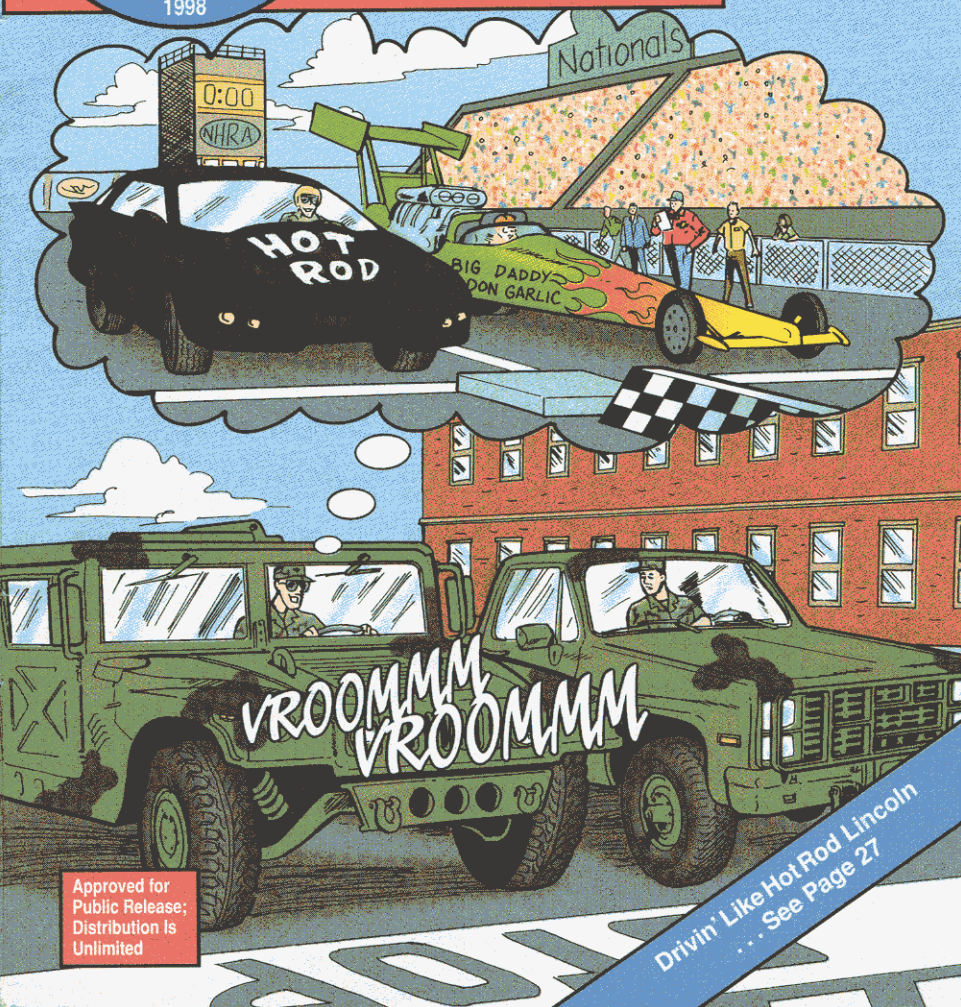
Issue 547
June 1998

PS

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-547



Drivin' Like Hot Rod Lincoln
. . . See Page 27

Accept No Lube Substitutes

Hang around most motor pools or arms rooms long enough and you'll hear about some new magic lubricant. This stuff does a better job than what the Army gives us, you'll hear. And at half the cost!

Maybe the new stuff does do a great job lubricating...then again, maybe it doesn't. You sure can't go by what the lube manufacturer claims. He's trying to make a sale.

If you try an unauthorized lube on your weapon or vehicle, you take a big risk. If the lubricant can't do the job, moving parts grind to a stop, sometimes forever.

Before the Army approves a lubricant, it's tested thoroughly. It must offer a great deal of protection under a great number of conditions. So if the Army says a lube is OK, you can be sure it is.

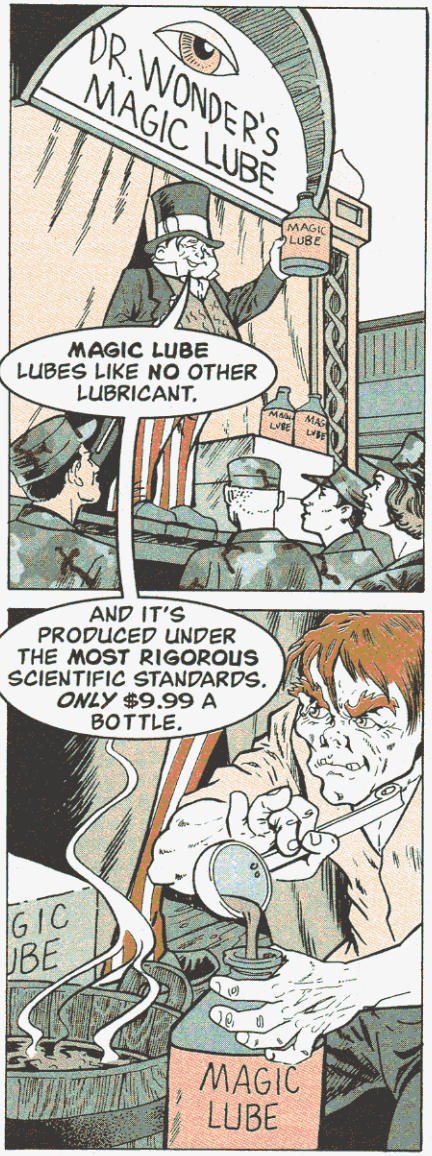
That's why it's critical that you use only those lubricants the LO or TM says to use. They are what's best for your vehicle or weapon. Don't be tempted by exaggerated claims or low prices. Accept no substitutes!

If you want a new lube checked out or are having trouble getting the right lube, write:

US Army TACOM-ARDEC
ATTN: AMSTA-AR-EDE-S
(Tremblay)
Picatinny Arsenal, NJ 07806-5000

Call (973) 724-6671, DSN 880-6671, fax (973) 724-5288 or DSN 880-5288, or e-mail:

tremblay@pica.army.mil



PS THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-547, 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. Masculine pronouns may refer to both genders.

