

Issue 385

PS

December 1984

# THE PREVENTIVE MAINTENANCE MONTHLY

BE AWARE...  
BRING A  
SPARE!

Love,  
Connie

I CAN'T BELIEVE IT!  
NOBODY IN THIS WHOLE  
CONVOY HAS AN  
EMERGENCY V-BELT!

I THINK  
WE'RE  
SAVED!

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V-Belts: See Page 24

# Ugh and Yuck

Right now . . . right this very minute . . .  
Even while you're reading this . . .  
Corroded dry-cell batteries are damaging  
your equipment!

Somewhere, electrolyte is seeping,  
leaking and oozing out of those  
batteries, corroding all the  
metal it touches . . .

It's eating away sensitive  
contact points and making  
a mess of everything else!

Listen . . . and  
you can hear that  
sinister sizzling,  
that fatal fizz.

So, right now . . .  
Right this minute . . .  
Check your stored equipment  
and pluck out those batteries!  
You'll find them in:  
Radios, telephones, switchboards,  
night vision devices,  
mine detectors, radiac sets,  
nuclear soil testers, flashlights,  
public address sets, multimeters,  
ground sensors, lie detectors,  
cameras, aiming circles  
and chemical agent alarms.

DEC 84



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

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

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# Start Them Out Right!

C'MON, WE'VE GOT TO GET ROLLING!

CRANK!  
CRANK!

I DO-DON'T  
T-THINK S-SO,  
Y-YOU'VE BURNT  
OUT MY STARTER!

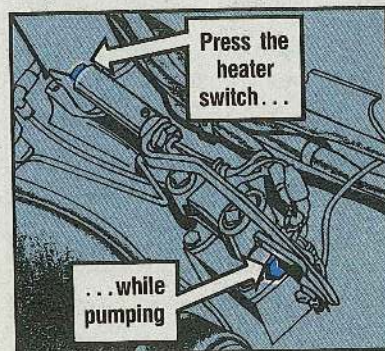
Starting an M60-series tank engine in cold weather can be an adventure. Getting it to run smoothly can be another.

One or more cylinders may not fire because it's not hot enough for complete combustion in all cylinders. The engine will idle rough. It'll blow a lot of blue or white smoke. You may even see raw fuel on the exhaust grille doors.

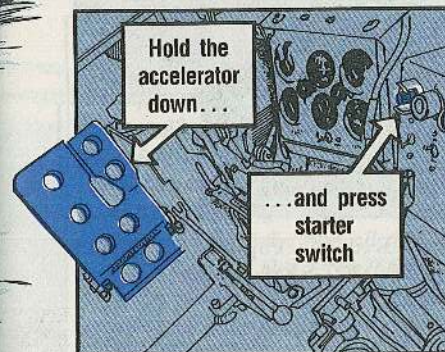
Here are a few tips for coping with a cold engine:

■Use your -10 TM to the letter. Test for hydrostatic lock. Make sure all your controls are in the right positions.

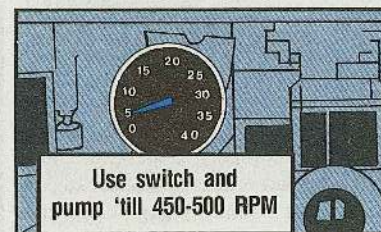
Pump the purge pump until you feel a firm back pressure. This will take about a minute.



Continue pumping with slow, steady strokes. Press the manifold heater switch, hold the accelerator down to 2/3 to 3/4 of full travel and press and hold the starter switch.



■If the engine starts, keep pumping the purge pump and hold the manifold heater switch until the engine reaches



450-500 RPM. Use the accelerator to keep the engine at 1,000-1,200 RPM and continue to use the manifold heater until the engine runs smoothly.

If the engine won't fire, stop cranking after 15 seconds. Wait 3-5 minutes and try again. If it still won't start, don't grind away on the starter. It'll burn up, and you don't need that problem.

Follow the troubleshooting procedures in the -10 TM to get the tank started. If that doesn't work, call your mechanic.

■When you've got to idle your engine for a long time, use high idle—1,500-1,600 RPM.

■If you must idle at a lower speed, watch the exhaust. If you see white smoke, use the manifold heater. When the exhaust smoke returns to its normal color, stop using the heater.

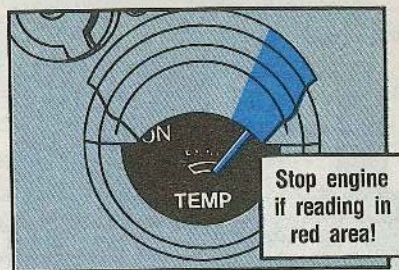
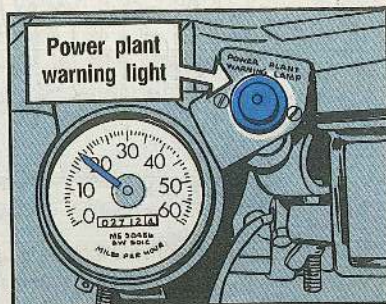


■ Too much idling can over-cool the engine. It'll misfire and blow heavy blue-white smoke. You'll have to blow out the induction and exhaust systems. Here's how:

1. Set the parking brake and clear the area in front of the tank.
2. Shift to HIGH range.



3. Rev up the engine to 1,800 RPM and hold it for 30 seconds. CAUTION: Any more than 30 seconds could overheat the transmission. Stop the engine immediately if the power plant warning light comes on or if the transmission temp gage reads in the red.



4. Reduce engine speed to 1,000-1,200 RPM and shift back to NEUTRAL range.

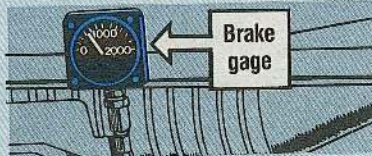
## Braking Loose

In cold weather, linkages stiffen and become hard to move. This is especially true with your M60-series tank's parking brake.

Here are some things to do to make sure there's as little trouble as possible. When you set the brake, think of the guy who has to release it.

The TM says to push the pedal until the pressure gage reads between 750 and 900 PSI. That means you don't go over 900 PSI.

It's mighty hard, even in warm weather, to unlock a parking brake that's set at more than 900 PSI. In cold weather, it's almost impossible. Finally, make sure the brake system pressure gage reads 0 PSI before you move out. A dragging parking brake will cause your transmission to overheat.



## Beating Bearing Seizure

Dear Half-Mast,

Come cold weather, we have lots of trouble with balky steering, shifting and throttle controls on our M88A1 recovery vehicles. The controls act like they're frozen. It makes for dangerous operation when you don't know how quickly your controls will respond. What can we do?

SGT. C.W.S.

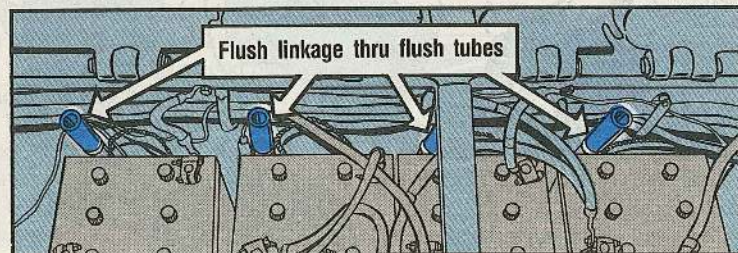
Dear Sergeant C.W.S.,

There's nothing about an M88A1 that makes its controls more sluggish in cold weather than any other combat vehicle. What you'll find is that somewhere in the control linkages a lube point or two has been overlooked.

Not all lube points are out in the open, easy to see. When the linkage bearings don't get lubed, they can work slowly, bind and even seize up. You need to make sure all the lube points get their fair share of grease according to LO 9-2350-256-12.

You should check often under the battery box. If you've got the batteries out, check the linkages underneath. Make sure no corrosion is eating on the linkage.

At least once a month, flush the linkage under the batteries through the



linkage flush tubes. This will remove any battery residue that may have fallen under the box.

Put the lube where it's needed, when it's needed, and balky controls caused by bearing seizure will be a thing of the past.

Half-Mast

I'M SO  
C-COLD  
AND  
W-WET

DON'T FRET  
I'LL KEEP THE  
WATER OFF  
YOUR BACK!

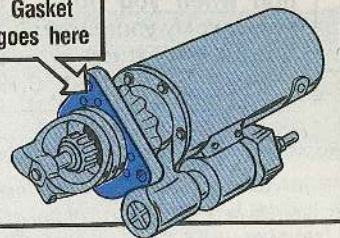
## Prevent Starter Freeze-up

If you have frozen starter troubles on your M113-series carriers, it's a good bet you could use some gaskets.

Water can get inside the starter if the gasket is missing. That water will freeze in cold weather.

Next time you pull the power pack, make sure the starter has gasket, NSN 5330-00-980-1546.

Gasket  
goes here



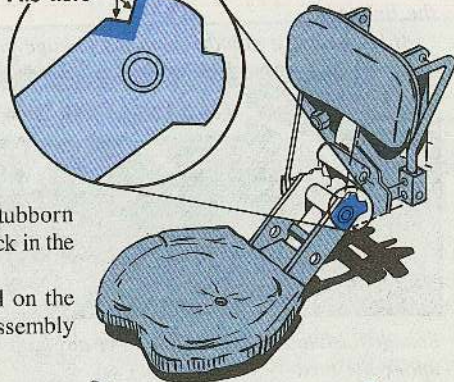
M113A1/M113A2-Series Vehicles...

## Commander's Seat Fix

FILE  
THESEAT  
SUPPORT  
SO IT  
WILL  
LOCK!



File here



Mechs, file away on that stubborn commander's seat that won't lock in the stowed position.

File away just enough metal on the seat support so that the seat assembly (seat and cushion) will lock.

## Save the Rebuild Label!

Make sure, mechs, that the rebuild label on your carrier's engine stays with the engine.

Keeping it on the engine may not be as easy as you think. Some engines come out of DS/GS units with the rebuild labels on the air intake horn. That's a real visible location, so it makes some sense.

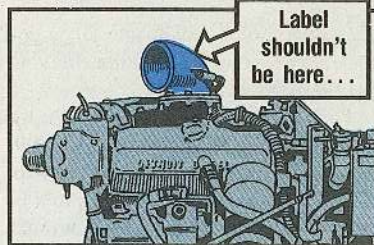
The only problem is, the air horn on the engine may be either of two designs—one for the M113A1-series and another for the M113A2-series carrier.

If the engine you get is being set in an A2-series carrier and the engine has an A1-series air horn, you know what happens. You change horns, right?

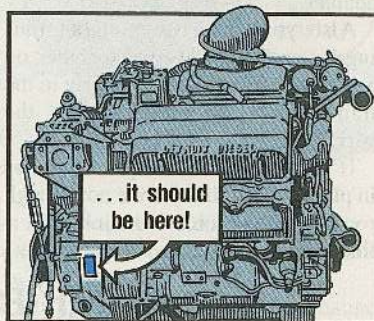
But did you remove the rebuild label so it stays with the engine?

It won't do anybody any good if the rebuild info is on the wrong engine. The right place for the label is on the engine flywheel housing, next to the starter nose housing. If you get an engine with the label anywhere else, move it.

Label  
shouldn't  
be here...



...it should  
be here!



## Air Filter NBC Decals

NBC warning decals for all vehicle engine air filters should be placed on or near air filter assemblies.

The filter cover's a good place, providing it doesn't get too hot to touch. If filter assemblies are exposed, put the decal on the dashboard or gage panel where the operator can see it.

Don't put them on the air filter element itself... or on NBC gas particulate filter housings, if your vehicle has them.

NSN 7690-01-114-3702 gets you the decal.

**WARNING**

IF NBC EXPOSURE IS SUSPECTED,  
ALL AIR FILTER MEDIA WILL BE  
HANDLED BY PERSONNEL WEARING  
FULL NBC PROTECTIVE EQUIPMENT.  
SEE OPERATOR/MAINTENANCE  
MANUALS.

7690-01-114-3702

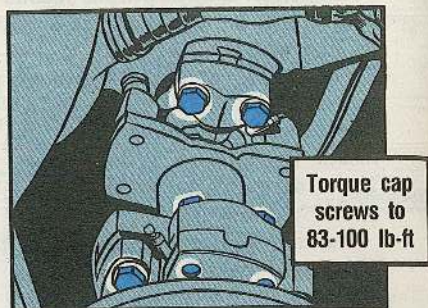
## 7C U-Joint Torque

Get the torque down right when you install the new 7C U-joint in your M113-series carrier.

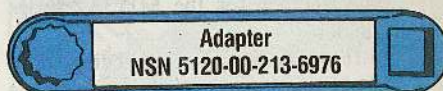
The instructions packed with the U-joint kit, NSN 2520-01-0115-1809, say torque the cap screws to 86-94 lb-ft. Change that to 83-100 lb-ft, and be sure to use the right torque wrench adapter.

Also, you'll do a better job of torquing if you put the U-joint together on a vise. Then install the assembly to the transmission and differential in the carrier.

If you try to put the U-joint together in place, you'll find there's not enough room to do the job. Do the job right and you won't have to worry about drive line failure or a busted transmission caused by loose U-joint screws.



Torque cap screws to 83-100 lb-ft



Adapter  
NSN 5120-00-213-6976

## Switch Can Block Charging

The generator field switch on M113-series vehicles seems to cause more than its share of problems.

The switch, which is located on top of the fuel filter, plays a vital role in the charging system of your vehicle.

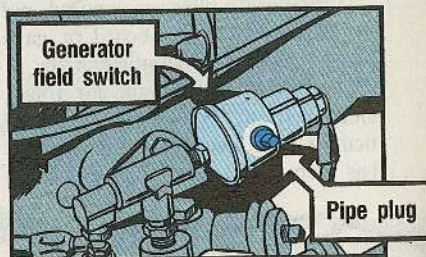
It's designed to close an electrical circuit to recharge vehicle batteries during operation. It also prevents battery discharge to ground when the engine's off and the master switch is on.

