

Issue 517

PS

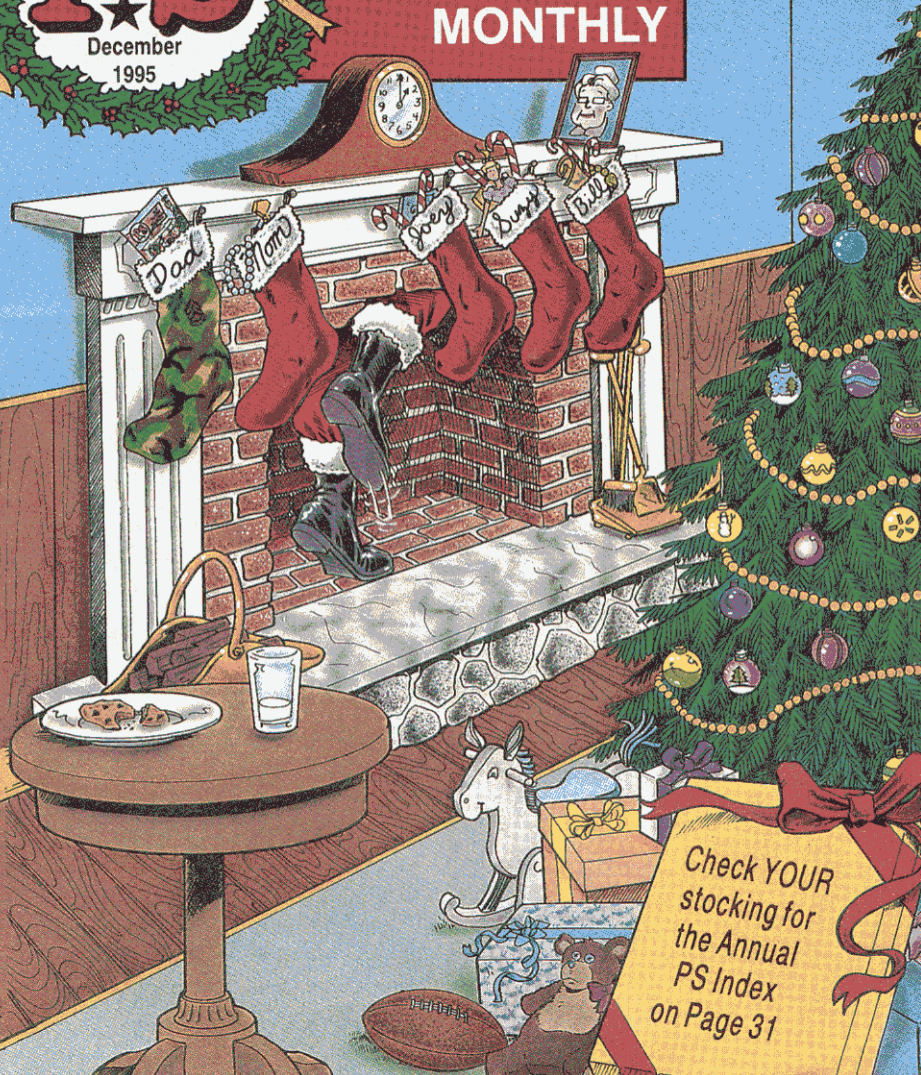
December  
1995

# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-517

Read and  
heed, then  
pass along!

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Check YOUR  
stocking for  
the Annual  
PS Index  
on Page 31



# FOREWARNED IS FOREARMED

English poet Thomas Gray once said "Where ignorance is bliss, 'tis folly to be wise."

But, ignorance won't cut it if you're using equipment that contains radioactive material. Ignorance leads to misuse, misuse leads to leaks, and leaks mean big-time trouble.

While a radiation leak won't cause you to grow an extra head, it can make you one sick soldier.



So how do you know what equipment has radioactive material and what doesn't?

Your first clue is the equipment itself. If it contains radioactive material, it should have a warning decal with the radiation symbol pasted in clear view.



Since warning labels have a tendency to fall off, you also need to take a good look at the warnings in the front of your equipment's -10 TM. Those warn-

ings tell you the kind of radioactive material and emergency procedures.



Another good place to look is in TB 43-0116, Identification of Radioactive Items in the Army. This TB gives you the equipment, tells you what part of the equipment is radioactive and gives you the type of the radioactivity.

Last, but certainly not least, check with your local radiation protection officer. He'd much rather handle your questions now than deal with an emergency later.



## PS THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-517, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

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You are invited to send PS your ideas for improving maintenance procedures, suggestions for articles, or comments on material published in PS. Just write to:

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# Check Tow Bars for Wear



**M**ake a little time in your busy schedule, mechanics, to eyeball wheeled vehicle tow bars for wear that can make them unsafe.

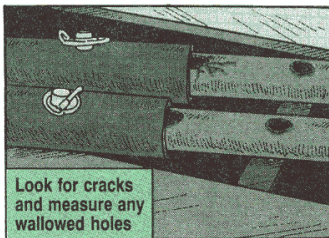
The checks must be made to tow bars awaiting modification, NSN 4910-00-433-7094, and those already modified by MWO 9-4910-593-20-1, NSN 4910-01-365-9304.

Some tow bars are showing their age and use through cracks or wallowing at the adjustment pin holes. Here's what to look for:

- ✓ Look at all adjustment pin holes on the tow bar legs. If you spot any cracks at these holes, order the necessary replacement leg.
- ✓ If there are no cracks, look for pin holes that are wallowed out (no longer

round, but oblong). Check the diameter of any funny-looking holes with calipers.

On male legs, the largest acceptable hole diameter is  $\frac{25}{32}$  inch. On fixed and moveable legs, the max is  $\frac{51}{64}$  inch.



Replace any leg that has holes larger than listed.



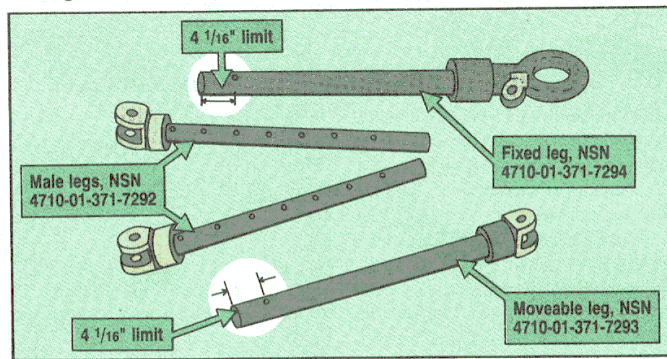
Item	Qty	NSN 4710-01-371-
Fixed leg	1	7294
Moveable leg	1	7293
Male leg	2	7292

*NOTE: Replacement legs will come already modified.*

Legs that pass these inspections still need attention. Deburr the pin holes that need it using emery cloth or sand paper. Clean the holes with a dry cloth and apply corrosion preventive compound (either NSN 8030-00-837-6557, -00-546-8637 or -01-041-1596).

Then measure from the center of the last pin hole to the end of both fixed legs. If you get four inches (plus or minus  $\frac{1}{16}$  inch), you can use the tow bar as is.

If your measurement is more than  $4\frac{1}{16}$  inches, cut off just enough of the leg end to get four inches.



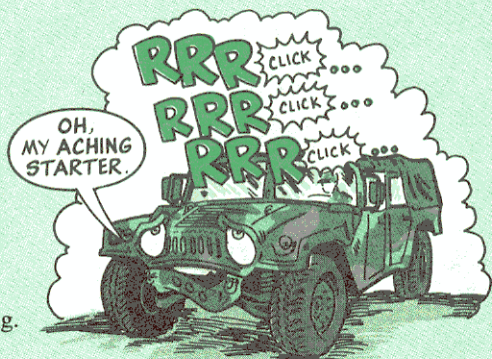
Deburr and clean the cut and then prime and paint all exposed metal. Use any olive drab green and don't worry about exact color matchup.

## Easy on the Starts

**C**old weather and itchy fingers seem to go hand in hand. All it takes is one finger stuck on the switch too long to burn out a good starter motor.

Never run the starter for more than 10–15 seconds. Stop! Let the starter cool one minute. Try again.

If your truck's engine won't start in three tries, get your mechanic to find out what's wrong.



## NATO Slave Cover Saver



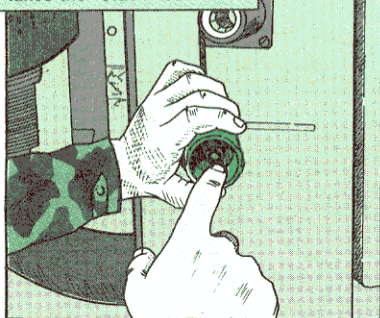
**C**old weather shrinks the NATO slave receptacle's plastic cover, making it stick like glue to the receptacle.

A screwdriver will pry it off, but that often breaks the cover.

Your best bet is to keep it from sticking. Here's how:

Smear a thin layer of waterless hand cleaner, NSN 8520-00-965-2109, on the inside of the cover. That'll keep it slick enough to come off easily in any weather.

A thin layer of hand cleaner takes the "stuck" out





Water Trailers . . .

# Keep the Water Running

Warm PM in cold weather keeps your water trailer from becoming an ice wagon.

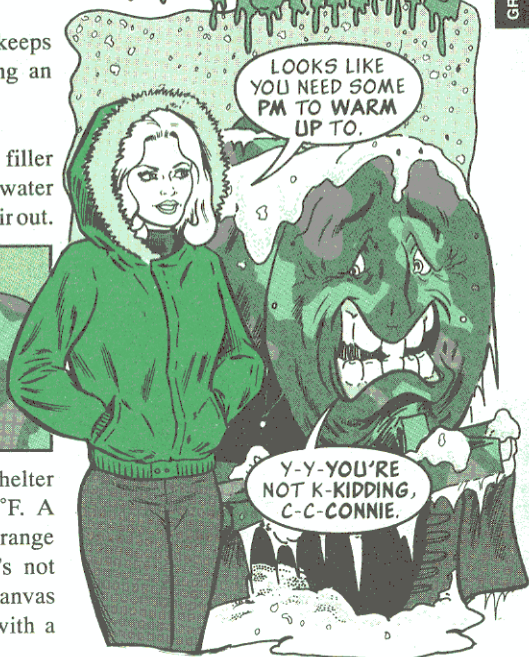
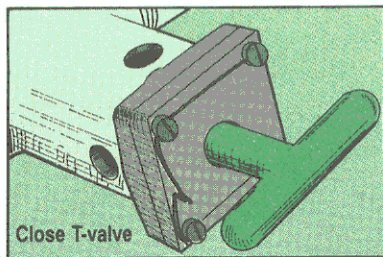
Here's how to warm things up:

- ✓ Always keep the manhole and filler covers tightened. That keeps the water heat in the tank and freezing cold air out.



- ✓ Place the water tank trailer in a shelter if the temperature is below 0°F. A warm tent — where there's a field range operating — is best. If a shelter's not available, cover the trailer with canvas and keep warm air circulating with a Herman-Nelson heater.

- ✓ After each use, drain the pipes by shutting off the water with the main T-valve in front of the tank. Then open all faucets. Prop them open with a piece of wood. No water, no freezing.



Use an immersion heater only in the metal tank. Never use it in the fiberglass tank. Heat will melt fiberglass.

The best immersion heater for the job is NSN 4540-00-266-6834. It has a steel disk that's used as a cover for the tank and a support for the heater assembly. The heater's in Chapter 5 of TM 10-4500-200-13.

If you already have an M67 immersion heater, use it. Just follow the instructions on Pages 2-18 through 2-20 of TM 9-2330-267-14&P to adjust the heater bracket to make it fit the tank.



# A Better Drain

Dear Editor,

In the winter, it's very important to get every bit of moisture out of an M915-series or M915A1 truck's air tanks. Otherwise, it freezes and causes starting problems...or the water gets in the umbilical lines and ends up in the M915 transmission control group. That causes the transmission to grind and miss gears.

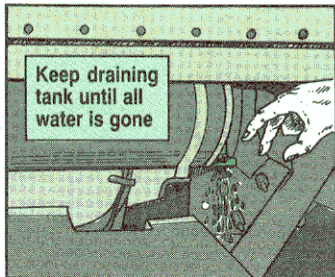
Draining the air tank just once may not get all the moisture out. To make sure the tank is dry, we drain it and then let the air pressure build back up and then drain it again. We keep doing that until no more water comes out the tank. Three times is usually enough.

When it's below freezing, we drain the air tank every day. Our freezing problems have melted away.

PFC David Poyneer  
SPC Luke Szelaka  
Camp Humphries, Korea



YOU  
CAN'T MAKE  
ME GO!



FROM THE DESK OF THE Editor 

Your suggestion should certainly drain away a lot of M915 starting problems in cold weather. Thanks.

CUCVs . . .

## Black Out Those Lights



OOPS!  
SORRY  
ABOUT  
THAT!

**A** blackout situation is no time for your CUCV's 4-wheel drive indicator light to give you away.

To keep the light from ruining your cover, tape over it or cut cardboard to fit into the dash recess.

Other engine warning lights can also be annoying, but they don't stay on after the engine starts. If your commander says OK, tape over them, too, during blackout operations.

