Issue 636

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THE PREVENTIVE MAINTENANCE MONTHLY

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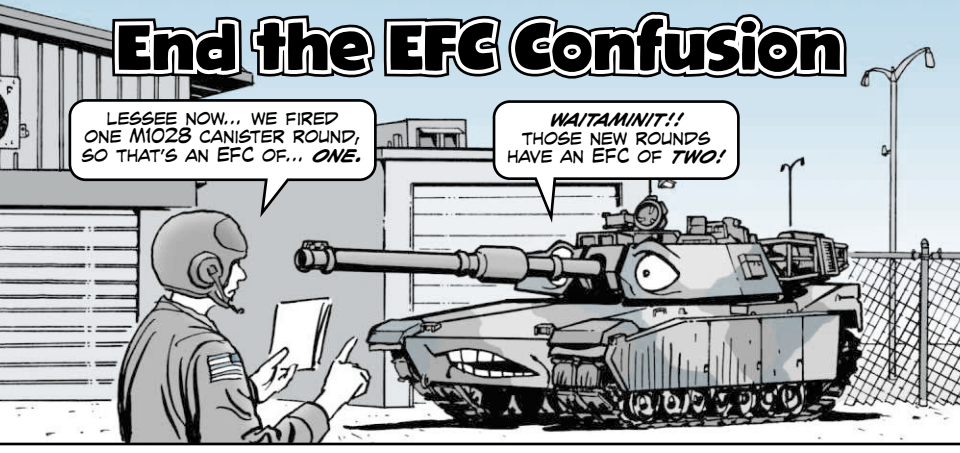
COLD WEATHER ISSUE

End the EFC Confusion



It's been said that what you don't know can hurt you. At the very least it can make you pretty darned confused.

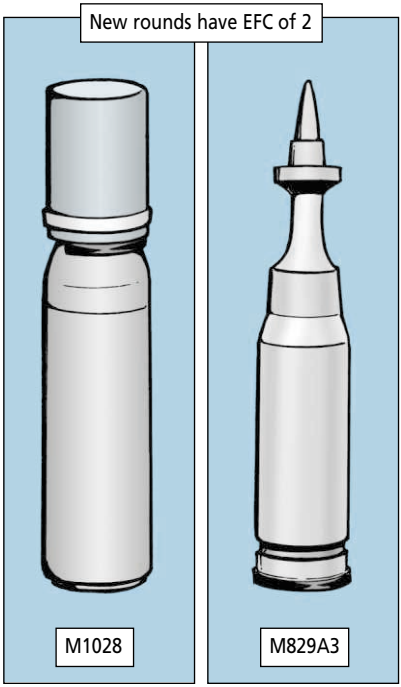
There are two new rounds being fielded for the M1-series tank: the M829A3 sabot and the M1028 canister round. The confusion comes when updating DA Form 2408-4, *Gun Record Card,* after firing the new rounds.

Tankers have long been used to an equivalent full charge (EFC) of one per round fired. That's been the standard no matter what round was fired. The new rounds are different. For each of these rounds fired, the EFC will be two.

When you enter the type of round fired on the automated DA Form 2408-4, it'll automatically enter a "2" in the EFC column. So don't be confused when you see it.

For more info on how to use the automated gun card system, see Pages 8-9 of PS 620 (Jul 04). Or check it out online at:

https://www.logsa.army.mil/pub/psissuesA/620/620-08-09.pdf



MLRS Carrier...

KEEP HEATER CLEAN AND RUNNING

The more the personnel heater in your MLRS is used, the more dust and dirt will build up inside.

Too much debris can lock up the exhaust fan. That burns out the heater's 6.3-amp fuse and shuts down the heater. Not knowing what's wrong, most operators send the heater in for repairs.

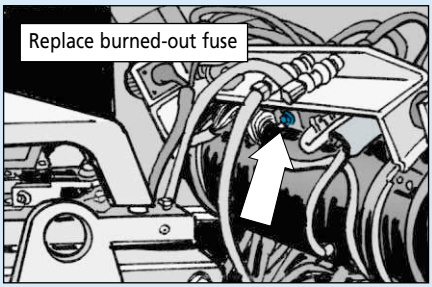
The fix is simple and easy:

1. Remove the air duct hose, NSN 4720-00-535-7615, from the heater.

2. Vacuum the accumulated dirt and dust around the fan.

3. Turn the fan back and forth to loosen dirt at the base of the fan and vacuum again.

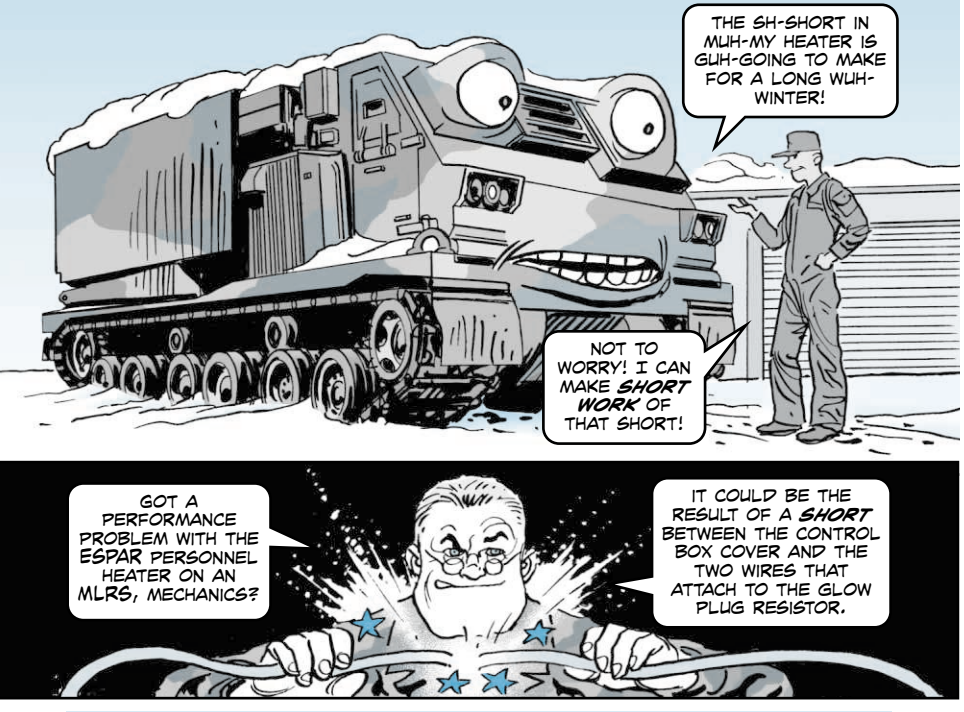
4. Replace the 6.3-amp fuse, NSN 5920-12-301-5271.



Of course, you can usually prevent the problem altogether by cleaning the fan at the end of winter and again when the temperatures start to fall. Making sure the air inlet screen, NSN 2510-01-264-0153, is properly installed in the cab will help keep out debris, too.

MLRS Carrier...

Heater Comes Up Short



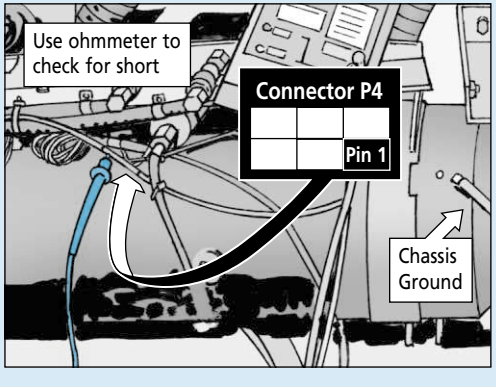
How to Tell

If you suspect a short, use an ohmmeter to test for it like this:

1. Connect the positive lead to Pin 1 of the P4 terminal and the negative lead to ground on the heater chassis.

2. If the ohmmeter reads less than one megohm, remove the knurled nut that holds the control box cover in place and remove the cover.

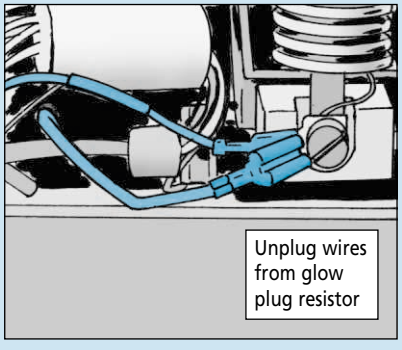
3. If resistance increases to above one megohm and remains steady at high impedance, you've got a short.

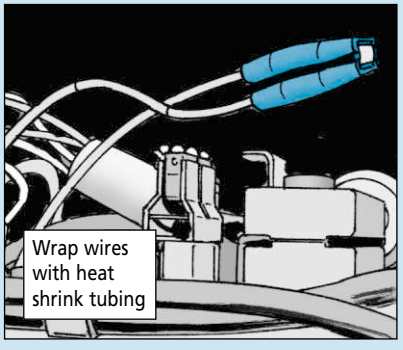


What To Do

To fix the short follow these steps:

1. Unplug the two wires from the connector on the glow plug resistor. Wrap each of the wires and their connectors with heat shrink tubing, NSN 5970-00-815-1295. Then use a heat gun or blow dryer to shrink the tubing in place.

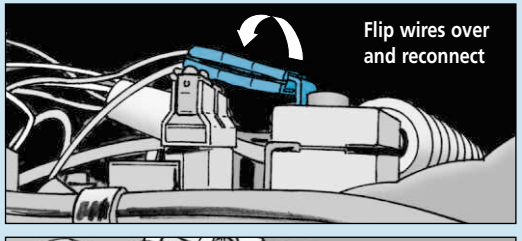


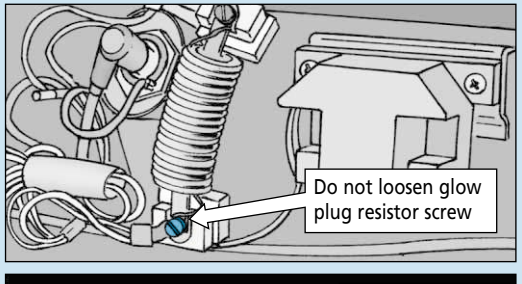


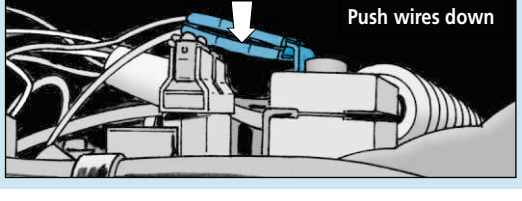
2. Flip the two wires over and reconnect them to the glow plug resistor terminal. That puts a little more space between the wires and the control box cover.

It's very important to avoid loosening or removing the glow plug resistor screw when flipping the wires. The screw goes all the way through the ceramic insulator and is used to hold several other parts in place. Loosening the screw could result in a short to ground.

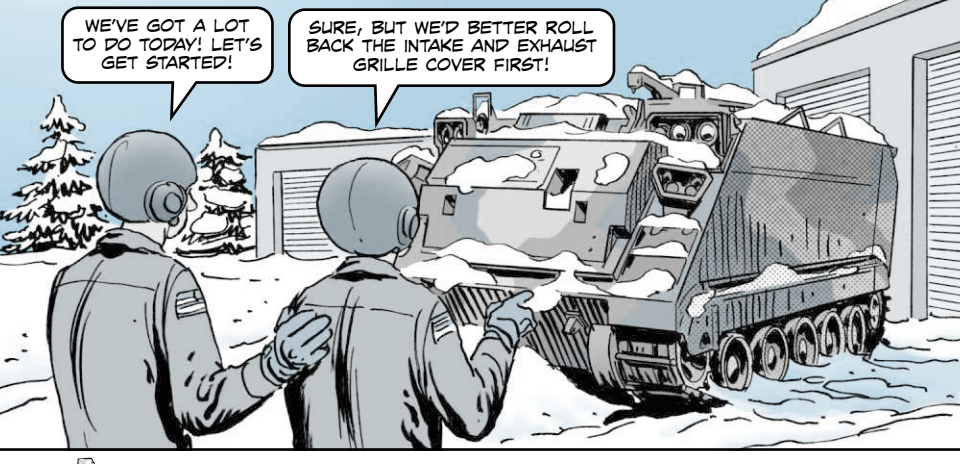
3. Push down on the wires to provide as much space as possible between them and the control box cover. Reinstall the cover.



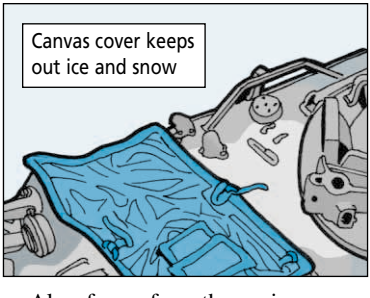




UNCOVERING ALL THE BASES



Drivers, the canvas cover for your vehicle's intake and exhaust grilles is made to keep ice, snow and other debris out of the engine compartment when the vehicle's not in use.



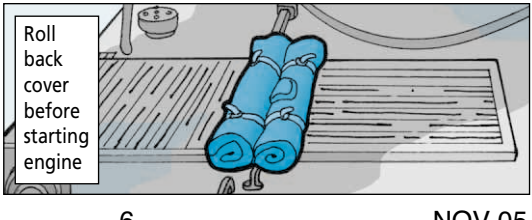
The cover is **not** made to help the engine warm up faster during cold weather.

Some operators keep the grilles covered anyway. They figure the faster the engine warms up, the sooner the mission will be accomplished.

Not true. In fact, the mission may not get accomplished at all. Leaving the cover in place heats the engine too fast and can burn it up.

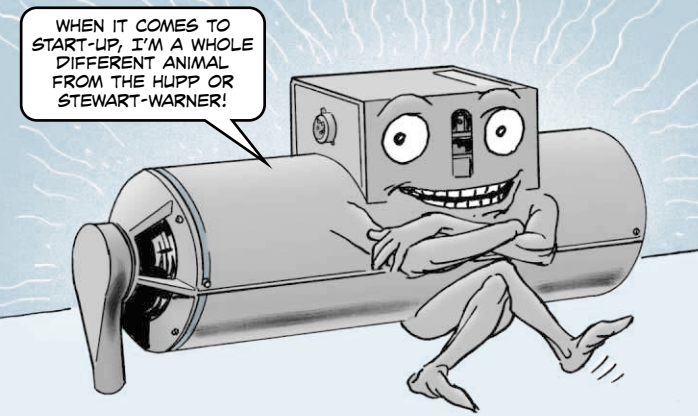
Also, fumes from the engine compartment that would normally be vented through the exhaust grille are forced into the driver and crew compartments. That's a deadly proposition.

Always roll the cover back from the exhaust and intake grilles before starting your vehicle. Secure the cover in place with the straps provided.



Personnel Heaters...

RIGHT START FOR A-20



The Stewart-Warner and Hupp personnel heaters have been around so long that most combat vehicle crewmen have the start-up procedures memorized.

You can hold the RUN-OFF-START switch to START for up to two minutes for the Stewart-Warner and no longer than four minutes for the Hupp. If the heater won't start in that time, you have to let it cool down or risk burning out the ignitor or ignition control resistor.

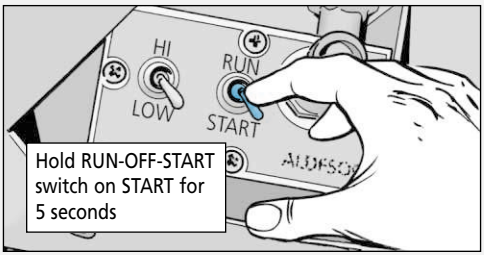
But those start-up procedures will cause no end of trouble if you try to use 'em on the new A-20 heater, NSN 2540-01-396-2826.

After holding the switch on START for just 10 seconds, the heater automatically goes into a 4-minute purge mode. The heater's fuel supply is cut off and all remaining fuel inside the heater is burned off.

Because the heater doesn't start, most operators assume it's defective and turn it in for repair.

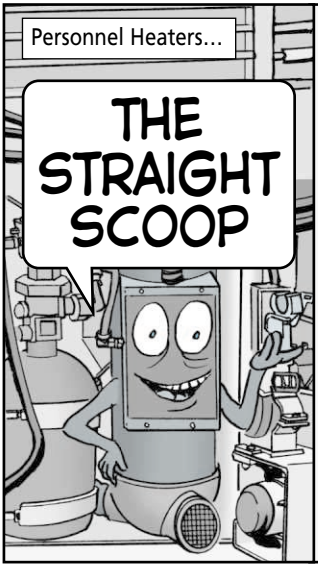
But the heater's not the problem! It's the improper start-up procedure that causes all the trouble.

To start the A-20 heater correctly, hold the RUN-OFF-START switch on START for five seconds, then flip it to RUN. The heater will go through a quick self-diagnosis and then start.



If the heater won't start when you do it the right way, check out the troubleshooting procedures in TM 9-2540-207-14&P.

If your vehicle is an M1A2 SEP or M2/M3 Bradley, refer to your TMs for vehicle-unique starting instructions.



Don't be confused about who can repair what on the A-20 personnel heater. Here's the straight scoop:

Unit-level maintenance: Limited to replacement of ignitors and removal and replacement of the entire heater.