If the switch doesn't close the circuit, your batteries will eventually go dead because they're not getting a recharge from the system.

If it fails in the "closed" position, your batteries will go dead by discharging to ground.

Switch failure is most often caused by a short. A short is caused by water getting into the switch thru the open end of the street elbow in the opening on the base.

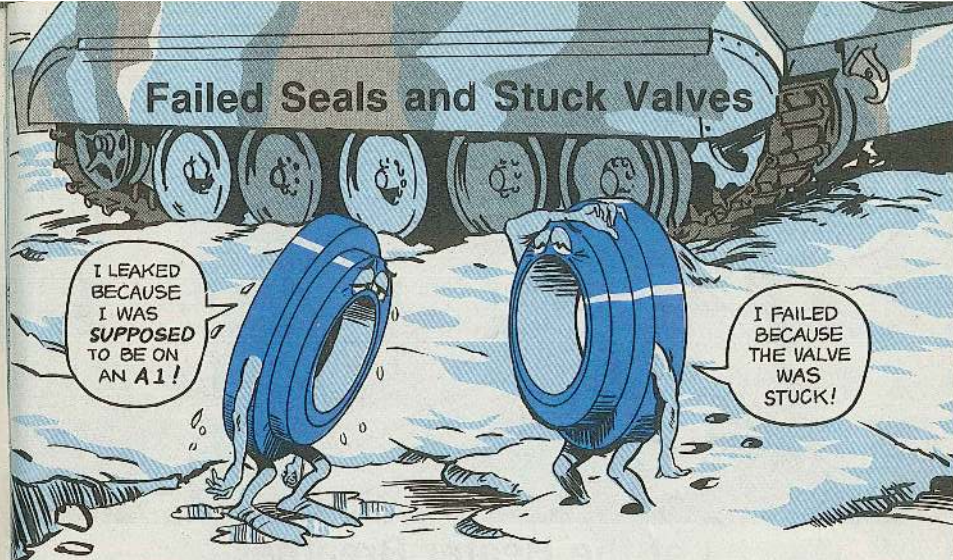
You can prevent water damage by replacing the elbow with pipe plug, NSN 4730-00-277-6339.



Generator field switch

Pipe plug

## Failed Seals and Stuck Valves



I LEAKED BECAUSE I WAS SUPPOSED TO BE ON AN A1!

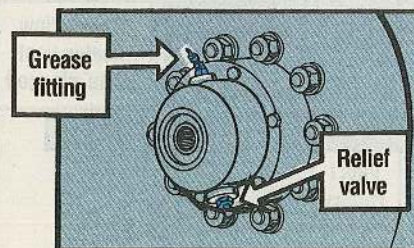
I FAILED BECAUSE THE VALVE WAS STUCK!

There is a connection, carrier crews and mechs, between failed idler arm hub seals and stuck pressure relief valves.

A relief valve, if it's working right,

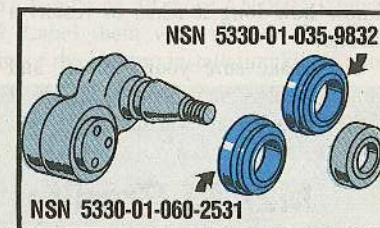
If the valve is OK, and you have a leaking seal, could be you've got the wrong seal.

It all goes back to the interchangeability between the M113A1-series hub seal, NSN 5330-01-035-9832, and the



Grease fitting

Relief valve



NSN 5330-01-035-9832

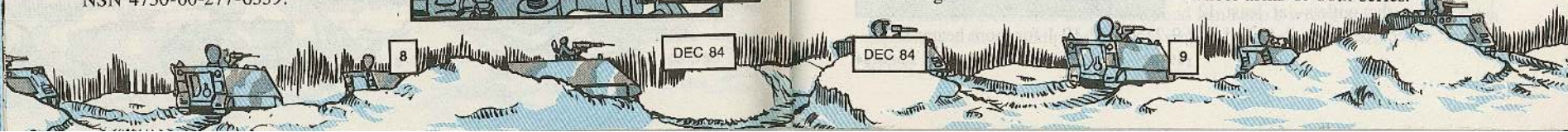
NSN 5330-01-060-2531

opens at 12-15 PSI. A grease gun can apply up to 7,000 PSI. Guess what gets blown out if the valve doesn't open at the right pressure?

Dried paint or dirt may have the valve sealed shut. Clean the valve off real good before you pump grease into the fitting.

M113A2-series hub seal, NSN 5330-01-060-2531.

Hub seal -9832 can be used on the idler arm of M113A1-series vehicles only. Hub seal -2531 can be used on the idler of both series of vehicles. Either seal will also work on the road-wheel arms of both series.



HEY, JACKSON!  
NO WONDER IT'S  
FREEZING IN HERE  
THE HEATER'S CHOKED  
ON YOUR JACKET!

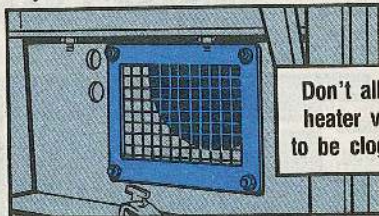
GAG :-: UGH!  
HELP-COUGH!  
UMPH... :-:

## Let the Heater Breathe!

Say, M548 and M730 carrier drivers! Want to stay warm this winter? Watch where your jacket goes while your personnel heater is running. If your jacket gets sucked into the inlet grill behind your seat, it'll cut off the air supply to the heater.

It won't take long then for the heater to overheat and shut down. And you know how long it takes to restart a heater.

Just make sure your clothes, and anything else, stay clear of the inlet grill. You'll stay warmer that way.



Don't allow  
heater vent  
to be clogged

## M2/M3 Bradley Heater Warning

Do not touch outlets or store anything within 12 inches of the personnel heater outlets in your M2 or M3 Bradley vehicle. Temperatures at the outlets are higher than 300°F during operation. Your skin will be burned, as will clothing, paper, boxes and such. More importantly, ammunition and petroleum products may explode. Keep them well away from the outlets—at least 12 inches. Check out Page 2-192 of TM 9-2350-252-10-1 for more heater info.



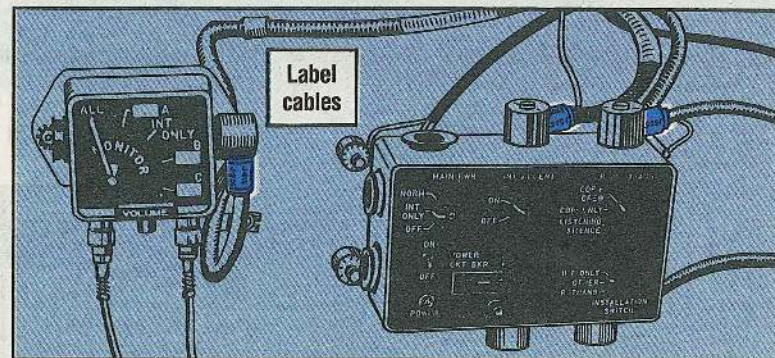
Keep heater  
ducts clear

## Make a Positive ID

HELP!  
THESE CABLES  
ARE OUT OF  
CONTROL!



Are you at loose ends trying to keep a handle on all those AN/VIC-1 intercom cables in your tracked vehicle? Label them with marker kit, NSN 5975-00-918-8164. The kit came as part of the commo installation kit. If your



Label  
cables

markers are gone, order new ones. Use SB 11-131 as your authority.

The markers cost less than a buck and can keep a wrong cable hookup from zapping a commo component or leaving a crewman in silence.

USE YOUR  
NOGGIN, KEEP  
YOUR COMMO  
FROM CLOGGIN'!

# Your CVC

# Deserves TLC

UH...CONNIE  
I CAN HARDLY  
HEAR YOU...

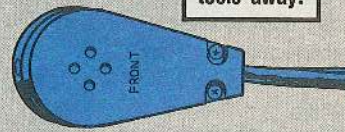
... I GUESS  
I SHOULD CLEAN  
MY HELMET  
LINER SOMETIME!

## Keep It Clean

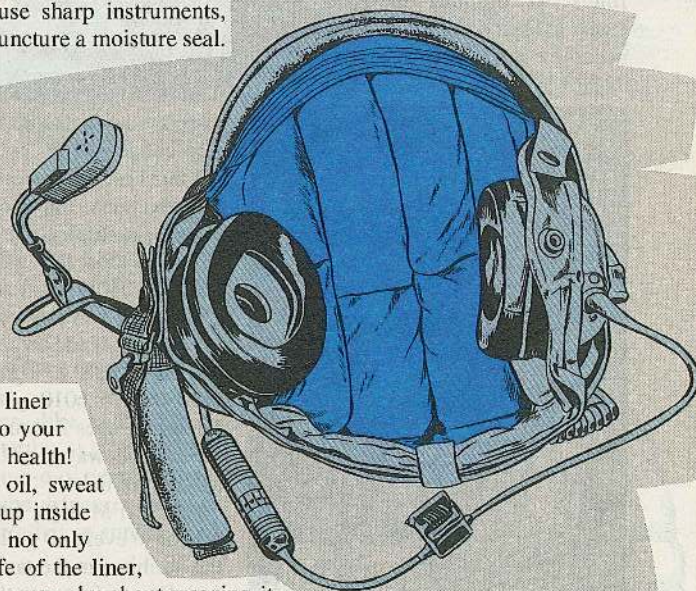
You treat the helmet right by keeping it clean. For most jobs, a soft, clean cloth dampened in a mild detergent solution does the trick.

Clean cords, straps, shell, microphone and cushions with the cloth. Then eyeball the openings in the earphone and microphone. Remove any dirt you find, by tapping the microphone with your hand or blowing or wiping it away. Never use sharp instruments, tho. You can puncture a moisture seal.

Keep sharp  
tools away!



INSIDE:  
Keep  
liner  
clean!



Keeping the liner  
clean is vital to your  
head and your health!

Natural hair oil, sweat and dirt build up inside the liner. This not only shortens the life of the liner, but it may make you shy about wearing it.

Clean it often. Remove the ear cups first, of course, and then wash the liner thoroughly with a solution of water and mild detergent. Do the same with all pads.

Turnabout's fair play.

You use your CVC helmet to protect your head, so why not use your head to protect the helmet? You can do that by doing PM right.

One thing's for sure: The helmet can't protect your noggin if you won't wear the shell. Sure, the headgear is lighter and cooler without the hard hat, but it can't stop any knocks and dings.

Likewise, if the helmet won't stay put, it might leave you when you need it most. Keep it on the job by snugging it up with the chin strap.

Replace missing straps with NSN 8415-00-163-9052. The pad is NSN 8415-00-163-9048.



Get and use chin strap, pad

## Fuel Systems...

Water can put the deep freeze in your vehicle's fuel system during cold-weather months.

Condensation—water—can freeze in the fuel tank, filter or lines. Your vehicle may not start... or if it does, it will run rough.

You can beat the freeze in gasoline and diesel vehicle fuel lines and filters by draining the filters at least daily, or as called for in the vehicle's TM.



Drain the filters at least daily

# Freeze-ups



Keeping the fuel tanks filled also helps stop condensation.

Your best bet to beat the chill, is to use an icing inhibitor. For diesel/multifuel vehicles, use NSN 6850-00-753-5061 for a 5-gal can or NSN 6850-00-060-5312 for a 55-gal drum.

Gasoline vehicles use a methanol—dry gas—fuel additive. NSN 6810-00-957-3608 gets a 1-gal can or NSN 6810-00-275-6010 gets a 5-gal can.

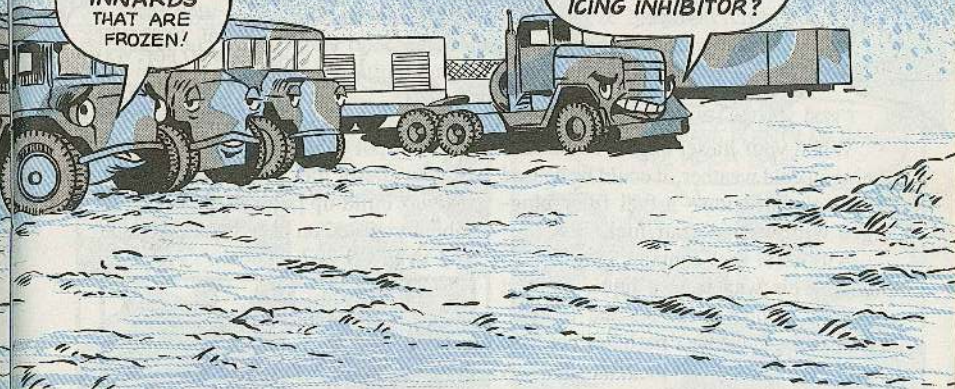
Check Pages 2 thru 7 of FM 9-207 for the right way to add icing inhibitors to your vehicle.

As the FM says, use 1 pint of inhibitor to every 40 gallons of fuel. Put the inhibitor in the tank first, then the fuel. Be careful to use the right amount. Too little, you get freeze-up. Too much, gaskets and rubber parts swell and block fuel flow.

# Chill Vehicles

OUT HERE?  
IT'S MY  
INNARDS  
THAT ARE  
FROZEN!

DIDN'T YOUR MECH  
FEED YOU ANY  
ICING INHIBITOR?



## Down With Ether Cans!

NEVER USE SPRAY-CANS  
OF ETHER TO START  
YOUR VEHICLES!

Vehicles are often a headache to start in cold weather.

Some engines—like multifuels and diesels—have starting aids built right in, others don't. So-o-o-o, when the going gets rough, some drivers want to get tough—and use ether in spray cans to start engines.