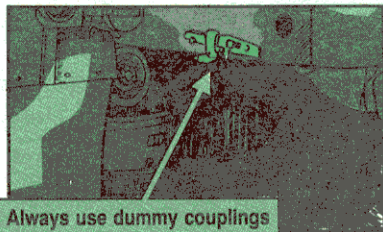




**A**fter you unhook the air lines from your truck, make sure all connectors and receptacles are protected by dummy couplings.

Without them, dirt and moisture have a clear shot at the lines that carry air to stop your vehicle. Grit can plug up a valve and moisture can rust it shut. Either way, you're brakeless.

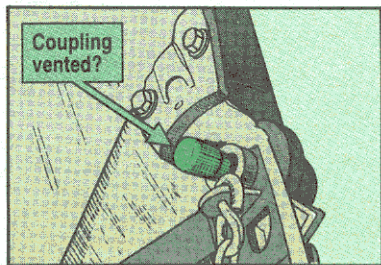
So, when the air lines come off, the couplings hanging near the truck's half couplings should go on. Hook the trailer's air lines to the dummy connectors on the trailer frame.



That protects all air lines and helps make sure you have brakes next time you need them.

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Make sure you use a vented dummy coupling, NSN 2530-00-740-9445, on the front service brake coupling of vehicles with air-hydraulic brake systems, like M39- and M809-series 5-ton trucks.



Without a vent, back pressure builds up in the air-hydraulic cylinder when you step on the brake pedal. The cylinder can't release air, so brakes lock up.

If you have a vented coupling, but brakes still lock up, make sure the vent is open. Blow into it. You should feel air coming through. If not, take it off and clean it. Let it dry completely before putting it back on.



Tires...

# Going the Right Way?

**T**he tires used on HEMTTs and M939A1/A2-series 5-ton trucks can be mounted any way you want — they're non-directional.

It may look like the tread needs to "point" one way or the other to get the best traction and mileage, but that's not the case.

Tests have shown that the tires last just as long and give equal mileage and performance any way you put 'em on the wheels.

The HEMTT -10 TM already notes that the tires are non-directional (Page 3-49, TM 9-2320-279-10-1). A similar note will be added to the 5-tonner's TMs and the HEMTT's -20 TM.

So, save all that time and effort (and damage that might be done). Leave the tires alone. They are "going" your way.



HEY! YOU'VE GOT THESE TIRE TREADS GOING DIFFERENT DIRECTIONS. IS THAT OK?

NO PROBLEM! THE TIRES ARE NON-DIRECTIONAL AND CAN BE MOUNTED EITHER WAY.

# Better Out Than In

Closed maintenance bay doors keep cold weather out, but they also keep dangerous exhaust fumes in.

When you have to run a vehicle in a closed building, use flexible exhaust extensions to run exhaust fumes outside.

Make sure you get a snug fit over the vehicle's exhaust pipe. That prevents leaks. Here is a list of flexible tubes to fit some common-size tailpipes:

Inside diameter	NSN 4720-00-
1 inch	174-4668
1 1/2 inches	278-8030
1 3/4 inches	278-8027
2 inches	278-8031
2 1/2 inches	174-6818
3 inches	174-4664
4 inches	174-4671

The unit of issue is feet, so order the length you need.



Engines ...

## Forget Ether Cans

ETHER IS AN ENGINE KILLER, SO DON'T USE IT!

AW, MAN!

Canned ether is a no-no for starting diesel and multifuel engines in cold weather!

Ether can crack pistons, bend rods and ruin heads.

Some engines have starting aids built right in, others don't. Whether yours does or not, never use ether.

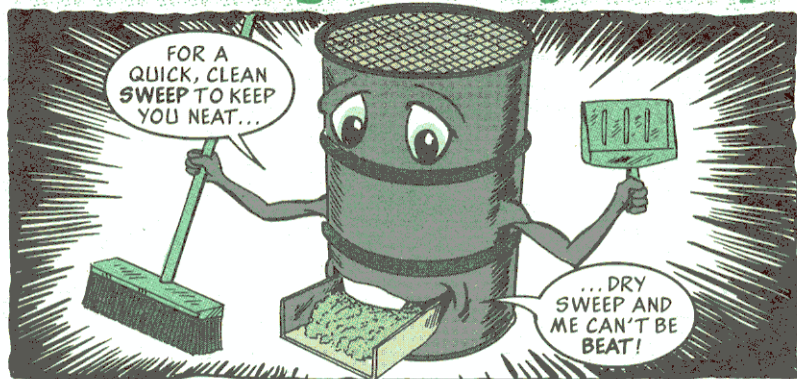
If the engine won't start after three tries, call in your mechanic.

DEC 95





# Drumming Out Dry Sweep



You've just had an oil spill in the motor pool. Do you know where your dry sweep is?

You do if you're SPC Shane Oakes of Ft Riley, KS. It's in the easy-dispensing barrel he made for his motor pool.

The barrel lets him re-use dry sweep that didn't touch oil. It also lets him get at the compound without a lot of muss and fuss.

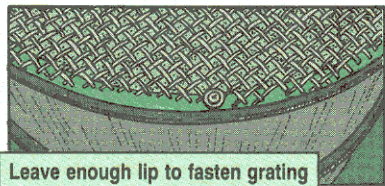
To build one like it, all you'll need is a used 55-gal drum, some grating, 1/8- or 1/4-in sheet metal, and some basic tools. A bolt cutter, cutting torch, welder, hack saw and a screwdriver will do for starters.

You have to cut an opening on the top of the barrel and another on the bottom for the dispensing trough.

Specifics of the plan are up to you, but here are a couple of tips:

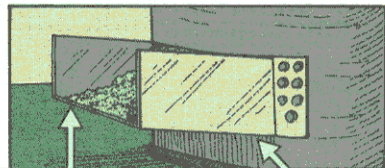
✓ Choose a grating size that lets you filter out as much trash, dirt and rocks as possible, while still being convenient.

✓ Leave enough room around the opening on top of the barrel (1/2 inch or so) to secure the grating.



Leave enough lip to fasten grating

✓ Make sure the front of the trough is higher than the back. This keeps the mess to a minimum around the barrel.



Make front higher...

...than back

Never put contaminated dry sweep in the barrel. You can also check with your installation environmental coordinator to see if the barrel needs special marking or handling.

Wire ...

# Keep Current Flowing

**M**echanics, here's a list of electrical wire NSNs that's sure to add spark to your job and keep current flowing in equipment you're using.

The unit of issue is by the foot except where noted. The NSNs are all in FSC 6145-.

Wire Size	Black	Red	White	Yellow
000	01-229-3617	none	none	none
00	01-229-3618	none	none	none
0	01-229-3619	none	none	none
2	01-229-3620	none	none	none
4	01-229-3621	none	none	none
6	01-229-3623	none	none	none
8	01-228-6267	01-230-1858	01-229-8299	01-230-1857
10	00-468-1261	01-020-1095	00-468-1260	01-231-1393
12	00-845-5957	00-845-5961	none	none
14	00-310-2598	00-310-2590	none	none
16	00-471-0428	00-889-8551	00-468-1259	01-229-9666
18	00-958-3655	01-169-0755	01-165-1430	01-169-0756
20	01-230-2520	01-230-2521	00-652-1441	00-652-9307 (500-ft spool)

Wire Size	Blue	Brown	Green	Orange
8	00-023-6765	01-231-5966	01-230-1859	none
10	01-229-4127	01-229-4128	none	none
12	00-845-5959	00-845-5956	none	01-230-1862
14	01-230-2517	none	none	01-165-5633
16	00-471-3951	00-471-0429	00-468-1256	01-230-2519
18	01-169-2868	01-169-0754	01-165-1429	none
20	01-230-2522	00-989-5845 (1,000-ft roll)	00-989-5843 (1,000-ft roll)	none

Before ordering, see your QSS or SSSC. They may already have a good assortment of wire on hand.



# Test It, Then Trust It



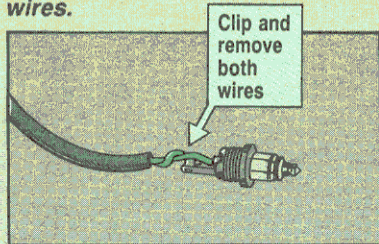
Dear Editor,

When you're out in the field in the cold Alaskan winter, it doesn't take long to appreciate how well the Swingfire heater can help start your vehicle.

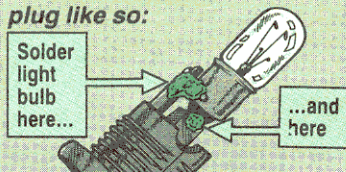
But no matter how well you care for the Swingfire, it won't work unless the vehicle's power receptacle works.

We've developed a little gadget to test the receptacle before we go to the field. Here's how to make it:

1. Remove the male electrical plug from an old Swingfire starting cable by unscrewing the black cap and clipping both wires.

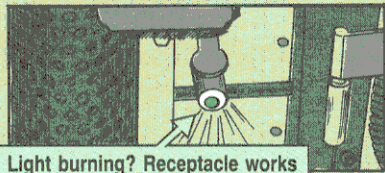


2. Solder a small light bulb, NSN 6240-00-001-9404, to the plug like so:



3. Screw the black cap back on the plug to protect the bulb.

To test the receptacle, just push in the plug. If the receptacle is working, the light will shine through the hole in the top of the cap.



SPC Jeremy Kilburn  
Ft Richardson, AK

FROM THE DESK OF THE Editor

You've shed some light on that problem! Thanks!



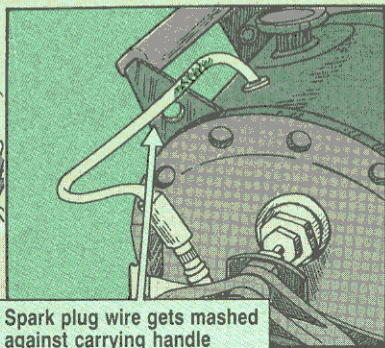
# Keep the Spark Alive

Operators, it's amazing how something as simple as a little wire can take the spark out of your Swingfire heater.

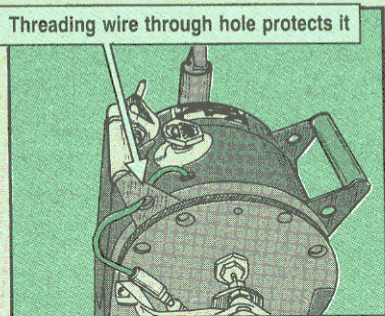
But that's exactly what happens when the spark plug wire is mashed against the carrying handle over and over again. Before long, the insulation wears through and the wire gets cut.

When that happens, you've got a snowball's chance of firing up that heater—a chilling proposition if you're in the field during sub-zero temperatures.

The next time that spark plug wire has to be replaced, make sure to tell your support to feed it through the hole in the carrying handle before attaching it to the spark plug connector. That'll keep the wire out of harm's way.



Spark plug wire gets mashed against carrying handle

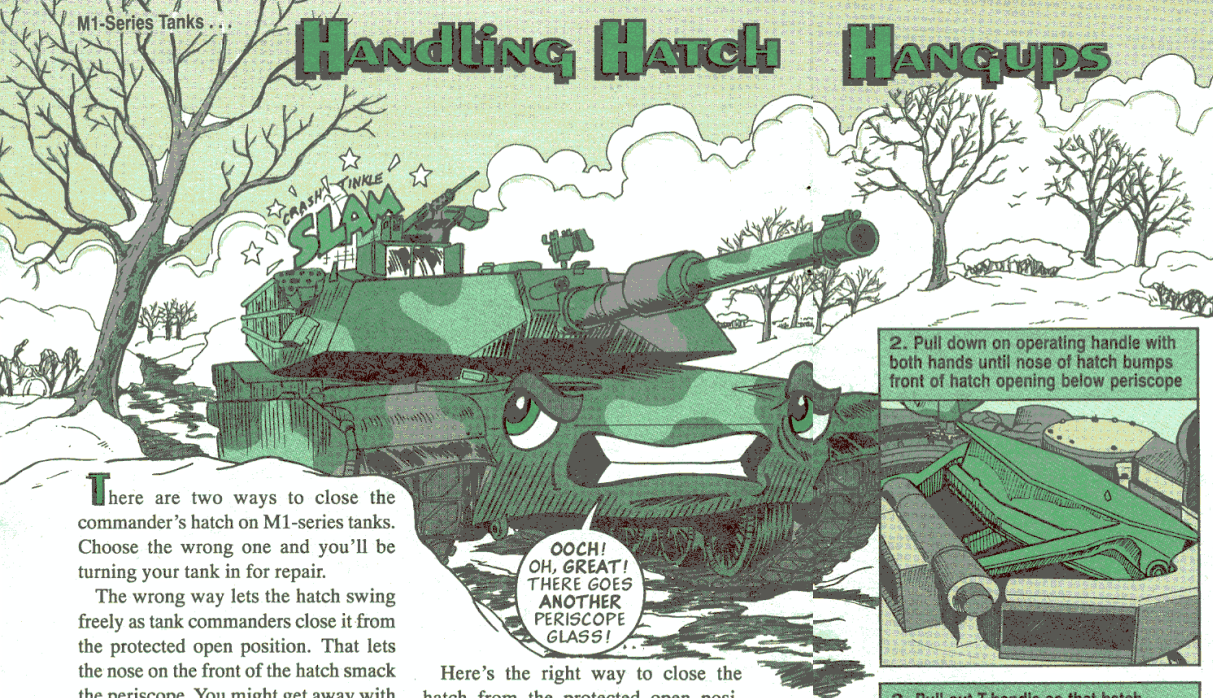


Threading wire through hole protects it



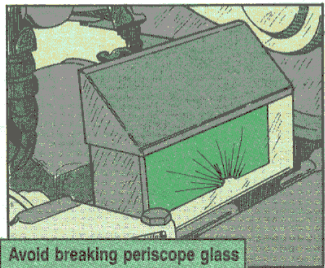


# HANDLING HATCH HANGUPS



There are two ways to close the commander's hatch on M1-series tanks. Choose the wrong one and you'll be turning your tank in for repair.

