep the ball and hose clear of any dirty surface.

- Wipe any crud from the inside of the M43 or M43A1 case. Dirt and detection don't mix.

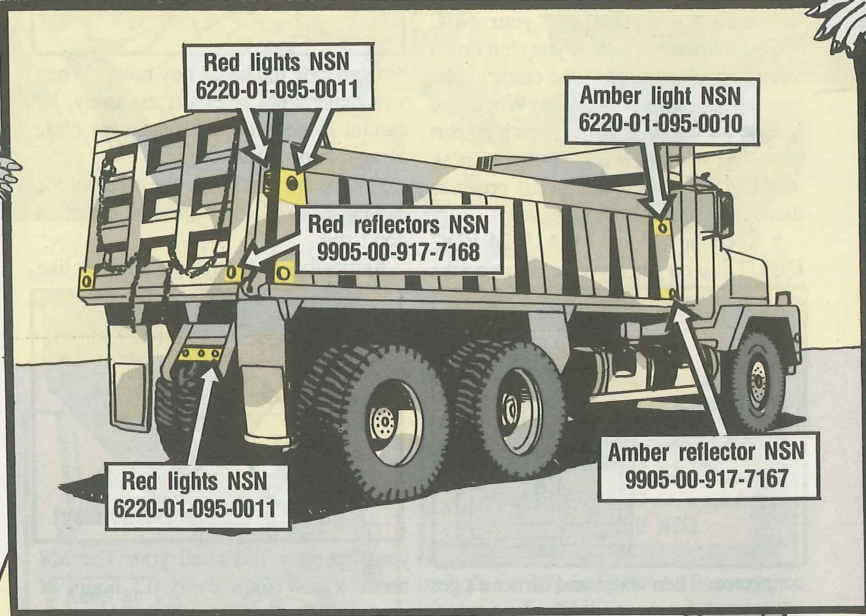
Remember to change the air filter like



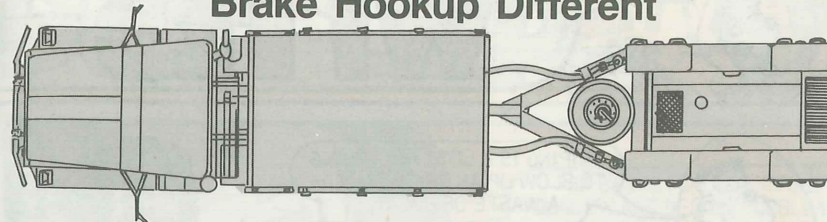
your operator TM's tell you. The M8 needs a new filter every 12 hours of use—or daily if you use the M8 less than 12 hours. But the M8A1 can use an air filter a full 24 hours. Neither the M8 nor M8A1 will detect with a dirty air filter. And a dirty filter can damage the pump assembly.

Light Up Your Truck's Life!

MARKER LIGHTS ON THE DUMP BODY OF YOUR 20-TON CCE DUMP TRUCK AREN'T LISTED IN TM 5-3805-254-20P. AND THE DUMP BODY REFLECTORS AREN'T CALLED OUT RIGHT IN FIG 45. HERE'RE THE LIGHTS AND REFLECTORS YOU NEED AND WHERE THEY GO:



Brake Hookup Different



Air brake lines on the new Ingersoll-Rand 250-CFM air compressor trailer are a little tricky.

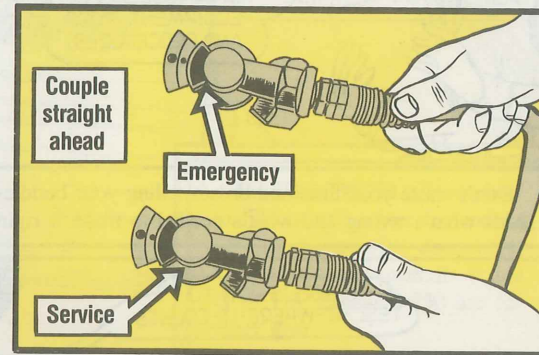
Do not cross the hoses when you hook up to the truck towing the compressor. Hook them up straight ahead!

If you hook them up wrong, the brakes are applied all the time. The compressor is harder to pull, and you'll burn up its brakes...and maybe the compressor!

The gladhands at the end of the hoses are labeled SERVICE and EMERGENCY. Put a dab of yellow paint on the SERVICE gladhand and a little red paint on the EMERGENCY.