ISSUE 547 JUNE 1998

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

MSG Half-Mast
The Preventive Maintenance Monthly
LOGSA, Bldg. 5307
Redstone Arsenal, AL 35898-7466

Or E-mail to:

psmag@logsa.army.mil

Internet Address:

http://www.logsa.army.mil/psmag/pshome.html

By Order of the Secretary of the Army:

DENNIS J. REIMER
General, United States Army Chief of Staff

Official:

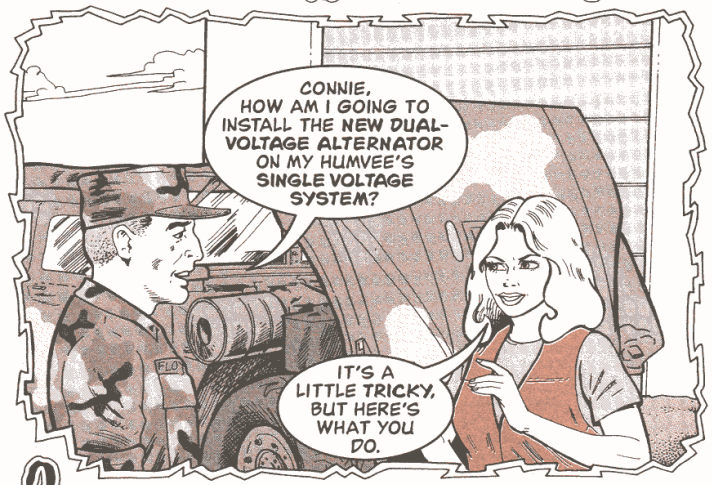
Joel B. Hudson

JOEL B. HUDSON
Administrative Assistant to the Secretary of the Army
04589

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Redstone Arsenal, AL 35898-7466. Periodical Postage is paid at the Huntsville, AL post office and at additional mailing offices.

Postmaster: Send address changes to PS, The Preventive Maintenance Monthly, LOGSA, Redstone Arsenal, AL 35898-7466.

INSTALLING NEW ALTERNATORS



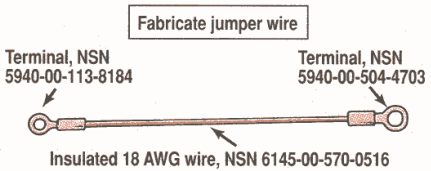
Original equipment alternators (100- and 200-amp) for your HMMWV are no longer available.

Their replacements, NSN 2920-01-407-0532 (100-amp) and NSN 2920-01-420-9968 (200-amp), are the dual-voltage alternators used on A2 and M1113/M1114 expanded capacity models that have electronic-controlled transmissions.

These new alternators (and the regulators that go with them) will be used on **all** HMMWVs once the older ones are used up.

To use them with basic and A1 model HMMWVs, which are single voltage systems, however, you must ground the +14V terminal of the 100-amp dual voltage regulator, NSN 2920-01-429-9591 and the 200-amp dual voltage regulator, NSN 2920-01-415-9497. Here's how:

1. Fabricate a ground jumper wire. You need a 9 3/4-in piece of AWG 18 wire, NSN 6145-00-570-0516, and two terminals. One terminal, NSN 5940-00-113-8184, is about 1/4 inch in diameter; the other, NSN 5940-00-504-4703, is about 5/16 inch in diameter.

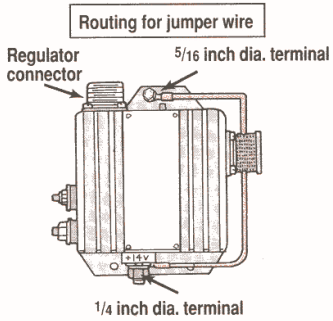


2. Hook up wire 2A to the AC terminal and wire 3B to the alternator ground. When installing a 100-amp dual voltage alternator, hook up wire 568A to the ignition/energize terminal and wire 5A to the alternator's positive terminal.

When installing the 200-amp dual voltage alternator, hook up wire 5A to the ignition/energize terminal and wire 6E to the alternator's positive terminal. Wire 568 gets tied back and plugged.

3. If you are installing a dual voltage regulator on a single voltage alternator, leave the cap on the phase connector since it is not used. If you are installing a dual voltage regulator on a dual voltage alternator, keep the phase connector connected to the alternator.

4. Connect the jumper wire from the +14V regulator terminal to the alternator ground terminal. Use the original hardware, torquing the +14V end to 90 in-lbs and the ground end to 30 lbs-in.



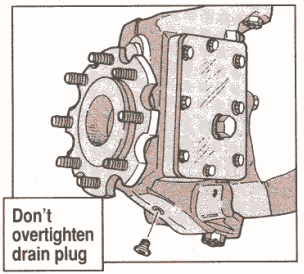
No Stress for Geared Hub Plug

Give the magnetic drain plug on your HMMWV's geared hubs a break when you remove or install it.

The plug gets a lot of action. The hubs are drained during every semiannual service, before any repair involving the geared hub and after any operation where water contaminates the gear oil.

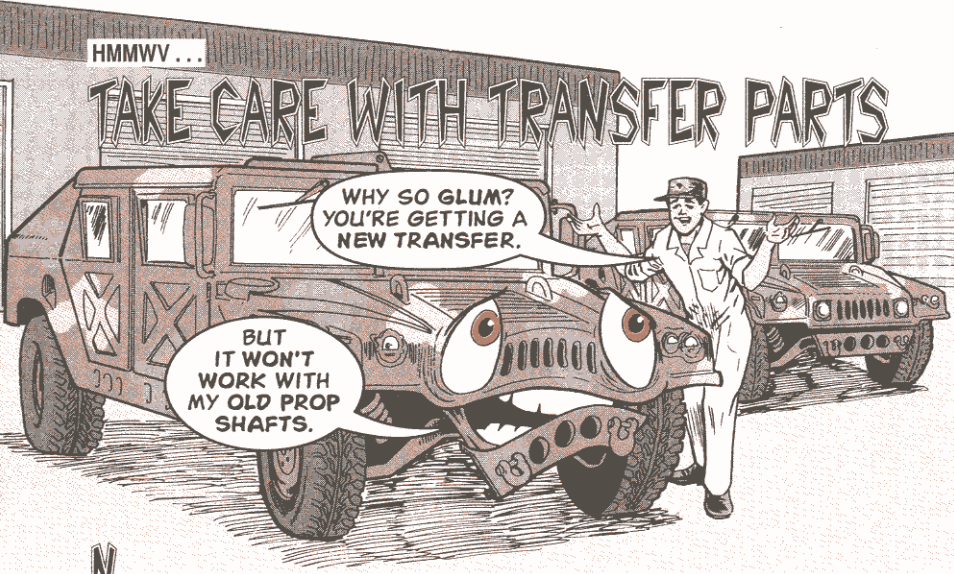
Very little torque—8 to 13 lb-ft—is required to keep the plug in place. That's like finger-tight plus a little twist of the wrench.