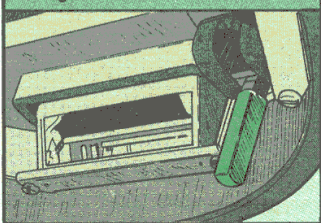
The wrong way lets the hatch swing freely as tank commanders close it from the protected open position. That lets the nose on the front of the hatch smack the periscope. You might get away with it once or twice, but eventually the glass cracks.



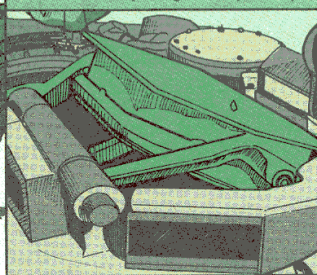
Avoid breaking periscope glass

Here's the right way to close the hatch from the protected open position:

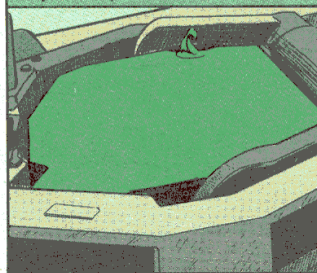
1. Hold operating handle with one hand and use other to unlock hatch by pulling locking lever



2. Pull down on operating handle with both hands until nose of hatch bumps front of hatch opening below periscope

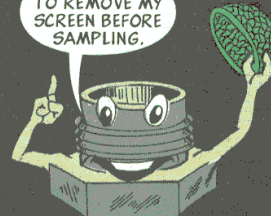


3. Pull out T-handle so that hatch swivels on its yoke. Pull straight down on operating handle to bring hatch to fully-closed position.



## Take Screen Out

TAKE TIME TO REMOVE MY SCREEN BEFORE SAMPLING.



To save time when taking an AOAP sample of the M1-series tank's hydraulic system, some soldiers punch a hole in the reservoir screen instead of removing it. When they do, small parts of the screen drop into the hydraulic system.

Those tiny particles can cause the hydraulics to lose pressure or quit working—or both.

The M1-series tank's hydraulic system is sampled only once a year. Before you take the oil sample, take out the hydraulic reservoir screen. You lose some time, but save a hydraulic system.

REMEMBER TO PUT MY SCREEN BACK ON!





# IGNORE COLOR CHANGES

Dear Half-Mast,

It seems like every week we have another Bradley come in with a discolored digital electronic control assembly (DECA) humidity indicator.

The PMCS tables in TMs 9-2350-284-10-2 and 9-2350-252-10-2 say we're supposed to change the indicator when that happens.

The other day, someone told me that replacing the indicators was no longer required. Can you give me the straight scoop?

SGT G.P.H.



LOOKS LIKE  
WE'VE GOT ANOTHER  
DECA HUMIDITY INDICATOR  
TO REPLACE, SERGEANT.

NOT ANOTHER  
ONE! THAT'S THE FIFTH  
ONE THIS MONTH!

Dear Sergeant G.P.H.,

Your source was right, according to the Bradley program manager. The DECA humidity indicators should be left in place regardless of their color.

Replace the indicators only when the glass is broken or cracked. When that happens, remove the old indicator and replace it with plug, NSN 6685-01-381-4893. That'll keep out dust and moisture. Make a note until your TM can be updated.

*Half-Mast*



# STAY IN CONTROL

It's just a matter of time, mechanics. Eventually, vibration is going to loosen those eight prop shaft screws on your Bradley or MLRS.

When that happens, the shafts can break loose. That leaves the driver with very little control over his vehicle—and you mechanics with a lot of expensive parts to replace.

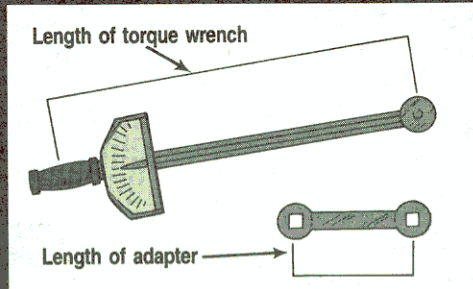
Make sure you check the torque on those screws during semiannual service. The correct torque is 86–94 lb-ft. Tighten once, loosen, then tighten again.

To torque the screws right, you'll have to use the 4-in torque wrench adapter called for in each TM. That means you'll need to convert the torque value before you start. The conversion keeps you from under- or over-torquing the screws.

The conversion formulas are the same for both the Bradley and MLRS:

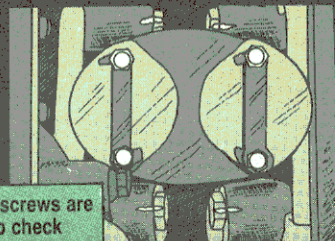
$$\text{Corrected reading} = \text{Required torque value} - \frac{\text{Torque wrench length} + \text{adapter length}}{\text{Torque wrench length}}$$

Remember, the length of the torque wrench is measured from the center of the handle to the center of the drive. The length of the adapter is measured from the center of the drive to the center of the wrench.



After you've torqued the screws properly, paint or scribe a mark on and beside the head of each screw. That makes it easier for crew members to see if the screws have moved when they do their weekly PMCS.

Marked screws are easier to check



WHAT A GREAT TIME TO DROP A PROP SHAFT!



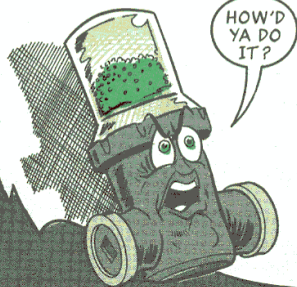
# Breathe Easy with



Dear Editor,

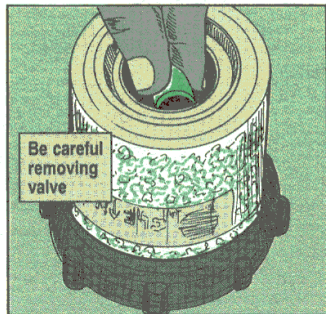
When the desiccant in your M109A4 howitzer's hygroscopic breather assembly turns from blue to pink, it's time for a new assembly, NSN 4330-01-287-4060. Unfortunately, that'll set you back more than \$240.

If you've got the clear, plastic breather assembly, though, we've come up with a way to fix it for a fraction of the cost of buying a new one.



Here's how we did it:

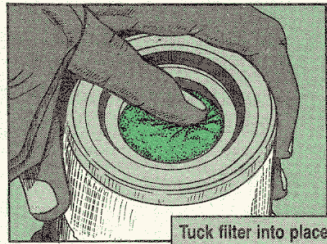
1. Remove the plastic portion of the breather assembly.
2. Take out the valve and filter located at the top of the breather assembly. Be especially careful with the valve. If it's damaged or stretched, you'll have to toss the whole assembly and order a new one.



# Breather Fix



5. Reinstall the filter and valve and reattach the breather assembly.



3. Pour out the old desiccant and wipe away any residual moisture with a clean dry rag.
4. Refill the assembly with new desiccant. NSN 6850-00-680-2233 brings you a 1 1/2-lb can. That's more than enough to fill one breather assembly.



Make sure you fill the assembly all the way to the top, though. Otherwise, you won't get an airtight seal.

PS 517



New desiccant makes assembly good as new

This fix costs less than \$6 and can be done over and over again.

SSG James T. Story  
Rock Island Arsenal, IL

FROM THE DESK OF THE Editor

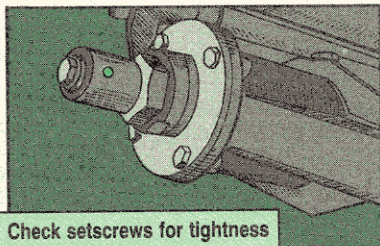
Your desiccant fix looks like a real winner. Just remember that there are two different types of breather assemblies. If yours isn't made of clear plastic, you'll have to buy a new assembly.



# A Wrenching Experience



**O**perators, before you check the OHT level in the M119A1's variable recoil mechanism, make sure the buffer rod adapter nut setscrews are in place and tight.



Check setscrews for tightness

If you try to loosen the filler plug with the adapter nut loose, the entire rod turns. That loosens the rod and starts an OHT leak.

A leak in the variable recoil mechanism makes your howitzer NMC. You'll have to send it—and a lot of your unit's maintenance dollars—to DS for repair.

All that can be avoided by eyeballing the adapter nut setscrews before loosening the filler plug. If they're loose, call in your mechanic to tighten them.



# Weighty Matters

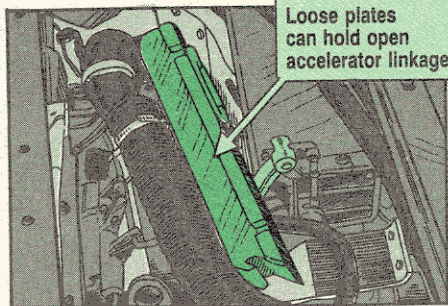
As heavy as those M88A1 engine grille plates are, you'd think they'd stay put. A lot of crewmen must think so, since they're leaving the plates unbolted during operation.

Unfortunately, the plates are light enough to bounce loose and fall onto the engine.

If you're lucky, only the engine is damaged. For an unlucky few, though, one of the plates will land on top of the accelerator linkage and hold it wide open.

Imagine your surprise as you let up on the gas and the vehicle doesn't slow down. Imagine your panic as you try to control several dozen tons of runaway vehicle.

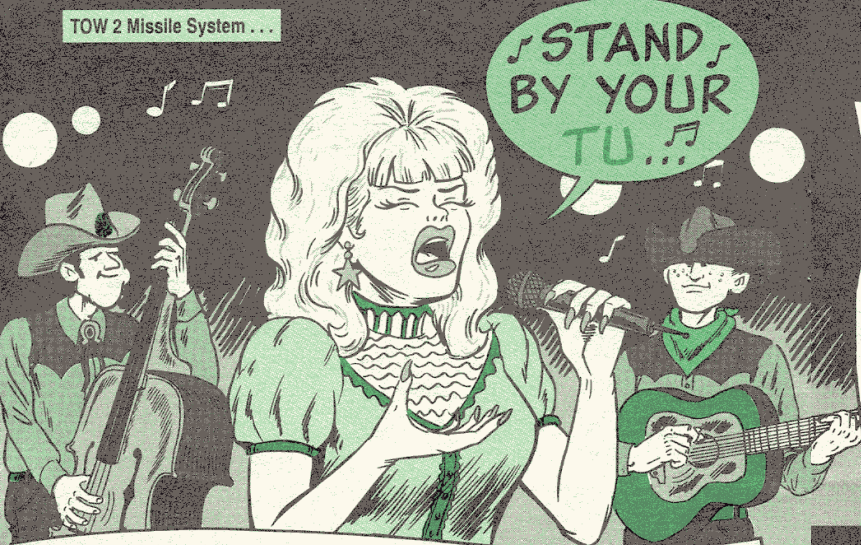
Take no shortcuts. Always bolt down the engine grille plates before operation.



FIREPOWER







Dear Editor,

MWO 9-1440-470-50-205 extended the cables farther out the bottom of the TOW 2's traversing unit (TU). Now you can't store the cables inside the TU, so they stick out where they can be crimped or stepped on. Replacing the cables can cost more than \$3,000.

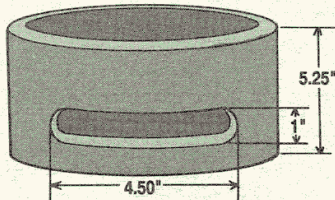
With the cables in the way, you can't store the TUs upright anymore, which means you need more storage space.

We solved all these problems by making a TU stand with schedule 40 8-in diameter PVC pipe. If your local directorates of

logistics (DOL) or public works (DPW) have none, you can get the pipe at a plumbing supply store.

Cut off a 5 $\frac{1}{4}$ -in piece of the pipe. For handholds, cut a 4 $\frac{1}{2}$ -in x 1-in slot on each side of the pipe.

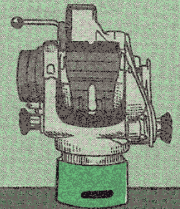
Cut it like this:



If you don't have the tools to do this, your support will. Then simply set the TU upright in the stand. The TU should fit snugly in the stand up to the TU outer lip. The cables are coiled safely inside the pipe. Use the handhold slots to pick up the TU.