DS/GS-level maintenance: All troubleshooting and repair with the exception of vent sensor and heat exchanger replacement, which are a depot-level jobs.

Keep in mind that this heater has sensitive electronics on board, mechanics. **You must be grounded when working on the heater.**

Before doing any welding on the vehicle, all electrical connections should be disconnected from the heater. The heater should not be between the grounding area and the welding area. If it is, remove the heater.

TM 9-2540-207-14&P covers all heater troubleshooting and repair procedures.

M992A2 Ammo Carrier...

Make the TM Switch

Though they have the same NSN and model number, there are now two different configurations of the M992A2 ammo carrier. So you'll want to make sure you use the right TM for your vehicle.

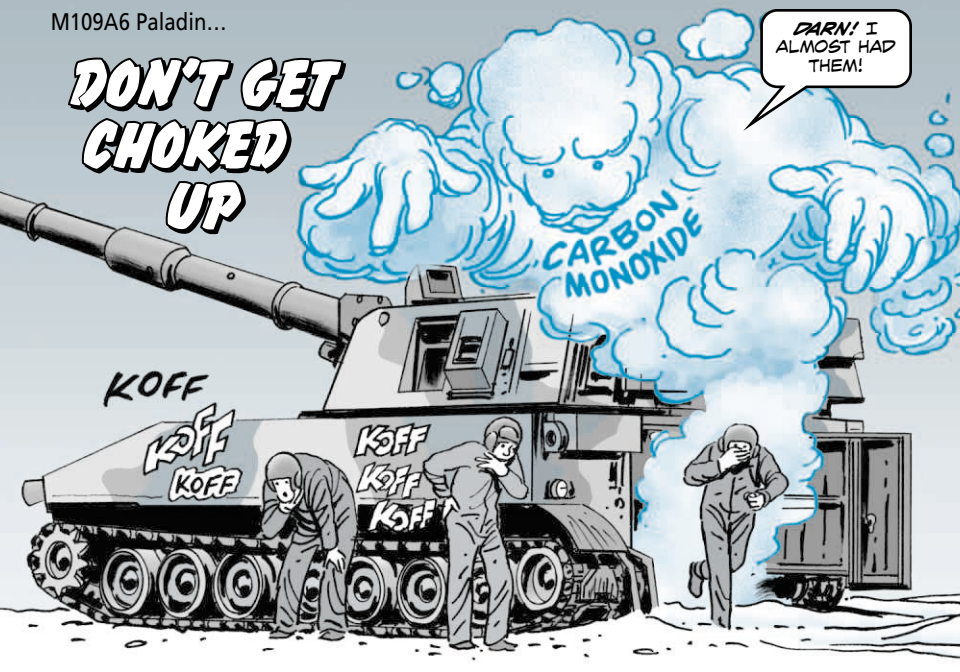
The change comes with the addition of MWO 9-2350-293-30-3, which added the following upgrades:

- **10-KW Up-powered Auxiliary Power Unit (APU).** This APU increases the power capability from the old 5-KW generator in order to support both the M992A2's and M109A6 Paladin's electrical loads.
- **Modular Artillery Charges System (MACS).** It integrates the stowage and transfer requirements for the M231 & M232 MACS into the M992A2.
- **Chlorofluorocarbon (CFC) elimination.** It exchanges FM-200 for the current Halon system used in the M992A2's engine compartment.

Unmodified carriers will continue to use the 9-2350-293-series IETM. Modified carriers will switch to IETM 9-2350-372-14&P. You should receive a copy of the IETM when your carrier is upgraded.

Questions? Contact TACOM's Fern Stebbeds at DSN 786-2456 or (586) 753-2456. Or email her:

stebbedf@tacom.army.mil



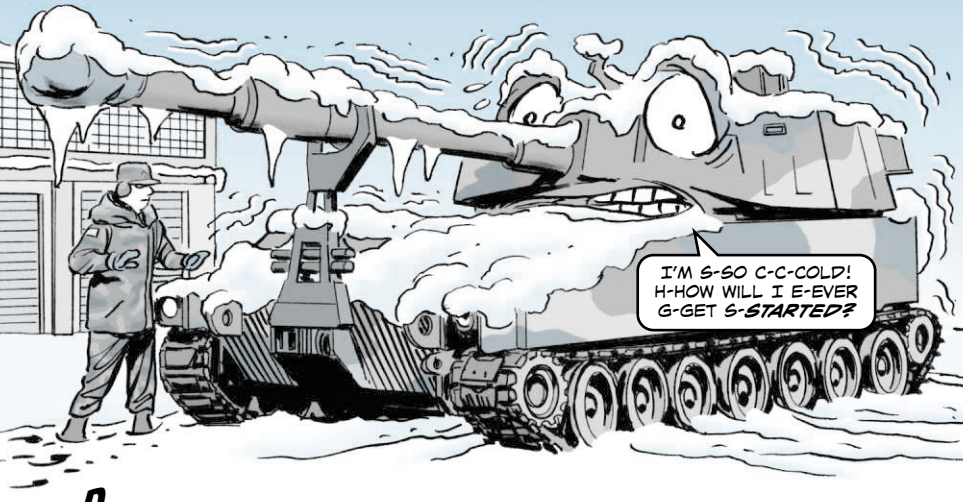
When it's cold outside, you have to button up your Paladin tight to stay warm. But that can put you at risk of carbon monoxide poisoning.

Carbon monoxide comes from the exhaust of personnel heaters, the engine, and from firing the main gun. If you don't vent the vapors, the carbon monoxide will increase until the levels become deadly.

Your best protection is awareness and ventilation. Follow these basic tips to ensure proper ventilation:

- Do your PMCS on time. That's the only way to make sure ventilation systems and blowers are working properly.
- Never operate the personnel heater in an enclosed area unless it is adequately vented.
- Do not idle the engine for long periods unless you're sure the personnel compartment is ventilated.
- Do not drive your Paladin with the inspection plates, cover plates or engine compartment doors removed unless it's necessary for maintenance.
- Be alert at all times for the symptoms of carbon monoxide poisoning: headaches, dizziness, loss of muscular control, and drowsiness. If you experience these symptoms, get out of the vehicle, stay warm and avoid physical exertion while waiting for medical attention.

PUT SOME HEAT IN COLD STARTS



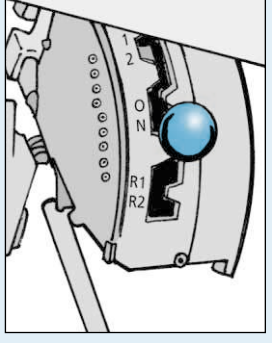
Drivers, if you don't start your M109 howitzer right during cold weather, it won't start at all.

Before You Start

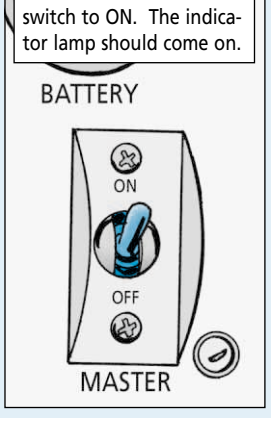
1. Turn off the personnel heater and shut off the COOLANT HEATER switch.

2. Make sure the battery indicator gauge is in the green range.

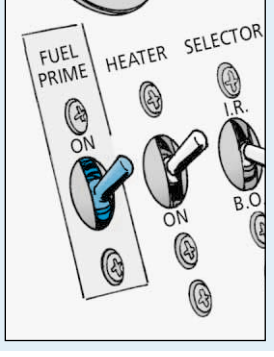
3. Set the parking brake and shift the transmission to neutral.



4. Turn the MASTER switch to ON. The indicator lamp should come on.



5. Turn the FUEL PRIME switch ON for 45 seconds, then release.

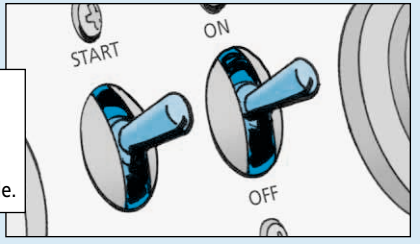


Starting

Now you're ready to start the vehicle:

1. Pull out and hold the FUEL SHUTOFF handle.

2. Push the STARTER switch to START and the FLAME HEATER switch to ON at the same time. Crank the engine for 15 seconds. Release the FUEL SHUTOFF handle.



3. Keep cranking the engine while setting the FLAME HEATER switch to ON for one second and to OFF for one second until the tachometer reads at least 300 rpm.

4. Let go of the FLAME HEATER switch. Keep cranking until the tachometer reads at least 500 rpm. The hand throttle may be increased about 1/8 travel to help start the vehicle once 500 rpm is reached. Do not use the foot throttle or the engine will return to idle once it's released.

5. Stop cranking if the engine hasn't started after two minutes, or you can burn up the starter. Wait at least two minutes, then repeat steps 1 through 4. If the engine still won't start or doesn't reach 100 rpm or more after 15 seconds, tell your mechanic.

6. Release the starter switch after the engine starts and follow the engine warmup procedures in the -10 TMs.

Before Shutdown

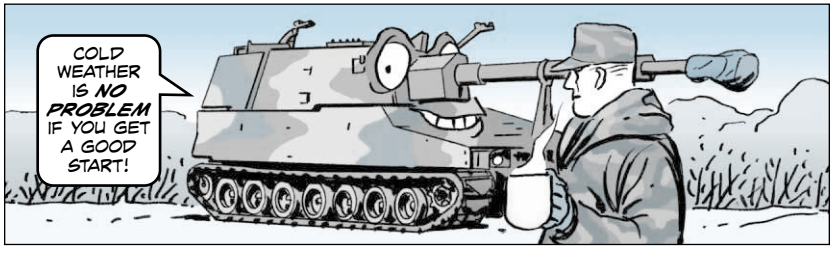
Just before shutdown, run the engine at idle and turn on the FLAME HEATER switch. If the heater is working OK, you'll see a slight decrease in engine speed and an increase in exhaust smoke. If not, call your mechanic.

Testing the flame heater also ensures that fuel is in the fuel supply line the next time you start your vehicle.

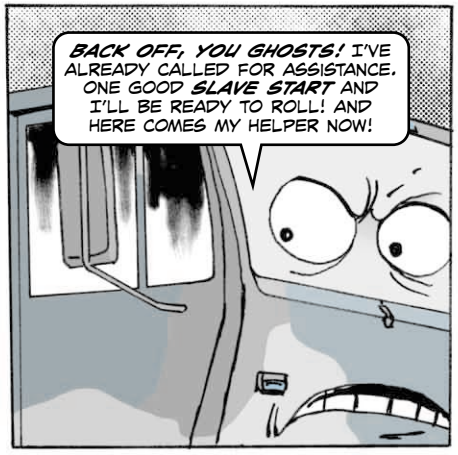
To increase the chances of an easy start the next time the thermometer takes a nose dive, have your mechanic install a cold start enhancement kit, NSN 2990-01-342-7944.

The kit maintains 1 ½ psi of positive pressure in the fuel lines. That prevents loss of prime in the flame heater fuel supply line when the engine is not running.

You'll find the kit listed on Page 0063 005 in TM 9-2815-202-24P (Jun 03).



Vehicle Slave Starting Basics



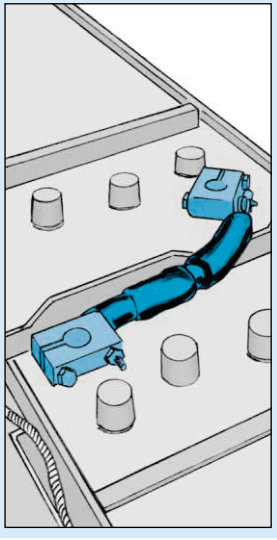
Question: What do you get when you combine weak batteries with below-freezing temperatures?

Answer: A vehicle that won't start.

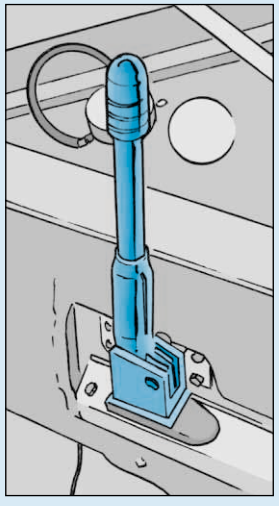
Without help, that vehicle is as dead as a doornail!

So what kind of help do you need? Well, that help often comes from slave cables. Using the cables correctly will keep you safe and your vehicle on the job.

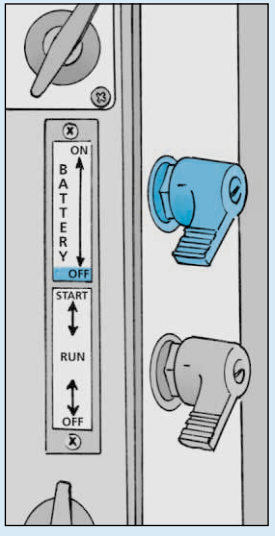
- Read the slave-starting steps in your vehicle's operating instructions.
- **Never** stand between vehicles being slaved and **never** position them nose-to-nose. That'll keep you safe in case one vehicle moves when it starts.
- Have your mechanic make sure the electrolyte in all battery cells is above the plates and **is not frozen.** Never slave frozen batteries. They can explode.
- Make sure all cables and terminals on the dead vehicle's batteries are tight and free of corrosion.



- Set the parking brakes on both vehicles. Shift both transmissions to neutral. Keep the live vehicle's engine running at fast idle.



- Make sure the dead vehicle's battery switch is OFF to prevent arcing when you connect the slave cable.



PS MORE

1. Connect the slave cable to the dead vehicle's slave receptacle. The connection should be tight.

2. If either vehicle has the old two-prong slave receptacle, use the NATO adapter. Put it on the receptacle and then connect the cable.

3. Push the slave cable connector into the slave receptacle on the live vehicle.

4. Wait at least one minute, but no more than three, before trying to start the dead vehicle. This allows a trickle charge to warm up a dead battery before it gets the full jolt of starting.

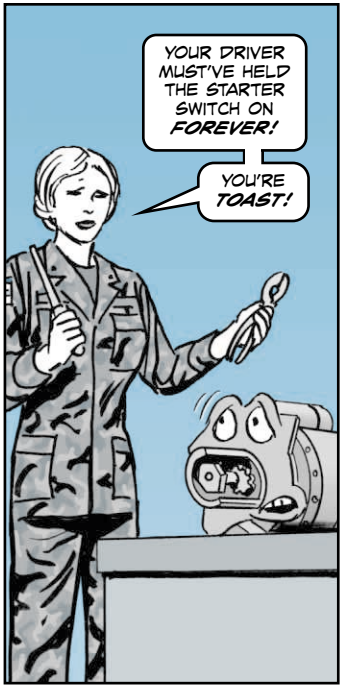
Use NATO slave adapter on old connectors

5. Try to start the dead vehicle. Step on the clutch if the vehicle has one, to reduce engine drag.

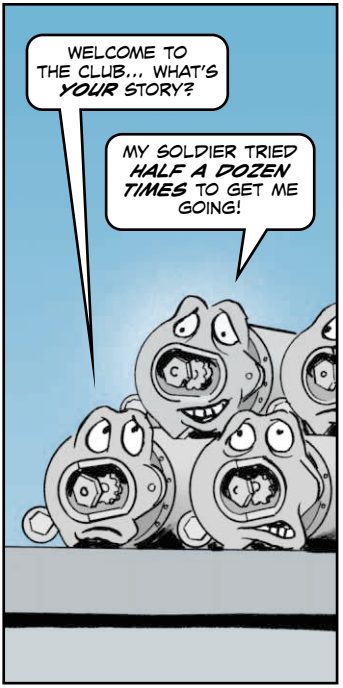
6. Keep the slave cable connected until the vehicle starts. Never unhook a slave cable while the starter is engaged, or you'll get arcing and burned-out cables and receptacles.

Once the slaved vehicle is started, pull the cable off that vehicle and then remove it from the other one. Let the engine run in the slaved vehicle at fast idle (1,000-1,200 rpm) for at least 20 minutes, or drive the vehicle about five miles to recharge the batteries.

Tell your mechanic if the batteries don't recharge.



NO MORE THAN THREE

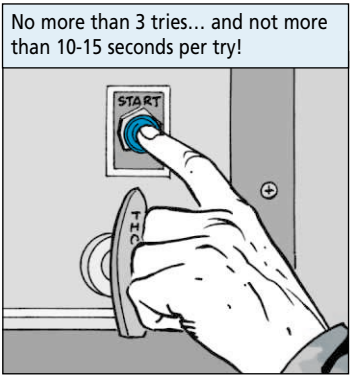


You can bet there's a stack of engine starters in support waiting for service and repair. Way too many of these starters are being tagged "DEEP SIX" when they arrive!