Make sure the SERVICE gladhand on the truck has a dab of yellow and the EMERGENCY gladhand is red. Then match colors when you hook up.

Take care at night—you can't read the labels or see the paint. Remember, for this compressor only, the hoses go straight ahead!



Seal Out Wetness

Rain pitter-patter making puddles on the top cover of your 15- through 200-KW generator set will cut the current down to a trickle...or to none at all.

When the cover bolts work loose, water seeps through the bolt holes and into the relay box. This damages the contact pins. It'll even short out your set.

Before wet weather hands you a washed out generator, do this:

- Back off the cover bolts.
- Dab them with a silicone compound where they go through the cover holes. NSN 8040-00-880-7332 is for a 12-oz can.
- Torque the bolts as required by the generator's TM.
- Be sure the bolts are sealed and tight each time you check the set.



Write—



GRIPING IS A LOT LIKE TRYING TO BLOW UP AN ONION SACK — A WASTE OF BREATH.

YET, A LOT OF PEOPLE GO RIGHT ON GRIPING ABOUT THEIR PROBLEMS WITH EQUIPMENT, PUBS AND PROCEDURES.

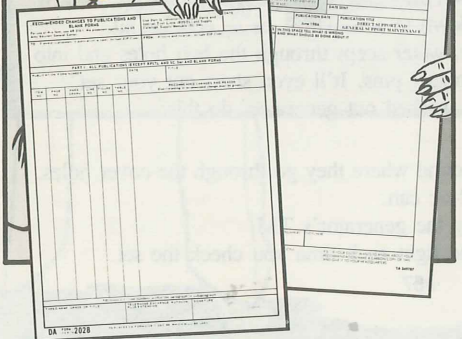


Don't waste your time and breath telling your buddies about it—tell the headsheds what's wrong and what's needed to make it right!

HERE'S HOW TO TELL-IT-WHERE-IT-COUNTS:

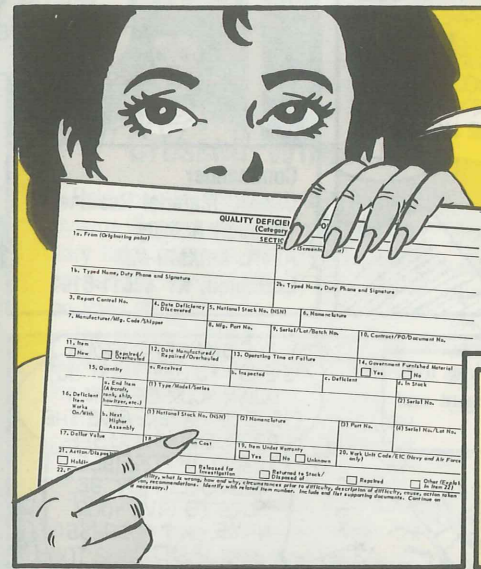


DA FORMS 2028 AND 2028-2 ARE FOR PUBS PROBLEMS. THE 2028-2 IS AT THE BACK OF YOUR EQUIPMENT PUBS - TM'S, TB'S, ETC. IT'S ALREADY PRINTED WITH THE PUB NUMBER, TITLE, AND DATE AND ALSO THE ADDRESS OF THAT PUB'S HEADSHED.



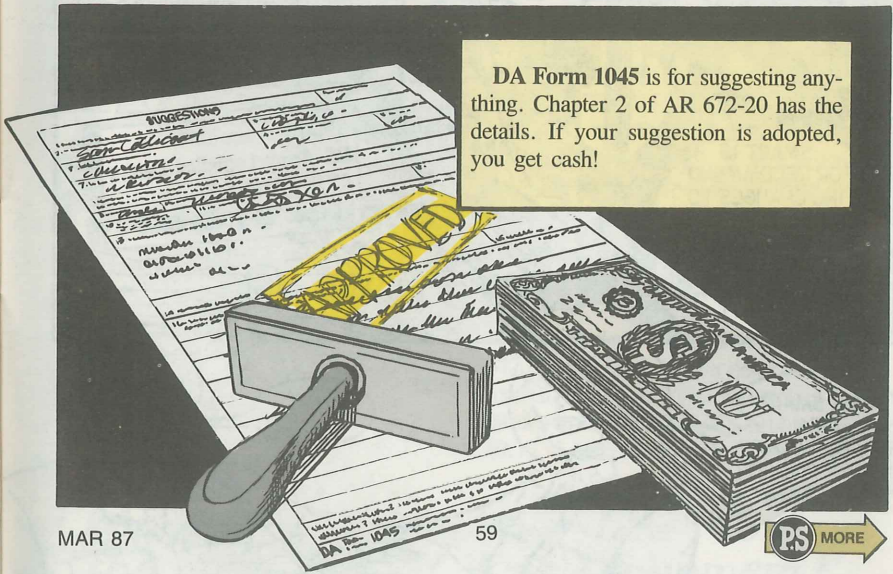
Tell 'em about wrong NSN's, missing steps in procedures, confusing pictures, fuzzy instructions or anything else that'll improve the pub.
If somebody's already used the 2028-2, get a 2028 from your pubs clerk.