SPC Stacy Stanfa  
SPC Donald McIntosh  
Watertown, NY

Set TU like this:



FROM THE DESK OF THE Editor

Your suggestion is one we will stand behind. The TU stand should save lots of expensive cables.

Patriot Missile System ...

## Check Before You Chuck

Patriot missile folks need to find out if modification work orders (MWO) have been done on their Patriot systems before they chuck their old TMs.

The newer Patriot TMs reflect the differences the MWOs made in operating the systems. But not all Patriot units have had their equipment modified. If these Patrioteers operate by the new TMs, their Patriots won't work. Until the MWOs are done, they must follow the procedures in the old TMs.

When you get new TMs, eyeball the NOTICE box on the front cover. It tells you which MWOs are part of the TM.

### NOTICE

This technical manual only supports systems which have MWO 9-1425-600-50-22 applied. Do not discard TM 9-1430-600-10-1 dated August 1993 until MWO 9-1425-600-50-22 has been applied to your system.

Next, check your Configuration Management Data Base tab, a menu that's part of the software for the Engagement Control System. It will tell you if your Patriot equipment has been modified yet.

If your equipment hasn't been modified, store the new TMs and continue to use the old ones until the MWOs are done.



# FOXY PM

A COMPLICATED, SOPHISTICATED SYSTEM LIKE THE FOX NEEDS ALL THE HELP IT CAN GET IF IT'S TO STAY ON THE TRAIL OF NBC THREATS.



SNIFF  
SNIFF

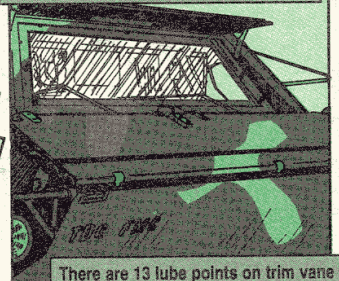
## Just Sitting Around

Foxes often sit for weeks. That allows corrosion and mildew and other problems to do their worst by the time the Foxes are ready to hit the trail again.

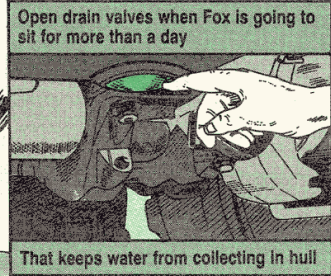
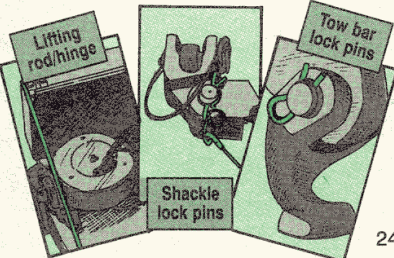
Lubing stops corrosion from seizing parts, especially parts not used much. Give these parts a regular shot of lube.

See LO 9-6665-376-12 for what lubes to use and how often to lube. Different parts take different lubes.

Lube trim vane hinges with PLS VV-L-800 oil at least every six months



There are 13 lube points on trim vane

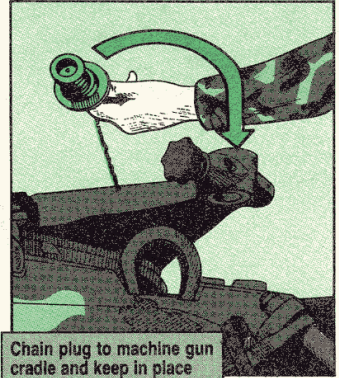


Open drain valves when Fox is going to sit for more than a day

That keeps water from collecting in hull

See the PMCS in TM 3-6665-342-10 for everything that needs to be done when the Fox sits.

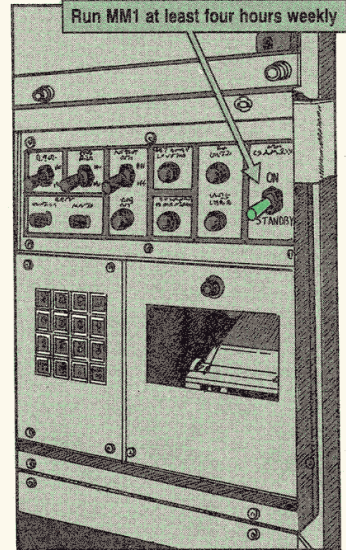
Plug the machine gun mount cradle. Without the plug, water corrodes the cradle. Soon you can't mount the mount. Keep the plug chained or wired to the cradle.



Chain plug to machine gun cradle and keep in place

If the plug has disappeared (as it often does), tie a garbage bag over the cradle to seal out water.

Also, weekly run the MM1 mobile mass spectrometer at least four hours. The more you run it, the better it operates. Without weekly operations, the MM1 may not work right when you need it.



Run MM1 at least four hours weekly

Drain the air tanks weekly to keep condensation from building up and freezing.

Do it like this:

1. Close sealing valve
2. Lock selector valve in SUMMER
3. Pull three drain valve rings
4. For winter operations, return selector valve to WINTER after tanks are drained.

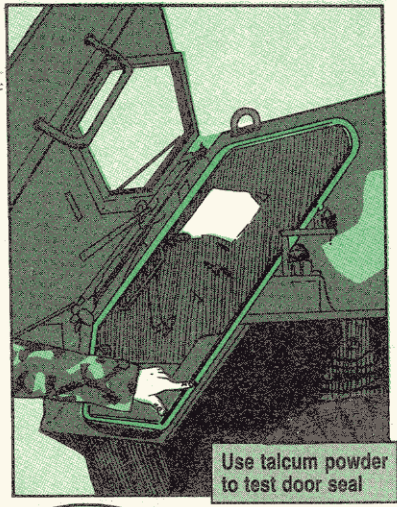
NBC



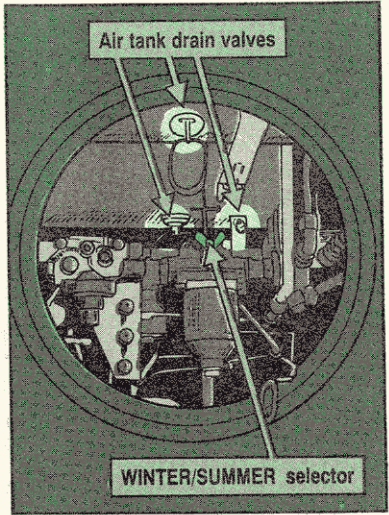


NEVER DRAIN THE TANKS WITH THE VALVE SET AT WINTER!

Weekly do the talcum powder test on door hatch cover seals to spot leaks that can let deadly chemical agent inside. Put powder on one side of each door hatch cover seal. Close the door hatch cover. A trace of powder should transfer to the corresponding part of the seal. If there are unpowdered gaps, the seal will leak and should be replaced.



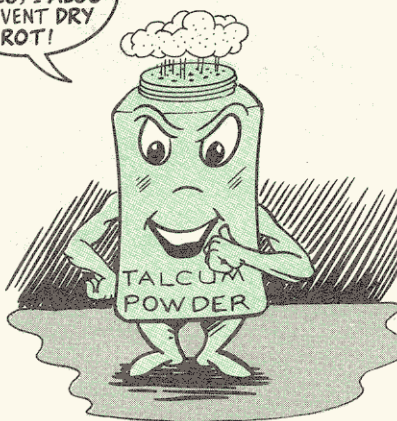
Use talcum powder to test door seal



Air tank drain valves

WINTER/SUMMER selector

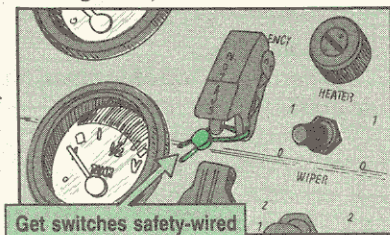
BESIDES SPOTTING BAD SEALS, I ALSO PREVENT DRY ROT!



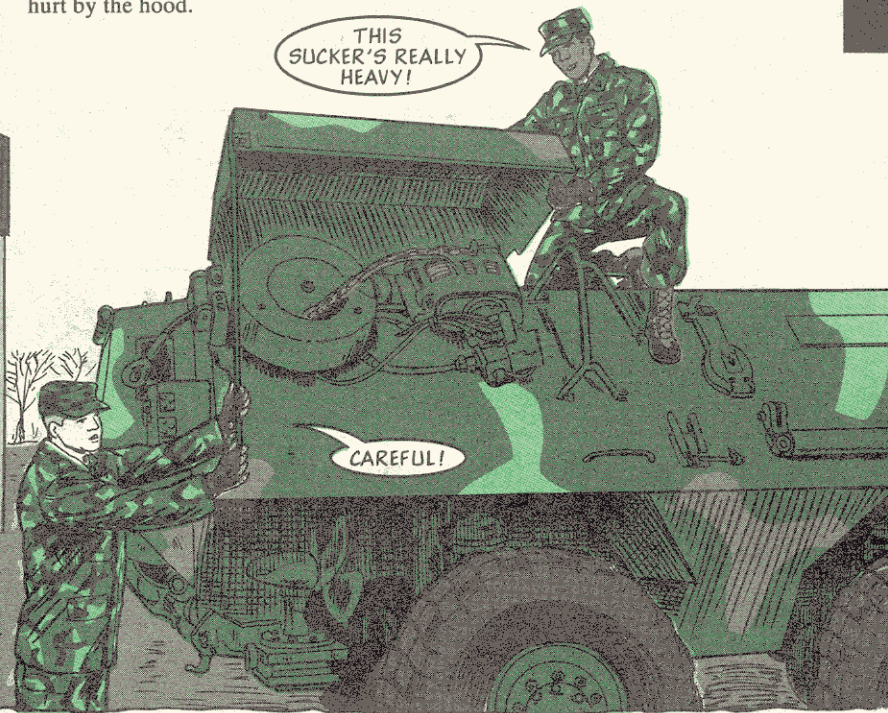
After your Fox has been sitting for several weeks, do all the PMCS in TM 3-6665-342-10 before you hit the road. Things like leaks may have developed in the meantime. You don't want to find you're low on oil after you're already on the road.

## Safety First

Eyeball the IR, SWIM/FREE and EMERGENCY STOP switches on the dashboard, the MANUAL OPERATIONS (fire extinguisher) switch at the rear of the driver's hatch, and the EMERGENCY STARTER switch on the engine compartment bulkhead. They should be safety-wired, but they usually aren't. If a switch like the EMERGENCY STOP is accidentally tripped, you stop when you didn't mean to stop.



Lifting the 70-lb winch hood is **always** a two-person job: one on top of the Fox, one on the ground. Trying to do it by yourself makes it a cinch you will be hurt by the hood.



Point the propellers so they face the rear wheels. That way the blades are less likely to hang up on shrubbery and people.



# Cause for Reflection

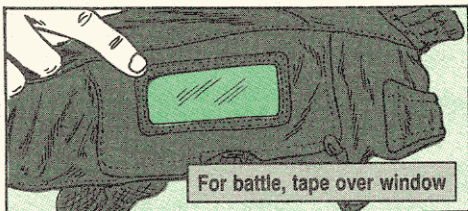
Dear Editor,


The carrier for the M40 mask has a plastic window that protects the mask's ID number.

The window shines in battle conditions. Light reflects off the plastic and tells the enemy "Hey, over here. Shoot me."

We put out that light with non-reflective tape. If you're going to be in combat conditions, tape over the window. When you return, your NBC NCO can just rip off the tape.

**SSG Tommy Mullins**  
Ft Benning, GA



FROM THE DESK OF THE *Editor* 

Your idea reflects well on you. Thanks. The new carriers that will soon be fielded do not have the windows.



GOTCHA!

## M43A1 Outlet Nut

If you find that putting on the M43A1 chemical alarm's air outlet filter is a hassle, order the snap-on adapter, NSN 4730-01-350-1584. Once the adapter's on, you no longer have to take off the air outlet nut to put on the outlet filter.

## Cheaper M42 Mask Cable

When you need M42 mask microphone cables, order new ones with NSN 5995-01-383-9891. This NSN will get you a cable almost \$10 cheaper than the one listed in the M42 parts manual.



# A LITTLE LIGHT HELP

MAN-OH-MAN!  
THERE HAS GOT TO  
BE A BETTER WAY  
TO DO THIS!



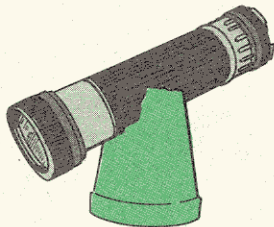
Dear Editor,

It's difficult for an NBC NCO to do PMCS on the IM-93A/UD radiac dosimeter by himself. You need three hands to shine a light in the IM-93A/UD window and charge and zero the dosimeter at the same time.

I gave myself an extra hand with a small styrofoam cup and an Army flashlight, NSN 6230-00-270-5418.

Cut off part of the cup and put the flashlight in the cup with the ON/OFF switch down. The switch holds the flashlight in place. It should look like this:

SGT David Sweet  
Ronkonkoma, NY



FROM THE DESK OF THE Editor

You certainly haven't hidden your light under a cup. Thanks.