But don't!

You can damage—or ruin—the vehicle's engine. That's the word on Page 3-6 of TB 43-0001-39-8 (Jan 82).



# Diesel Fuel Waxes



When your diesel engine stops running in cold weather, it could be caused by fuel starvation—a fuel filter plugged with wax in your fuel.

All diesel fuel contains paraffin... wax. This wax is in a liquid state at normal temperature. As the temperature drops, the wax particles begin to gel. If the temp drops after the wax gels, the fuel solidifies.

Warning! Never mix automotive or aviation gasoline, JP-4 (NATO Code F-40), or Commercial Jet B with diesel fuel to stop wax build-up. Blending these low flash point fuels with diesel creates a potentially dangerous mixture. Any flame or spark (like static) will set it off.

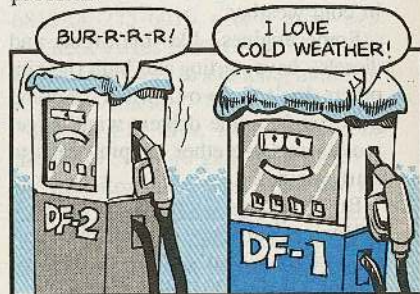


Never blend low flash point fuels with diesel!

Never put commercial fuel additives in your diesel fuel. They won't lower the wax build-up point. Use only icing inhibitors listed on page 14 of this issue and in FM 9-207.



If you're using DF-2 (regular grade) diesel, and your engine has fuel starvation problems, switching to DF-1 (winter grade) diesel could solve your problem.



# in Cold Weather



Plan for your fuel needs. For instance, you're stationed in a warm climate. You know your unit is scheduled for a "deep freeze"-type exercise. You won't get good diesel engine operation at an upstate New York winter training site with fuel you use in South Georgia!



Plan for your upcoming winter operations. Don't let your equipment sit in the motor pool with summer grade fuel.



# Alcohol Prevents Freezing!



You may not think of "wet" when you think about the air in your truck's compressed air system, but there is moisture in that air!

This is the air needed for air brakes and, in some cases, for operation of other equipment.

Water in the system rusts parts and causes other damage. Even before that



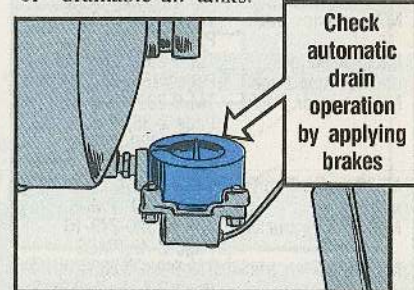
happens, tho, air-operated equipment may not work the way it's supposed to.

That water is moisture in the air that's sucked in by your truck's compressor. You can help head off water problems by draining your air reservoir tanks



daily after operation—even more often under high humidity conditions. Some trucks have an automatic water-dump-

ing device in addition to—or instead of—drainable air tanks.

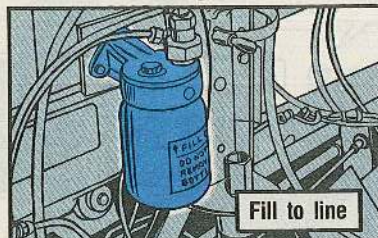


## Cold Weather Trouble

Since it's impossible to get all moisture out of your compressed air system, freezing weather can be a big threat to air-operated equipment.

Ice in your compressed air system will stop you cold!

This is where alcohol comes in. It prevents the water from freezing—it's an antifreeze. Some people think that alcohol dries the air. Not so. It simply mixes with the water and keeps the water from freezing.



So you never keep alcohol in your truck's alcohol evaporator during warm weather. You just waste alcohol.

But be mighty sure you keep alcohol in the evaporator whenever freezing weather is expected.



And make sure you use only methyl alcohol (methanol)—no matter what your TM or anything else says:

NSN 6810-00-597-3608, 1 gallon  
NSN 6810-00-275-6010, 5 gallons

HERE'S A CHART FOR SERVICING ALCOHOL EVAPORATORS!

| ALCOHOL EVAPORATORS                 |                                                                                                                           |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Vehicle                             | Instructions                                                                                                              |
| IHC F-5070                          | TM 5-3805-254-14&P-2                                                                                                      |
| 20-ton dump truck                   | Pages 169-173                                                                                                             |
| GOER                                | TM 9-2320-233-10,<br>Page 3-19, PMCS;<br>also Page 3-36                                                                   |
| M746 tractor truck                  | TM 9-2320-258-10<br>Page 3-8, PMCS                                                                                        |
| M876 telephone<br>maintenance truck | TM 9-2320-269-10,<br>Page 4-5, PMCS                                                                                       |
| M911 tractor truck                  | TM 9-2320-270-10,<br>Page 2-35, PMCS;<br>LO 9-2320-270-12,<br>Card 4                                                      |
| M939-series 5-ton<br>trucks         | TM 9-2320-272-10,<br>Page 2-50, PMCS                                                                                      |
| M915-series trucks                  | TM 9-2320-273-10<br>Page 2-42, PMCS                                                                                       |
| M.A.N. 10-ton trucks                | TM 9-2320-282-20,<br>Page 2-8, Para 2-3c(2);<br>Page 2-17 and 2-18,<br>PMCS;<br>LO 9-2320-282-12,<br>Cards 5, 9, 12, & 24 |

Some other vehicles are equipped with alcohol evaporators only as part of winterization kits.



## Head Off Control Cable Freeze-Up



Water inside throttle, engine stop or other control cables freezes in the cable when the temperature drops to 32°F or below.

Water gets past the seal over the outer sheath. Even good seals won't keep out all the water.

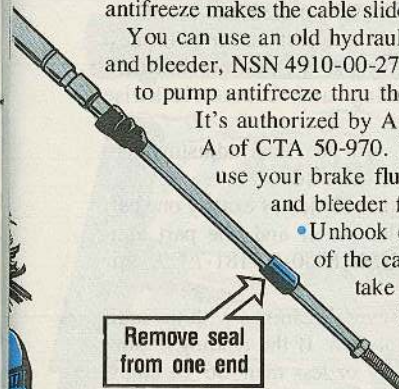
You can keep cables from freezing with antifreeze, NSN 6850-00-181-7929. Besides stopping freeze-up, the antifreeze makes the cable slide easier.

You can use an old hydraulic filler and bleeder, NSN 4910-00-273-3658, to pump antifreeze thru the cable.

It's authorized by Appendix A of CTA 50-970. DON'T use your brake fluid filler and bleeder for this!

- Unhook one end of the cable and take off any fittings.

Remove seal from one end



- Take off the seal. On the other end, slip the seal off the sheath and down the cable a bit.



- Slide the filler hose over the sheath. Clamp it there with a hose clamp.



- Fill the filler and bleeder with antifreeze and pump up the pressure. Open the valve until you get clean antifreeze out the other end of the cable, then close the valve.

Put the seals back on both ends of the cable. Put back any fittings and reconnect the cable.

The treatment lasts about a year.

# Test Your Tester

SARGE TOLD ME TO CHECK ALL THE RADIATORS IN THE PLATOON... BUT THIS DARN THING WON'T WORK RIGHT!



IT WILL IF IT'S PROPERLY ADJUSTED!



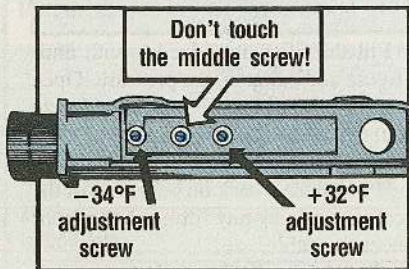
WHAT... YOU MEAN GO THROUGH ALL THAT CHECKING, ADJUSTING, READING, RECHECKING AND STUFF?



The optical antifreeze and battery tester, NSN 6630-00-105-1418, lets you test your rig's antifreeze protection and battery electrolyte. But, it's got to be accurate!

Here's how to check it:

Take a reading using distilled water, NSN 6810-00-682-6867. If the reading is more than 34°F or less than 30°F, the tester needs adjusting to 32°F. Take 3 or 4 readings to be sure.



Remove the instruction plate on the bottom by working a knife under the edge. Dig out the clear silicone sealer over the two outside screws.

Never touch the middle screw. It holds the lens in place.

Use a 5/16-in flat blade screwdriver... like the one in the No. 1 Common shop set... to adjust the screw farthest from the eyepiece. Clockwise increases the reading and counterclockwise decreases it.

Make sure the final adjustment to 32°F is clockwise.

Mix up a solution of exactly one part of distilled water and one part antifreeze, NSN 6850-00-181-7929. Stir well.

Take several readings with the antifreeze solution. If the reading's more than -32°F or less than -36°F, adjust

A LITTLE TIME SPENT HERE WILL SAVE YOU LONG COLD HOURS OUT IN THE MOTOR POOL!



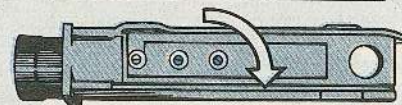
OH, YEAH... I FORGOT...



to -34°F using the screw closest to the eyepiece. Again, make sure the last adjustment to -34°F is clockwise.

Rinse the tester, and recheck with distilled water. Repeat the adjustment for 32°F if needed. Then recheck, using the antifreeze solution. Readjust, if needed, to get the -34°F reading.

**Final adjustments are clockwise!**



Repeat the test until both readings check out. Then use a little adhesive, NSN 8040-00-843-0802, to hold the screws in place. Replace the instruction plate.

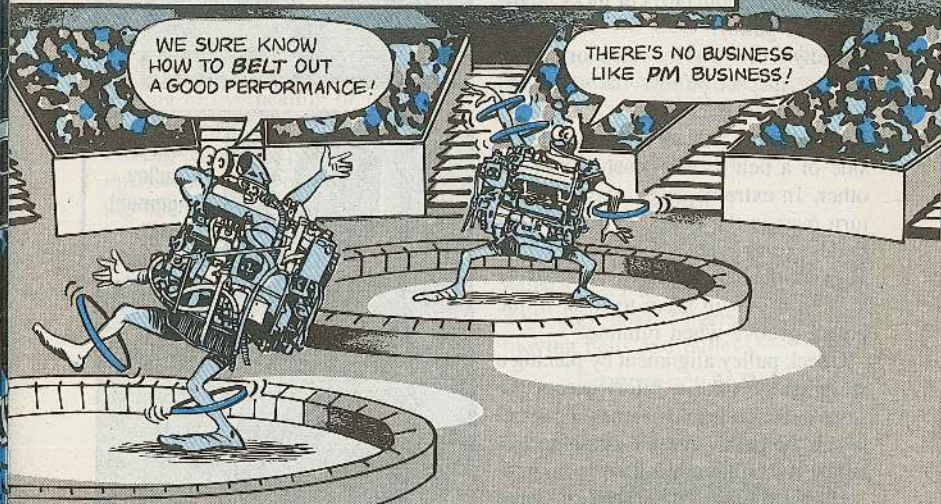
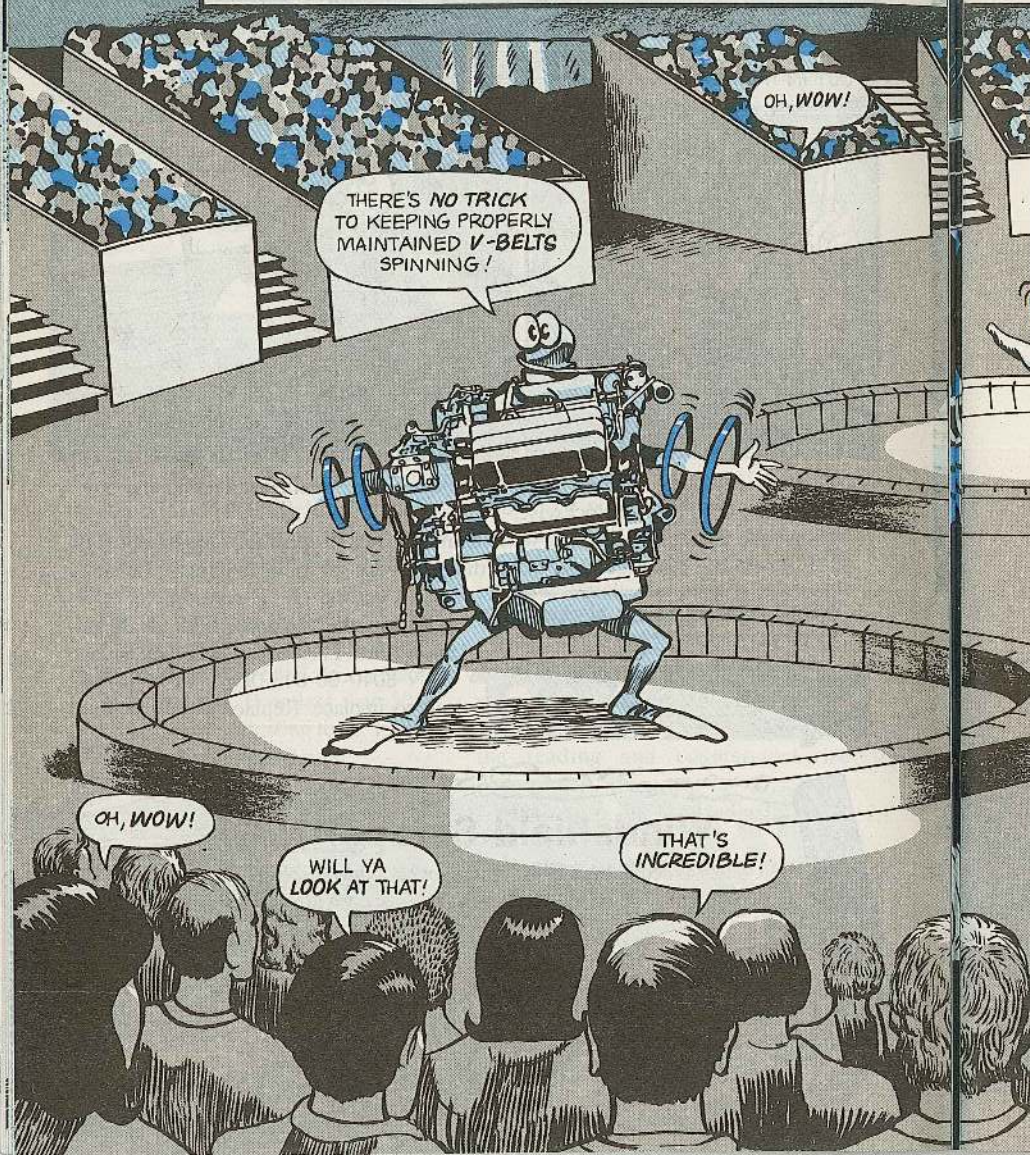
## Windshield Scraper NSN

Need a windshield scraper? Order NSN 7920-00-045-2556.