Don't Gripe!



SF 368 IS FOR REPORTING QUALITY AND DESIGN PROBLEMS, LIKE WHEN YOUR EQUIPMENT WON'T WORK RIGHT OR DOESN'T LAST AS LONG AS IT SHOULD. ALSO, USE AN SF 368 TO SUGGEST EQUIPMENT IMPROVEMENTS.

DA Pam 738-751 tells you how to fill out and where to send an SF 368 for aviation equipment. Chapter 12 and Appendix F and G of DA Pam 738-750 are for other gear.

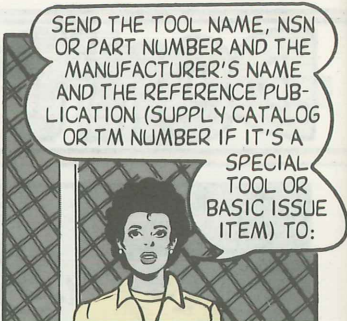


DA Form 1045 is for suggesting anything. Chapter 2 of AR 672-20 has the details. If your suggestion is adopted, you get cash!



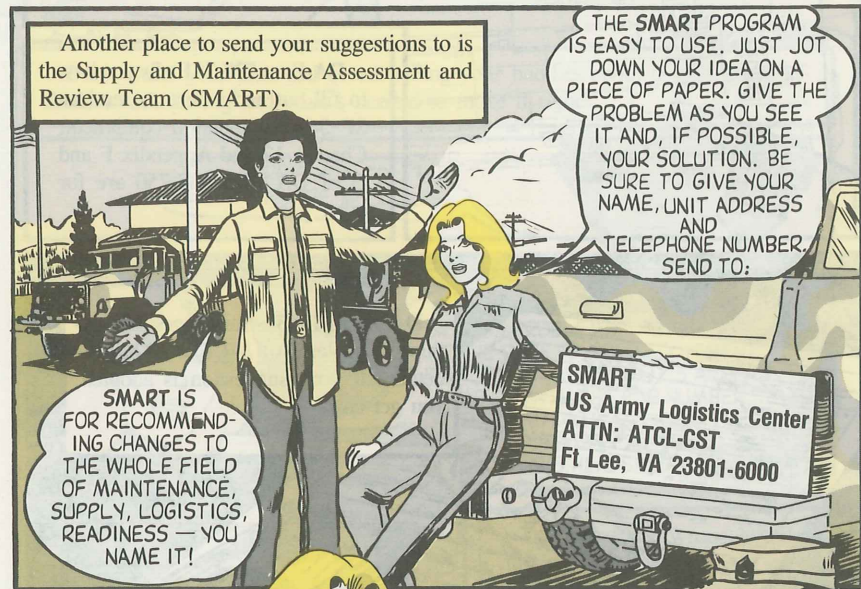


TIPs (TOOL IMPROVEMENT PROGRAM SUGGESTIONS) WANTS YOUR REPORTS OF TOOLS THAT FAIL TO STAND UP TO THE JOB OR DON'T DO THE JOB THEY WERE INTENDED TO DO OR TOOLS YOU'RE ISSUED BUT HAVE NO NEED FOR. YOU'RE ALSO URGED TO SUGGEST TOOLS YOU NEED AND OFFER YOUR IDEAS FOR IMPROVING TOOLS.