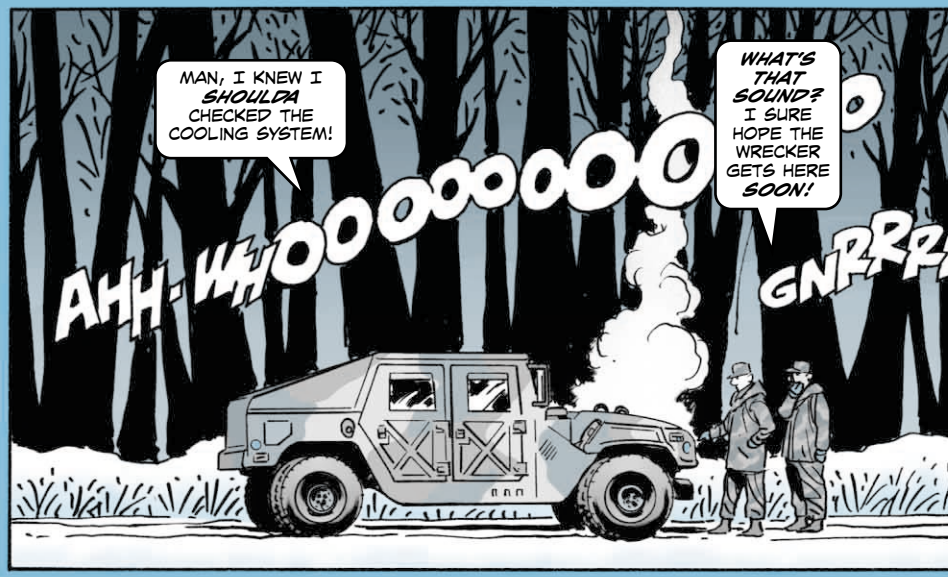
With cold weather around the corner, another itchy finger will no doubt stay stuck on an engine's starter switch. All it takes is one finger stuck on the switch too long to burn out a good starter motor.

When you try to start your vehicle's engine, never keep the starter engaged for more than 10-15 seconds. Then **stop!** Give the starter at least one minute to cool off before trying again.

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



COOLING SYSTEM KNOW-HOW

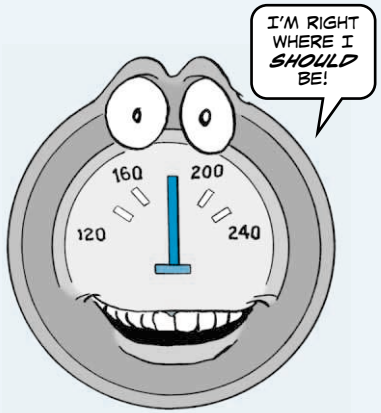


An engine's cooling system is probably the last thing you're thinking about when it's freezing outside!

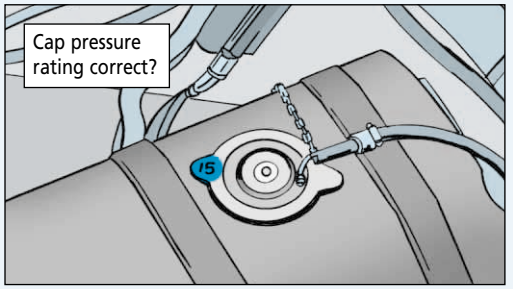
But no matter the temperature, your vehicle's cooling system should be able to reach 160 to 180°F. If yours won't, have the thermostat checked. It may be stuck open and need replacing.

A vehicle system that always runs at more than 200°F also needs attention. A bum thermostat, a clogged radiator, a bad radiator cap or filthy coolant may be the culprit. The engine's air flow may even be blocked.

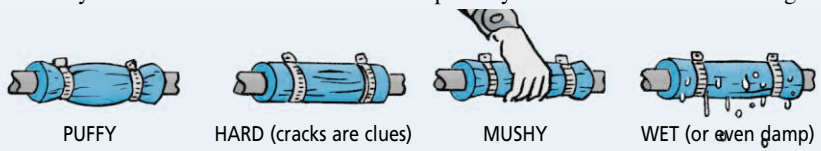
To speed up heating in freezing weather, you can partially cover the air intake grilles on trucks with canvas when starting the vehicle. Be sure to remove the cover after the engine reaches operating temperature.



Look at the radiator cap. It should be the one your TM calls for. Just any cap won't do. The pressure rating of the cap is vital. Too low a rating lowers the boiling point of your coolant. Too high builds up pressure that'll pop radiator seams or blow hoses.



Hoses need to be touched as well as looked at. They must withstand heat, pressure and vibration. They're rubber, so they rot, harden and crack with age. You need both eyes and hands to detect bad hoses. Report any bad hoses that show these signs:

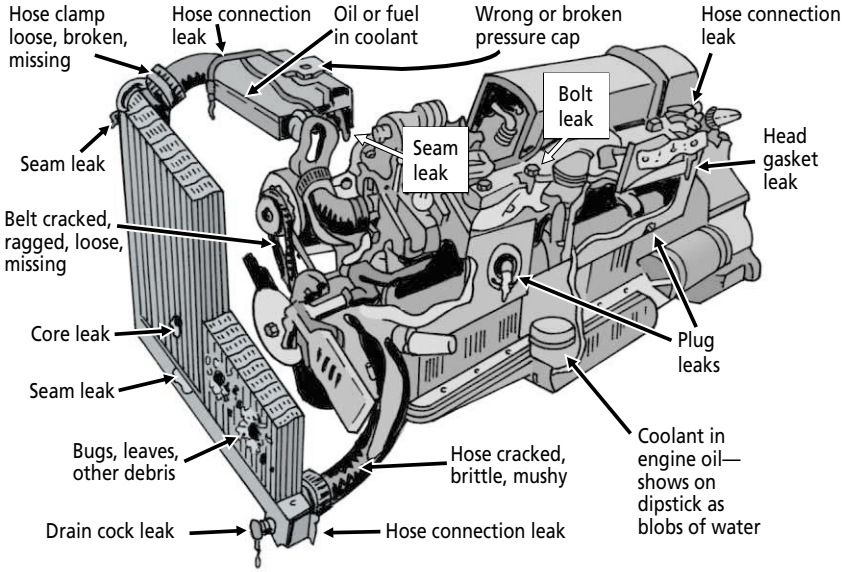


PS MORE

Check the radiator. Look for leaks on the top and bottom tanks and the front and back of the core.

Leaks may not show up when your engine is cold, so look for rust and odd-colored dribbles where coolant has leaked and dried.

Any leaks or other cooling system problems?



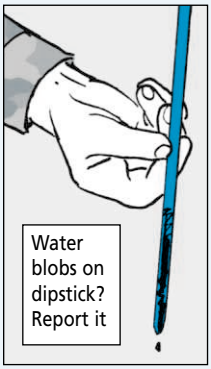
Later, when you've got the engine running at operating temperature and pressure, check those places again for wet spots. Use a flashlight during both inspections.

Finally, take the radiator cap off. If the cooling system is hot, open the filler cap slowly until all pressure is gone. Use a rag or glove to protect your bare hand from the hot cap.

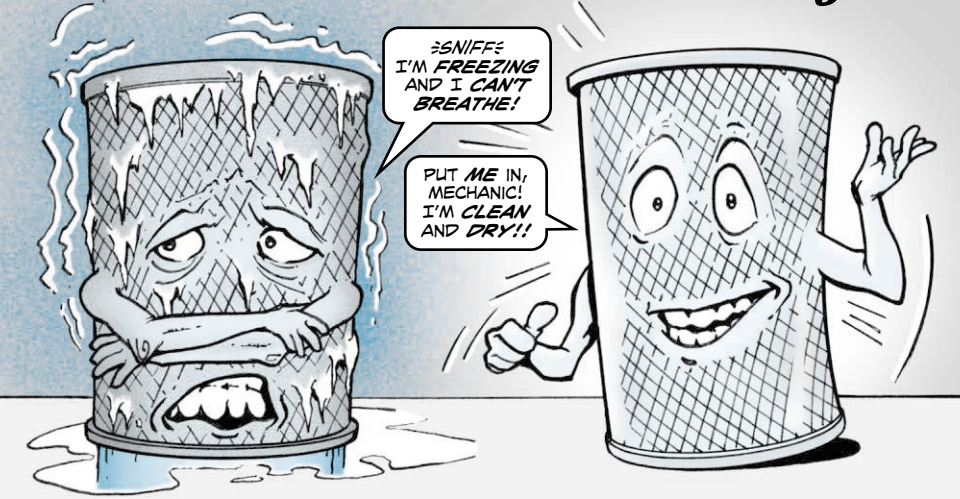
The coolant should be at least over the top of the core. It should be almost clear and colored by the antifreeze.

If your coolant is muddy-looking or has bits of junk in it, your vehicle's cooling system needs draining—flushing—even cleaning. So report it!

If you see a rainbow of oil slime on top of the coolant, you've probably got a leak inside the engine. Exhaust gas or oil is getting into your cooling system. Pull the crankcase dipstick and check for water in the oil. Little blobs will show on the dipstick. Either way, report it.



When Air *Can't* Get Through

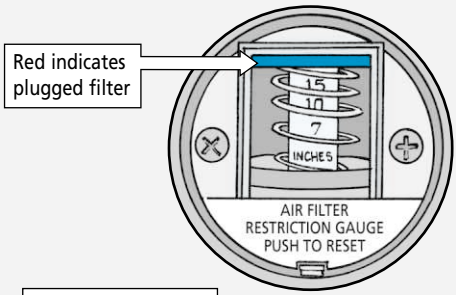


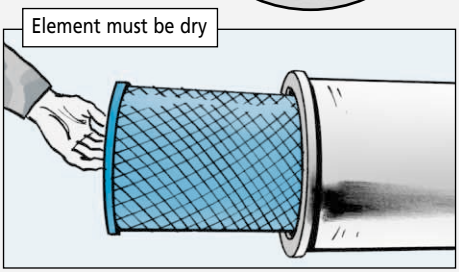
A clogged air filter element on your truck can be a real showstopper!

Moist air or snow sucked into the filter can freeze on the element. Once the element is coated with ice, air can't get through.

So, in damp, cold weather, keep an eye on your vehicle's air restriction indicator. On some vehicles, once the indicator shows red, the filter is plugged. On others, once a pointer reaches the red level on the indicator, the filter is plugged. Either way, get the element cleaned and dried out. Or get a new one.

Always keep snow cleared away from the air intake. In damp, cold weather it's a good idea to have a clean, dry element on hand for a quick switch.



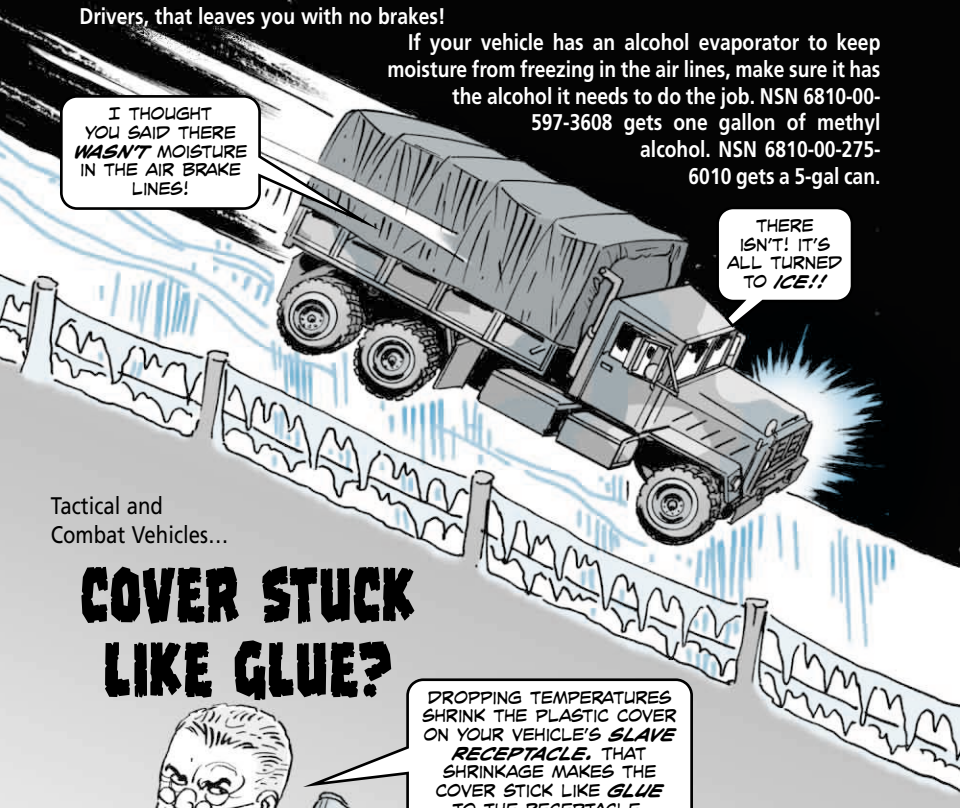


Trucks...

FREEZE-UP MEANS NO BRAKES

Moisture in your truck's air brake lines will freeze in cold weather and block the lines. Drivers, that leaves you with no brakes!

If your vehicle has an alcohol evaporator to keep moisture from freezing in the air lines, make sure it has the alcohol it needs to do the job. NSN 6810-00-597-3608 gets one gallon of methyl alcohol. NSN 6810-00-275-6010 gets a 5-gal can.



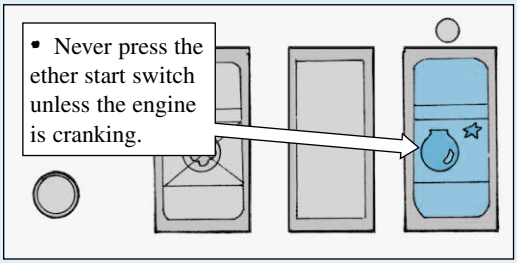
Tactical and Combat Vehicles...

COVER STUCK LIKE GLUE?

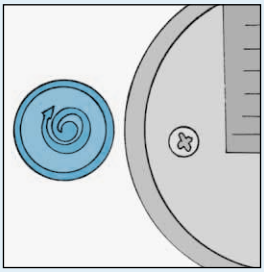
COLD WEATHER COMETH

When it comes to cold weather starts, there's something that sets great drivers apart from the rest.

They go beyond what the operator's TM offers. These tips can prevent damage to the FMTV's engine and starter when the weather is between 32°F to -25°F. And they can put you in a class by yourself.

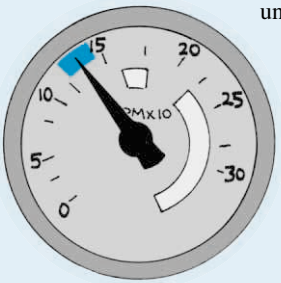


• Do not use ether after the engine is up to speed and is in no danger of stalling.



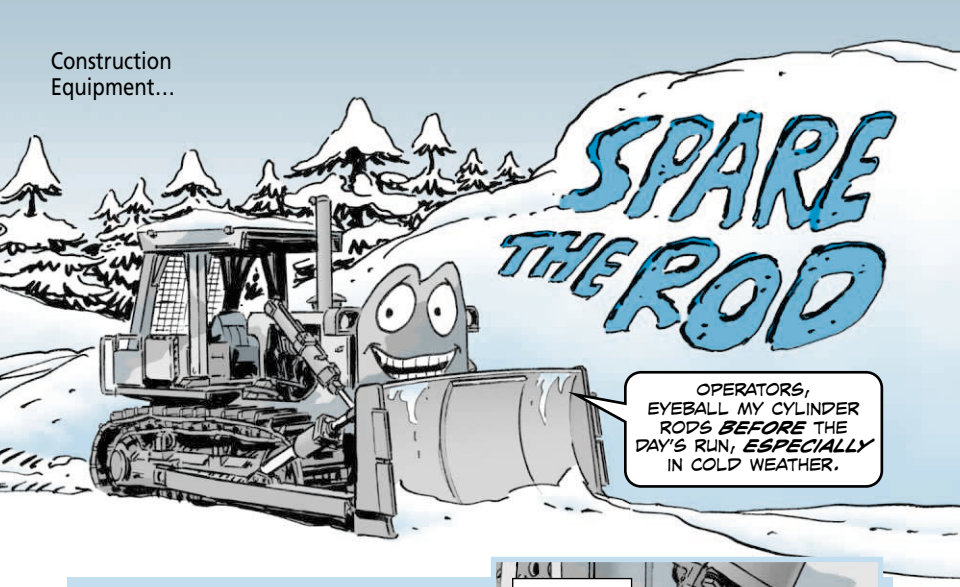
• Do not press the starter switch for longer than 30 seconds. If the engine doesn't start within 30 seconds, let go of the switch and wait 30 seconds before trying again. That keeps the starter from overheating.

• Never exceed 1,350 rpm while idling. This is fast enough to warm up the engine and charge the batteries, but will avoid unnecssary wear.

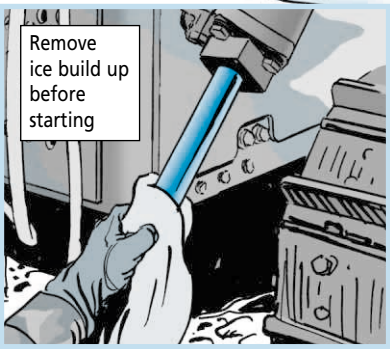


• No tachometer? Don't go past a hand throttle position half-way from the bottom. That's approximately 1,350 rpm.