Authority is Appendix A, CTA 50-970.



# UNCEASING CIRCLES OF SERVICE



Long, trouble-free V-belt life depends on you mechs using the right belts and installing belts the right way. Make sure drive belts for your engine fan, generator, water pump, etc., do a good job for a long time—like so:

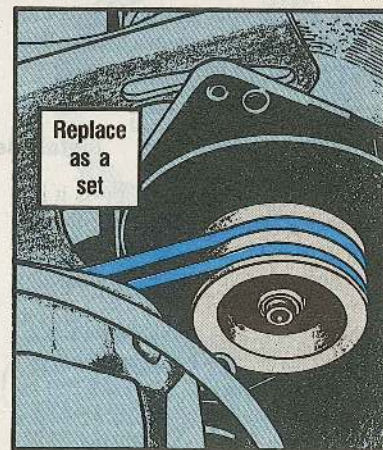
## Replace in Matched Sets

If the pulley takes two or more belts of the same size, the belts are a set and must be replaced only as a matched set.

Never mix old and new belts in a set. An old belt is stretched and a little longer than a new belt. They can't be adjusted the same. The difference in length will cause the new belt to carry the load—while the old belt just goes along for the ride. Result—early belt wear.

Even new belts of the same size ordered separately may not be identical in length. A matched set is in your parts manual under one NSN.

DEC 84



## Pulleys OK?

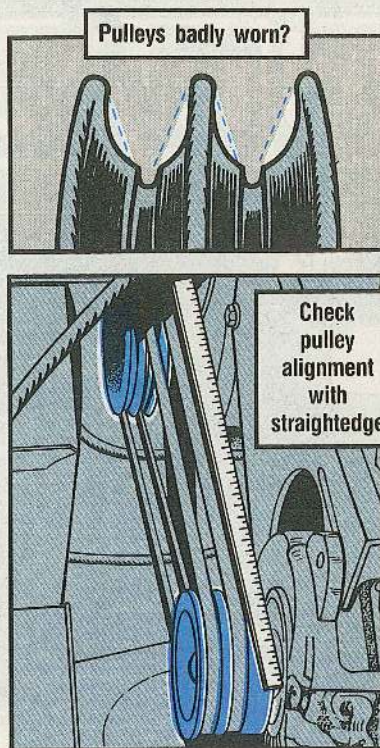
Always inspect pulleys before installing belts. Clean off oil or grease. Remove rust with a wire brush. Use a fine file to smooth burrs or nicks on the lips of a pulley.

Badly worn grooves can shorten belt life, so inspect pulleys for wear and replace them if needed.

Misaligned pulleys can cause one side of a belt to wear faster than the other. In extreme cases, the belt may turn over in the pulley or run off the pulley completely. If pulleys aren't aligned, the belt will have a noticeable kink in it or will seem to twist in the pulley groove when running.

Check pulley alignment by placing a straightedge (like a ruler) across the sides of the pulleys. If there's a gap between the pulley and the straightedge, adjust the pulley until there's no gap.

If possible, turn the pulleys by hand while holding the straightedge on the sides. This will show up a bent pulley. Replace that pulley!



## Install Belts Right

Before installing a belt, press it into the pulley groove to check for fit. The belt must bottom out in the groove. If it does, you've got the wrong belt or the pulley's worn out.

Never pry, roll or otherwise force a belt onto a pulley. Forcing can stretch or tear belt fabric.

Instead, loosen the adjusting bracket until the belt slips easily onto the pulley. Take up slack until the belt's snug. Then adjust the belt tension like your TM says.

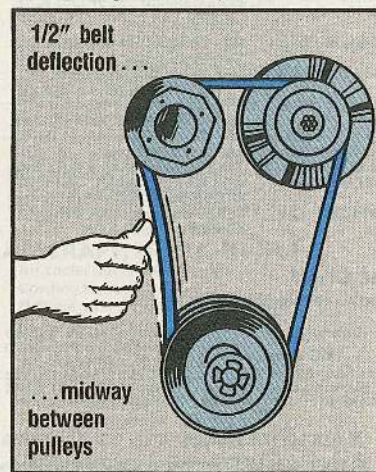


Belts shouldn't be too loose or too tight. Overtightening overloads the crankshaft, fan, alternator and water pump bearings. This shortens both belt and bearing life. Also, overtightened belts can lead to crankshaft damage.

Loose belts slip on pulleys. This lowers fan and water pump speed, leading to overheating of the engine. Belt slippage on the alternator pulley is a big reason for poor battery charging. Loose belts overheat pulleys, causing belt wear and cracking.

## Belt Tension

Use a tension gage to adjust belts. If no gage is available, adjust belt tension so a firm push with your thumb mid-



way between pulleys depresses the belt about 1/2 inch or whatever your -20 TM calls for.

When installing or adjusting an accessory drive belt, be sure the accessory mounting bolt is properly tightened, as well as the adjusting bolt. See your TM for bolt torque specifications.

## Keep 'em Snug

Belts will stretch during operation—especially right after installation—so you need to recheck the tension adjustment.

If your TM doesn't specify a time period, run the engine for about 15 minutes and then recheck belt tension.

And a recheck of belt tension adjustment should be part of the semiannual PMCS in your -20 TM.

## Danger!

Never run the engine while you're working on—or near—belts and pulleys. Keep long hair, loose clothing, dog tags—and fingers—away from moving belts and pulleys.

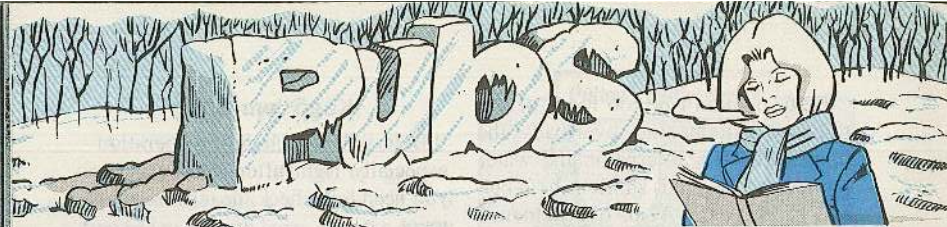
## Emergency V-Belts

Don't get stranded by a broken V-belt. Carry enough adjustable link



belting to make a temporary emergency repair. See PS 378, Page 64 for the details.





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

DA Poster 750-83 Sep SMART poster  
LO 9-2320-233-12 Aug Goer vehicles

#### Technical Manuals

C2, TM 5-1940-277-10 Oct Twin jet bridge erection boat, Model USC5BMK-1  
C2, TM 5-1940-277-20 Aug Twin jet bridge erection boat, Model USC5BMK-1  
C2, TM 5-2805-256-14 Oct Gasoline engine, 1½-HP MII Std Models 1A08-1 and -3  
C4, TM 5-2805-259-14 Sep Gasoline engine, 20-HP MII Std Models 4A084-2 and -3  
C1, TM 5-3810-295-20P Aug 20-ton crane, Harinschleger Corp, model M320RT  
TM 5-3895-263-20P Oct Motorized roller, Huber Model E1011M  
TM 5-4310-338-20P Oct Rotary air compressor, 600 CFM, 100 PSI; Davey Model 1M600RPV  
TM 5-4930-230-13 Jul Military design tank and pump unit

C2, TM 5-6115-598-12 Aug 150-KW gas turbine alt generator  
TM 9-1410-485-20P Jul Lance  
TM 9-1410-600-24P Oct Patriot  
TM 9-1425-473-L Oct TOW air-borne  
TM 9-1425-485-L Oct Lance  
TM 9-1430-533-24P Oct Improved HAWK  
TM 9-1430-600-24P Oct Patriot  
TM 9-1430-602-24P Oct Patriot  
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TM 9-1440-600-24P Oct Patriot  
TM 9-1440-1585-24P Aug Improved Chaparral

C2, TM 9-2330-294-14 Oct Semitrailer, low bed, HET M747  
C5, TM 9-2330-359-14&P Sep Semitrailer, M872-series  
C2, TM 9-2350-222-20-1-2 & -4 Oct M728 CEV  
C4, TM 9-2350-304-10 Sep Howitzer, M110A2  
C3, TM 9-2350-255-10-1 Sep M1 tank  
C1, TM 9-2350-255-20-2-2-3 Oct M1 tank  
TM 10-3930-620-20P Oct Forklift, 8,000-lb capacity Allis-Chalmers Model FE-60-EE, MHE-214  
TM 11-5410-212-14P Jul S-318 shelter  
C3, TM 11-5840-354-10-1 Oct AN/TPQ-36 radar set

C3, TM 11-5840-354-20-1 Oct AN/TPQ-36 radar set  
TM 11-5895-1195-10-HR Jul AN/URC-100, AN/URC-101 and AN/URC-104 radio sets  
TM 11-5985-370-12 Jul OE-303 antenna group  
TM 11-5985-370-12-HR Jul OE-303 antenna group  
C11, TM 55-1520-209-23-2 Aug AVUM/AVIM manual, CH-47A  
C43, TM 55-1520-210-23-1 Sep AVUM/AVIM Instructions, UH-1D/HV/EH-1H  
C7, TM 55-1520-210-23P-1 Jul AVUM/AVIM repair parts and special tool lists for UH-1B, UH-1C, UH-1H, UH-1M, EH-1H, UH-1V (Bell)  
C16, TM 55-1520-221-23-1 Jul AVUM/AVIM manual, AH-1G and AH-1Q  
C2, TM 55-1520-227-10-2 Sep Operator's manual, CH-47C  
C17, TM 55-1520-234-10 Aug Operator's manual, AH-1S (mod)  
C10, TM 55-1520-236-10 Oct Operator's manual, AH-1S (prod), AH-1S (ECAS), and AH-1S (modernized Cobra)  
TM 55-1905-219-14-9 Oct Landing craft utility (LCU) 1667-1670  
C18 TM 55-1520-237-PMS-1 Aug 10-hr/7-day inspection checklist, UH-60A

#### AUDIO-VISUAL STUFF

Available at battalion or post Learning Center

#### Films, TV Tapes

TF (VT)44-6305 HAWK battery integration with the AN/TSO-73  
TVT 17-114 M1 tank PMCS before operations, Part I

TVT 17-126 M1 tank PMCS during operations, Part II  
TVT 17-127 M1 tank PMCS after operations, Part III  
TVT 20-340 Day One: Sustaining excellence through

maintenance

#### TEC Lessons

041-061-5980-A Breech mechanism assembly M198 howitzer

102-113-7483-A Analyze block diagrams of navigation systems, CH-47 C/D  
102-113-7484-A Analyze block diagrams of OH-58C navigation systems

#### Maintenance Advisories

AMCCOM MA 84-21—Decontaminating Apparatus M12A1, NSN 4230-00-926-9488, AMSMC-MAR-C 311540Z Aug 84.

AMCCOM MA 84-22—Hearing Protection Requirements: M3A3 Smoke Generator, NSN 1040-

00-587-3618, AMSMC-MAR-C 261420Z Sept 84.

TACOM SOU—Loader Scoop, 2-1/2 Cu Yd, J. I. Case Model MW24C, NSN 3805-01-150-4814 (collapsible steering wheel), DRSTA-MVB 041030Z Sep 84.

(For the fix, see TACOM Msg DRSTA-MTB 141000Z Sep 84.)  
TACOM SOU—30,000 BTU Personnel Heaters, NSN 2540-00-113-4180, PN M46792/2-1, Model 4130 (smoke hazard), AMSTA-M 252100Z Sep 84.

If you need a maintenance advisory, contact your direct support unit or your local Logistic Assistance Office (LAO).

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All Mortars...

## Use Dry Swabs When Firing



Use a dry swab only to clean the bore of your mortars during firing.

The dry swab cuts down on debris in the tube and prevents the sticky mess made by a swab wet with lube or cleaners.

The dry swab bit is extra important if you're using the M329A2 HE cartridge designed for your M30 4.2-in mortar. Wet swabbing builds up the debris... and the rifled M329A2 rounds stick in the tube!

Like Para 11 of FM 23-92 says, swab your M30 bore with a clean, dry swab after each 10 rounds fired and after each fire mission.

TM's and other FM's give you the same dry swab advice on other mortars. Meanwhile, use only the lubes and cleaners listed in your mortar TM's—Chap 3 of TM 9-1015-215-12 on the M30, for instance.

The ban on CLP for mortars is still in effect, since tests are still going on. CLP use on mortars was suspended by AMCCOM DRSMC-MAL-SS (R) Ltr (21 Feb 84). Page 65 of PS 378 has the story.