Use a 3/8-in hex head socket drive to remove the plug. You'll round off the plug head with anything else, making the removal job much harder next time.



HMMWV . . .

TAKE CARE WITH TRANSFER PARTS

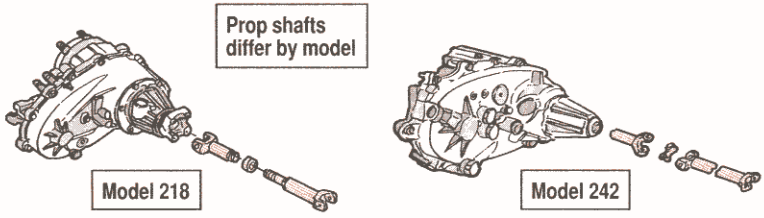


Now that there's a new transfer in the supply system for all basic HMMWV models except the M1097, you'll need to be extra careful when you order front and rear propeller shafts.

The old model 218 transfers are no longer in production. They've been replaced by model 242 transfers. Prop shafts that work with the model 218 transfer won't work with the model 242, and vice versa.

If your basic model HMMWV (other than the M1097) has the model 242 transfer, check the TM to make sure that you order front and rear prop shafts that carry the usable-on code (UOC) "BVY" in the parts manual, or the prop shafts that the parts pub says are to be used with transfer case, PN 12447125.

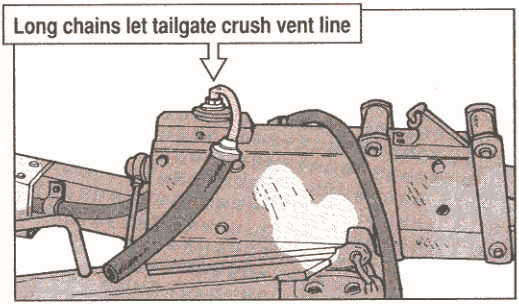
The old transfer is good to go until it breaks, but use only prop shafts that the parts pub calls out for use with transfer case, PN 12340073. When you order the old transfer, the supply system will send you a kit, NSN 2520-01-434-0822, to replace it. The kit contains the 242 transfer, necessary prop shafts, hardware and instructions.



Keep Tailgate Off Trailer

The extended tailgate on your shelter-carrying HMMWV packs a big wallop when it's dropped.

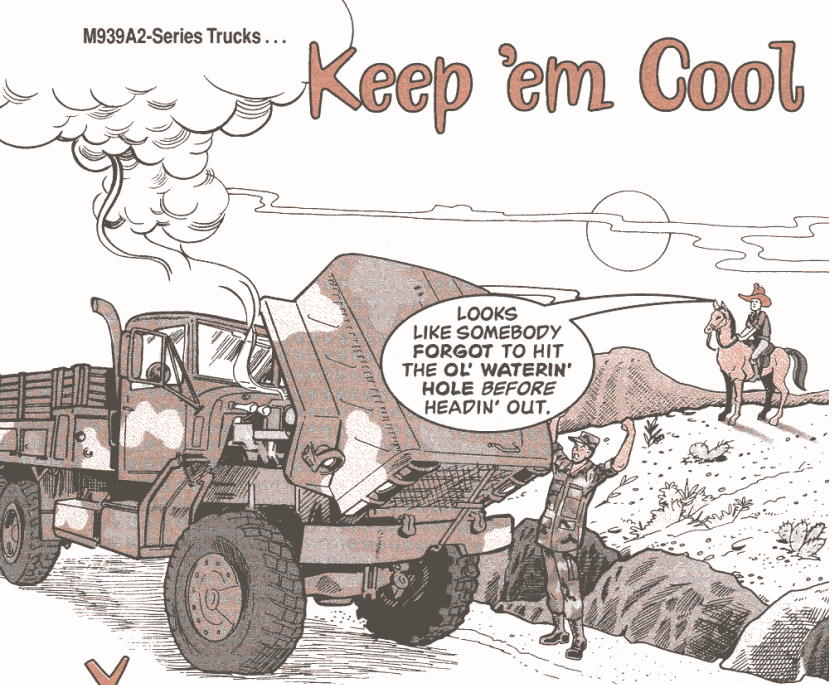
Like when it's dropped onto the brake cylinder vent for the M101- and M116-series trailers that are often towed by HMMWVs in the field.



If the tailgate chains aren't adjusted right, the tailgate can break off the vent or squeeze it shut, causing lots of problems in either case.

Plus, if the tailgate rests on the vent line, each time you step on the tailgate you twist it. That messes up the hinges and can warp the tailgate so it won't close correctly.

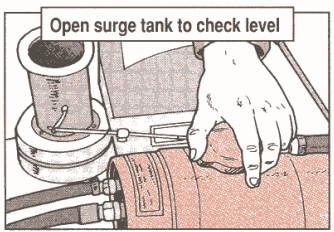
Keep 'em Cool This Summer



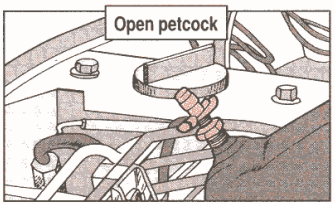
You wouldn't head cross-country on horseback without first giving your steed a drink, so give your M939A2-series 5-tonner the same consideration before a mission.

Overheating can be just as deadly to a metal horse.

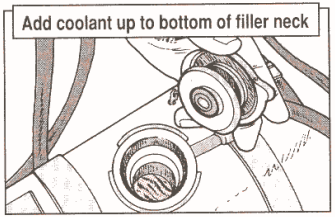
To find out if your vehicle needs a drink, open the surge tank to see if the coolant level is at the bottom of the tank filler neck. If it's not, here's what to do:



1. Open the petcock on the aftercooler.

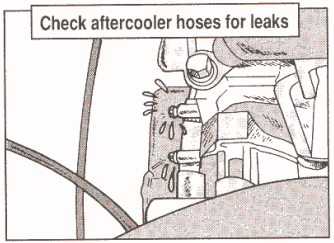


2. Add coolant to the surge tank until it runs out of the petcock. Close the petcock and re-fill the surge tank until coolant reaches the bottom of the filler neck. Close the surge tank.