SPARE THE ROD

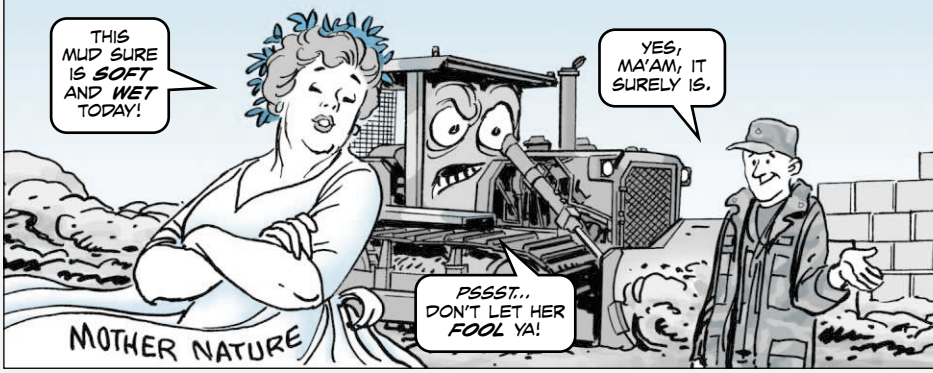


Any ice build-up on the rods will scrape or cut seals when the rod is moved. Damaged seals lead to fluid leaks, which lead to NMC equipment. If you find any ice, get rid of it.



Another rod saver, no matter what the weather, is to exercise the cylinders weekly. This fights rust by spreading a thin coat of oil on the rod. Rust, like ice build-up, will scrape and cut the rod's seal.

DON'T ROCK THE BOAT!



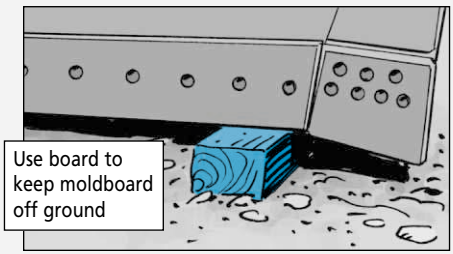
Mother Nature and conditions at the worksite have something in common—they both can fool ya!

For example, mud is wet and soft during the day. But at night it can freeze and become as hard as concrete. A vehicle left sitting in mud at the end of the day will be frozen in its tracks the next morning.

And it doesn't matter if you're in the DEUCE, D5B or D7G tractors, or M9 ACE—you **can't** rock the vehicle loose. You'll end up with a broken track, snapped drive sprocket teeth and a vehicle that's still stuck.

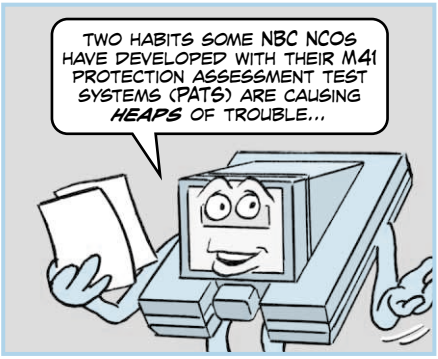
Here's how to prevent that problem before the sun goes down:

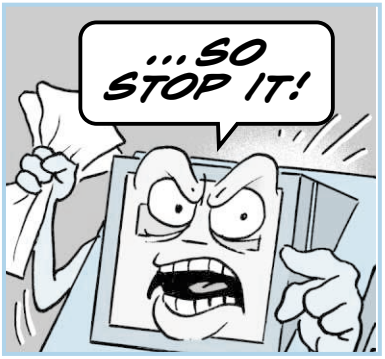
- Park your vehicle on high ground if possible. Water drains downhill, so the mud won't be quite as deep.
- Avoid parking in deep ruts worn by other vehicles. Some are deep enough to bottom out your vehicle's hull. Leave it there and you won't be moving until spring!
- Use a shovel to scoop out mud that has collected on and between roadwheels and drive sprockets. If there's no mud, it can't freeze.
- Put a board between the ground and any moldboard. That way the mud can't freeze the moldboard in place.



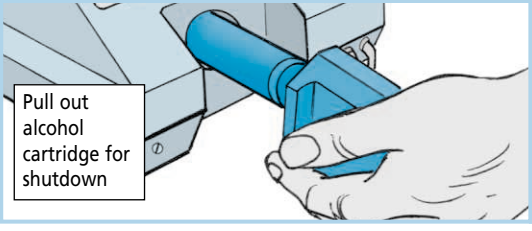
M41 Protection Assessment Test System...

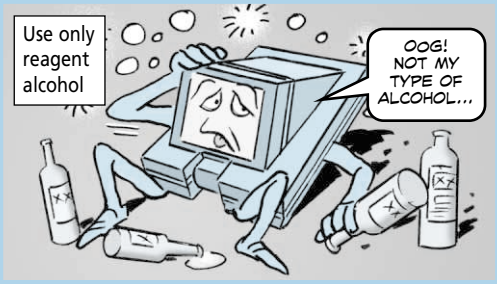
WICKED HABITS



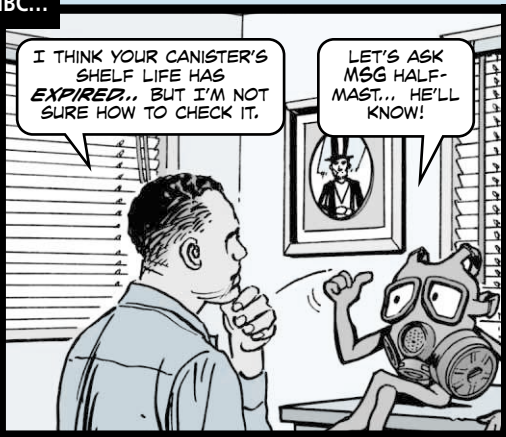


• **Leaving the wet alcohol cartridge in the PATS at shutdown.** The alcohol saturates the counting mechanism, which means you won't be able to test masks until you run PATS for several hours to clear it. Sometimes that isn't enough and your TMDE people must send it off for repair. When you're through testing, remove the cartridge, install the storage cap, and run the PATS for 10 minutes to purge it.





• **Using drugstore alcohol.** That causes the PATS to clog and the only fix is to send it off. There is only one alcohol to use in your PATS: **reagent grade isopropyl alcohol, NSN 6810-01-382-2904.** Don't even think about using anything else.



SNIFFING OUT SHELF LIFE?

Dear Half-Mast,
How do I check the shelf life of items in the NBC room like mask canisters or M291 decon kits?

M.T.

Dear Mr. M.T.,

On the Internet, go to Army Electronic Product Support (AEPS) at:

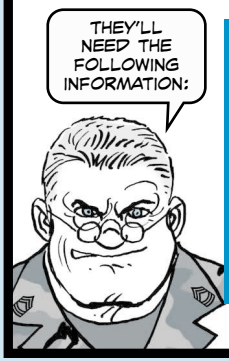
http://aeps.ria.army.mil

You will need to sign in with your AKO password or request an AEPS password by filling out a system access request.

Click the TACOM-SBC link on the left side of the page and then the PRODUCT INFORMATION link on the next page. Select the piece of equipment you're researching and hit the GO button. The next page provides NSNs and shelf life codes. At the bottom of the page, click SHELF LIFE INFORMATION. This brings up lot numbers with their condition codes and expiration dates.

If you can't find what you want or you don't have access to the Internet, call the Chemical Biological Radiological Nuclear Equipment Hotline at 1-800-831-4408 or email **ceh@ria.army.mil**

Their website is **http://www.ecbc.army.mil/ps/ce_hotline.htm**



- name
- phone number
- fax number (if you have one)
- installation address and country
- branch of service and whether active, Guard or Reserve
- equipment/category (decontamination, for example)
- item
- lot number and quantity in lot number

The lot number contains a manufacturer's name (PBA for Pine Bluff Arsenal, for example), year of manufacture (2-digit number such as 05) and month of manufacture (a letter, starting with "A" for January–"I" is skipped).

Half-Mast

Dear Half-Mast,
Is there an XL size for the M40 or M42 masks?
MSG C.L.

Dear MSG C.L.,

No, there is no XL for any of the masks. You might check out TB 3-4240-341-20-1, Chemical-Biological Protective Mask for Hard-to-Fit Service Members, *for tips on dealing with soldiers who don't fit a size large mask. The same TB can be used for soldiers who need a smaller mask, too. It's on the ETM website:*

https://www.logsa.army.mil/etms/online.htm

You'll need a password to access it.

If that doesn't do the trick, contact TACOM for help at DSN 793-3053/(309) 782-3053 or by email: ***vanattad@ria.army.mil***

Half-Mast

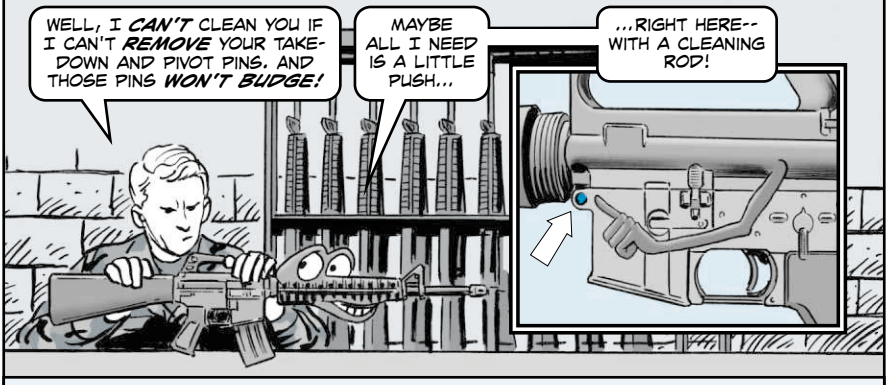
Do You Have MPDS Decon?

To help fill decon shortages in the Army and Marine Corps, DoD is fielding more than 400 multi-purpose decon systems (MPDS). The supplier, ESSIbuy, provides on-site training on the MPDS, does PMCS, and supplies a web-based maintenance and supply tracking system at no cost to the unit. But because the MPDS has been so rapidly fielded, the company doesn't know which units have it. If your unit has MPDS, let ESSIbuy know by calling (314) 553-4272 or emailing: ESSIbuy@essihq.com

They will need the MPDS serial number, your unit address, phone number, and email.

M16-Series Rifle, M4/M4A1 Carbine...

UNSTICKING STUCK PIVOT, TAKEDOWN PINS



It's hard to clean your M16 rifle or M4 carbine if you can't push out the pivot and takedown pins. But sometimes those pins stick and just won't budge.

Armorers can use a small punch or screwdriver to help unstick pins. Riflemen can use a cleaning rod section.

You won't have trouble with stuck pins if you clean and lube both the takedown and pivot pins when you clean the rest of the rifle or carbine.

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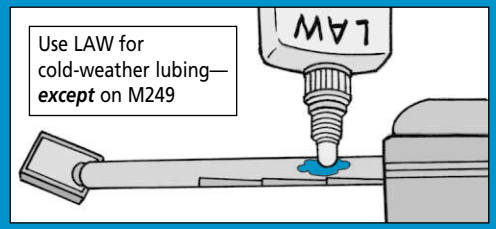
b.(3) non-USPS	2,702	2,683
c. Circulation	78,838	73,732
d. Free Distrib/mail	716	716
e. Other free	180	1,080
f. Total Free	896	1,796
g. Total Distribution	79,734	75,528
h.(1) Office Use	1,287	1,254
i. Total	81,021	76,782
Percent Req'd	98.88%	97.62%

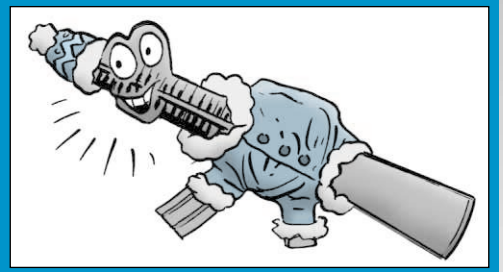
Submitted by: STUART A. HENDERSON, Production Manager

First of all, remove carbon deposits using rifle bore cleaner, NSN 6850-00-224-6663.

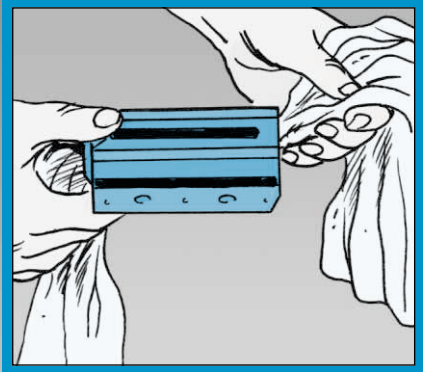
Then use LAW, NSN 9150-00-292-9689, to lube your weapon if the temperature dips below 10°F. LAW works better in the cold than other lubes like CLP or LSA. An exception is the M249 machine gun, which ***always*** takes CLP.



If you are not using the weapon, store it in an wind-protected and covered area. When an area like this is not available, cover the weapon with a blanket or poncho to keep snow and ice from getting to the barrel, sights and working parts.



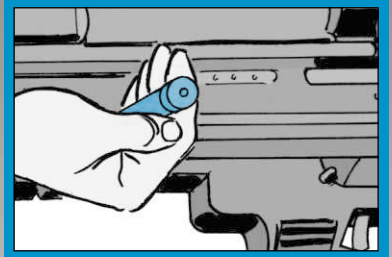
Prevent moisture from freezing and jamming your weapon by keeping the ammo dry. If you need to, wipe the ammo and the insides of the magazines before firing.



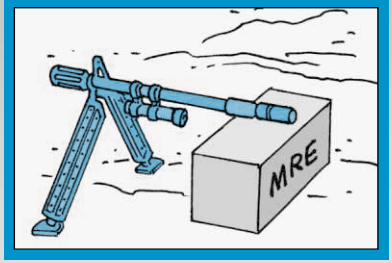
When your weapon reaches room temperature, it can be cleaned. That's when it has stopped sweating. If you clean it before it stops sweating, the moisture can freeze when you take it back outside.

Cover your weapons when moving from a cold to a warm environment. This prevents condensation from forming inside the weapon by letting it warm up slowly.

Every 30 minutes, hand function your weapon so that the parts do not freeze. Don't force sticking parts—they can break. Move the parts slowly and easily until they move smoothly.



Never lay hot weapons or barrels on snow. The sudden cold can cause warping. Instead put the weapon on an MRE box or something similar.



DON'T DO THAT (CONTINUED)

Dear Editor,

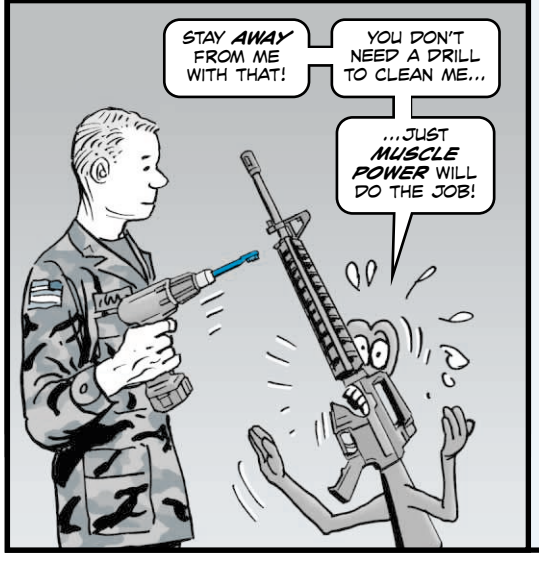
Here at the Fort Leonard Wood DOL we've seen your articles in the past on what *not* to do for your rifle, machine gun, or pistol. And they bear repeating.

DON'T USE:

- oven and carburetor cleaner on your weapons. They strip off the protective finish, which leads to corrosion.
- cleaning pads. They also strip off the finish.
- cotton tips or swabs. The cotton comes off and plugs things like gas ports.
- lighweight oils. They evaporate quickly and have a high flash point.
- paper towels and old rags as substitutes for cleaning patches and new cleaning rags. Paper towels and old rags shred and clog areas like the buffer tube.
- homemade cleaning tools. They scratch off the protective finish.

We fix lots of weapons at Leonard Wood and we have a few more ***don'ts*** to add to your list.

- ***Don't*** use a chamber brush attached to an electric drill. That cleans the chamber so well that it wears out the star chamber (barrel extension) and causes excessive headspace. We had to replace 90 M16 rifle barrels because of this. Just use a chamber brush attached to a cleaning rod attached to your hand. That's all the cleaning power you need.