# Cablegrams

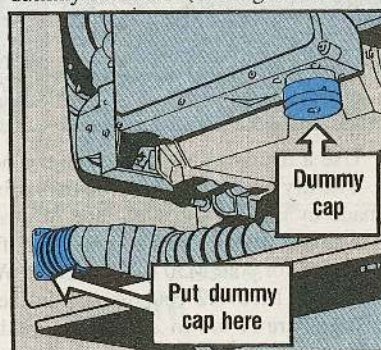
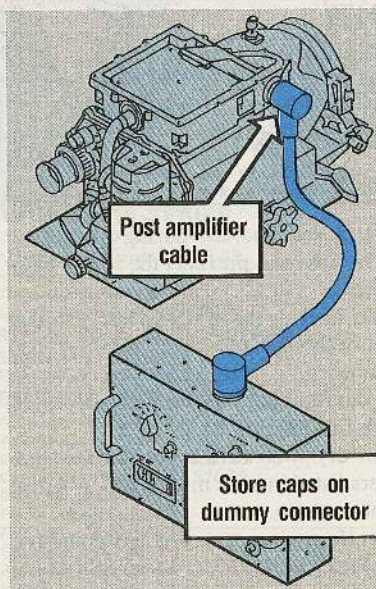
# for the

# M901A1



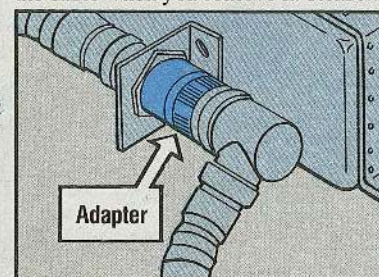
Cables, cables everywhere on your M901A1 ITV, and any one can put you down. Here're some that can give you real trouble:

✓TAS-4A post amplifier cable: When you remove it from the launcher's sight access compartment, take off the cap and place the cap on the dummy connector (boresight side of the



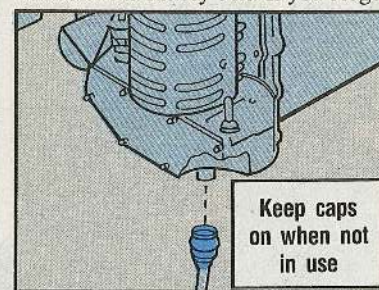
compartment). That way, you won't lose the cap. When you store the cable in the compartment, put the cap back on the connector. That prevents damage to the connector. It also keeps your ITA working.

✓W1 cable: Eyeball the adapter at the MGS end of the cable. The adapter should be on the W1P1 connector when you install it, and it should stay with the cable when you remove it. Reason:



If you use a coil cord, it won't work with the adapter. If you lose the adapter, the W1P1 won't work without it.

✓2W2 cable: Keep a cap on each end of the cable when the 2W2 is not connected to the battery box. If you forget



the cap, more times than not the chain will dangle over the rim of the battery box (where the cable's stored). You can get the lid on, but getting it off with a jammed chain can damage the box.

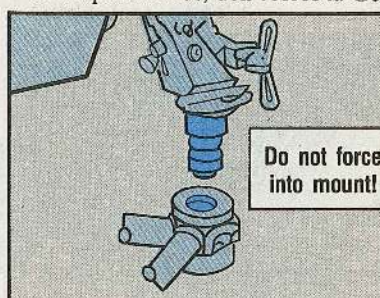
## MG Mount

No gun, no mount. That's the way to keep your machine gun mount from being damaged in garrison. When the gun's not installed, remove the mount.



On the other hand, when you install the machine gun, expect a snug fit of the pintle into the pintle mount. It should fit with minimum effort.

If the pintle binds, don't force it. Get



it checked out. It's probably burred or damaged in some way. If you force it, all you'll do is make a loose pintle... and a loose gun.

# A Sight for a TOW 2

Getting the best "view" from the AN/TAS-4A night sight of your TOW 2 missile system depends a lot on how you set it up.

Here're some ways that'll let you see in the dark...but won't **keep** you in the dark:

## Mount It Right

When you mount the TAS-4A, the latching handle must be all the way forward, with metal-to-metal (sight-to-handle) contact.



Latching handle must be forward

If the sight's not locked right, its line-of-sight will be off.

## Store the Cap

Stow the post amplifier cable cap on its traversing unit (TU) retainer when you remove it. Make it a habit.



Stow the PA cable cap

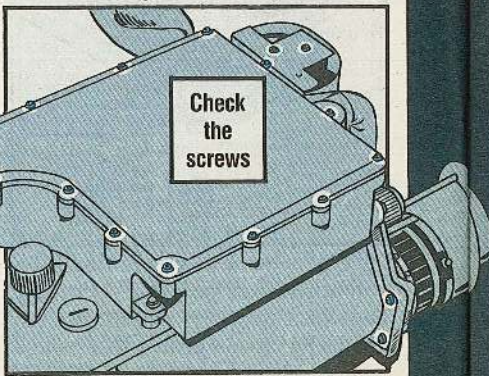
That way, you'll know where it is... chances are better that it won't get lost...and the post amplifier cable will have the protection it needs.



GOOD PM KEEPS YOU OUT OF THE **DARK** AND ON **TARGET!**

## Screw Check

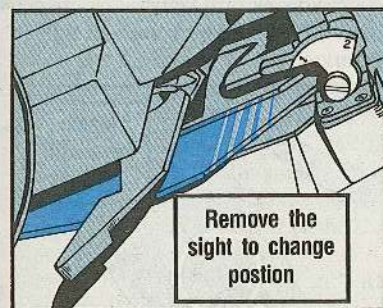
Eyeball the sight's cover and other screws during your pre-op checks. Vibration can shake some loose. Tighten them (snug only) if necessary, but don't remove or replace them. That's a DS job.



Check the screws

## Position Changing

To change to Position 1 or 2 on your course azimuth control, you must first release the latching handle to free the TAS-4A from its mount on the day sight.

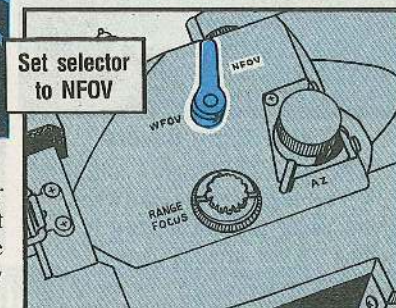


Remove the sight to change position

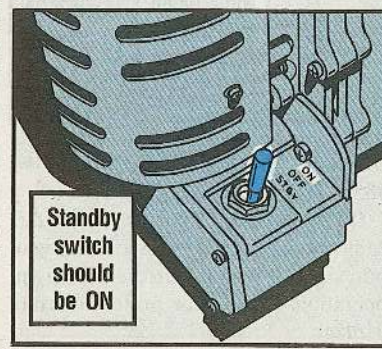
If you change positions with the sight locked on the mount, you'll strip the adjustment lever.

## Self-Test

To do the system self-test, the night sight's field of view selector should be on NFOV (narrow field of view). The sight's STBY/OFF/ON switch should be ON.



Otherwise, you'll get a fault indication.



Standby switch should be ON

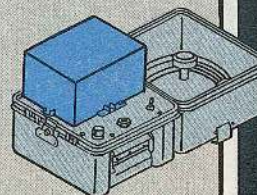
HOW WILL THE  
BACKBLAST GIVE  
AWAY OUR  
POSITION ?

BY SETTIN'  
THE WOODS  
ON FIRE!

### Lithium Batteries

Remove the lithium batteries from the power conditioner if you're not going to use them for 30 days or more. Heat and humidity will make them less effective in long, confined storage.

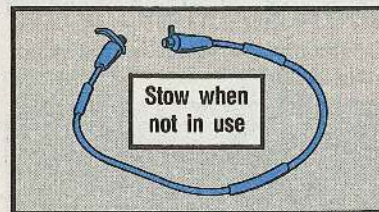
Remove  
batteries  
during  
periods  
of  
inactivity



### Other Sight Savers

Stow your boresight collimator power cable in the sight case when you aren't using it. That'll keep it from getting kicked around, damaged, or lost.

Stow when  
not in use



If it is misplaced, don't rig up a substitute. Get a new one with NSN 5855-01-143-9398.

On a ground mount (tripod), keep the cable hooked to the sight after you boresight. It won't interfere with sight operation, and it'll be protected from damage or loss.

### Cable Calls

Keyways and keys on TOW 2 cable connectors must be matched before you push the connectors home and tighten them.

Match  
keys with  
keyways



The 2W1P1 coil cable gets that... plus a whole new routine.

Before you push the 2W1P1 home, align the yellow mark on the connector with the yellow mating line of the (MGS) jack.

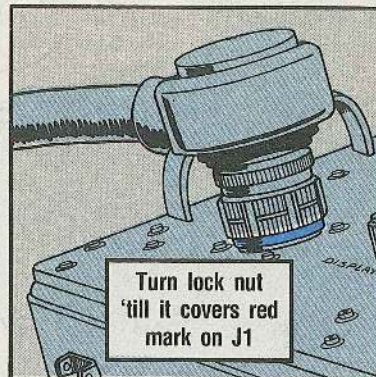
Align yellow  
mark with  
yellow line  
on MGS!



Push the connector into the jack... straight down.

Turn the locking nut of the connector clockwise.

Turn lock nut  
'till it covers red  
mark on J1



Turn the locking nut until you can no longer see the red mark on the J1 jack. The cable's ready for work!

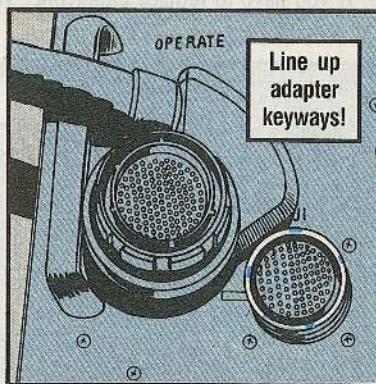
Whether you're hooking up the 2W1P1 or another cable, first eyeball the female connector for dirt or crud which can prevent a good connection. Check the male end for bent pins.

## No Angle At All!

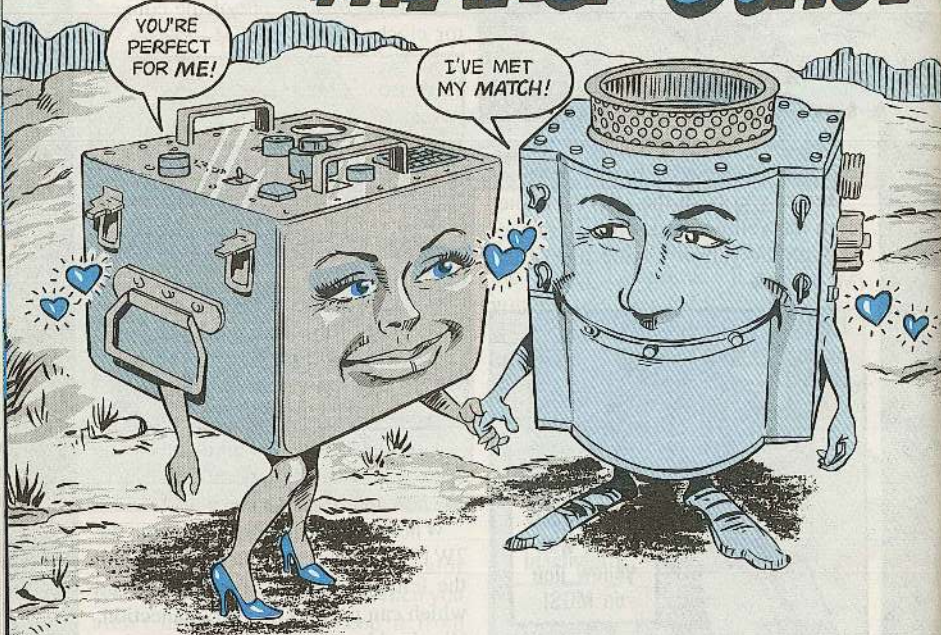
Time trials or whatever, you've still got to line up the keys and keyways when you fit the connector to the J1 jack adapter of your basic TOW system's missile guidance set (MGS). If you try to force them together at an angle, you'll break the Bakelite insulation in the connector adapter of the J1. When the Bakelite cracks, your system goes down and you've made a support level repair job.

Line 'em up. Push 'em in. Tighten the sleeve on the connector. Take an extra second.

Line up  
adapter  
keyways!

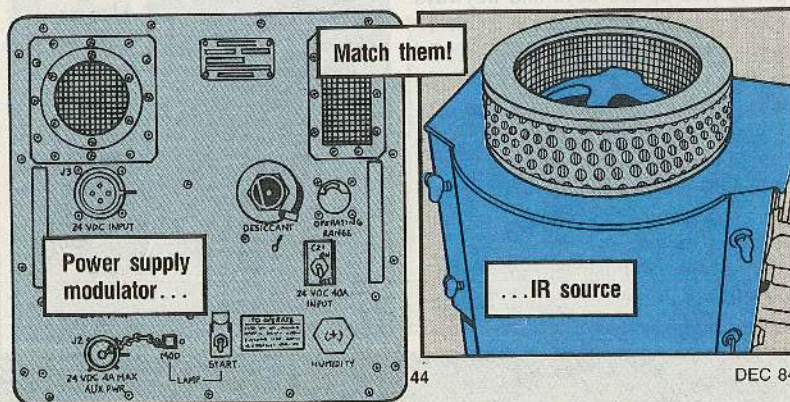


# ...And Other PM Tips



The power supply modulator and IR source of your TOW system's M89E1 transmitting set are matched to each other, so keep 'em together for precision performance.

If you have to replace either one, you also have to get your Direct Support to adjust them.



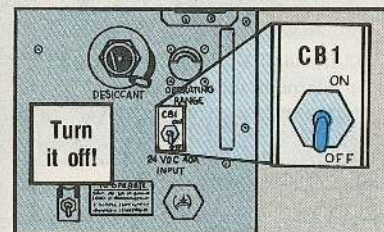
LOOK AT THOSE TWO...DON'T THEY LOOK GOOD TOGETHER?