SEND THE TOOL NAME, NSN OR PART NUMBER AND THE MANUFACTURER'S NAME AND THE REFERENCE PUBLICATION (SUPPLY CATALOG OR TM NUMBER IF IT'S A SPECIAL TOOL OR BASIC ISSUE ITEM) TO:

**Commander
USAMC Materiel Readiness
Support Activity
ATTN: AMXMD-MD
Lexington, KY 40511-5101**



Another place to send your suggestions to is the Supply and Maintenance Assessment and Review Team (SMART).

THE **SMART** PROGRAM IS EASY TO USE. JUST JOT DOWN YOUR IDEA ON A PIECE OF PAPER. GIVE THE PROBLEM AS YOU SEE IT AND, IF POSSIBLE, YOUR SOLUTION. BE SURE TO GIVE YOUR NAME, UNIT ADDRESS AND TELEPHONE NUMBER. SEND TO:

**SMART
US Army Logistics Center
ATTN: ATCL-CST
Ft Lee, VA 23801-6000**

SMART IS FOR RECOMMENDING CHANGES TO THE WHOLE FIELD OF MAINTENANCE, SUPPLY, LOGISTICS, READINESS — YOU NAME IT!

YOUR **SMART** IDEA MAY PUT MONEY IN YOUR POCKET!

THANKS, **CONNIE!**



PREVENTIVE MAINTENANCE HELPS KEEP YOU BIRDMEN IN THE AIR!

25-Ton Grove Crane...

Crossed Wires

Hold one! You can't get a 650-ft reel of Dyform-18 wire rope for the main and auxiliary hoists on your 25-ton Grove crane by using NSN 4010-01-136-4744—listed on Page 26 of PS 400.

The Defense Industrial Supply Center (DISC) says the 650-ft reels aren't available for issue yet.

For now, order the rope local purchase, on a DD Form 1348-6, using FSCM 91796, part number Dyform-18 HSLR 1/2x650.

This will specify 1/2-in diameter rope in 650-ft lengths. Be sure to state, **DO NOT SUBSTITUTE** in the Remarks block. Order from:

**Bridon American Corp.
Hanover Industrial Estate
S. Main Rd., PO Box 6000
Wilkes Barre, PA 18773**

Good For Mounted TOW's

Mechs, we didn't spell it out on Page 9 in PS 407, but the TOW/TOW 2 cable adapter fix is also good for TOW's mounted in M901 ITV's and on wheeled vehicles. Use the same procedure and the cable adapter will be on to stay.

Remember Rainshield Adapter

Whenever you install the flowmeter on your M8-series alarm, first screw in the rainshield adapter—that goes for both the M43 and M43A1 detectors. The rainshield adapter protects both the flowmeter tip and the heater assembly. We forgot to tell you that on Page 60 of PS 407.

Extract M249 Extractor Gage

You armorers don't need the M249 machine gun's breech bolt extractor clearance gage. The Armament headshed says you no longer need to do the extractor test on Page 2-25 in TM 9-1005-201-23&P. If an M249 isn't extracting, replace the extractor, NSN 1005-01-128-5722. If that doesn't solve the problem, send the machine gun to DS. Make a note till the TM's updated.

Inspection Mirror Mirror

Got a broken inspection mirror, NSN 5120-00-618-6902, in your general aircraft mechanic's tool kit? You can replace the glass with NSN 5120-00-363-3914 for only \$0.16. A new mirror will cost you \$1.50.

Would You Stake Your Life ^{right now} on the Condition of Your Equipment?

Got Maintenance or Supply Problems? Call your LAO!

I HEARD
THERE'S A
SAFETY-OF-USE
MESSAGE OUT
ON THIS
EQUIPMENT!

IF SO, THE
LAO WILL
HAVE A COPY!

WITH THE CABLE
HOOKUP HELP WE
GOT FROM THE
LAO, WE'RE GETTING
A NUMBER TEN
SIGNAL NOW!

WHEW! WE'VE
BEEN ON THE
RUN ALL DAY —
AND THE PHONE
NEVER QUITS!

WHAT DO WE
DO ABOUT THIS
BUSTED RAMP?

LET'S CHECK
WITH THE
EXPERT IN
THE LAO!

YEAH, BUT IT'S
PAYING OFF —
THE OR RATING
IS GOING UP!

BRING!
BRING!

**Logistic
Assistance
Office**

TACOM
AMCCOM
CECOM

TROSCOM
AVSCOM
MICOM