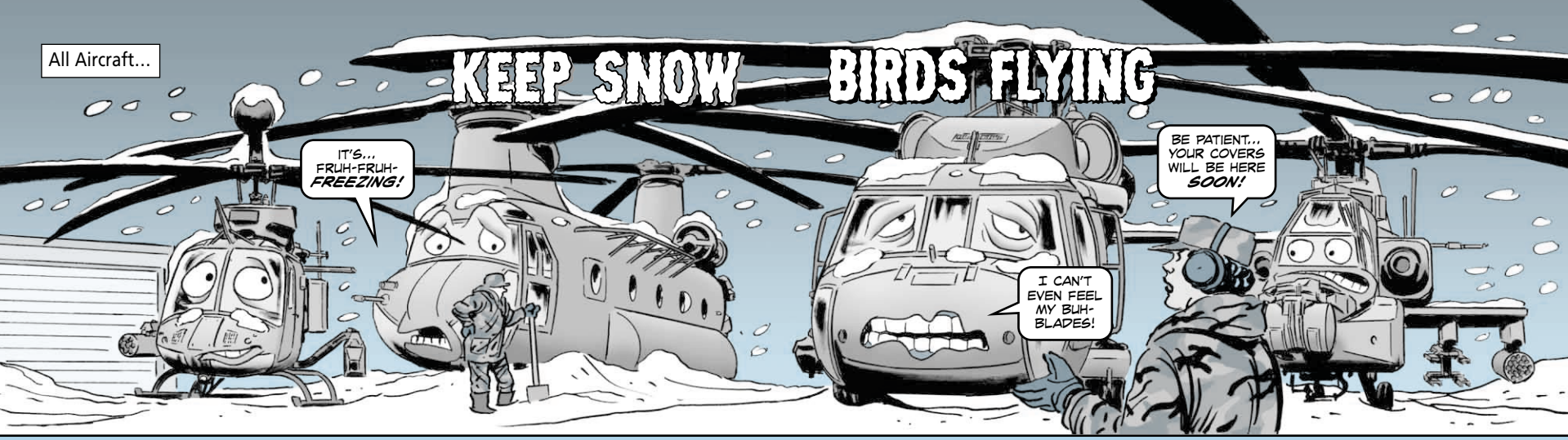


- ***Don't*** use shaving cream or cleaners like Simple Green. They remove all lubricants, which leads to corrosion. Clean with CLP or RBC or any of the other cleaners listed in the operator TMs.

- ***Don't*** put typewriter correction fluid (the white stuff) on the front sight. Some shooters think that helps them sight better. But actually the white stuff causes a glare off the sight post that makes it harder to sight.

Andy Free
Chuck Dutton
Gary Becker
DOL, Ft Leonard Wood, MO

Editor's note: *Thanks, guys. Gunners, don't forget these don'ts when it comes time to take care of your weapon. Clean the way your operator TMs tell you to. That's plenty good enough.*



Unlike most birds, yours don't get to fly south for the winter. In order to keep them going, crew chiefs have to do some tough work.

Leaving your aircraft uncovered and unprotected on the flight line can make that job even harder. If covering the whole bird is too tough, cover at least the bare minimum: engine inlets, exhausts, exposed linkages, pitot tubes, canopies and rotor heads.

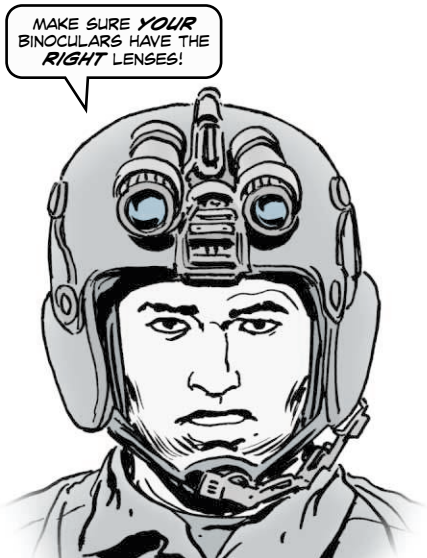
Make sure that the aircraft and covers are dry before putting the covers on the aircraft or you run the risk of them freezing on the aircraft. If the aircraft is moving from the hanger to the flight line, cover it before it moves.

If your cover and bird make an ice sandwich, loosen the cover edges and use heat from a ground heater to finish off the job.

Check uncovered areas daily. Freezing rain or blowing snow can seep into and freeze exposed moving parts. Make sure everything works and is not frozen.

Snow, sleet and ice storms can cause more trouble. After a storm, remove the engine inlet plugs and exhaust covers and look for ice. Carefully remove any ice you find the way your TM instructs, and thaw out the engine with hot air.

Never remove ice by scraping or chipping. Always apply heat or de-ice liquid.



ANVIS Objective

On Page 61 of PS 629, we printed a brief on ordering aviation night vision imaging system (ANVIS) objective lenses.

The headshed at PEO Soldier has provided additional clarification:

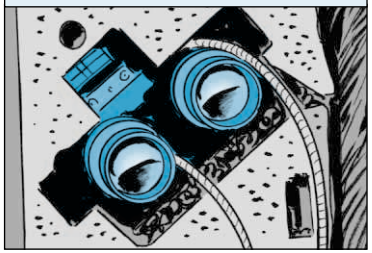
If you have to replace an ANVIS objective lens assembly on the binocular, be sure to replace it with the same type of objective lens assembly. ANVIS objective lens assemblies must be matched by PN. Don't mix objective lens types on the same binocular.

Lens Clarification

There are three possible ANVIS objectives lenses:

- PN 5002550; NSN 5855-01-149-4101
- PN A3279595, NSN 5855-01-476-1481
- PN A3279596, NSN 5855-01-519-4171

Check your binoculars for correct lens

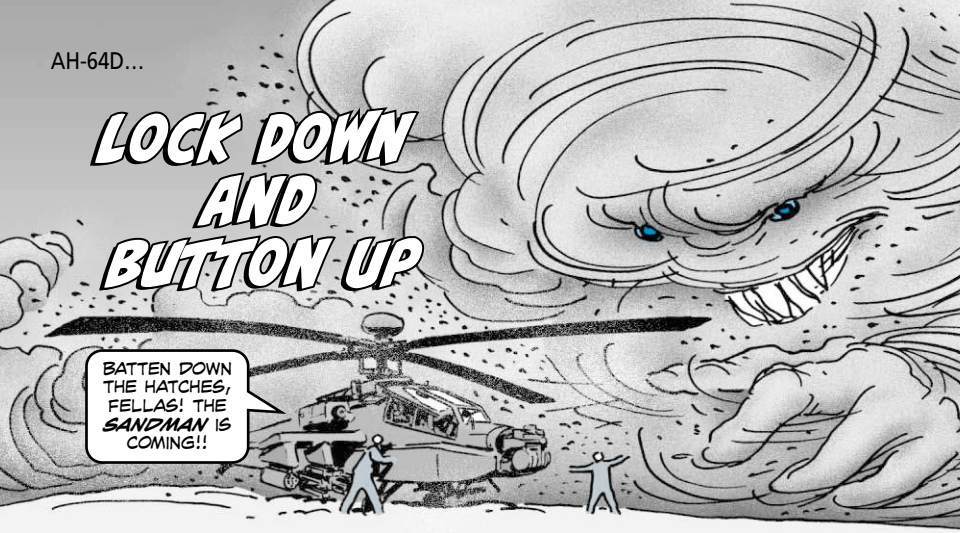


The number on the 5002550 objective lens is printed inside the lens assembly on the cell assembly, so you'll have to open the assembly to see it. The PNs for the A3279595 and A3279596 are easier to see because they're printed around the edge of the cell assembly.

You'll find it handy to write the PN of the objective lens assemblies on the historical record for each ANVIS to track them.

AH-64D...

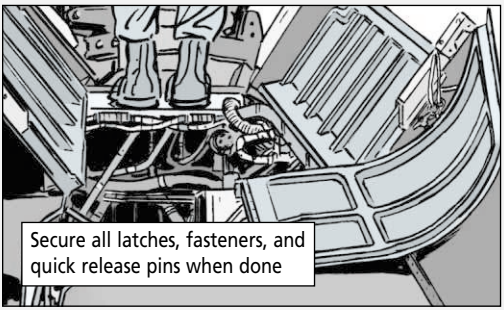
LOCK DOWN AND BUTTON UP

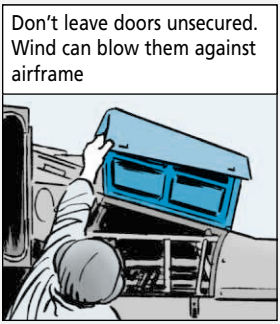


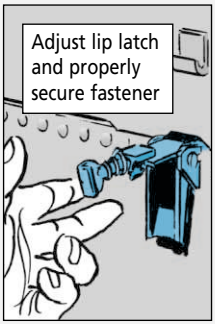
Crew chiefs and mechanics, the latches and fasteners on your AH-64D's catwalk, L325 and drive shaft doors **must** be used. Doors can't take flapping in high winds. Doors not fully secured can be damaged and can do damage.

Just closing the doors is not enough. When the wind blows, you must batten down the hatches, lock the latches and secure the quick release pins and fasteners for all doors.

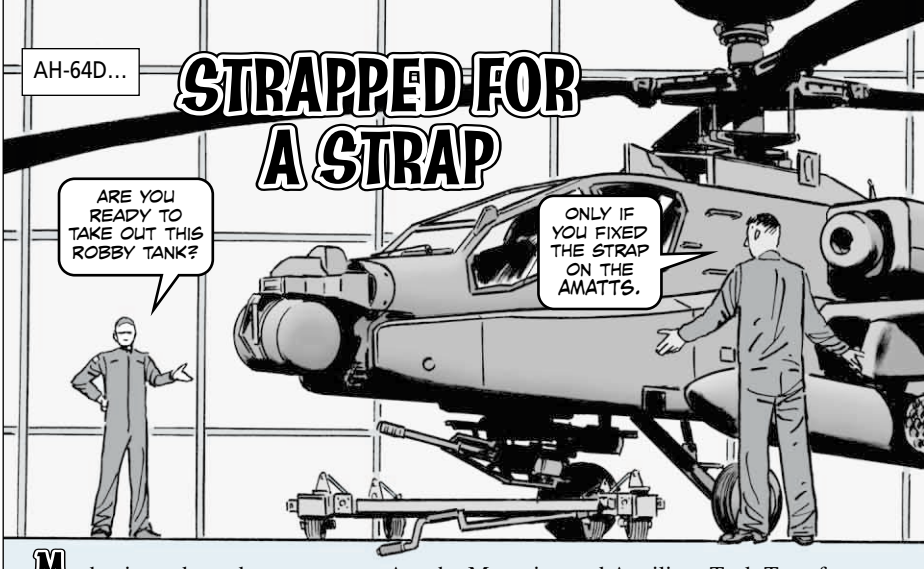
Loose doors that fly open can crack, rip and break. One catwalk door has latches that have a lip latch that first must be adjusted to fit, before securing the fastener.





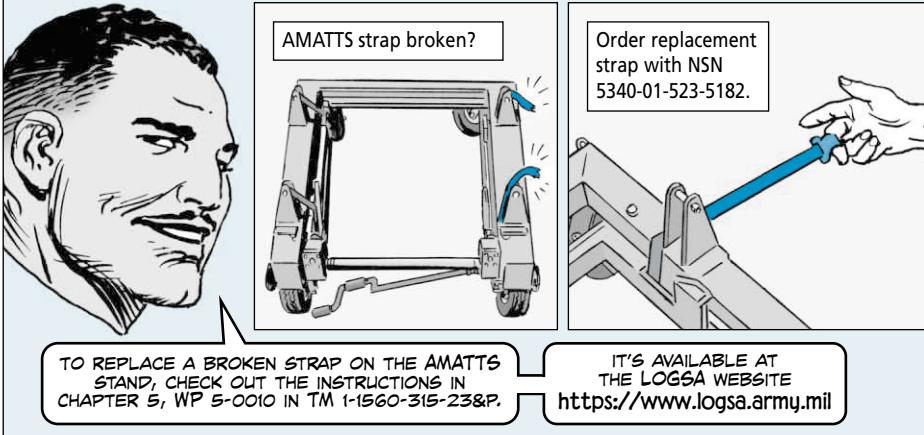


So when you're on the catwalk and finish an inspection or maintenance on your bird, secure all doors.



Mechanics, a busted strap on your Apache Magazine and Auxiliary Tank Transfer System (AMATTS) means you won't be removing or installing the internal auxiliary fuel system (IAFS).

If you have AMATTS sitting around the hangar because you can't find the replacement strap NSN, there's good news! You can order a replacement strap with NSN 5340-01-523-5182.



Make a note that this commercial-off-the-shelf (COTS) manual will have part numbers updated with NSNs as the AMCOM headshed provisions parts. Until the TM is revised, order the parts by cross-referencing part numbers to NSNs in FED LOG.

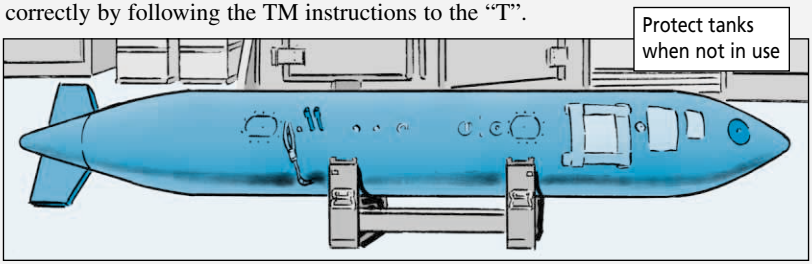
Helicopter repairers, out-of-sight, out-of-mind doesn't play well when it comes to maintaining and preserving your Black Hawk's ESSS extended range fuel tanks.

Removed tanks should not be left out to roast in the hot sun or be left exposed to bad weather. Leaving tanks outside makes them vulnerable to the elements and the animal kingdom, like bird droppings. Rain and temperature extremes can damage the tanks.

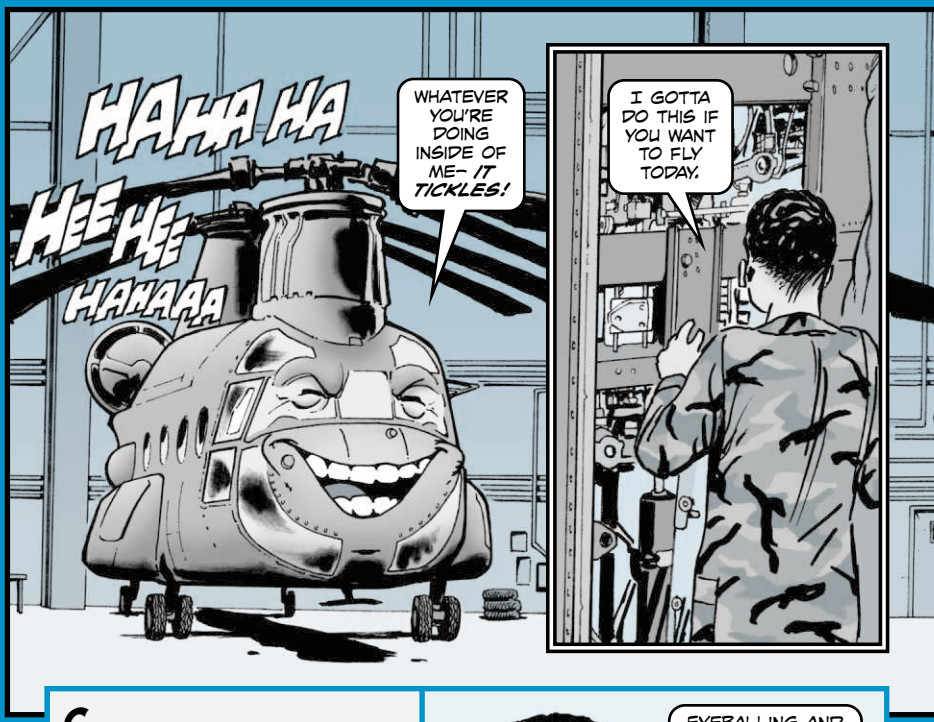
Weather changes can cause condensation buildup inside the tanks. And you know corrosion will follow if the tanks aren't properly preserved. Uncovered connectors, plugs and fittings are openings for corrosion to attack.

Don't treat them like leftovers from yesterday. When the tanks are removed from the bird, give 'em a healthy dose of proper PM like it says in Para 1-3-26 of TM 1-1520-237-23-1. Don't forget proper tank preservation, which is often not done like the TM says.

Make sure you always store the tanks in a warm, dry area, covered and preserved correctly by following the TM instructions to the "T".



LOOK, FEEL & TOUCH



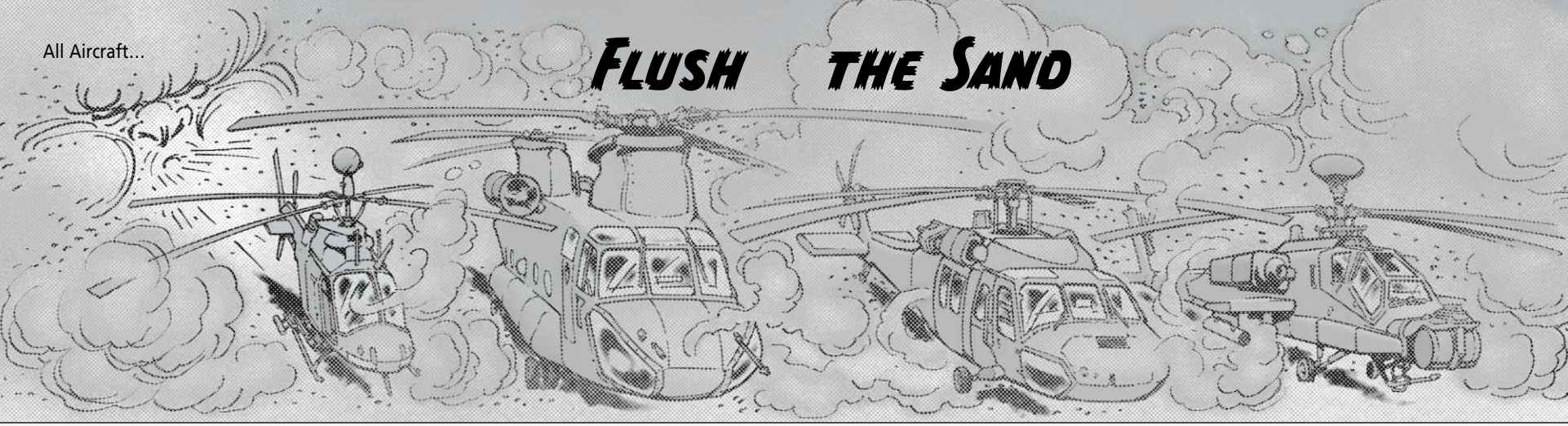
Crew chiefs, don't just eyeball your Chinook's flight control closet during daily inspections.