3. Start the engine and let it warm to 185°F. Open the filler cap—slowly—until the pressure is gone. Eyeball the coolant level in the surge tank again. If the level is still low, add coolant until it reaches the bottom of the filler neck.

In addition, since that water went somewhere, every time you add coolant, eyeball the aftercooler hoses mounted on the back of the engine cylinder head. Use a flashlight for both hot and cold inspection.



Look for rust or odd-colored stains where coolant has leaked. Then, later, when you've got the engine running at operating temperature and pressure, eyeball those places again for wetness.

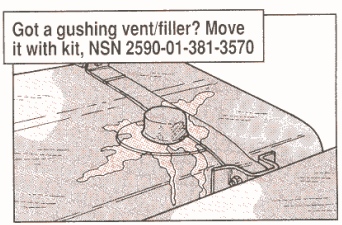
Also, feel the hoses near the clamps. Any wetness means you need to get your mechanic to tighten the clamps.

Kit Stops Hydraulic Gusher

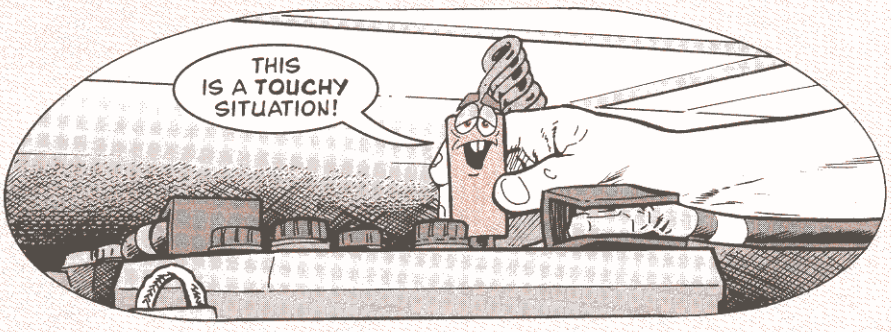
If you've been fighting a hydraulic fluid fountain when you retract the boom on your M936-series wrecker, here's good news.

Kit, NSN 2590-01-381-3570, moves the hydraulic tank vent from the return side of the tank to the outlet side. This kit lets you continue to use the old-style tank, but prevents the leaks caused by the vent being on the wrong side.

If you already have the new tank, with the vent on the outlet side, you don't need the kit.



BATTERY TESTER IS TOUCHY



The battery tester on your FMTV makes battery fluid level testing a snap—when the test is performed correctly. The tester shows red when it touches the fluid level in each cell. You must know how to use it, however.

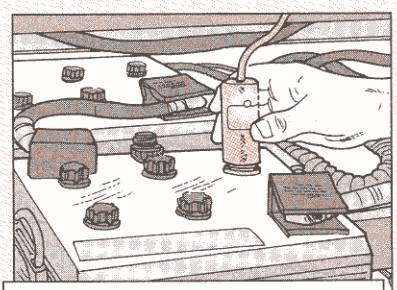
The tester is touchy—it'll give you a red light when it touches most anything. So, knowing when to believe the red light is the key.

Your -10 TM says to test the tester by touching it to the battery post first. If the red light comes on, you're good to proceed. If the light doesn't come on, then call in your mechanic.

Here's where you need to be a pro.

The light may come on just as you start to put the tester into a battery fill hole. If that happens, it's probably a false reading because you touched the rim of the fill hole.

You have to place the tester in the middle of the cell opening without touching the rim. Then slowly lower it into the cell. If the light comes on **before** the tester is fully seated on the cell rim, there's probably too much fluid in the battery. Let your mechanic know ASAP.



Don't touch rim until tester is fully seated

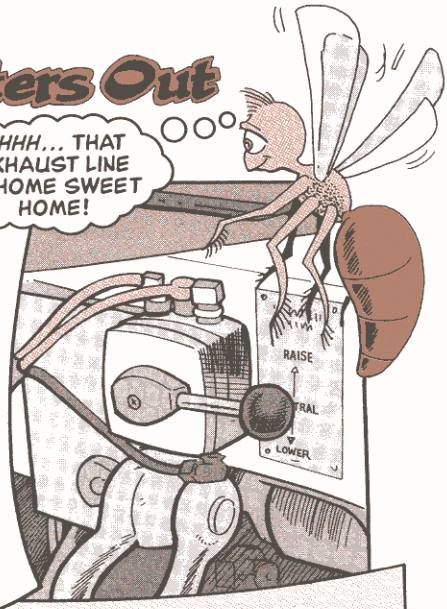
If the light comes on right as the tester is fully seated on the rim of the cell hole, that cell is OK. Go on to test all cells on all batteries.

If the red light doesn't come on when the tester is seated, tell your mechanic. He'll probably have to add electrolyte or distilled water.

The test is meaningless unless you follow these procedures.

M1076 PLS Trailer . . .

Keep the Critters Out



Dear Editor,

We were having trouble getting M1076 PLS trailer drawbars to lower from the raised position. After checking out several, we found that all of them had mud dauber nests in the air bag exhaust line of the front air tank.

We swatted that problem by cleaning out the line with a wire. It lets the air line vent so the drawbar will lower.

SGT Lawrence A. Pettit
OMS 11, OKARNG
Ardmore, OK

FROM THE DESK OF THE *Editor*

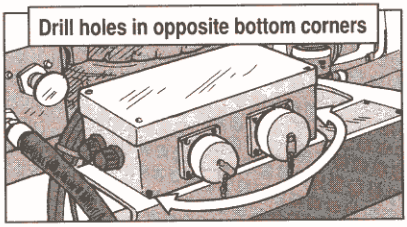
Sounds like a winner from here. If tank draining is not done often or at all in cold weather, ice can also cause a blockage. Next time TM 9-2330-385-14 is updated, a semiannual PMCS for the vent line will be added.