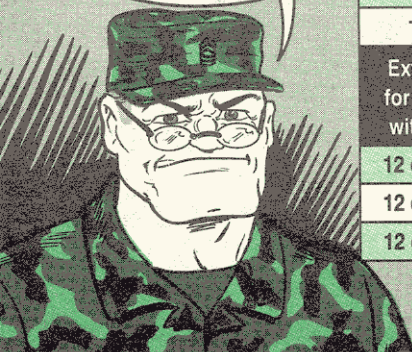
# Put Parts in a Drawer

If you need a container for storing small parts such as mask outserts, voicemitter covers, canteen caps, temple pins, and valve disks, put 'em in drawers.

Specialist Delontée Spencer at Ft Gordon has the parts situation in hand. He uses drawer insert units in his NBC room and labels each drawer with embossing tape to show what is in it.

This keeps small parts from getting scattered and lost. You can go right to the part you need.

HERE ARE SOME DRAWER INSERT UNITS THAT ARE AVAILABLE. YOU CAN BUY THE WHOLE UNIT WITH DRAWERS AND DIVIDERS INCLUDED. YOU'LL GET TWO DIVIDERS WITH EACH DRAWER, BUT MORE CAN BE ORDERED IF NEEDED.



## 18-drawer Insert Units

Insert Unit Depth	Color	NSN 7125-01-
12 inches	Dk gray	100-1313
18 inches	Dk gray	100-1314
12 inches	Dk green	100-1309
18 inches	Dk green	100-1310
12 inches	Lt green	097-2922
18 inches	Lt green	100-1339
Extra Dividers for Insert Units with Depth of:	Color	NSN 7125-01-
12 or 18 inches	Dk gray	100-1320
12 or 18 inches	Dk green	100-1318
12 or 18 inches	Lt green	097-2923

## 24-drawer Insert Units

Insert Unit Depth	Color	NSN 7125-01-100-
12 inches	Dk gray	1315
18 inches	Dk gray	1316
12 inches	Dk green	1311
18 inches	Dk green	1312
12 inches	Lt green	1340
18 inches	Lt green	1308
Extra Dividers for Insert Units with Depth of:	Color	NSN 7125-01-100-
12 or 18 inches	Dk gray	1321
12 or 18 inches	Dk green	1319
12 or 18 inches	Lt green	1317

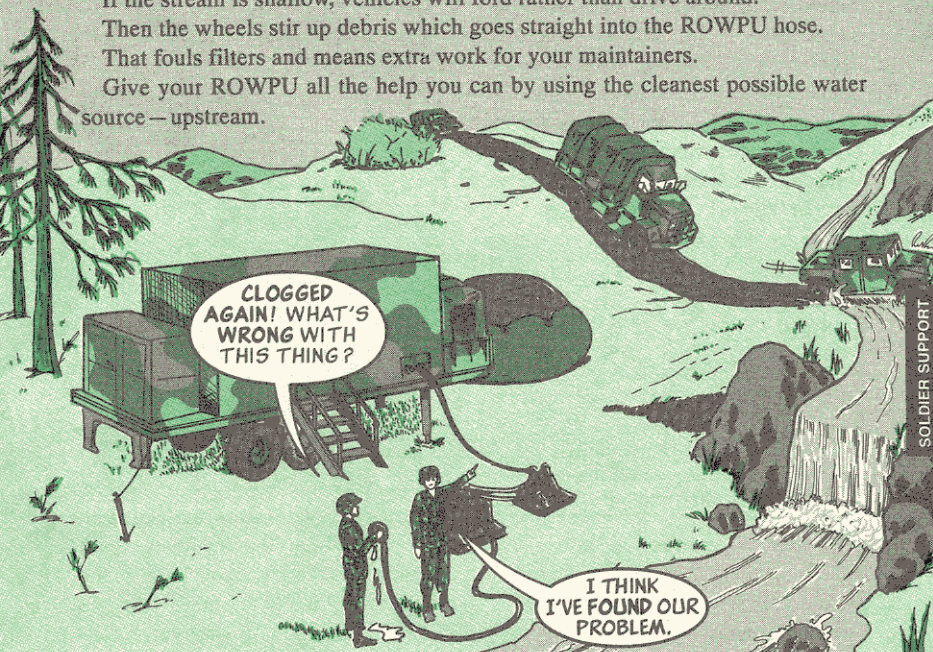


# Stay Upstream

**W**hen you use a stream for your ROWPU's water source, make sure you put the suction hose upstream from any vehicle crossing.

If the stream is shallow, vehicles will ford rather than drive around. Then the wheels stir up debris which goes straight into the ROWPU hose. That fouls filters and means extra work for your maintainers.

Give your ROWPU all the help you can by using the cleanest possible water source — upstream.



I THINK I'VE FOUND OUR PROBLEM.

## Ground It Right

**Y**ou need at least eight feet of ground rod to ground your reverse osmosis water purification unit (ROWPU). So always use three 3-ft sections of rod.

If you don't have a ground rod, voltage can knock you out, burn or even kill you. Voltage is silent, invisible and deadly.

If the rod is difficult to drive, you can soak the ground around it with water and drive the rod into the ground.

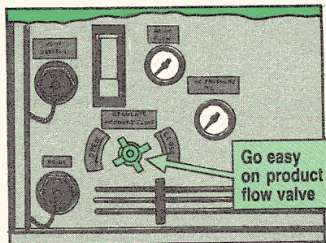
If you still can't drive the ground rod in because of rock or frozen soil, or you can't get eight feet of the rod into the ground, you may have to use a grounding pipe or plate instead.

FM 20-31 has complete grounding instructions.

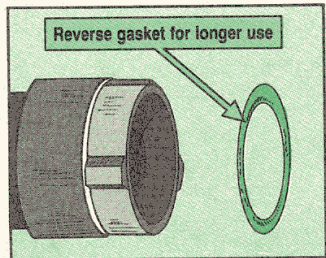


Here are some important things to remember when you move or operate the 600-GPH ROWPU:

During travel, the product flow valve should be in the open, not closed, position. Also, it shouldn't be tightened. Tightening it in either position could damage the valve, because it could corrode in position. Then it takes excessive force to move the valve. The threads could be damaged or the valve stem broken off.



If your water suction hoses are quickly getting a "set" or groove in the gaskets, they are too tight. Tighten them just enough to hold a seal.



Reverse the gaskets between uses to keep the seals from getting grooved.

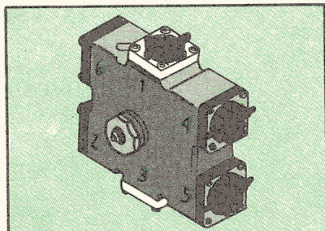
# Tips for Transport and Use



OH, NO!  
I FORGOT TO  
MARK THE TUBES  
FOR THE 6-WAY  
VALVE!

BUT, IF THE  
VALVE CONNECTIONS  
ARE WRONG, THE BACKWASH  
CYCLES WILL BE OUT  
OF TIME!

The 6-way valves are molded with numbers on them. When you take apart the valve, make sure you look at the numbers and mark the tubes with the same number as the 6-way valve connection. If you don't, you'll put your valve back together the wrong way.



Six-way valve has numbers 1-6 on it

The timer has six tubes connected to it from the 6-way valve, two from the multimedia backwash piping. Mark these in the same manner. If the timer or the valve connections are wrong, the backwash cycles will be out of time. Then you can't backwash the multimedia filter, and your mission will fail.

In fact, always tag, mark or identify every wire, hose, tube or line in a manner so that YOU can put your ROWPU back together the same way you took it apart.

Never bypass or override the timer during operations. The backwash cycle on the 600-GPH ROWPU cannot be controlled manually, and bypassing the timer could damage it. Worse yet, it is dangerous! If you touch the capacitor or any other "hot" part of the electrical timer, you could be seriously injured.

Always allow the backwash cycle to complete itself naturally once it begins. Reset the switches BEFORE backwashing only if the timer is not functioning, but make no other changes.



# Pack 'er Up Carefully

WHEN IT'S TIME TO GO HOME AFTER A GOOD WATER PURIFICATION JOB, COMPLETE THE JOB WITH A GOOD LOADOUT.

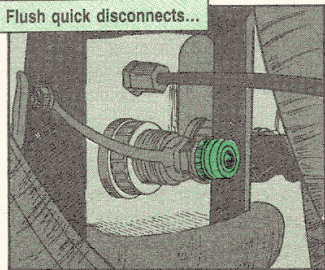


- TM 10-4610-239-10 has the load plan for the ROWPU, NSN 4610-01-234-2196, but here are a few extras to remember:

Before you load, flush out the chemical line quick-disconnects with fresh water to avoid oxidizing. Hold the lube, though, because that could contaminate the product water.

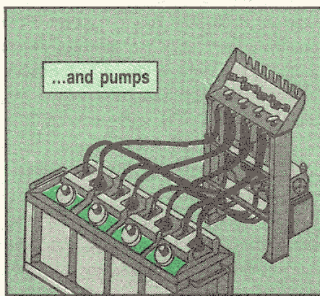
- Flush out chemical feed pumps in the field, too, so sediment doesn't clog them while the ROWPU sits in the motor pool.

Flush quick disconnects...



PS 517

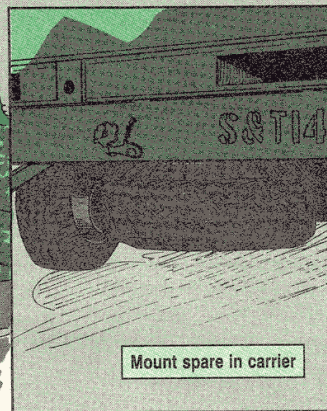
...and pumps



42

DEC 95

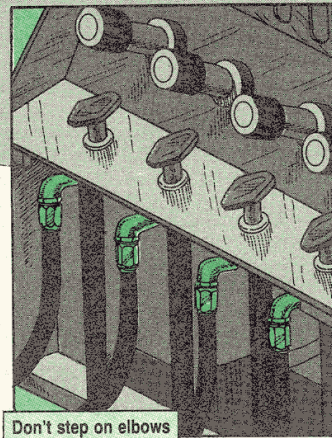
- The spare tire for the trailer goes in its carrier under the rear of the trailer—not tossed inside the ROWPU itself. Toss the spare inside and you might break off the sight glass and breathers.



Mount spare in carrier

- To make room for all parts and avoid damage to the ROWPU, store everything in layers for travel. For the top layer, put rolled-up suction hoses on top of two folded water bladders.

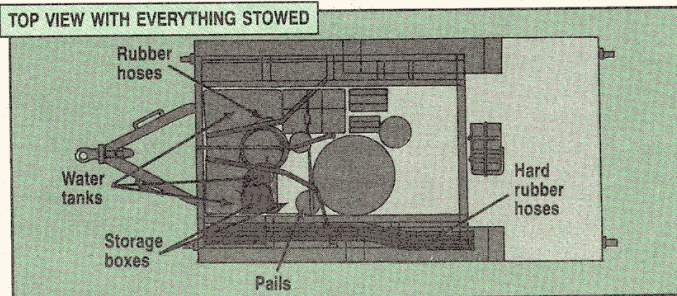
- While you're standing on the trailer, don't step on the elbows on the chemical feed housing assembly or pull on the plastic lines—the elbows will snap!



Don't step on elbows

SOLDIER SUPPORT

TOP VIEW WITH EVERYTHING STOWED



PS 517

43

PS MORE



Between the bladders, store the sledge hammer and collapsed telescopic aluminum paddle.

Next to the tanks, stack the plastic chemical pails.

On the same side of the ROWPU as the pails, the two storage boxes should be fastened with a strap under the tanks. If the boxes aren't strapped down, they can shift and damage the ROWPU during travel.

There are only two storage boxes, but they are labeled Storage Box 2 and Storage Box 3. They hold chemicals, tools and installation items. Appendix B of TM 10-4610-239-10 has the load plans for the two boxes.

The bottom layer of storage space is where the two raw water pumps and backwash pump are stowed. Cover the pumps with canvas and strap them down.

On the back of the ROWPU, next to the generator, strap the distribution pump down with the portable step.

Store the raw water float in the center of the ROWPU next to the two NBC cylinders.

Stow the rolled-up discharge hoses on the right side. If they're just tossed in, the hoses will break breathers, connectors and sight glasses, too.






# Helpful Hood Hints

In cold weather, about 80 percent of the body's total heat loss is from the head. A well-maintained extended cold-weather hood cuts body heat loss drastically.

Preserve your hood's warm embrace with these PM tips:

- ✦ Brush frost and snow off the fur ruff often. Wet fur gets matted and prickly.
- ✦ Keep the fur clean. Oil, grease and dirt can irritate your skin and keep the fur from doing its job.
- ✦ Never machine wash or machine dry your hood. That will damage it. Handwash the hood in lukewarm water using a mild detergent.
- ✦ Rinse the hood in clean water, shake out the excess and hang it up to air-dry.
- ✦ Brush the ruff often — particularly after washing — to keep it soft and fluffy.