"Look, but don't touch" just won't do. The closet is the brains of your bird's flight control functions and hydraulic systems.

You should feel components for leaks or missing parts, things like:

- missing cotter pins
- loose cannon plugs
- leaking fittings
- loose bolts and nuts
- loose hydraulic lines

Flush the Sand



Now, more than ever, crew chiefs, daily inspections of your bird cannot be forgotten in the desert.

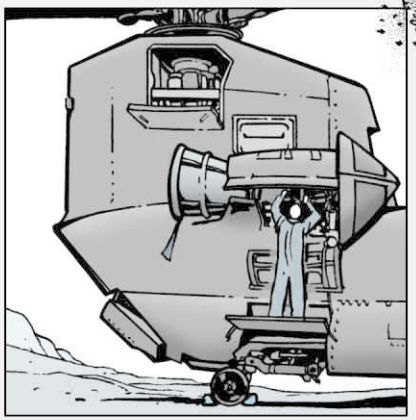
Sand finds its way into every nook and cranny of your bird. Take care of sand problems now to keep your aircraft mission ready in the desert.

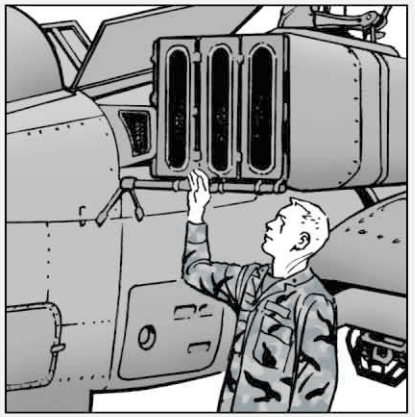
Rushing 10-hour or 25-hour/14-day preventive maintenance inspections and pre-flights—or not doing inspections at all—will mean problems later. That could cost you more work later, or even a lost bird.

For example, desert sand wreaks havoc on an aircraft engine. To beat the sand problem, do engine flushes like your TM says, but do 'em more often in the desert. That can help increase an engine's efficiency. It won't hurt to have a clean engine every time your bird flies.

With a dirty engine, performance goes down. That's why sandy conditions may require more frequent flushes to keep engines up and running.

If you don't fight sand now, it means maintenance headaches for AVUM mechanics and even more work if AVIM shops have to repair damaged components.



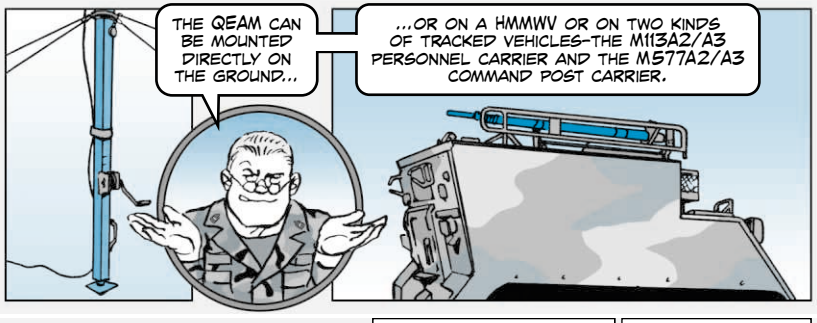


All About the QEAM

In little more than seven minutes, two soldiers can have the AB-1386/U, quick erect antenna mast (QEAM), NSN 5985-01-381-6341, up and doing its job. But all the minutes in a day won't be enough if preventive maintenance has not been done on the mast.

Here are some supply, safety and preventive maintenance tips that will keep you and the QEAM in the best of shape.

Parts

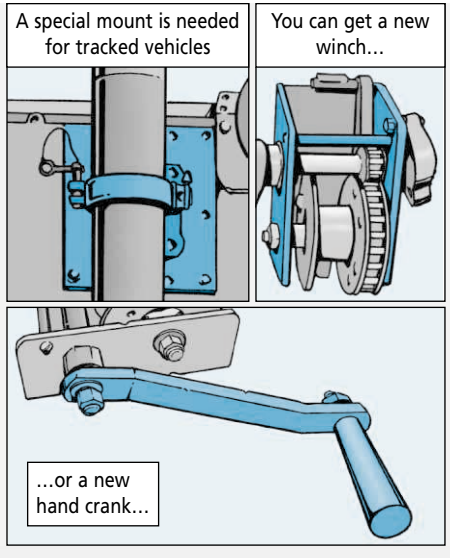


To mount the QEAM on a HMMWV, you'll need mount, MT-6967/G, NSN 5975-01-390- 5770. To mount the QEAM on a tracked vehicle, you'll need mount, MT-6968/G, NSN 5975-01-390-9612.

The hand crank that drives the drive screw is easily mislaid and lost. Order a new one with NSN 5340-01-424-1503.

If the winch is needed, use NSN 5985-01-254-9557, to get a new one.

The gearbox that ensures the quick erecting is quick has several areas of maintenance. If the maintenance is not done, you'll need a new gearbox, NSN 3010-01-421-6827.



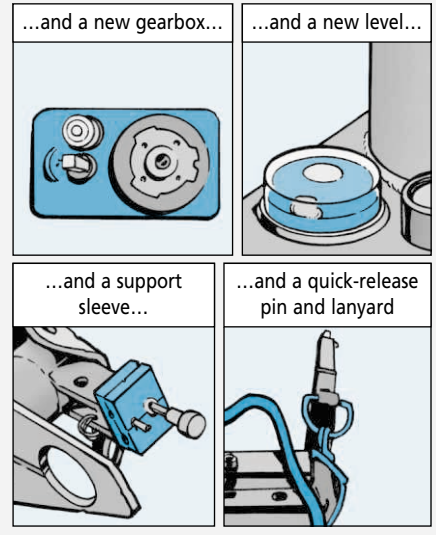
The level indicator on the gearbox often needs replacing. Get a new one with NSN 5210-01-424-7408.

The antenna to antenna base adapter comes by ordering NSN 5985-01-423-8576. You might also need the support sleeve, NSN 5985-01-072-4342.

If you break a quick-release pin, replace it with NSN 5315-00-628-3806 and lanyard, NSN 4010-01-421-0428.

Breaking a quick release pin might lead to a damaged tripod antenna. If so, order a new one with NSN 5985-01-424-7413.

The QEAM uses the same antenna elements and the same RF cable as the OE-254 antenna.



Safety

The number one cause of damage to the QEAM comes when a vehicle moves out with the mast raised. A raised mast, even just one section, can and will come tumbling down if the vehicle is on the move. And sometimes it comes tumbling down on the head of another soldier!

Make absolutely sure before a vehicle moves out–even just a short way–that the mast is completely collapsed and correctly stowed.

Whether raising or lowering the mast, to keep knots off your noggin, wear a helmet. To keep your eyes keen, wear goggles. And to keep your hands cut free, wear gloves.

It's easy with this antenna to forget wearing safety equipment because it is easily erected. But don't be fooled; easier does not mean safer!

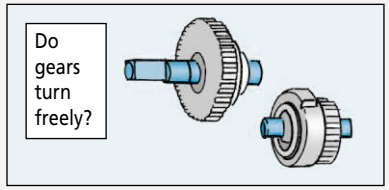
Attaching and removing the antenna elements from the antenna mast is done with the help of the tripod antenna. That tripod lets the mast nest in an inclined position and allows for the removal of the quick-release pin. Sometimes that pin sticks and pressure must be released to free it or it will break! To release the pressure and free the pin, extend the top section of the mast.

As a final safety note, when you're using the AS-3166 antenna element to top off your mast, make sure you use safety tip caps. An unprotected tip can blind or kill a soldier.

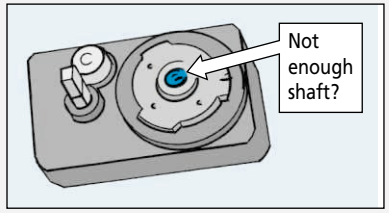
P.S MORE

Preventive Maintenance

The QEAM won't go up and won't come down if the gearbox that raises and lowers it fails. The gears in the box must turn freely with little resistance.

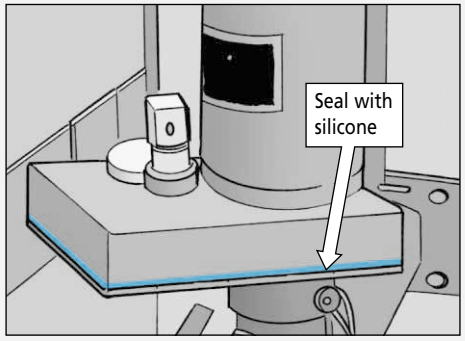


One of the biggest problems on the gearbox is with the **output shaft failing to engage the drive screw.** Because the rear of the shaft is not reinforced, the shaft often falls back into the gearbox and draws level with the flange. When that happens, there is not enough shaft left to fit into the drive screw groove. You can crank the hand crank all you want, but you'll just be spinning the gears!

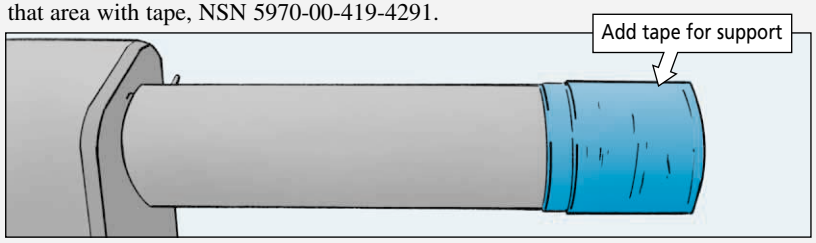


When this happens, you'll need a new gearbox, but there is **a field expedient fix.** Unscrew the bottom of the gearbox and push the output shaft up until enough of it is beyond the flange to engage the drive screw. Keep it in place by inserting wood, paper or metal behind the shaft. This fix will make the cranking a harder task, but the antenna will raise and lower.

When you have the bottom of the gearbox off, you might notice that the seal between the bottom and the box has not done a very good job. Chances are there is water or signs of water in the box. When you screw the bottom of the box back in place, put a line of silicone sealant, NSN 6850-00-880-7616, around the mating area to keep the inside of the box dry.

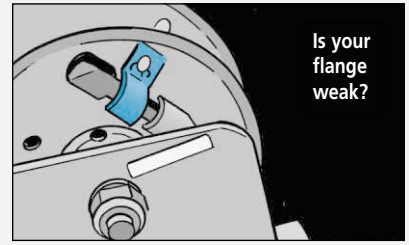


Check the top section of your mast for stress cracks. If you spot any, reinforce that area with tape, NSN 5970-00-419-4291.



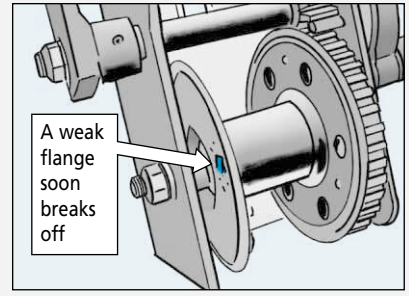
Make sure you use the strain relief clamp to take the pressure off the RF cable connection so that the full weight of the cable is not pulling down on the connector.

PM on the winch is a must. Nothing on the winch breaks more often than the flange on the drum that anchors the end of the wire rope. It breaks because you work it and weaken it by bending it back to insert the lug end of the rope.



Once the flange is bent back out of position, it hits the winch housing with each rotation of the winch. It's not long until the flange is gone.

Check your winch. If the flange is gone, don't use it. You need a new winch. If the flange is bent back, carefully bend it back into place.



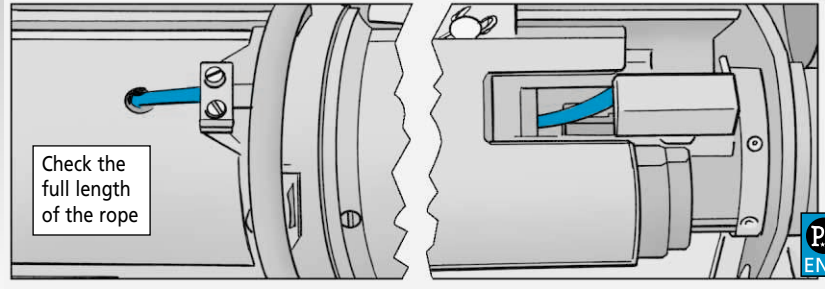
Before mounting the winch on the mast, check the caphead bolts. Make sure they're not bent or loose. Check for cracks. If you find bad bolts or cracks, don't use the mast.

The safety catch on the winch locks up the gear teeth and stops the antenna from retracting. It does that, that is, if it is not frozen in place by rust. Lube the safety catch each time you assemble the antenna and again before storage with silicone grease, NSN 9150-01-197-7693.

Don't overdo it. Just a little lube on your fingertips and rubbed on the catch assembly will do nicely.

Never lube the catch after the antenna is erected. You could accidentally release the catch!

Check the full length of each hoisting rope for broken wire in any of the strands or any other signs of serious wear. If there are broken strands or extensive wear, replace the rope.



Let's Get Reel

The year was 1967. The Beatles were wooing the world with the song, *Michelle,* while Frank Sinatra crooned of illicit romance in *Strangers in the Night. Bonnie and Clyde* were machine-gunning their way across movie screens. A first-class stamp cost 5 cents. And TM 11-3895-203-15, *Maintenance and Parts for Reel Equipment CE-11,* arrived on Army field desks.

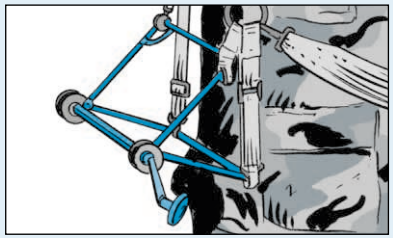
Alas, John Lennon, Frank Sinatra and the 5-cent stamp are long gone, but the CE-11 TM is still with us. It has had three changes since it made the scene, but the last was in 1988, so some of the information needs updating.

Here's the latest and greatest on parts and preventive maintenance on CE-11 reel equipment.

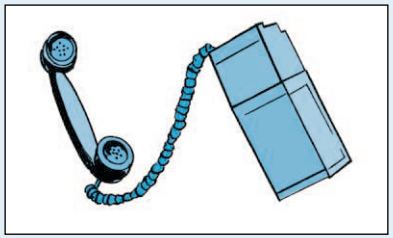
Parts

At one time, NSN 5805-00-407-7722 brought the RL-39 reel, the TA-1/PT telephone set, and the ST-34 and ST-35 straps. Now it only brings bubkes!

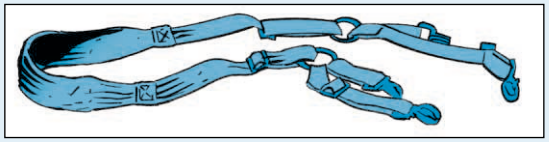
To get the RL-39 reeling machine, you'll need to order with NSN 3895-00-498-8343.



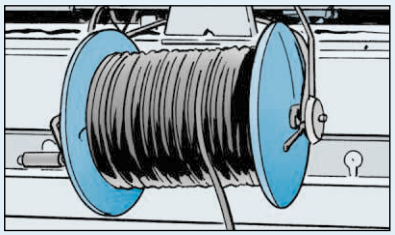
To get the TA-1/PT telephone set, you'll need to order with NSN 5805-00-521-1320.



To get a sling strap use NSN 8465-00-269-0682.

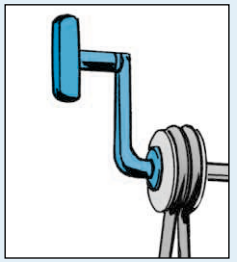


Remember, the DR-8 wire spool never came with the CE-11 and still doesn't. To get the spool, order with NSN 8130-00-407-7859. To get the spool with about a third of a mile of WD-1A wire, use NSN 6145-01-155-4258. To get the spool with 1,000 feet of WF-16 wire, use NSN 6145-01-259-9203.



If you need to replace just the hand crank, order it with NSN 5340-01-142-9478. Order a cotter pin to keep it attached with NSN 5315-00-842-3044. A new carrying handle can be had with NSN 3895-01-135-2538.

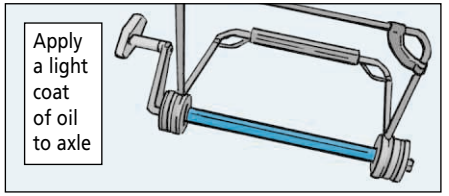
Support can also do some parts replacement on the RL-39. They can order a bearing with NSN 3895-01-133-9995; a housing assembly with NSN 5805-01-151-9929; a plate assembly with stop with NSN 3895-01-151-9928; and a retaining ring with NSN 5365-00-803-7306.