No Water in Electrical Boxes

If you find water in your M1076 PLS trailer's front or rear electrical box, get rid of it. Here's how:

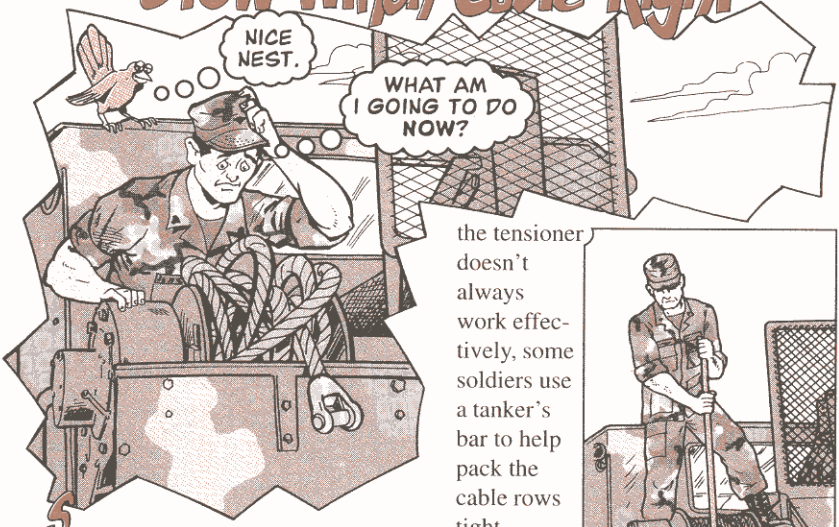
First, disconnect the trailer's electrical cable from the truck.

Carefully drill two drain holes in opposite corners of the box. One hole should be in a front corner; the other in the opposite rear corner. Do it carefully because the box is not empty. You're trying to save the electrical contents, not skewer them.

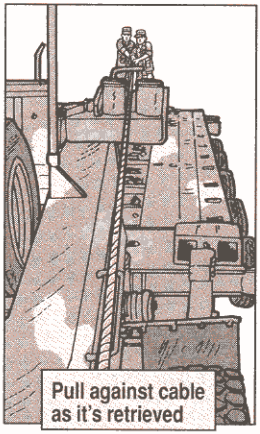


A 3/16-in drain hole is big enough. But, remember to keep the drains clear by poking them regularly with a pipe cleaner, stick or other non-metal item.

Stow Winch Cable Right



Stowing main winch cables on the M1070 tractor often leads to bird-nesting (tangled cable) because the pneumatic winch tensioner just can't exert enough pressure for neat rewinding.

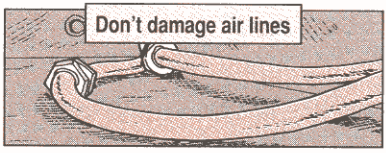

Pull against cable as it's retrieved

You've been taught to have crewmen grab the cable and pull against it as the cable is retrieved with the tensioner engaged. But, since the tensioner doesn't always work effectively, some soldiers use a tanker's bar to help pack the cable rows tight.

Carefully pack cable with tanker's bar

That's OK as long as the bar isn't braced against the winch housing floor.

There are air lines on the floor that operate the winch. If you aren't careful (or are just plain unlucky), the air lines can be snagged and damaged. That could stop your winching altogether.


Don't damage air lines

So, protect the air lines. Use a bar sparingly and always keep it away from the winch's air lines.

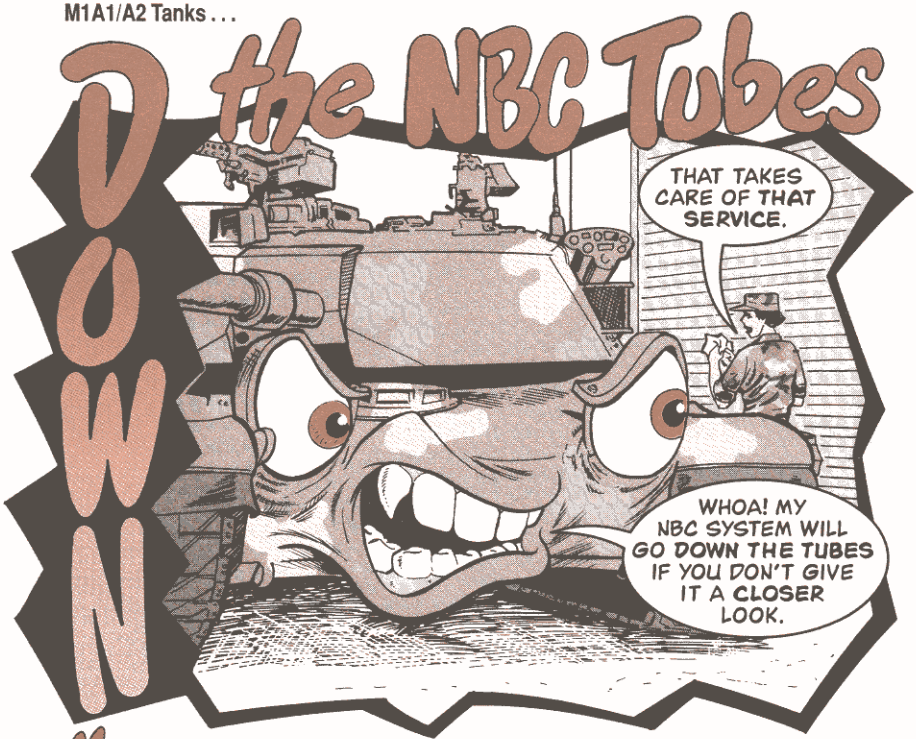
That Hissing Is Not a Snake

Walk around your M1000 HET semitrailer after hookup and listen for a telltale hiss of escaping air.

A trailer air tank drain cock can stick open when you dump air at the end of a mission. Then when you fire up again, air just keeps escaping instead of filling the tank.

If you hear the hiss at a drain cock, give the lanyard one quick tug to see if the hiss stops. If it continues, feel for air coming from the drain cock. Then, tell your mechanic what you find. It may be that debris has lodged in the drain cock or that it's corroded. Cleaning may solve the problem. If not, a new drain cock may be needed. If the leak's in the air line, your mechanic will have to troubleshoot that.

DOWN the NBC Tubes



Mechanics, whoever said ignorance is bliss didn't know about the NBC tube, NSN 4710-01-444-3668, on the M1A1/A2 tank.

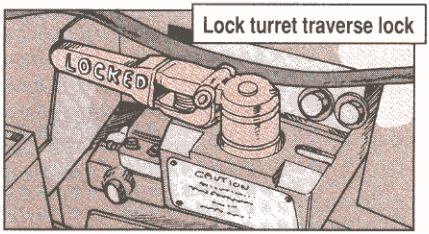
Over time, the NBC tubebellows will develop leaks. Since the tube isn't covered under any maintenance check in the TMs, those leaks often go undetected.