LOOKS LIKE YOU HAVEN'T BEEN TAKING VERY GOOD CARE OF YOUR HOOD!

N-N...H-NN...N-N-N...N

SOLDIER SUPPORT



# Always Be Prepared

Operating and maintaining your equipment in extremely cold weather can be dangerous if you're not prepared. The best defense against cold weather injuries is your extended cold-weather protective clothing.

It is designed to trap warm, dry air between your body and the harsh environment. The idea is to keep you from losing body heat—to prevent cold injury—without making you too warm.

★ Wear several layers of clothing. That way, if you get warm enough to perspire, you can take off the extra layers.

If the clothes next to your skin get wet from perspiration, they can't trap air. You'll chill in a hurry, especially if the wind's blowing.

★ Even though the gear's water-repellent, brush off any snow and ice before you enter a warm shelter.

IT TAKES GOOD PM TO KEEP YOU SNUG. FOLLOW THESE POINTERS...

Exterior moisture acts as a barrier that keeps your clothing from breathing.

★ Keep the clothing clean. Dirt and grease cut out air space, reduce insulation and keep your clothing from breathing. Brushing your clothing while you wear it helps keep it clean.

★ Make sure your clothing fits loosely. It's designed so you can leave some parts open—such as the neck, cuffs and underarm vents—to let cold air in if you get too warm.

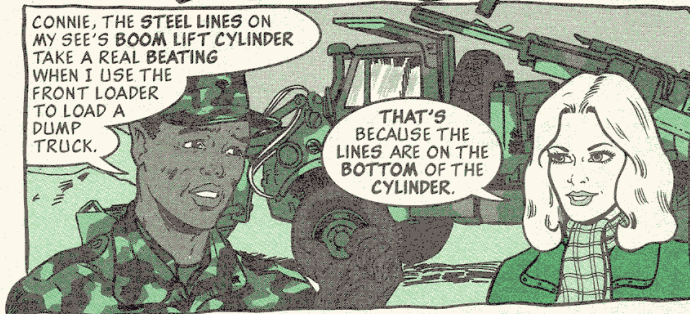
★ Read up on your protective clothing in Section II of Chapter 2 of FM 31-70, Basic Cold Weather Manual. Care and repair instructions for some of the gear, including the extended cold-weather hood and parka and the cold-weather coat, are in TM 10-8400-201-23, General Repair Procedures for Clothing and Individual Equipment.

CUBES! I BLEW IT WITH MY ECWCS PM.

SOLDIER SUPPORT

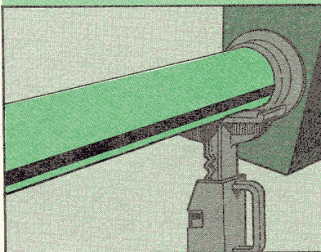


# Boom Cylinder



1. Park SEE on a hard, level surface
2. Raise bucket about 30 inches and set jack stand at inside of each side of the lower boom crossmember

3. Lower crossmember onto jack stands

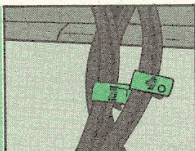


4. As bucket slowly uncurls, keep an eye on the jacks. You want crossmember to rest safely on both stands

5. Shut down engine

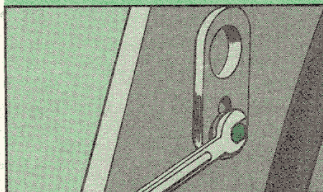
6. Relieve pressure on hoses using control levers in cab for boom and bucket cylinders

7. Take off clamps holding four hydraulic hoses between left and right loader booms

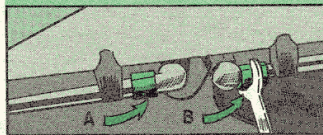


# Turnover

8. Remove the retaining bolt on the left boom lift cylinder (not the rod end) which holds the cylinder pivot pin.

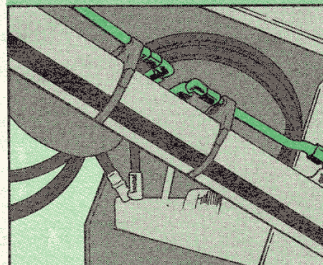


9. Loosen A and B port swivel nuts at 90° elbows (steel line end). Just loosen—don't take 'em off!



10. Hold cylinder while your buddy pulls out cylinder pin

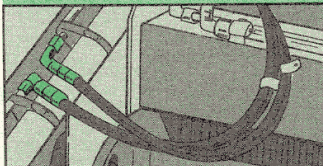
11. Rotate cylinder 180° until steel lines are on top



12. Put cylinder retaining pin back in

13. Put in retaining bolt.

14. Tighten two elbow fittings. Make sure elbows are equally spaced between lower part of boom and boom lift cylinder.



15. Make sure the hoses are not kinked or interfering with the boom.

16. Tighten down the hose clamps.

THEN JUST DO STEPS 8 THROUGH 16 FOR THE OTHER CYLINDER.

ALL THAT'S LEFT IS TO START THE ENGINE AND CHECK FOR HYDRAULIC LEAKS.





# KEEP OFF EXHAUST HOSE



**M**echanics, stay off the exhaust hose inside the ACE's engine compartment.

Sure, the hose looks like a convenient footrest while you're working on the engine, but your weight breaks the exhaust clamps.

A busted clamp means the exhaust gas can vent directly onto the batteries — not good. It also lets exhaust into the operator's compartment. That's definitely not good.

eyeball the exhaust clamps. See a loose clamp? Snug up the hose and tighten the clamp. Replace a broken clamp with NSN 5340-01-183-6863.





# PAINT CIRCLES AND DRIVE SAFER

Sometimes it's hard to judge the distance between an obstacle and the forks on the HMMH's forklift.

With the stroke of a brush you can make driving a little safer.

There's a 4-in recessed circle at the end of each fork. Paint these circles with red or yellow enamel paint. The painted circles become visual reminders of where the forklift ends. No more accidental bumps.

Order a 1-qt can of red CARC paint with NSN 8010-01-144-9884 or yellow CARC paint with NSN 8010-01-247-8885.



D7, D8 Dozers . . .

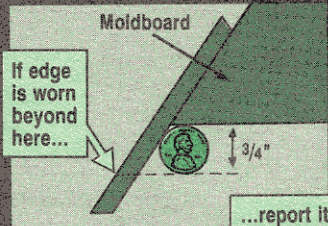
## Keep the Edge

Your dozer blade's cutting edge protects the moldboard. If the edge wears down too far, the blade is damaged, which means replacement or DS repair.

Eyeball the cutting edge before starting the day's operation.

If the edge is worn to less than  $\frac{3}{4}$  inch below the moldboard—about the height of a penny standing on its edge—report it.

Your mechanic may be able to reverse the edge—or replace it if it can't be reversed.



-GURGI GRUNT! - I MUST BE LOSING MY EDGE!

CONSTRUCTION



# PM for Happy Landings

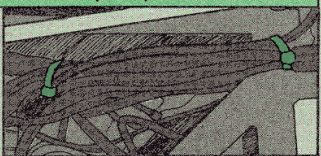
Operators, your AN/TSQ-71B landing control central directs aircraft in a tactical setting. But you're the one who directs preventive maintenance. Here are a few PM suggestions for a happy landing:

## Tie Me Down

The S-318 shelter has cables coming out of everywhere ... cables for data control, pulse, video, remote control, speaker and antenna. A tangle of cables can get in your way and trip you up.

Keep 'em organized and under control with electrical tiedown straps.

### Tiedown straps keep cables under control



Here are some of the strap lengths available:

NSN 5975-00-	Size (inches)	Qty
727-5153	3	100
074-2072	6 1/2	100
570-9598	10 1/2	100
156-3253	13 1/2	100

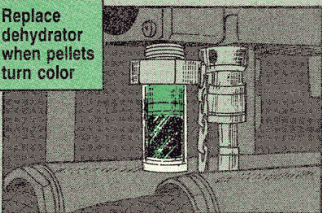
## Try to Stay Dry

If possible, keep your system powered up 24 hours a day. That prevents condensation from forming as equipment repeatedly heats up and cools down.

Condensation usually builds up in the AN/TPN-18A radar set's receiver-transmitter (RT) and antenna waveguides. In the RT, moisture decreases resistance, which leads to arcing and burned out components. In the waveguides, moisture cuts down the range of radar transmission and reception.

During weekly PMCS, look at the dehydrator cartridges on the waveguides. If the desiccant pellets are grayish-blue, the dehydrator is still able to soak up moisture in the waveguides. When the pellets show no trace of blue, or if they turn pink, the dehydrator has become moist and no longer has drying power. Ask Direct Support to replace it with NSN 4440-01-093-2831.

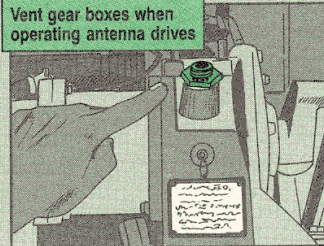
### Replace dehydrator when pellets turn color



## When to Vent

When you operate the elevation and azimuth antenna drives, make sure you vent the gear boxes. If you don't, pressure inside will force an oil leak or blow out the lower seal.

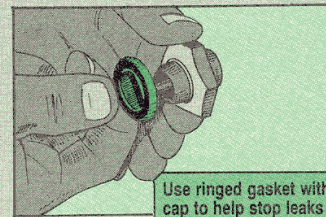
### Vent gear boxes when operating antenna drives



Venting a gear box is simply a matter of screwing in the cap with the side that says VENT facing you. That way, you equalize pressure inside the box.

When you transport the antenna drives, make sure gear boxes are fully sealed or they'll leak oil. To seal a box, flip the cap over and screw it in with the red side (the non-vent side) facing you.

Whether you vent or seal the gear box, always use the ringed gasket along with the cap to help stop leaks.



### Use ringed gasket with cap to help stop leaks





## Of Caps and Straps

The plastic strap holding the dust cap over the contact of the SINCGARS AS-3900 antenna base gets a real workout. Off comes the cap when you connect the antenna elements. Back on it goes when you remove the elements.

On and off, on and off. The strap starts to wear. Sooner or later it breaks and you lose the cap. In cold weather the plastic turns brittle and breaks sooner, not later.

Keep that dust cap on a tight rein. Make a lanyard for the cap with a 10-in nylon cord, NSN 4020-00-262-2019. Here's how:

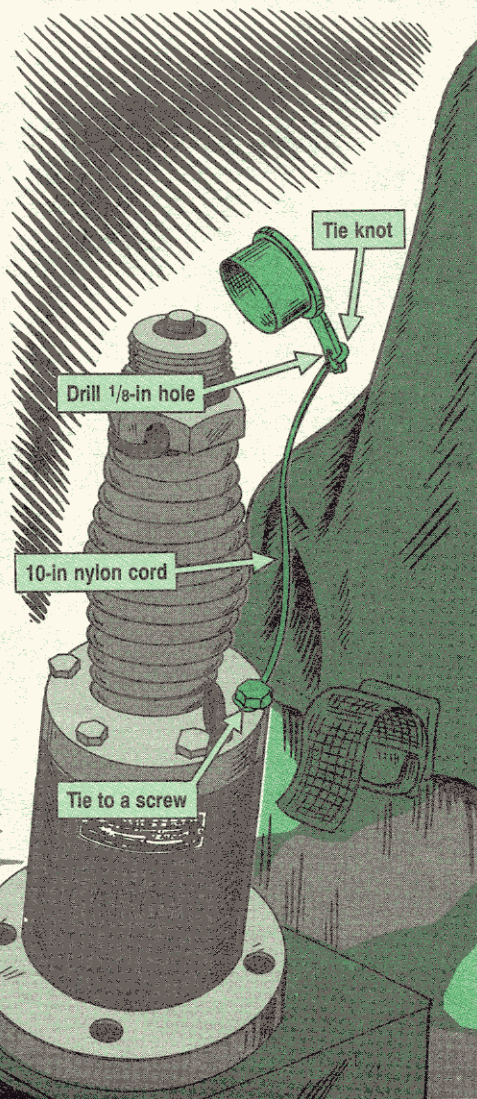
Drill a 1/8-in diameter hole through the top of the strap near the cap.

Run one end of the cord through the hole and knot it.

Tie the other end to the screw on the base.

Melt the ends of both knots with a match or lighter, then mash them flat with a knife blade or the tip of a screwdriver. That keeps the cord from fraying and slipping back through the hole.

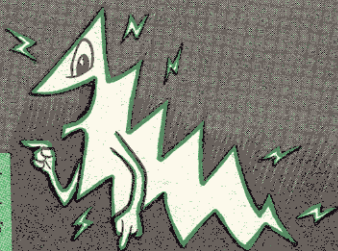
You can also make the lanyard with 550 cord, NSN 4020-00-246-0688, that's usually available at SSSC. Just pull out the center strands before you knot the cord. That makes the cord more flexible and easier to knot.





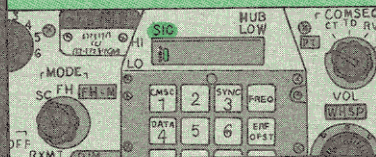
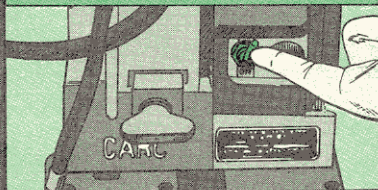
# GOING NOWHERE?