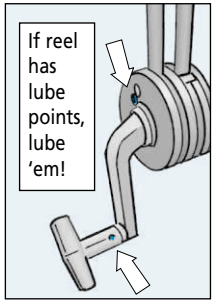
Maintenance

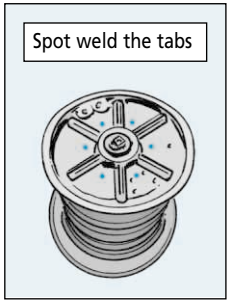
Rust on the reel makes your reeling chores tougher. Remove heavy rust with steel wool, NSN 5340-00-242-4404. Fine, 280 grit sandpaper, NSN 5350-00-193-7211, should do the job on lighter rust.

Once the rust is gone, apply a light coat of oil, NSN 9150-00-273-2389, to the axle.

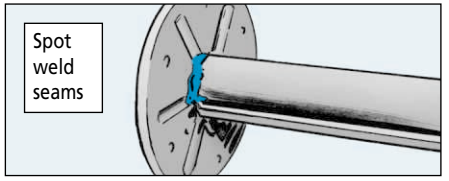


Newer reels have nylon bearings and don't have lube points. If you have an older reel, you have three lube points—one on the face of each bearing and one on the crank handle. Use oil NSN 9150-00-273-2389 on the lube points, too.





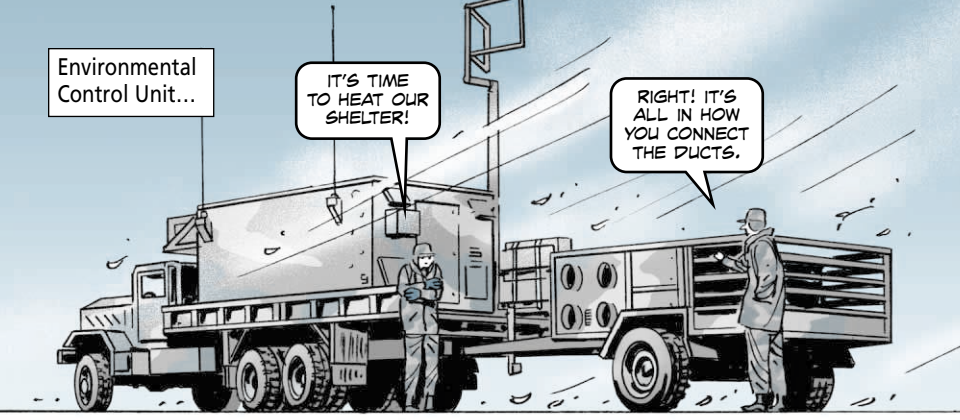
While you're doing maintenance on the reel, check the DR-8 wire spool. Look at the spool's end plates. If the tabs are only bent over, not welded, get support to spot weld them. Bent tabs are too weak to hold the end plate if you drop a loaded spool. For added strength, spot weld the seams where the spool shaft joins the end plates. Three welds at each end will do the trick. Clean up the welds with a wire brush, then touch up with paint.



Despite its age, there is still good info to be found in TM 11-3895-203-15. If you don't have a copy, get an electronic copy emailed to you from CECOM. Just email:

Christina.Yildiz@us.army.mil

If you have other questions about the CE-11 or related issues, contact the CECOM experts at DSN 992-4773 or (732) 532-4773. If you sing a stanza from *Strangers in the Night,* the info they give you is free!



PATRIOT COMMAND SHELTER *HEATING* OR COOLING!?

Dear Editor,

Our Patriot battery heats and cools the command shelters with a DRASH environmental control unit (ECU) that sits on a trailer next to the generator.

To do the heating or cooling job, ducts must be run from the upper supply ports and the lower return ports to the shelter. Often they are connected the same way regardless of whether the job is heating or cooling. This is wrong.

To ***heat*** the shelter, the supply ducts should be run through the lower shelter ports and the return ducts through the upper shelter ports. This just makes sense since warm air rises.

To ***cool*** the shelter, the opposite must be done. The supply ducts should be run through the upper shelter ports and the return ducts through the lower ports.

If your shelter is too hot in the summer and too cold in the winter, you might want to check the hookup of these ducts.

CW3 P P

Ft Bliss, TX

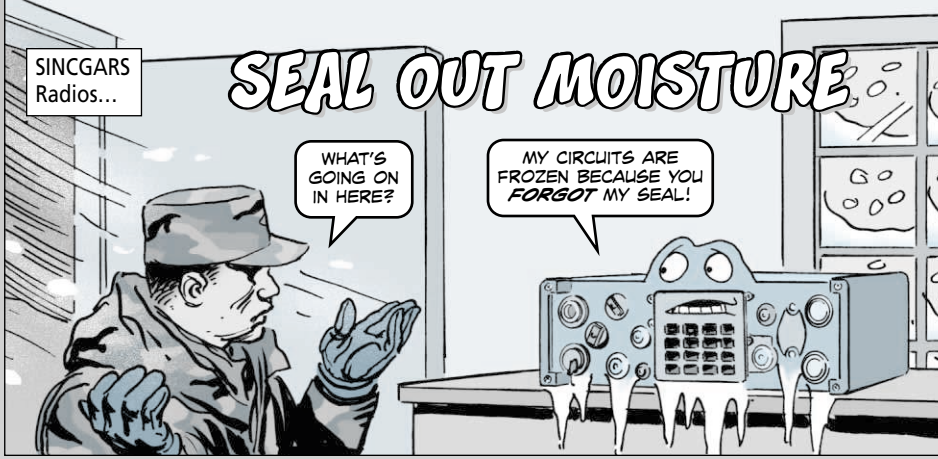
Editor's note:
Thanks, Sir, for this good ECU advice.

Users, while you make sure your ducts are in a row, check for water buildup in the ECU enclosure. There are two drain ports at the bottom of the enclosure to help you remove water. Regular checks of the condenser, the evaporator fan belts, and air filters are a must, too.

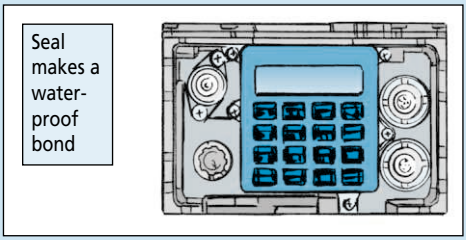
For further info on this system, including manuals, call DRASH at 1-800-977-3647 or email:

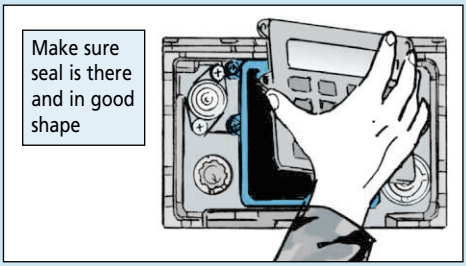
drash@drash.com

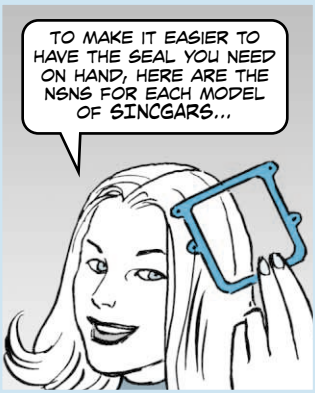
Resupply of parts must come from DRASH, too. This includes the various filters you need. One of the things that you were not issued but might be good to have is an exhaust extension that takes the exhaust fumes away from your shelter area.



The data entry keyboard on the SINCGARS radio can be a source of another type of entry—moisture—if you don't replace the seal when you replace the keyboard. The seal makes a waterproof bond between the data entry keyboard and the body of the SINCGARS. Too often, lately, the keyboard has been replaced, but the seal has been forgotten or a worn seal used.







Model	NSN
RT-1439	5330-01-325-4970
RT-1523	5330-01-325-4970
RT-1523A	5330-01-107-9249
RT-1523B	5330-01-325-4970
RT-1523C	5330-01-325-4970
RT-1523D	5330-01-443-7674
RT-1523E	5331-01-470-6782

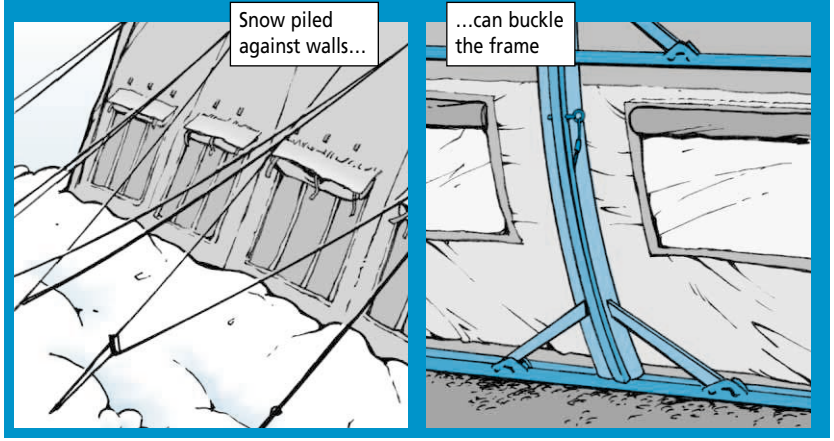
For added moisture-resisting protection, add a light coat of silicone, NSN 6850-00-927-9461, where the seal, the keyboard and the radio body meet.

WHAT WE KNOW ABOUT SNOW

You already know that snow on the roof of a tent can bring the tent down on top of you. But did you also know that snow piled **against** the sides of a tent can bring it down as well?

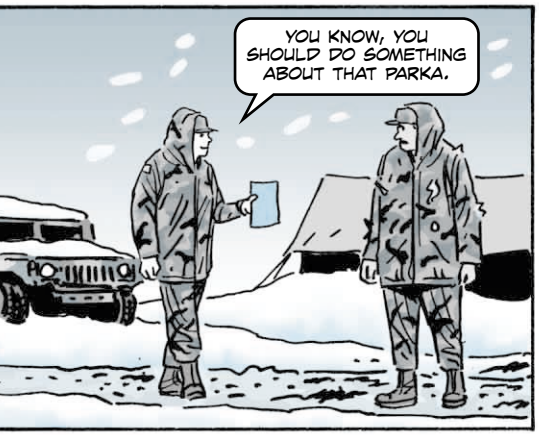
When fiberglass poles get cold, they can bend and break under the weight of snow on the roof. Before snow gets too heavy, shake it off the canvas or polyester. Or clean it off with a snow rake, NSN 5120-01-464- 6340. The rake has an aluminum telescopic pole with an 18-foot reach. Eventually, this rake will be added to all tent TMs.

When you remove snow from the roof, take care not to pile it against the walls. A big snowbank has enough weight to buckle the wall frame and cave in the whole tent.



It's a good idea, though, to shovel a small pile of snow along the base of the tent. That'll hold the fabric down and keep the wind from blowing underneath it and into the tent.

A PATCH IN A PINCH

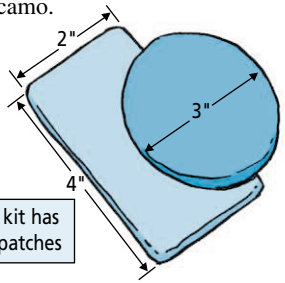


It doesn't matter if the weather's cold and wet or just plain cold. No time is a good time to spring a leak in your extended cold weather clothing system (ECWCS). You need to patch small holes and tears right away. The problem is, there's no ECWCS repair kit in the Army inventory.

Patch your clothes with the GORE-TEX® Fabric Repair Kit from McNett Corporation. Order the kit by calling McNett at 1-800-221-7325, ext 2722.

Stay dry with repair kit

The kit's designed for making **field repairs** not only on ECWCS, but also on all kinds of waterproof, breathable, tri-laminate fabric products, including tents, sleeping bags, rain gear, backpacks and boots. Each kit includes two adhesive-backed patches that provide temporary water-resistant repair. The kits are available in black, tan, woodland camo and desert camo.



Each kit has two patches

- Keep patches in the sealed plastic bag until you're ready to use them.
- Clean and dry the fabric to be repaired. The patch won't stick to dirt, grease or oil.
- Lay the fabric on a smooth, flat surface.
- Remove the paper from the back of patch.
- Apply the patch adhesive side down using finger pressure. Rub the patch in a circular motion from the center to the outer edge.
- The patch should overlap the tear by at least ½ inch in all directions.

Apply patch using finger pressure

- The fabric can be used immediately. The adhesive will continue to strengthen over the next 12 to 24 hours.

Want to make the patch even more durable? Iron it on! Use a clean iron set to medium heat. Apply moderate pressure in a circular motion for about 30 seconds.

Cold Weather Clothing...

SPECIAL OPS CLOTHING FOR EVERYONE

If you have to face extreme cold weather this winter, consider wearing Special Operations Forces Personal Equipment Advanced Requirements (SPEAR) Lightweight Environmental Protection (LEP).

LEP is a system of cold weather clothing originally developed for special ops. But now it's available to anyone in the military. LEP must be worn with the extended cold weather clothing system (ECWCS) parka and trousers.

LEP is made up of seven garments:
- **silk-weight undershirt and drawers**
- **mid-weight undershirt and drawers**
- **stretch fleece bib overalls**
- **heavy-weight fleece shirt**
- **wind-resistant fleece jacket**

Worn together in layers, these clothes will protect you in cold down to -20°F.

The underwear is made of treated polyester knit to wick moisture away from the body. The overalls are made of polyester/lycra fleece. The shirt and jacket are made of fleece. All clothing is available in black or green.

Layer 1, Silk-weight Undershirt

Size	Color	NSN 8415-01-
Small regular	Black	501-7074
Small regular	Green	502-4366*
Medium regular	Black	501-7075
Medium regular	Green	502-4368
Large regular	Black	501-7077
Large regular	Green	502-4370
Large long	Black	501-7108
Large long	Green	502-4371
X-large regular	Black	501-7113
X-large regular	Green	502-4373
X-large long	Black	501-7114
X-large long	Green	502-4375

Layer 1, Silk-weight Drawers

Size	Color	NSN 8415-01-
Small regular	Black	501-6888
Small regular	Green	502-3285
Medium regular	Black	501-6891
Medium regular	Green	502-3287
Large regular	Black	501-6892
Large regular	Green	502-3288
Large long	Black	501-6894
Large long	Green	502-3289
X-large regular	Black	501-6896
X-large regular	Green	502-3290
X-large long	Black	501-6897
X-large long	Green	502-3292

Layer 2, Mid-weight Undershirt

Size	Color	NSN 8415-01-
Small regular	Black	501-7145
Small regular	Green	502-3321
Medium regular	Black	501-7144
Medium regular	Green	502-3322
Large regular	Black	501-7401
Large regular	Green	502-3324
Large long	Black	501-7404
Large long	Green	502-3328
X-large regular	Black	501-7402
X-large regular	Green	502-3325
X-large long	Black	501-7403
X-large long	Green	502-3341

Layer 2, Mid-weight Drawers

Size	Color	NSN 8415-01-
Small regular	Black	501-6858
Small regular	Green	502-3560
Medium regular	Black	501-6863
Medium regular	Green	502-3566
Large regular	Black	501-6864
Large regular	Green	502-3568
Large long	Black	501-6865
Large long	Green	502-3562
X-large regular	Black	501-6868
X-large regular	Green	502-3564
X-large long	Black	501-6869
X-large long	Green	502-3565

Layer 3, Stretch Fleece Bib Overalls

Size	Color	NSN 8415-01-
Small regular	Black	502-3981*
Small regular	Green	502-3692
Medium regular	Black	502-3984*
Medium regular	Green	502-3714
Large regular	Black	502-4029*
Large regular	Green	502-3715
Large long	Black	502-4030*
Large long	Green	502-3718
X-large regular	Black	502-4031*
X-large regular	Green	502-3720
X-large long	Black	502-4032*
X-large long	Green	502-3721

Layer 4, Heavy-weight Fleece Shirt

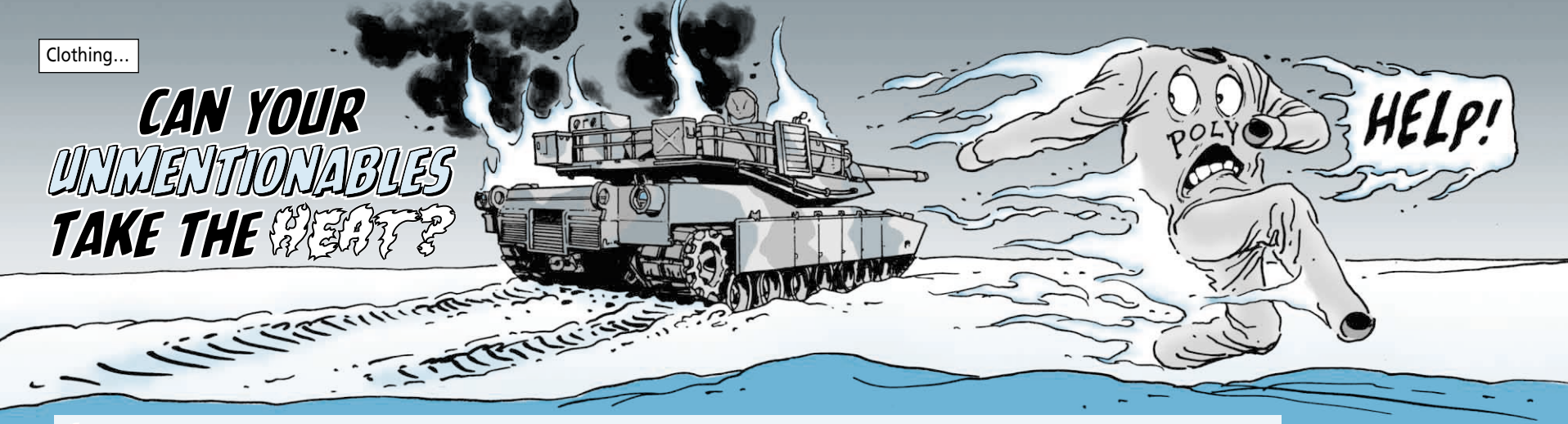
Size	Color	NSN 8415-01-
X-small	Black	472-3526
X-small	Green	501-7420
Small	Black	461-8336
Small	Green	501-7432
Medium	Black	461-8337
Medium	Green	501-7476
Large	Black	461-8341
Large	Green	501-7492
X-large	Black	461-8356
X-large	Green	501-7531

Layer 5, Wind-resistant Fleece Jacket

Size	Color	NSN 8415-01-
Small regular	Black	501-7143
Small regular	Green	502-3646
Medium regular	Black	501-7406
Medium regular	Green	502-3647
Large regular	Black	501-7407
Large regular	Green	502-3648
Large long	Black	501-7408
Large long	Green	502-3649
X-large regular	Black	501-7409
X-large regular	Green	502-3651
X-large long	Black	501-7410
X-large long	Green	502-3652

***Order on DD Form 1348-6 and put "NSN not on AMDF" in the REMARKS block.**

CAN YOUR UNMENTIONABLES TAKE THE HEAT?