The tube is located in the crew compartment between the NBC filter support assembly and the hull wall. So, your ignorance of the tube's condition could be fatal.

Check for leaks during semiannual maintenance like this:

1. Traverse the turret until the main gun is over or between the right rear road wheels #6 and #7.

2. Lock the turret traverse lock.

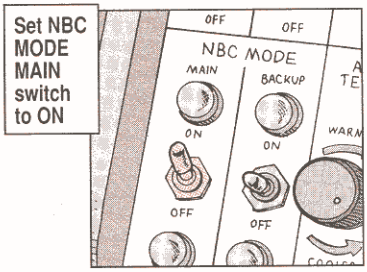


3. Open the driver's access screen.

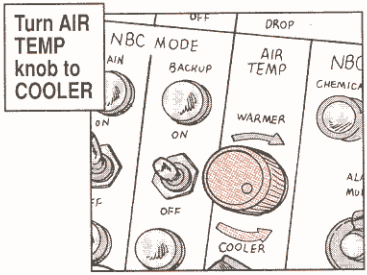
4. Start the engine.

5. Set the NBC MODE MAIN switch on the commander's panel to ON for M1A1

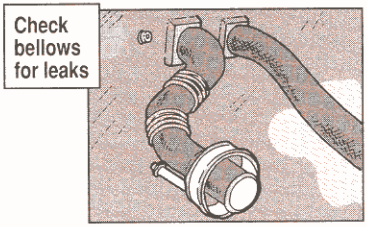
tanks. For M1A2 tanks, turn the main NBC system on and check to see if the main LED light comes on.



6. Turn the AIR TEMP knob left to the full COOLER position for M1A1s. For M1A2s, press the TEMP push button and adjust the four-way switch on the CID to full cool.

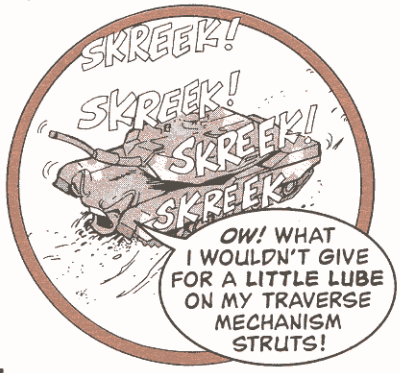


7. Reach underneath and around the heater assembly and check for air coming from the NBC tubebellows.

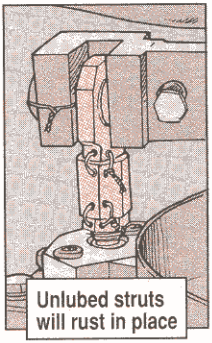


If you feel **any** air flow, call in DS to replace the tube.

Strut Your Stuff



If a lube point is out-of-sight, it's usually out-of-mind. The horizontal and vertical struts on the M1-series tank's traverse mechanism are a good example, crewmen.



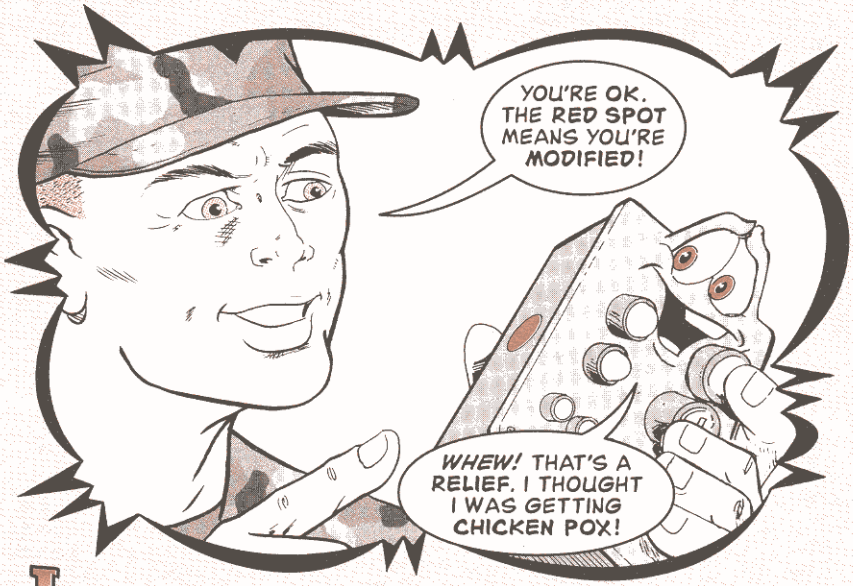
The LOs say to lube the struts with PL-M, but they're usually forgotten because the struts sit behind the traverse mechanism.

Eventually, the lube dries out and the strut pins rust in place. Either the struts stop moving or the pins snap. Either way, there's nothing to stabilize the traverse mechanism.

You can prevent this problem by lubing the struts semiannually. Monitor the struts monthly, though. If they look dry, lube 'em.

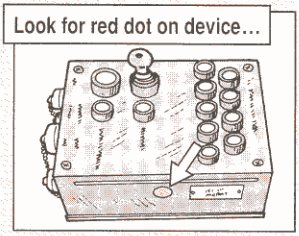
Get a 4-oz can of PL-M with NSN 9150-00-271-8427. A 1-qt can comes with NSN 9150-00-231-2361.

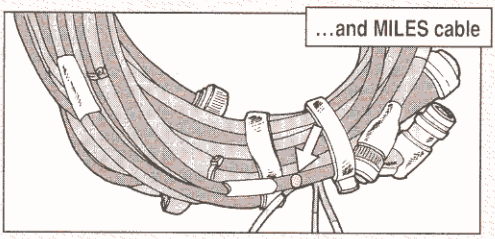
LOOK FOR THE RED DOT



Tankers, don't use the tank gun fire simulator (Hoffman device), NSN 6920-01-067-1667, on your M1-series tank unless the simulator has been modified. If it hasn't, it'll create an electrical spike that could damage your tank's electrical system.