HERE'S HOW TO MAKE SURE THE SIGNAL FROM YOUR SINGGARS AN/VRC-92 GETS WHERE IT'S GOING.



Turn on the second power amplifier—the one for receiver-transmitter (RT) B. Regardless of the RF power setting on RT B, the second power amp must be ON or the signal won't be transmitted. It'll simply go from RT B to the power amp and stop.

And don't be fooled by the SIG display on the RT. It may show the RT putting out a strong signal, but if the amp is off, your signal's going nowhere.

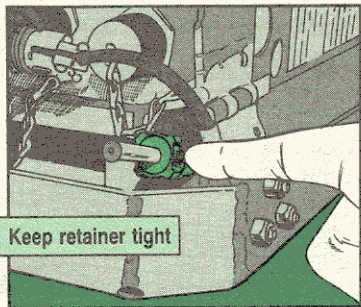


## Mobile Subscriber Equipment . . .

### Please Be Seated

Operators, your mobile subscriber equipment's RT-1539 receiver-transmitter may take several days to fully seat in the vehicular mounting tray after it's installed. That's because the RT is housed in a heavy steel case, while the mounting tray is aluminum and relatively lightweight.

During the time the RT is settling, it may loosen in the mounting tray. A loose RT can break the tray's rear retainer pins. So, for the first few days after it's put in, check the RT to see if it's loose. If it is, turn the front retainers clockwise to tighten up the RT. Once the RT's fully seated, you'll need to tighten the front retainers only once in a while.





# Where to Go if You Wanna Know

The J-3714/G interconnecting box is still alive and operating in Army vehicles. Its TM, however, has met an untimely death.

TM 11-5820-862-13&P is obsolete and there's no plan to replace it. So where do you go for current maintenance information?

Take a look at TB 43-0001-39-4, the Tank-automotive and Armaments Command (TACOM) Equipment Im-

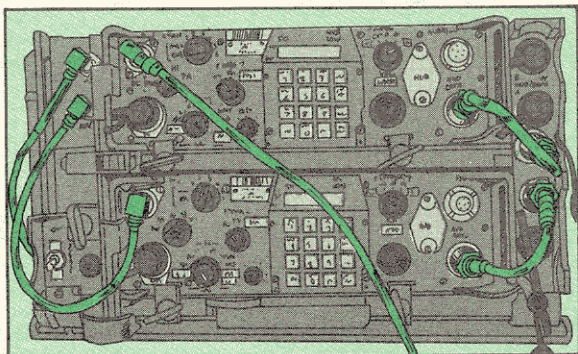
provement Report and Maintenance Digest (Mar 95). Starting on Page 3-36, you'll find the following unit maintenance info:

- PMCS
- Visual inspection
- Troubleshooting
- J-3714/G replacement procedures
- Operational test
- Functioning of equipment
- Schematic diagram



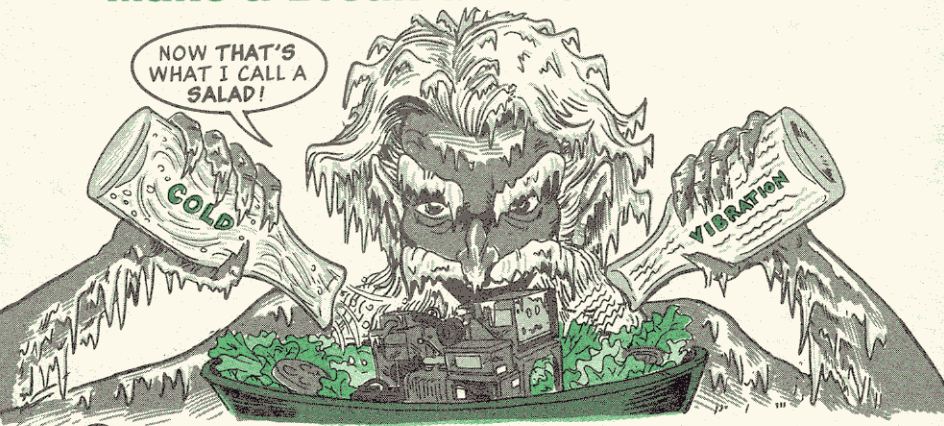
## SINGARS Correction

Pages 36 and 37 of PS 511 show a SINGARS radio in a short range/ long range configuration. The cable connections in the drawing are wrong. Here's where the cables should be connected:





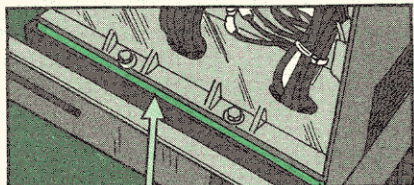
## Make a Break with Cold Shakes



**C**old and vibration are like oil and vinegar—they just don't mix well. That's especially true for your 5- and 10-KW DED generators.

Below-zero temperatures make the plastic current transformers brittle. Vibration from the generator causes the transformers to crack. A crack lets in moisture that can short out the generator.

Cut that damage short by cutting down a piece of old rubber inner tube to fit the bottom of the AC distributor box. The makeshift cushion keeps the transformers from cracking. Get your CO's OK first, then get your support to do it.



Homemade rubber gasket protects transformers

RT-524 Receiver-Transmitter . . .

## Come In From The COLD

**T**hose bitter cold winters will give you the cold shoulder when it comes to keeping your RT-524 tuned properly.

Intense cold makes the oscillator contract, and that changes the frequency. The RT's OK after it warms up for an hour or so, but in the wrong situation that could be an hour too late.

A little warmth will head off that problem. At the end of the day, unplug the RT from its brackets and keep it in the tent with you. The next morning, you'll be ready to communicate.



# The COLDen Rules

If your feet are freezing at the very thought of doing maintenance on frozen flight-line birds, here are some rules to make your job easier.

**Rule One:** Dress like a five-minute maintenance job is going to take an hour. Bundle up and wear gloves. If you don't. . .if you dress like you're going to your porch to get the newspaper. . .you'll rush the job, pull poor PM and risk exposure illnesses. Sure, winter clothing is bulky. So allow more time to do the job and take your time while doing it.

**Rule Two:** Cover your bird. If your bird is covered, you've won half the cold weather battle. If you can't cover your aircraft, follow the ice and snow clearing tips on page 48 of PS 516.

**Rule Three:** For a long maintenance job, rig a shelter around the aircraft. Make one that will work for you. Some units use cargo parachute canopies. Others use various kinds of canvas and tentage.

Warm the enclosed area and the aircraft with a ground heater. Preheating a cold-soaked bird brings tortured metal and seals back to reliable shape. Preheating also gets lubricants and hydraulic fluids warmed. That reduces the strain on engines and transmissions.

Keep a fire extinguisher handy when you're using the ground heater and keep the heater away from fuel and oil drains, vents and supply tanks.

**Rule Four:** Resist the urge to use shortcuts. If the cold is too intense, break your maintenance task into small chunks or use the buddy system where one mechanic warms while the other works.

**Rule Five:** Grounding your bird is critical. The colder the weather, the drier the air; the drier the air, the more static electricity generated.





# Cover Up in The Cold

WHEN WINTER WEATHER THREATENS, USE PROTECTIVE COVERS ON AIRCRAFT PARKED OUTDOORS.



If you can't protect the whole aircraft, at least cover the engine inlet and exhaust and pitot tubes.



Cover inlet, exhaust...



...and pitot tube

Put all covers on when the aircraft is dry or the covers will freeze in place. If you move an aircraft outside from the hangar, cover it before you park it.

If a cover is frozen on your bird, loosen an edge and use heat from a ground heater to melt it loose.

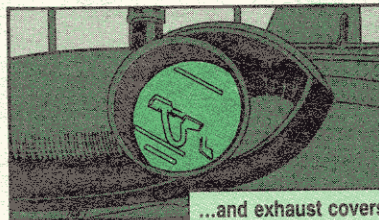
Check areas not protected by covers extra close during daily inspections. Make sure freezing rain or blowing snow hasn't seeped into vital linkage and frozen up the works.

Even though you've covered your aircraft, check it out after it has sat through a snow or sleet storm. Look for ice in the engine inlet. Ice there will give you FOD problems.



Check for ice behind inlet covers...

Take the engine inlet plugs and exhaust covers off and check for ice. If you find any, carefully remove it and thaw the engine with hot air, like your TM says.



...and exhaust covers



# It's Long John Weather

**N**eed something under that flight suit to give you a little more cold-weather protection? Order flyer's nomex drawers and flyer's nomex undershirts.

Here are the drawers sizes and NSNs:

Size	NSN 8415-00-467-
Small	4075
Medium	4076
Large	4078
Extra large	4100

Here are the undershirt sizes and NSNs:

Size	NSN 8415-00-485-
Small	6547
Medium	6548
Large	6680
Extra large	6681

Order all garments from S9T on a DD Form 1348-6. NSNs are not on the AMDF, so note that in the REMARKS block on the form.

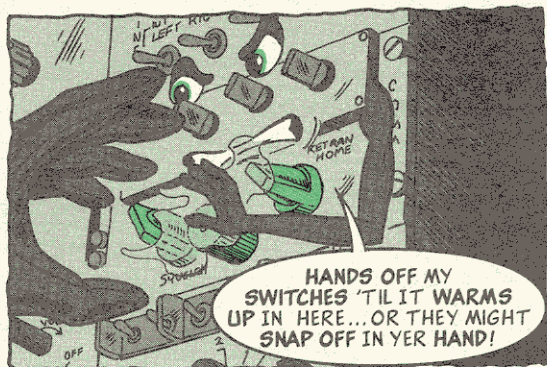


# A REAL COLD SNAP

**P**ilots, when it's bitterly cold outside, a little warm PM can make all the difference for your aircraft's radio.

Severe cold makes the plastic shafts on the radio knobs brittle. Try adjusting the radio frequency as soon as you get inside and—SNAP!—off come the knobs in your hand.

Before changing the radio frequency, turn on the cockpit heater while you're letting the helicopter engine warm up. That'll warm up those knobs and protect them from a cold snap.



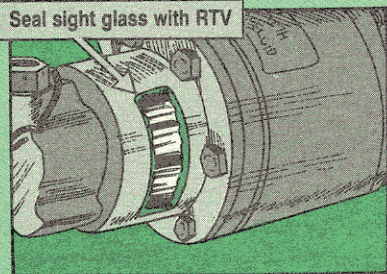
UH-1...

## Stop Cold Weather Leak

**C**old weather causes most material to contract. And the colder it gets, the more the material contracts.

This certainly holds true with the main rotor damper assembly on your UH-1 Huey.

When the temperature really drops—like below 0°F—the assembly's hydraulic fluid sight glass contracts. When it shrinks enough, hydraulic fluid seeps past the glass.



That makes it hard to verify the fluid level and can lead to contamination.

Fix that problem by putting a bead of RTV, NSN 8030-00-251-2312, around the outside edge of the glass. After it cures, the RTV acts as a liquid-tight seal that keeps the hydraulic fluid in its place.

Before applying the RTV, make sure you thoroughly clean the damper assembly. Otherwise, the RTV will not adhere well to the surface.



# Here's What You Need

AFTER YOU'VE CONVERTED YOUR HOT WEATHER INDIVIDUAL SURVIVAL KIT TO A COLD WEATHER INDIVIDUAL SURVIVAL KIT, HERE'S WHAT IT SHOULD HAVE IN IT...

Item	NSN
Blanket	7210-00-935-6667
Fire starter, magnesium	1680-01-160-5618
Saw, finger grip	5110-00-570-6896
Fire starter, spark life	1680-01-233-0061
Net, multipurpose	8465-00-300-2138
Survival manual, TM 1-1680-354-23&P	N/A

Item	NSN
Poncho	8405-01-100-0976
Insect headnet	8415-00-935-3130
Kit outer case	1680-00-082-2512
Kit inner case	1680-00-082-2514
Water bag	8465-00-485-3034
Sleeping bag	8465-01-131-7921
Ejector snap	1670-00-371-2243
Attaching strap	8305-00-261-8585
Whistle	8465-00-254-8803

WHEN YOU MAKE THE SWITCH FROM HOT TO COLD, PLACE TAPE, NSN 7510-00-266-5006, OVER THE HOT/COLD IDENTIFICATION. THEN, WITH A BLACK MARKER, WRITE "COLD CLIMATE" ON THE TAPE.

Item	NSN	Item	NSN
Food packets	8970-00-082-5665	Magnetic compass	6605-00-515-5637
Snare wire	9525-00-596-3498	Pocket knife	5110-00-162-2205
Smoke/illum signals	1370-00-309-5028	Frying pan	7330-00-082-2398
Knife sharpener	5345-01-214-1050	Candles	6260-00-840-5578
Saw-knife-shovel assembly	5110-00-733-7129	Fuel, compressed trioxane	9110-00-263-9865
Wood matches	9920-00-985-6891	Signaling mirror	6350-00-261-9772
Match box	8465-00-265-4925	Fishing kit	4220-00-244-0764
First aid kit	6545-01-094-8412	Plastic spoon	7340-00-170-8374



# Recycle CD-ROMs

NOT SURE HOW TO DISPOSE OF YOUR CD-ROMs?