THAT'S ONE THING I'VE LEARNED!

## Hookup Cautions

When you connect the M89's power cable to the vehicle battery, be sure you hook the positive cable to the positive post...and negative to negative. If you switch the cables, reverse polarity will damage the transmitting set.

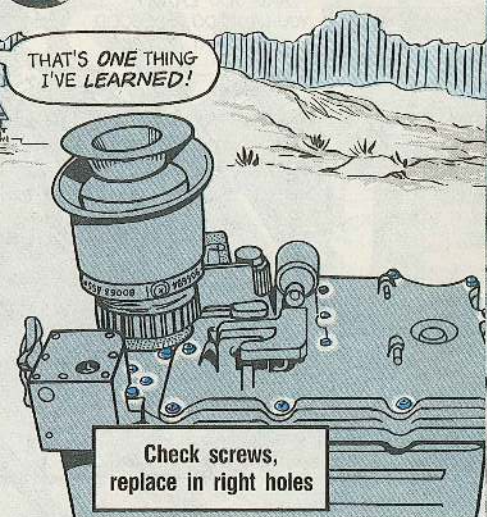
As a precaution against power surge damage, turn off the CB1 switch on the power supply **before** you make the vehicle battery connections.



## Other Components

The screws holding the AN/TAS-4 actuator and basic sight assembly in the housing sometimes vibrate loose. If they do, be sure you put them back in the right holes. The screws are different lengths and have to be put in the right holes or they'll vibrate out again.

Screws should tighten up before going through the housing. If they extend through the cover, you've got the



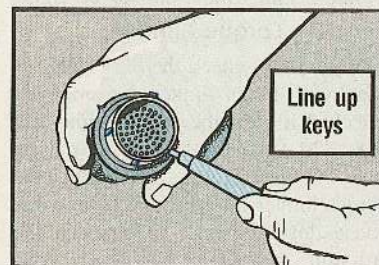
wrong ones in place.

Otherwise, let the screws alone. The actuator and basic sight are Direct Support territory.

## Reminders

Cushion components when you transport them out of their containers. Unpadded vehicle beds cause damage.

When you connect the coil cord (to MGS or whatever), line up the key and keyway...and then tighten the connector. Save pin damage.



M28A1 Subsystem...

ARE YOU CRAZY?  
YOU CAN'T DO ANY GOOD,  
WITH THAT PISTOL!

GOTTA SCORE WITH  
SOMETHING...  
THE MACHINE GUN'S  
JAMMED!

# A Few Lessons Learned

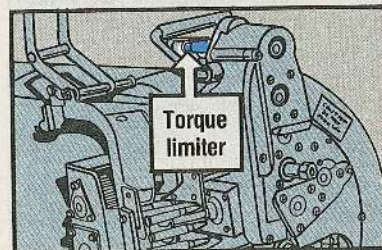
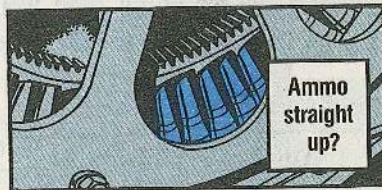
When timing is right, your live ammo should stand straight up between the vanes of the ammo drum on your M28A1 armament subsystem.

If you used dummy ammo (in good condition) to time the drum, you'll almost certainly have to do some fine tuning for the live ammo.

Eyeball the cartridges. If the bottom ones stand straight between the vanes of the drum, timing should be right.

## Torque Limiter

Voluntarily check the SETTING of the drum's torque limiter... even if you checked it after the last mission. Fig 3-8, TM 9-1090-203-12, shows you how. If the setting's not right, the torque limiter can stick, freeze or come loose during firing... and scrub the mission.



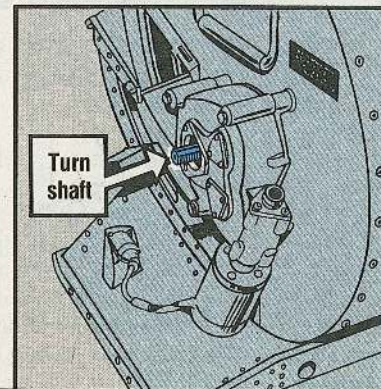
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## Watered Drums

Keep the ammo drums, especially the 40-MM drum, clear of water when you wash the aircraft.

Water rusts the drive motor shaft on the 40-MM drum. Here's how you AVUM mechs can check drive shaft serviceability:

Remove the top cover over the shaft and try to turn the shaft with your fingers. No go? Lube the shaft and bearing with CLP and let it set a few minutes. If that doesn't work, replace the shaft.

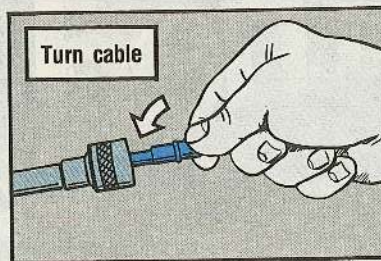


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## Jam Check

If you're checking out a jammed 7.62-MM drum after flight, don't just stop with a look at the gun-to-drum drive cable. The cable may look OK, but it could be broken inside the shield.

•First, turn the cable connector to see if it slips.



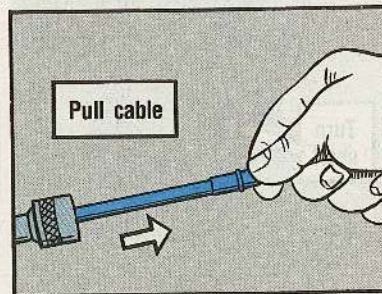
Still OK?

•Disconnect the flexible chuting from the feeder and make sure there is no ammo in the feeder or the gun.

•Rotate the gun barrels while eyeballing the drum.

If the drum doesn't turn, the cable probably is broken...or the torque limiter is not adjusted right.

•Pull the cable all the way out and check it for breaks.



•No breaks? Check the torque limiter adjustment.

## Viva, Teflon!

Teflon strips in the ammo drum bays make life easier for loading crews and help prevent damage to the aircraft or the drums.

If the strips are damaged, and



especially if the screws are sticking above the Teflon, it's hard to slide the drums in or out of the bays.



Check 'em out. If parts of the strips are missing, or if screws are sticking up, get them repaired.

TAKE CARE  
OF YOUR  
ARMAMENT  
AND IT'LL  
TAKE CARE  
OF YOU!



## M16A1 Cleanup

Too much "cleaning" is bad for the health of your M16A1 rifle.

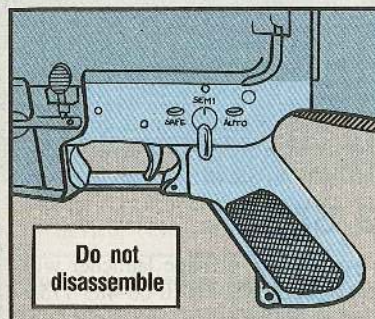
Examples:

Taking your rifle to the showers with you might get it clean, but water trapped in tight places will rust your rifle.

Cleaning your rifle with wet rags, or dumping water into tight places, also sets your rifle up for rust.

"Clean" means as clean as CLP can get it for you.

Unless you're authorized, do not disassemble rifle parts to clean them. That goes for the trigger assembly and



the upper and lower receivers. Pages 12 thru 23 of TM 9-1005-249-10 have the word on cleaning and lubing your rifle. Read and heed.

Further takedown is at armorer and support level and requires special tools, adjustments, and know-how.

Another point: If something's wrong with your rifle, tell your armorer about it.

The problem won't cure itself. In short, if you can't get to an area with your "toothbrush" (NSN 1005-00-494-6602), pipe cleaner, patch or bore and chamber brushes, you're not expected to disassemble tricky components to get to the dirt. Your armorer will take care of it during his PMCS.

DEC 84



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## M16A1 Storage Tip

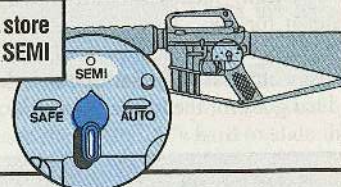
Store your M16A1 rifles with the selector levers on SEMI.

If you store them with selectors on SAFE, you'll weaken and damage the hammer springs (since you have to leave the hammer cocked to keep the weapons on SAFE).

Do this:

Before you put your rifles in their racks, put the selectors on SEMI.

...store  
on SEMI



- Pull the trigger. This lets the hammer fall and rest forward.
- Close the ejection port cover.
- Store the weapons with their selectors still on SEMI.

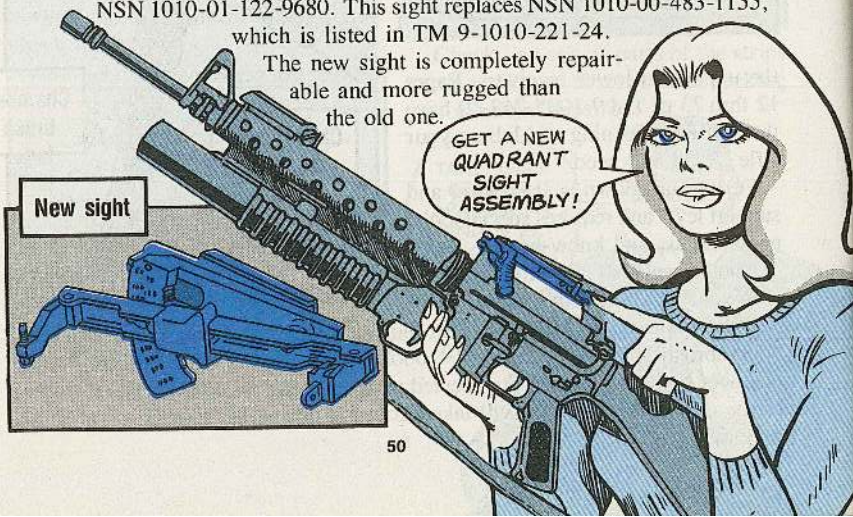
## New M203 Sight

Get the new quadrant sight assembly for your M203 grenade launcher with NSN 1010-01-122-9680. This sight replaces NSN 1010-00-483-1155, which is listed in TM 9-1010-221-24.

The new sight is completely repairable and more rugged than the old one.

GET A NEW  
QUADRANT  
SIGHT  
ASSEMBLY!

New sight



## New Aircraft Fuel Sampler

I HATE  
DOING  
THIS!

THERE'S  
GOTTA BE  
A BETTER  
WAY!

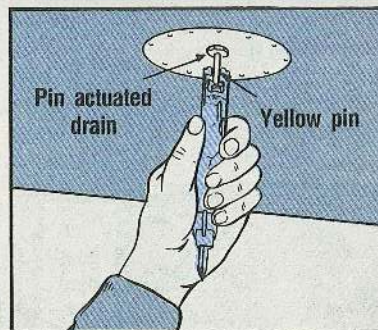
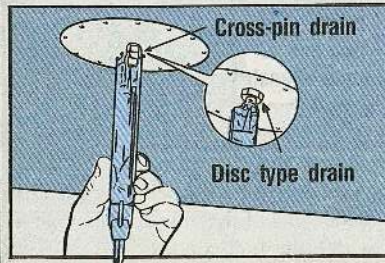


There's an aircraft fuel tester/sampling device, NSN 4910-01-129-7273,

Fuel tester/sampling device



available for your daily or preflight fuel sampling. It can be used on all aircraft. Use the sampler to check for water



or other contamination and determine the fuel type.

Get one for each flyaway aircraft and one for each AVUM No. 1 and No. 2 tool kit.

Appendix A of CTA 50-909 is the authority. The sampler costs \$3.46.

## Throttle Adjustment Tool

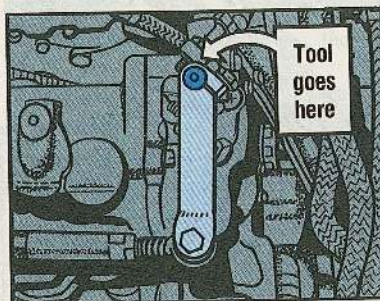


When your pilot reports throttle binding on the UH-1 or AH-1, it's almost impossible to check out and correct it. You don't have any way to measure fuel control lever tension.

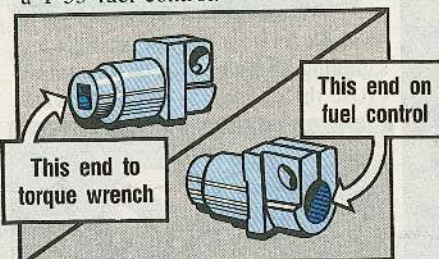
You can get your AVIM to make a

the fuel control throttle for binding as called for in troubleshooting procedure 31 in TM 55-2840-229-23.

To make the tool, AVIM will weld a 7/16-in socket to a throttle arm from a T-53 fuel control.



tool for you to do the job, tho. Then you can use a torque wrench to check



Leave the square drive end of the socket open for a torque wrench and the splined end of the throttle arm open to fit into the fuel control.

## Nomex Flight Suit Nameplates

Here's how enlisted folks on flying status can get nameplates for the Nomex flight suit. AR 670-1 says enlisted soldiers can get the tags without cost to themselves.

The leather nameplates have neither stock number nor part number, so order them on a DD Form 1348-6. In the Nomenclature block write, "Nameplate for enlisted personnel flight suit." In the Remarks block describe the item fully—and give the individual's name, badge and rank. Para 10-10a of AR 670-1 gives details.