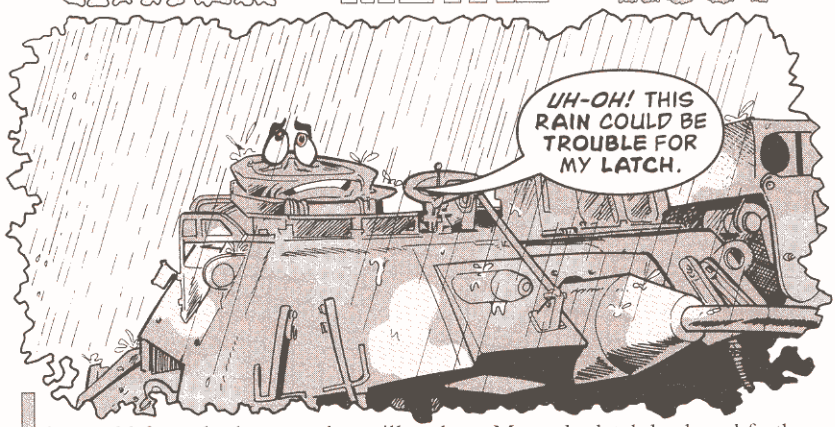
Modified simulators have a dime-sized red dot on the control box. You'll also find a second, smaller red dot near the modified area of the MILES M1 kill indicator cable.





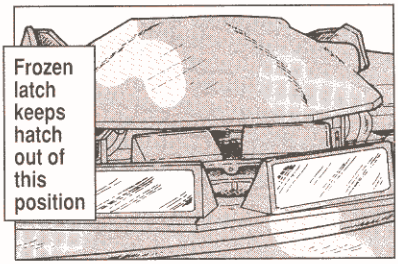
If your simulator or MILES cable doesn't have the markings, **don't use them**. Turn the device in to your training support center.

WATER + METAL = RUST

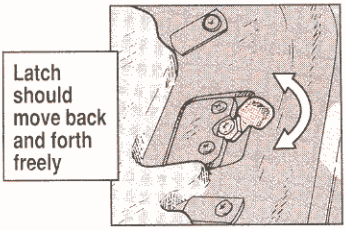


It's an old formula, but one that still holds true for the commander's hatch cover latch on your M2/M3-series Bradley.

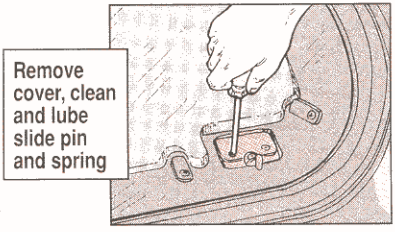
Whenever the hatch is left fully open, rain and condensation pool around the latch. That water seeps inside the latch and rusts the slide pin and spring. When that happens, the latch won't move, so you can't move the hatch to the pop-up position.



Keep the latch moving with a shot of aerosol dry-film lubricant, NSN 9150-01-260-2534, about every 120 days. Move the latch back and forth a few times to work in the lubricant.



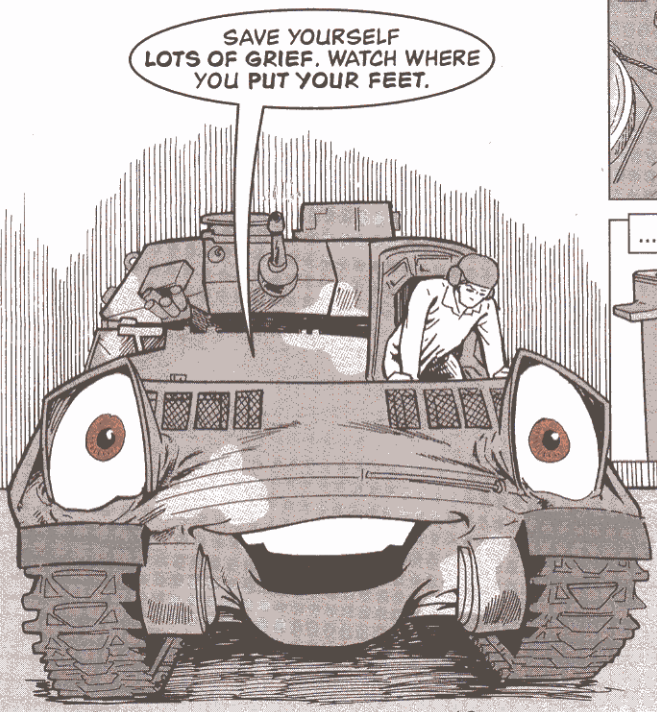
If the latch is hard to move or won't even budge, get your mechanic to take the latch cover off and clean and lube the area around the slide and spring with dry-film lubricant.



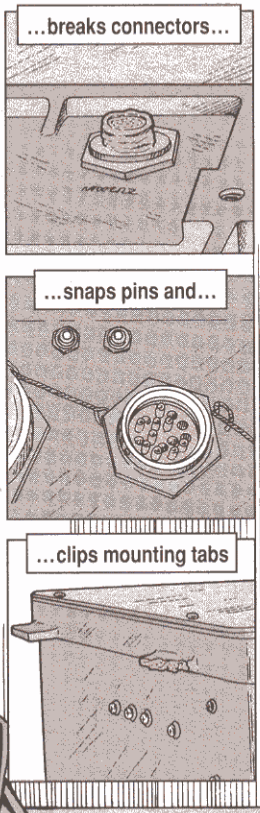
WATCH YOUR STEP

Bradley crews, one of the most dangerous objects in your fighting vehicle is your **foot**.

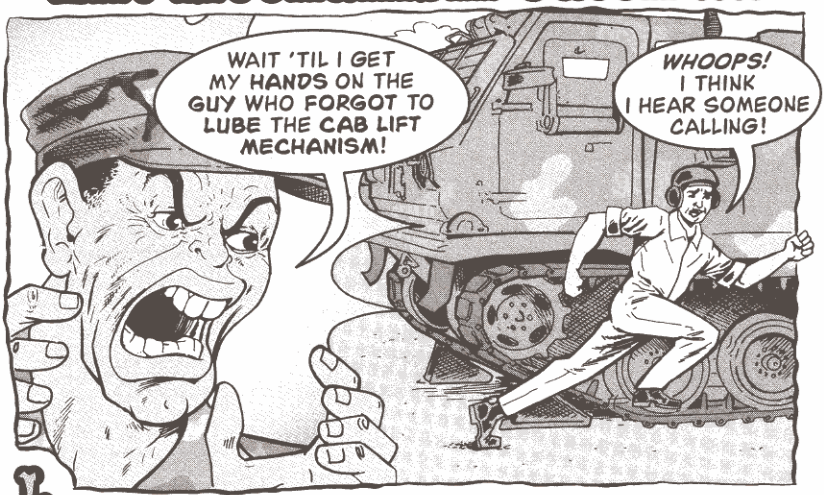
In the middle of a mission, fragile parts inside your vehicle get broken by reckless feet. Knobs, pins and connectors, gauges and cables are all vulnerable.