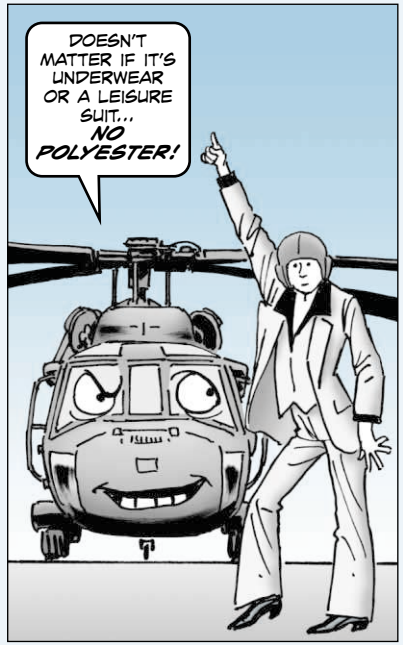


Combat vehicle crewmen (CVC) and air crewmen, mind if we ask you a personal question? Just what are you wearing under your aramid (fire-resistant fiber) coveralls this winter?

No, we're not being nosy, just concerned. Truth is, if you're caught in a vehicle or aircraft fire, your underwear plays a crucial role in keeping you alive.

Aramid fibers can withstand temperatures up to 700°F. But polypropylene—the material found in some cold weather undershirts and drawers—melts at less than half that temperature. In a fire, aramid can transfer enough heat to your polypropylene underwear to melt it to your skin. A fire you might otherwise survive becomes a death trap.

Never wear polypropylene cold weather undershirts and drawers in your combat vehicle or aircraft. Same goes for lightweight polyester cold weather undershirts and drawers. Polyester's another material that can melt. Neither are authorized for CVC, air crews and other personnel who wear fire-resistant uniforms.



Read your underwear labels. If your underwear contains polypropylene or polyester, don't wear them with your fire-resistant uniform. If you're not sure what they're made of, don't wear them.

Now that you know what not to wear, just what should you be slipping into? For CVC, extreme cold weather undershirts and drawers are good choices. They're 100% cotton. The natural cotton fibers won't melt, and they also help keep heat away from your body in a tank fire. Air crewmen should wear the flyers' undershirt and drawers made out of aramid fibers. Aramid is designed to resist flames and not to melt. Both types of underwear are authorized for use by CVC and air crewmen.

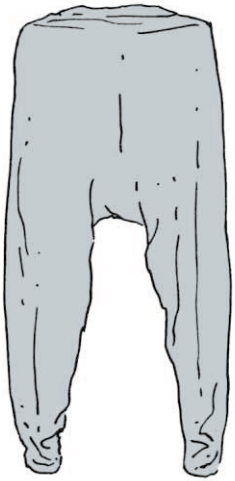
Extreme Cold Weather Undershirt (100% cotton)

Size	NSN 8415-
X-small	01-051-1174
Small	00-270-2012
Medium	00-270-2013
Large	00-270-2014
X-large	00-270-2015

P.S MORE

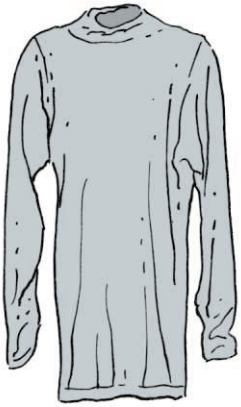
Extreme Cold Weather Drawers (100% cotton)

Size	NSN 8415-
X-small	01-051-1175
Small	00-782-3226
Medium	00-782-3227
Large	00-782-3228
X-large	00-782-3229



Flyers' Undershirt (aramid)

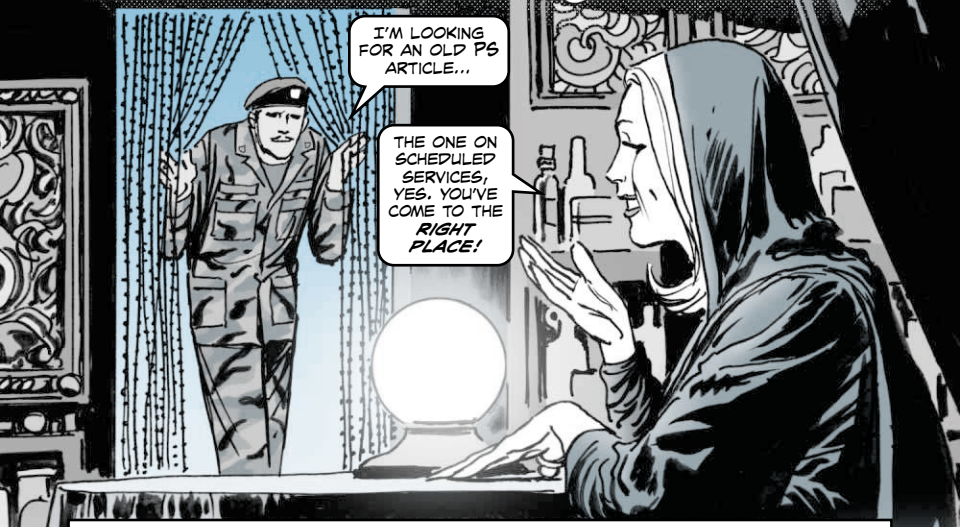
Size	NSN 8415-
X-small	01-043-8375
Small	00-485-6547
Medium	00-485-6548
Large	00-485-6680
X-large	00-485-6681



Flyers' Drawers (aramid)

Size	NSN 8415-
X-small	01-043-4036
Small	00-467-4075
Medium	00-467-4076
Large	00-467-4078
X-large	00-467-4100

Variance Says It All



Dear Connie,

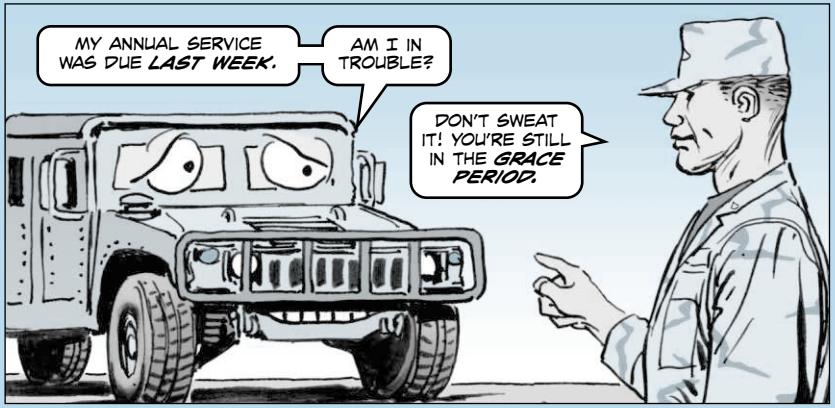
DA Pam 750-8, Para 2-4e(1), says that if you can't pull a service on the scheduled date you can have a 10-percent variance. A few years back PS published an article on how to figure the 10-percent variance. Can you tell me which issue it was in?

Thanks,
CW3 M.G.

The term itself, variance, means this policy is for situations beyond usual practice. The Army doesn't want scheduled services done too early—that would result in waste because parts and lubricants would be disposed of before they have to be. But, the Army doesn't want scheduled services delayed too long. That increases wear on equipment, exposes systems to costly, preventable breakdowns and soldiers to possible injury.

However, the Army recognizes that mission schedules may not always allow a service to be done on the day it is scheduled. So DA Pam 750-8 allows units a 10-percent variance when missions interfere with scheduled service dates. The variance is an **exception** *to normal unit maintenance. The service should be accomplished as close to the scheduled service date as possible.*

Some equipment is not authorized a variance because the service is considered too critical. Check your TM PMCS table to find any restrictions.

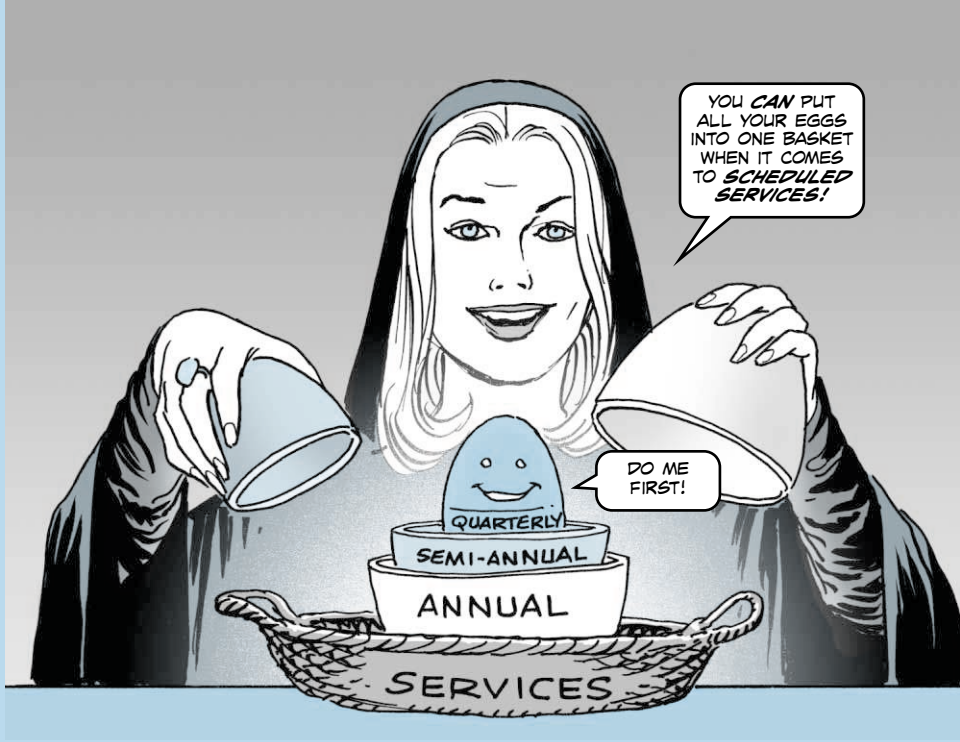


Calculating the Variance

Scheduled services may be based upon days, rounds, miles or hours. The TMs specify which interval to use. The method of figuring the variance is the same.

It's important to note that the variance can be as much as 10-percent ahead of schedule to as late as 10-percent after schedule.

For a semiannual service, multiply 180 days by 10 percent. The result allows 18 days variance from the scheduled date.



Applying the Variance

Mark the semiannual scheduled service date on a calendar. Let's say the scheduled service date is 17 Apr 06.

1. *Count off 18 calendar days before 17 Apr, the scheduled semiannual date. The variance begins on 30 Mar 06.*

2. *Count off 18 calendar days after 17 Apr. The variance ends on 5 May 06.*

DA Pam 750-8 allows the 10-percent variance before or after the scheduled service date. Services done within this variance window are considered done on time.

Combining Scheduled Services

Sometimes quarterly, semiannual and annual services come due at nearly the same time. To save time and manpower, some units decide to do these services at the same time.

However, combining services does not affect the actual service due date for any of the scheduled services.

Quarterly services have shorter variances than semiannuals, and semiannuals have shorter variances than annuals. So when combining services, do the shorter variance first, quarterly followed by semiannual and then annual.

That way if your mechanic is interrupted in doing the services more of the most pressing service will be completed.

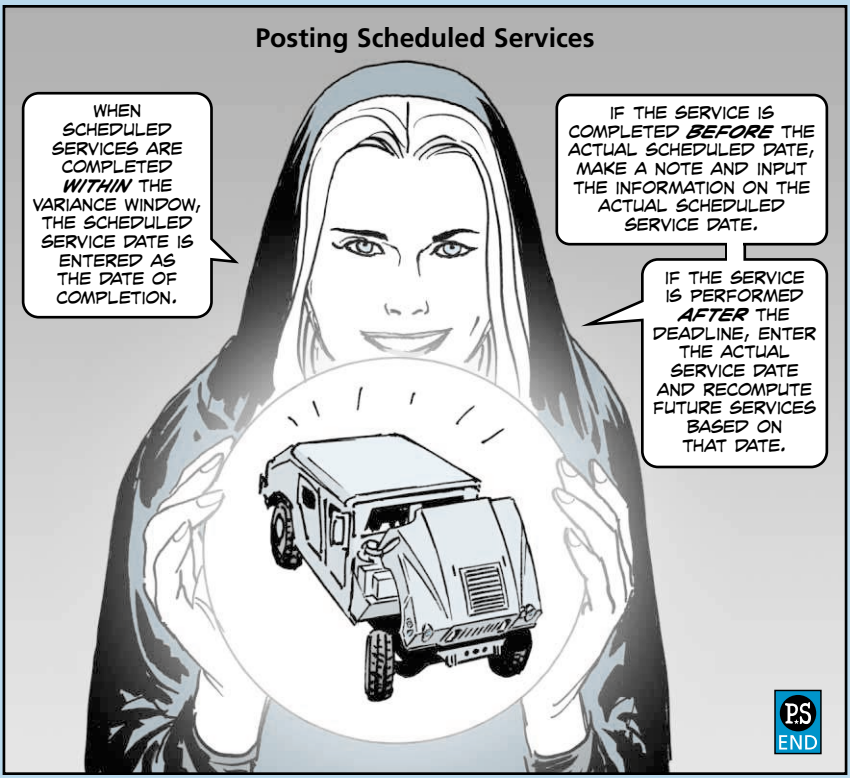
PS MORE

Deadlining Unserviced Vehicles

When you miss servicing vehicles or equipment within the variance window, they must be administratively deadlined. The deadline is reported in ULLS-G with a readiness status code of E.

Administratively deadlined vehicles and equipment cannot be operated until the scheduled services are completed.

Vehicles on extended dispatch when the variance window closes must be circle Xd by the commander for movement to mechanics who can perform the scheduled service.



Connie's POST SCRIPTS

Use Right SINCGARS DODAAC

There are two DODAACs for SINCGARS returned as unserviceable to depot repair. One DODAAC is for non-COMSEC SINCGARS. It's W25G1W. The other DODAAC is for COMSEC SINCGARS. It's W81U11. Make sure the right DODAAC is on the DD Form 1348 when you return an unserviceable SINCGARS.

Defective HMMWV Seatbelt

Three-point seatbelts made by Lasmer Industries and used on HMMWVs may be defective. The D-ring can deform, cracking its plastic cover, which can cause the metal to cut through the belt's webbing. You need to investigate now! To ID the defective belts and get all the info, read TACOM SOUM-05-009 on the AEPS website:

https://aeps2.ria.army.mil/commodity/soum/tacom_wn/05/3pt_seatbelt-strap.pdf

Work on AAME Submissions Now

It's time to think about getting your nomination ready for the next Army Awards for Maintenance Excellence (AAME) competition. MACOMs must have their nomination packets to the Ordnance Center and School by 15 Dec. Packet and submission info are found in AR 750-1, App D (15 Jul 05).

DA Pam 750-8 Revised

DA Pam 750-8, TAMMS, (25 Feb 05) was itself revised on 22 Aug 05. Among other changes is the correction to the definition for the PMCS horizontal dash. Get your copy of the August 05 revision from the Army Publishing Directorate website:

http://www.apd.army.mil

Pubs Support for SWA

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