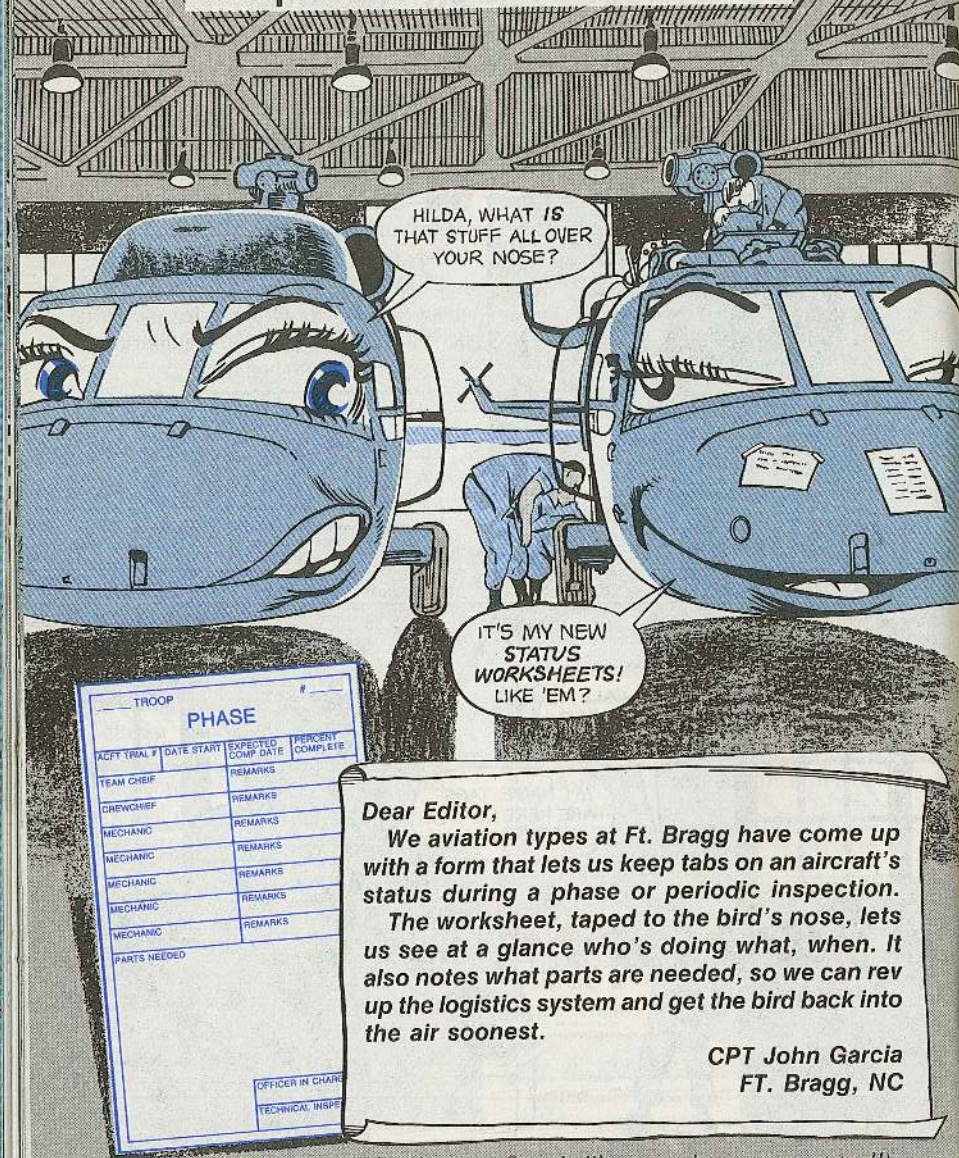
The RIC is S9T and the plates cost about \$2.50 each. Order at least 4 per person. CTA 50-900 is the authority.

The requisition should go to:

**Defense Personnel  
Support Center  
ATTN: DPSC-TSKR  
Philadelphia, PA 19101**



## Keep Your Bird in Fine Form



Dear Editor,

We aviation types at Ft. Bragg have come up with a form that lets us keep tabs on an aircraft's status during a phase or periodic inspection.

The worksheet, taped to the bird's nose, lets us see at a glance who's doing what, when. It also notes what parts are needed, so we can rev up the logistics system and get the bird back into the air soonest.

CPT John Garcia  
FT. Bragg, NC

(Editor's note—Sounds like a good management tool!)

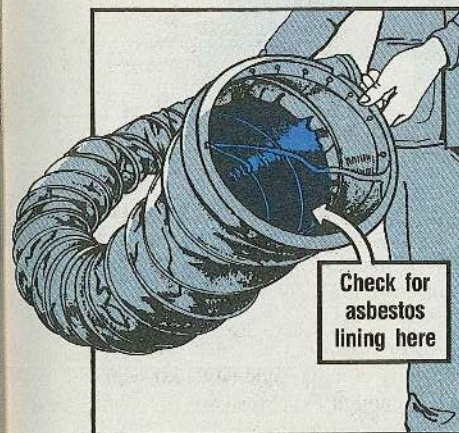
## Heater Asbestos Hazard



Asbestos in your 250,000 BTU heater's hot air duct can be dangerous to your health. If you breathe in asbestos dust, you may get "asbestosis" or lung cancer.

Some 12-in ducts were lined with asbestos for a few feet on one end. The asbestos may crack or flake off and be blown through the duct with the heated air. Later ducts used fiberglass for lining.

Check for an asbestos lining in your ducts. Replace any asbestos-lined ducts with fiberglass ducts, NSN 4720-00-300-0333.



The asbestos lining is a white to dirty gray and is coarsely woven from a heavy yarn. The fiberglass lining is a dark-colored, neoprene-coated fine fabric.

A pencil point will go thru the asbestos lining easily but it must be forced thru the fiberglass one.

You'll find the word on disposing of asbestos in App D of DA Circular 40-83-4.

Wear gloves and respirator, NSN 4240-00-022-2524, when you handle a duct containing asbestos. The respirator is part of the No. 1 Common Supplemental shop set.

## Substituting Fuses...



## Watch Your Volts and Amps

Blew a fuse and you're out of spares, eh? If you're in a tight spot, a substitute can get you through.

No, not a nail or a paper clip. Use a similar fuse with a different amp or volt reading—within limits.

Remember, that fuse's job is to protect your sensitive circuits from an overload. Using the wrong fuse is little better than using a nail.

All the info you need is on the fuse cap. Look for the numbers that come before an "A" (for amp) and "V" (for voltage).



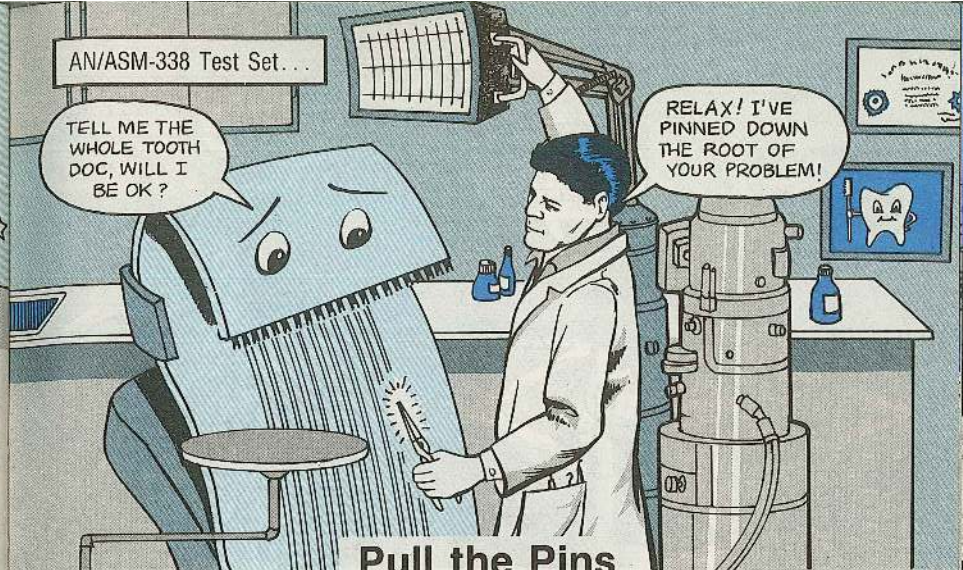
A usable sub has a smaller amp reading than the fuse the gear pub calls for. The "A" rating tells what current the filament will carry without melting. A higher rating means the fuse will carry more amperage than the circuits can safely handle.

Now, eyeball the voltage rating. When your fuse link melts, electricity can still arc across the gap and keep the circuit closed. The V value is the most volts the fuse will take without arcing.

Never pick a sub with a voltage rating lower than the right fuse. Too low a rating means the arcing will keep the electricity coming—and KO your gear.

Of course, the best idea is to get and keep enough extra fuses of the right size. Your equipment TM's give you sizes and stock numbers.

## AN/ASM-338 Test Set...

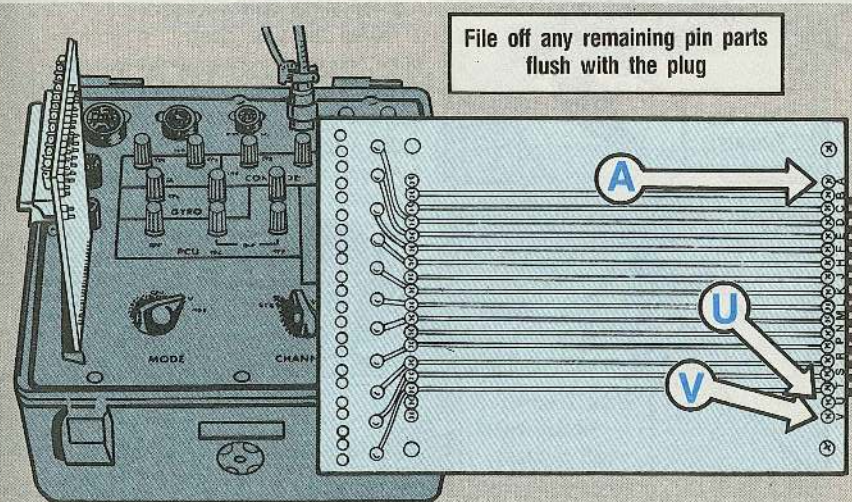


## Pull the Pins

Did that new MX-8096 extender card arrive with pins A, U and V? If so, take them off.

There's no place on the test set's receptacle for these extra pins. If you force the card in, you'll damage the card, the test set or both.

If you find a bad card, break off the extra pins with a small needle-nose pliers. Be careful not to damage any of the other pins, of course.



Antiseize Tape...

WHEW! BOY,  
WHAT A LOUSY  
CONNECTION!

HEY! SAY IT,  
DON'T SPRAY IT!

## Seal Up a Good Connection

Antiseize tape makes leak-free pipe hookups a snap—when you use it right.

Here's how it goes:

- Clean the threads.
- Start at the end and wrap in the direction of the threads. Use 2 turns and overlap about half a wrap.
- Keep the tape clean...when you put it on and in your tool box, too. Dirty or oily tape means a leaky connection. Even a greasy fingerprint can cause a leak.
- Don't use the tape on flare fittings.

Clean the  
threads!

Wrap 2 turns...  
...overlap about  
half a wrap!

USE IT  
LIKE SO!

| Pipe size       | Tape size   | NSN          |
|-----------------|-------------|--------------|
|                 |             | 8030-00-889- |
| 1/8 to 3/8 inch | 1/4-in wide | 3534         |
| 1/2 inch and up | 1/2-in wide | 3535         |

## All Pumps Are Not the Same

SORRY, OLD MAN...  
IT WASN'T ME WHO  
DECIDED TO GIVE  
YOU THE BOOT!

...BUT ONCE YOUR  
**SCHNOZZ** GOES, YOU'RE  
NOT MUCH GOOD ANY-  
MORE, IF YOU **NOSE**  
WHAT I MEAN!

Dear Half-Mast,  
The new oil sample bottle,  
NSN 8125-01-082-9697, is too  
big to fit my Vampire oil  
sampling pump. The old bot-  
tle that fits is no longer  
available. What do I do?  
CW2 D.R.H.

Dear Mr. D.R.H.,  
The oil sampling pump you have  
is one of the older models. Replace  
it with Vampire sampling pump model  
43-78m, NSN 4930-01-119-4030,  
to use with the new bottles.

Half-Mast

## Stand-Up Stoves

SORRY, BUT  
I'M NOT  
ARMY ISSUE!

Dear Half-Mast,  
I once saw a 3-legged stand  
for the M1941 space heater.  
What's the NSN for the stand?

1SG D.L.E.

Dear Sergeant D.L.E.,  
There is no stand in the supply  
system. It is not Army issue. What  
you saw must have been built  
locally.

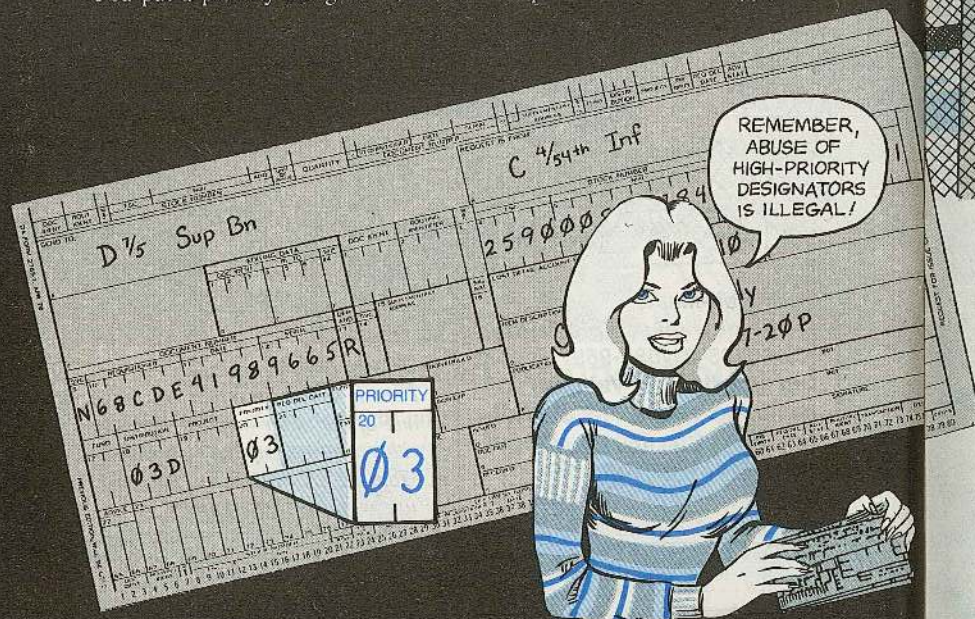
(If anyone has plans for a stand,  
I'd like to see them—maybe even  
run them in PS. Just send me a  
drawing of the stand, a list of what  
you used to make it, and a picture,  
if possible.)