**A**s more publications are published on CD-ROM, every inquiring mind wants to know how to dispose of superseded CD-ROMs.

First, here's what **not** to do. Do not burn, cut, shred, or pulverize them. A CD-ROM contains materials that could be hazardous to your health.

So, what do you do?

These discs are high grade plastic and can be recycled. So ask your local recycling center if they'll take them. If they won't, mail your discs to:

NE-SAR Systems  
420 Ashwood Rd  
Darlington, PA 16115-9325

HERE ARE SOME THINGS TO REMEMBER BEFORE YOU SHIP US...

SEND WHOLE DISCS ONLY.

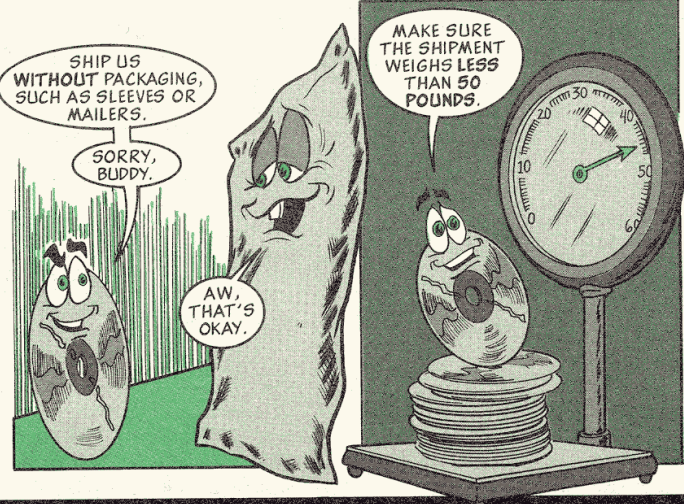
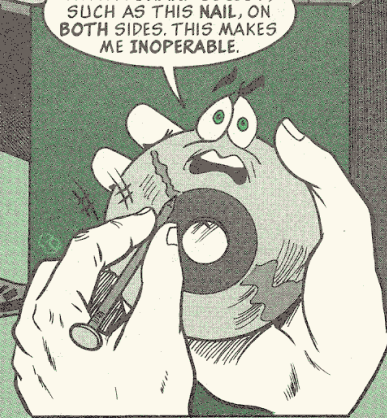
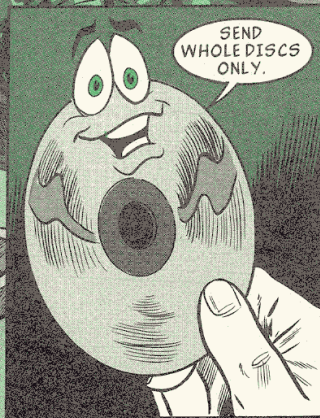
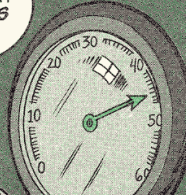
**OUCH!**  
SCRATCH ME WITH A SHARP OBJECT, SUCH AS THIS NAIL, ON BOTH SIDES. THIS MAKES ME INOPERABLE.

SHIP US WITHOUT PACKAGING, SUCH AS SLEEVES OR MAILERS.

SORRY, BUDDY.

AW, THAT'S OKAY.

MAKE SURE THE SHIPMENT WEIGHS LESS THAN 50 POUNDS.



Free Issue ...

## Access for Excess

**T**he Aviation and Troop Command has set up a computer bulletin board system (BBS) to list excess equipment from Europe that's available for reuse.

If you need Class II or Class VII non-rolling stock, such as tentage, tool kits and installation kits, you can get them free. All this equipment is in condition code A.

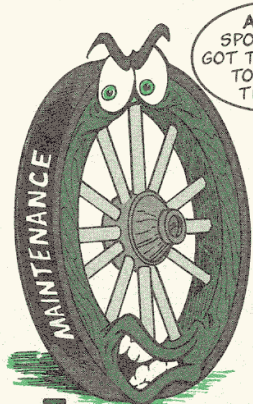
TO GET AN ID AND PASSWORD TO USE THE BBS, CALL...

DSN 693-5276  
Commercial (314) 263-5276





# Keep Maintenance Wheel Turning



ALL THE SPOKES HAVE GOT TO BE TIGHT TO KEEP ME TURNING.

There are several spokes in the big wheel of the motor pool. If all spokes are strong, the wheel turns easily. If not, the shop just limps along.

The toolroom is one of those spokes. Here's how to strengthen it:

## Training

One of the biggest assets of a well-run toolroom is a trained toolroom manager.

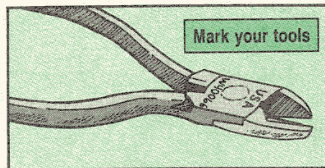
Start getting your toolroom in shape by reading Para 2-4 of DA Pam 750-35 and Chapter 6 of DA Pam 710-2-1.

Tool sets, special tools, and all test, measurement and diagnostic equipment (TMDE) must be controlled. When tools and test equipment are not in use, keep them under lock and key. Paragraph 3-22 of AR 190-51 gives more information on security measures for tools.

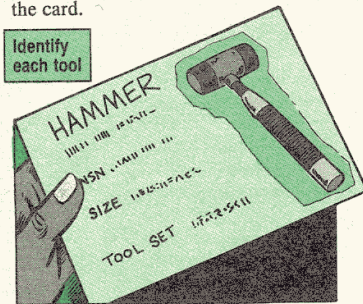
## Identify

Come up with a tool identification system. Mark the tools with "US" or "USA" and the unit identification code (UIC) or some other/name number combination that identifies tools as yours.

Mark similar tools in the same place and by the same method (usually etching, stamping or painting).

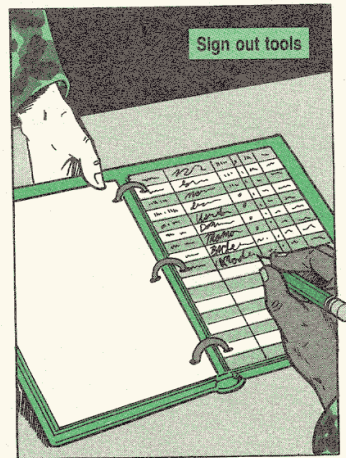


Identify each tool on a card in a visible file. List the nomenclature, NSN, size and tool set (if it belongs to a tool set) on the card. Colored tabs or colored tape can be used to identify cards and tools belonging to specific sets. If possible, clip out a picture of the tool (from a PS article or SC) and tape it to the card.

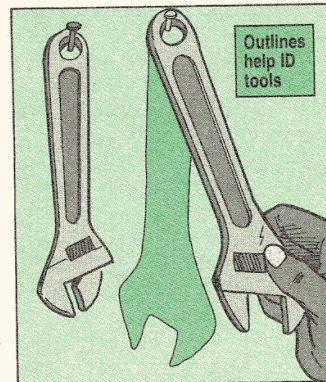


## Check It Out

Establish a checkout system. Many units use a tool book. As a tool is needed, the mechanic goes to the toolroom. The tool manager enters the name of the tool, the mechanic's name and section or ID number, and checkout time. Then, the mechanic signs his name or leaves a special tool tag, NSN 9905-00-473-6336.



Other units draw or paint the outline of each tool on a board with hooks or nails placed to mount the tool over its "shadow." The tool manager can see at a glance which tools are out. Metal tags assigned (by name and/or number) to each mechanic are turned in and hung over the hooks while the tool is checked out.



Tools should be checked in as soon as a job is finished. However, specific check-in times should be set for jobs that are not completed by lunch time or the end of the day. For example, check-in time might be 15 minutes before the break for lunch and 30 minutes before the end of work each day.

## Maintenance

Cleanliness is a part of toolroom maintenance. Keep the tool area uncluttered. Put a lint-free cloth near the turn-in point for users to clean tools.

Inspect each tool closely at turn-in. Turn in the tool if it needs to be repaired. If the tool no longer does its job, replace it. Never issue a tool that might be unsafe.

Remember, how you organize and maintain your toolroom can make a big difference on how the maintenance wheel turns.



# Get Requisition Status from LIF

**D**o you have a supply request that's been around longer than you have? You may have followed up on the request, but couldn't get a status report from support?

Never fear, the Logistics Intelligence File (LIF) is here!

LIF is a computer system that tracks Army supply requests through the wholesale supply and transportation pipeline.

The LIF has a lot of useful info, like:

- o The Materiel Release Order (MRO) date
- o The Transportation Control Number (TCN) on your shipment
- o What mode of shipment is being used to transport your item.

When all your normal supply options fail, check with your support or call up your local Logistics Assistance Office (LAO). Ask them if they have a remote terminal access to the LIF. Most do.

If not, call the Logistics Support Activity at DSN 645-9810/9762 or commercial (205)955-9810/9762.

Give them your document number and they'll put their computer on the trail of your request. No more than 10 document numbers per call, though.

If your unit document number is not on the LIF, never automatically reorder the item. You might wind up with excess material.

Instead, get in touch with your supply support folks. They may have received several requests for the same item and combined them using their own document number.

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HEY, SANTA! YOU'VE  
GOT A MAINTENANCE  
PROBLEM!



### Hydraulic Jack Fluid

Get hydraulic fluid for your 8-ton jack with NSN 9150-00-935-9807 for a quart and NSN 9150-00-664-0411 for a gallon.

### No Oil on Lug Nuts

Forget what we said on Page 18 of PS 513 (Aug 95). Never put oil or grease on wheeled vehicle lug nuts. Vibration loosens the nuts and could cause vehicle damage and personal injury. Keep lugs clean with dry cleaning solvent.

### DGSC Catalogs on Internet

The Defense General Supply Center (DGSC), S9G, now has its Environmentally Preferred Products and Energy Efficient Lighting catalogs on Internet's World Wide Web (WWW). To access the catalogs, use this address:

<http://www.dgsc.dia.mil>

If you're not hooked up to the WWW, check with your local computer support folks.

### AN/CYZ-10 Battery

If you need DL123A batteries for your AN/CYZ-10 data transfer device, don't use the NSN on the box the battery comes in. It's wrong. The correct NSN is 6135-01-351-1131.

### M59 Field Range Outfit

Use NSN 5320-00-999-9883 to get the rivet holding the upper stay on the M59 range outfit door assembly. The NSN shown for Item 3 in Fig D-1 of TM 10-7360-204-13&P is wrong.

### Belt, Strap Keeper

If the keepers that hold your ammo pouch, first aid pouch, canteen or entrenching tool case onto your pistol belt or suspenders is missing, get new keepers with NSN 5340-00-753-5580. Chapter 14 of TM 10-8400-203-23, General Repair Procedures for Individual Equipment, has other parts and maintenance info.

### Visual Info Bulletin

Commanders, stay up-to-date on available training films by subscribing to the Monthly Visual Information Distribution Bulletin. To subscribe, write to:

US Army Visual Information Center  
Joint Visual Information Activity  
ATTN: ASQV-JVIA-T-AS, Bldg 3, Bay 3  
11 Hap Arnold Blvd  
Tobyhanna Army Depot, PA 18466-5102

Or call:

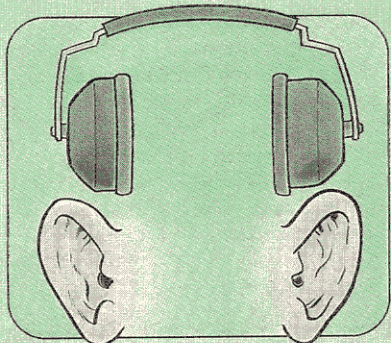
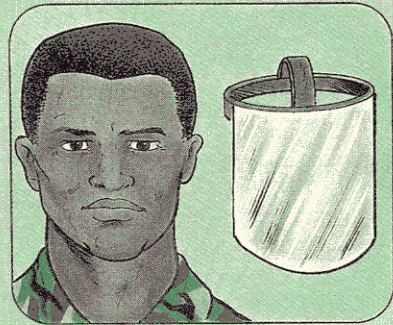
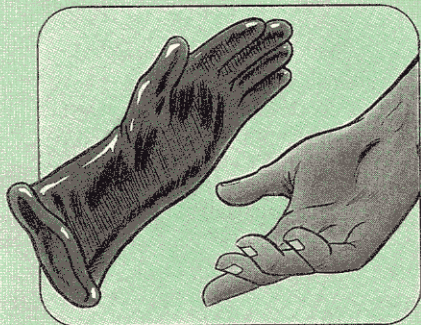
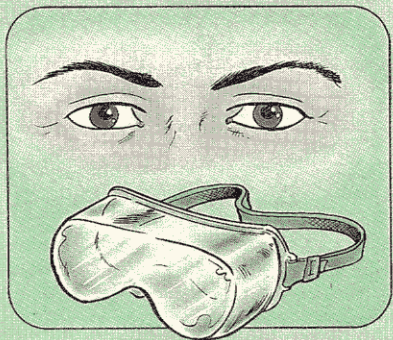
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