Half-Mast

## Get Your Priorities Straight

Before you slap a high priority on a supply request, be sure you really need to have the requisition filled in a hurry. Abuse of high priority designators is a burden to the supply system—and it's illegal!

You put a priority designator (PD) on a requisition to let the supply folks



know how badly and how fast you need a requested item. Pick the PD based on Para 2-2 of DA Pam 710-2-1.

PD's of 01-10 have to be justified. AR 710-2 says your commander's responsible for making sure they are. That means the commander or someone with written authority from the commander will review the requisition—and take a hard look at high-priority requests.

If you pick a PD based on an Urgency of Need Designator (UND) of A or B, make sure you meet the requirements spelled out in Paras 2-2b(1), 2-2b(2) or 2-2d of DA Pam 710-2-1. You might have to explain why you chose a high PD.

As a rule, choose a PD based upon UND A or B only when you have gear that's NMC or fast getting there. The exceptions are spelled out in the DA Pam. UND C covers most requests.

Whoever reviews the request has to initial Column h of the DA Form 2064 (Document Register for Supply Actions) for each request before it goes to your supply support. Para 2-3 of DA Pam 710-2-1 has the details.

## Surviving the C-c-c-cold



The key to surviving the cold is your personal clothing. To keep warm, remember **C-O-L-D!**

**C—Clean.** Keep your clothing clean. Clean clothing keeps you warmer. Keep hands and feet clean, too.

Shake your clothing out before you get dressed.

**O—Overheating.** Avoid it! This comes from wearing too much clothing. If you get warm while you are exerting yourself, take off some clothes. Being a little cool is just right.

**L—Layers.** Wear several layers of clothes. Each layer traps air that'll keep you warm. When you start getting warm, you can take off a layer to avoid overheating.

**D—Dry.** Stay dry! Wet clothing is cold clothing. If you get wet, get someplace warm—like a tent—and dry off. Or change to dry clothing ASAP.

You can use your scarf as a stocking cap in a pinch. Pull the open end over your head. Double it if you need to. You can use the scarf as a hand- or foot-warmer, too. Put your hands in the open ends. Put your feet in the open ends in the sleeping bag.

Carry a couple pairs of dry socks, and an extra pair of gloves. Then you can change them if they get wet.



HERE'RE ANSWERS  
TO SOME QUESTIONS A LOT  
OF NBC TYPES HAVE  
BEEN ASKING RECENTLY...

# Now That You've Asked...



★Q—What is the shelf life of the green filter (M13A2)?

★A—Seven years, and the time can be extended indefinitely if the lots test out OK. Current SB 3-30-2's give lot numbers of filters that become unservicable.

★Q—Where's the best place to store protective masks?

★A—Any cool, dry, available storage area where the temperature ranges from 40°F to 70°F. That prevents heat and moisture from damaging the facepiece and filters.

★Q—What's the in-service life of filters for M17-series masks and under what conditions should they be replaced?

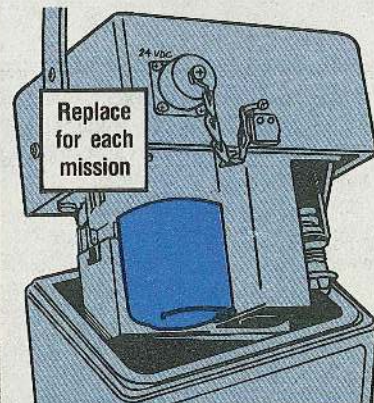
★A—In-service filter life ranges from 2 months to 24 months, depending on where you are. Page 2-44 of TM 3-4240-279-10 gives replacement times for different climates. Also, replace filters when they get wet or crushed, are not a matched set, when the mesh screen is torn or when the outer edges are split.



Check  
filters for  
damage

★Q—When do you change the reservoir in the detector unit of the M8 chemical agent alarm?

★A—Use a new reservoir assembly from your M229 refill kit for each mission. After use, if you're going to use it again within 3 days, drain the reservoir and reinstall it dry. Detectors stored in an NBC rooms should be drained by NBC NCO's, filled 2/3 with distilled water, run for 4 minutes and drained again. Reinstall the dry reservoir and store the detector.

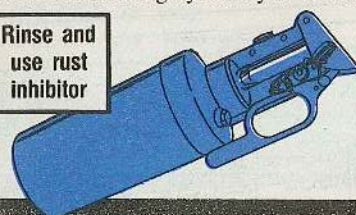


Replace  
for each  
mission

★Q—How do I keep rust out of my M11 decon?

★A—You can't, once it's been used. You can only control it with the inhibitor in your TM, plus proper by-the-TM rinsing. If SOP allows, use water or a 50-50 water/antifreeze mix for training. Rinse out the antifreeze thoroughly after you use it.

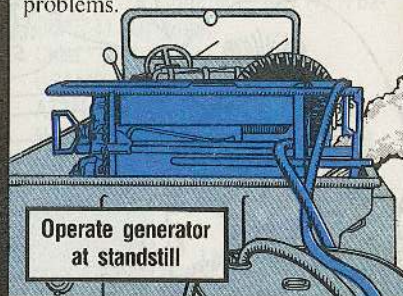
Rinse and  
use rust  
inhibitor



Mask Optical Inserts...

★Q—Is it true the M3A3 smoke generator can be run only in a standstill position?

★A—Right. No more smoke-on-the-go... primarily because of fuel leak problems.

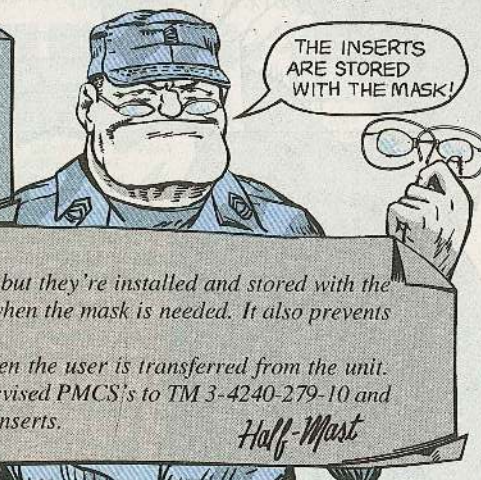


Operate generator  
at standstill

## Where to Store Them

Dear Half-Mast,  
Who's responsible for  
storage of protective mask  
optical inserts, the unit or the  
user?

R.M.S.



THE INSERTS  
ARE STORED  
WITH THE MASK!

Dear R.M.S.,

Both. Inserts belong to the user but they're installed and stored with the mask. That permits quick access when the mask is needed. It also prevents loss and damage.

The inserts go with the user when the user is transferred from the unit. The mask remains with the unit. Revised PMCS's to TM 3-4240-279-10 and TM 3-4240-280-10 will add the inserts.

Half-Mast



THE SF368 QUALITY DEFICIENCY REPORT STILL PACKS A PUNCH—EVEN IF YOU DON'T HAVE THE INFO TO FILL IN EVERY BLOCK IN SECTION I!

THE ESSENTIAL INFO THE HEADSHED NEEDS COMES FROM BLOCKS 1A, 1B, 2A, 3, 4, 5, 6, 10, 11, 15C, 15D, 16A, 16B, 21, AND 22!

| QUALITY DEFICIENCY REPORT<br>(Category II)                                                                                                                                                                                                                                                                 |  |                             |  |                                                                      |  |                                                 |  |                                                 |  |                                                 |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------|--|----------------------------------------------------------------------|--|-------------------------------------------------|--|-------------------------------------------------|--|-------------------------------------------------|--|
| SECTION I                                                                                                                                                                                                                                                                                                  |  |                             |  |                                                                      |  |                                                 |  |                                                 |  |                                                 |  |
| 1a. From (Originating unit)                                                                                                                                                                                                                                                                                |  |                             |  | 1b. To (Receiving unit)                                              |  |                                                 |  |                                                 |  |                                                 |  |
| 1c. Typed Name, Duty Phone and Signature                                                                                                                                                                                                                                                                   |  |                             |  | 1d. Typed Name, Duty Phone and Signature                             |  |                                                 |  |                                                 |  |                                                 |  |
| 2. Report Control No.                                                                                                                                                                                                                                                                                      |  | 3. Deficiency Discovered    |  | 4. National Stock No. (NSN)                                          |  | 5. Manufacturer                                 |  | 6. Manufacturer's Code/Shipper                  |  | 7. Mfg. Part No.                                |  |
| 8. Serial No./Batch No.                                                                                                                                                                                                                                                                                    |  | 9. Contract/PO/Document No. |  | 10. Quantity                                                         |  | 11. Date Manufactured/Repaired/Overhauled       |  | 12. Operating Time at Failure                   |  | 13. Government Furnished Material               |  |
| 14. New <input type="checkbox"/> Recycled <input type="checkbox"/> Rebuilt <input type="checkbox"/>                                                                                                                                                                                                        |  | 15. Quantity                |  | 16. Deficiency From: (a. Item, (b. Material, (c. Work, (d. Assembly) |  | 17. National Stock No. (NSN)                    |  | 18. Component                                   |  | 19. Part No.                                    |  |
| 20. Serial No./Lot No.                                                                                                                                                                                                                                                                                     |  | 21. Est. Completion Date    |  | 22. Item Under Warranty                                              |  | 23. High Unit Code/EC (Only and All Place only) |  | 24. High Unit Code/EC (Only and All Place only) |  | 25. High Unit Code/EC (Only and All Place only) |  |
| 26. Details (Describe, to best ability, what is wrong, how and why, circumstances prior to difficulty, description of difficulty, cause, action taken to correct it, etc. If necessary, identify with related item numbers, include and list supporting documents. Continue on reverse side if necessary.) |  |                             |  |                                                                      |  |                                                 |  |                                                 |  |                                                 |  |

OF COURSE, THE OTHER BLOCKS SHOULD BE FILLED IN IF YOU HAVE THE INFO!

JUST DON'T LET THE ABSENCE OF INFO KEEP YOU FROM SUBMITTING THE FORM!

CHAPTER 12 AND APPENDICES F AND G OF DA PAM 738-750 HAVE THE DETAILS ON THE SF 368. PARAS 2-14 AND 2-15 OF DA PAM 738-751 HAVE THE SCOOP FOR YOUR AIRCRAFT TYPES!

## Historical Records Help

Need to replace a lost or unreadable DA Form 2408-9—or other equipment historical record that DA Pam 738-750 requires you to keep? Can't get the missing info from local sources? MRSA will help. Call AV 745-3957 (Commercial (606) 293-3957). Or write:

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

If you call, have the NSN, serial number and registration number (if the item has one) handy for each item you're asking about.

More details are in Para 5-2b of DA Pam 738-750.

## AMDF Code Guide

Need a copy of the guide to help you read the AMDF? Call AUTOVON 977-6608/6741 or Commercial (717) 782-6608/6741. Or write:

Chief  
USAMC Catalog Data Activity  
ATTN: AMXCA-BTM  
New Cumberland Army Depot  
New Cumberland, PA 17070-5010.  
Be sure to give your ARMS account number.

## CARC Hotline

If the AMDF does not list the CARC (Chemical Agent Resistant Coating) you need, call the GSA CARC Hotline for info on getting the paint—Commercial (206) 931-7109 or FTS 396-7109.

## AVIATION MESSAGES

Call 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.

OV-1-84-04 SOF Technical, inspection of bracket for cracks, OV-1 and RV-1 series. 272000Z Aug 84.  
UH-60A-84-10 SOF Maintenance Mandatory, One-time inspection of UH-60A tail cone canted hinge bulkhead radius blocks. 231820Z Aug 84.  
CH-47-84-11 SOF Maintenance Mandatory, Replacement of CH-47A/B/C/D flight control tubes in

aft cabin area. 161930Z Aug 84.  
MIM-AH-1-MEM-84-06 Inspection and repair procedures for honeycomb panels on all AH-1 models. 312005Z Aug 84.  
MIM-UH-60A-84-09 Nut, self-locking, hexagon, NSN 5310-00-808-1831, hub and blade assembly, tail rotor. 311400Z Aug 84.  
MIM-UH-60A-84-04 Procedures for UH-60A stabilator system operation. 031800Z Aug 84.  
MIM-UH-60A-84-06 Change to UH-60A powertrain manual

reduction in tail rotor retention plate bolt torque. 291600Z Aug 84.  
MIM-OH-58-MEM-84-04 Improper seal assembly installation on OH-58A and C N/R hub assembly (grease) rotor. 022300Z Aug 84.  
MIM-CH-47-MEM-84-10 Urgent change to TM 55-1520-227-10-2 061930Z Aug 84.  
MIM-CH-47-MEM-84-11 Additional urgent changes to TM 55-1520-227-10-2. 171935Z Aug 84.  
MIM-OV-1-MEM-84-01 TBO extension of OV-1 propellers and propeller control. 041620Z Aug 84.

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

The suggester was a PFC  
But now she is no more...

WOW!  
SMART  
PAYS OFF!



Because of her **SMART** idea  
She earned cash...  
...and Specialist 4!

Send **YOUR** ideas to:

**SMART**

US Army Logistics Center  
Fort Lee, VA 23801-6000