Careless work by careless feet...

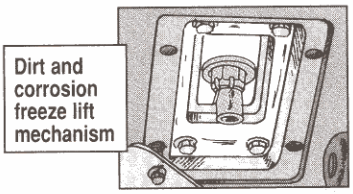


Lift Mechanism Catch-22



Lifting the cab on your MLRS carrier is no easy task, crewmen. But if you forget to lube the cab lift mechanism, it's nearly impossible!

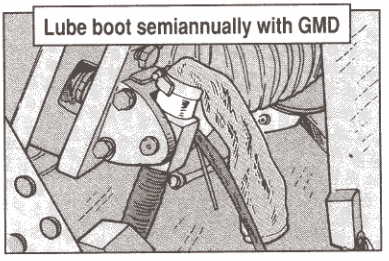
With no lube, rust takes over. The mechanism freezes in place and you can't budge the cab.



It gets worse. In order to lube the lift mechanism, you have to raise the cab. But if the cab won't raise, you can't get to the lift mechanism.

Keep yourself out of this Catch-22 by lubing the mechanism semiannually like it says in the LO.

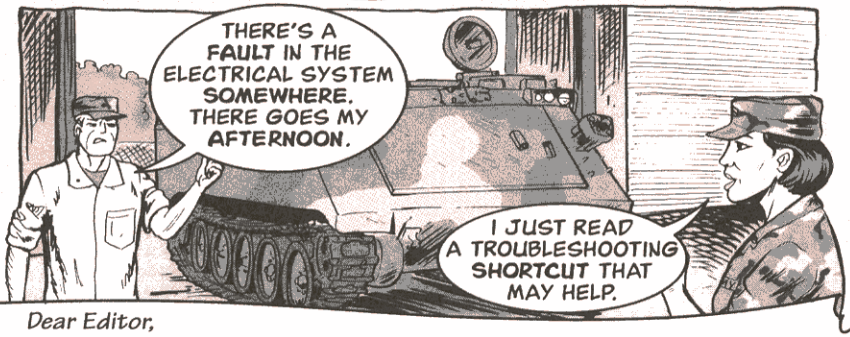
After you raise the cab, remove the clamp and coat the inside of the canvas boot with molybdenum disulfide grease (GMD). That'll keep you going for another six months.



If the clamp is worn or damaged, replace it with NSN 4730-00-908-3193 before locking the boot back in place.

'Course, if the mechanism is already frozen, you'll have to call in your mechanic. He'll be **real** pleased to hear your story.

Finding the Fault



Dear Editor,

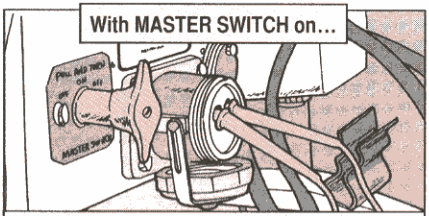
Faults in the electrical system of M113-series carriers are one of the toughest problems for mechanics. That's because there are so many locations to check.

TM troubleshooting procedures tell you to start with the batteries and work your way forward. That can be very time-consuming, especially if the trouble is way up front—like the generator.

I've cut down on troubleshooting time by attacking the problem from the middle—at the NATO slave receptacle. Here's how:

Turn the MASTER SWITCH to ON. Set your multimeter to volts and insert the probes into the positive and negative feeds of the slave receptacle.

If the multimeter reads 22 volts or higher, the batteries are OK. If not, you'll need to check each battery to find the problem.



...insert multimeter probes in slave receptacle

Start the engine. The voltage reading on your multimeter should increase. If it doesn't, the problem is with the charging system. Look for loose belts and check the regulator to see if it needs adjusting.

If that doesn't fix the problem, the generator is the most likely cause.

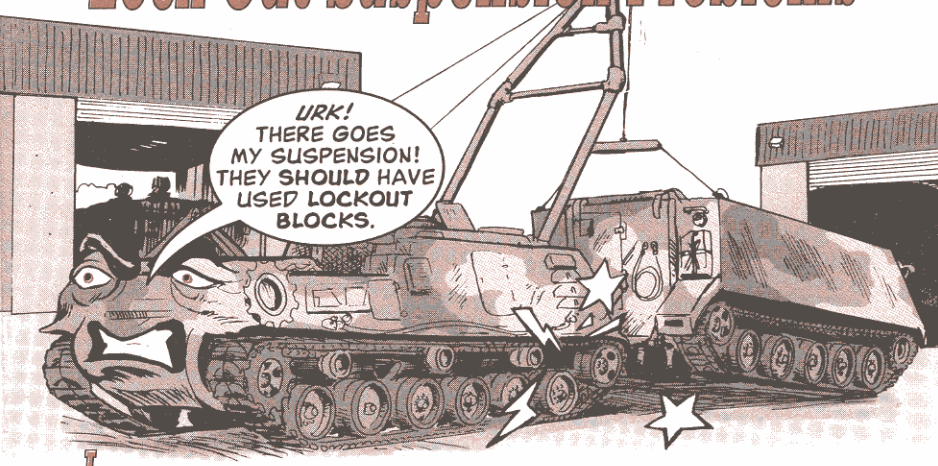
SSG Robert Gonzalez
2/70th AR
Ft Riley, KS

FROM THE DESK OF THE Editor

We got a real charge out of that suggestion! Good job!

M88A1 Recovery Vehicle . . .

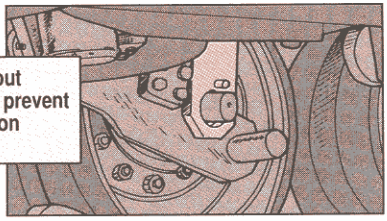
Lock Out Suspension Problems



It's sometimes hard to tell the difference between light and heavy loads for your M88A1 recovery vehicle, operators. Yet that distinction can mean the difference between an easy lift and equipment damage.

Light loads—less than six tons—are usually a breeze. Heavy loads—six to 20 tons—can play havoc with torsion bars, shock absorbers and road arms.

Always use lockout blocks when lifting heavy loads and when you're not sure just how heavy the load is. Lockout blocks take the excess stress off the front suspension system. Para 2-24 of TM 9-2350-256-10 tells how to install and use lockout blocks.



Use lockout blocks to prevent suspension damage

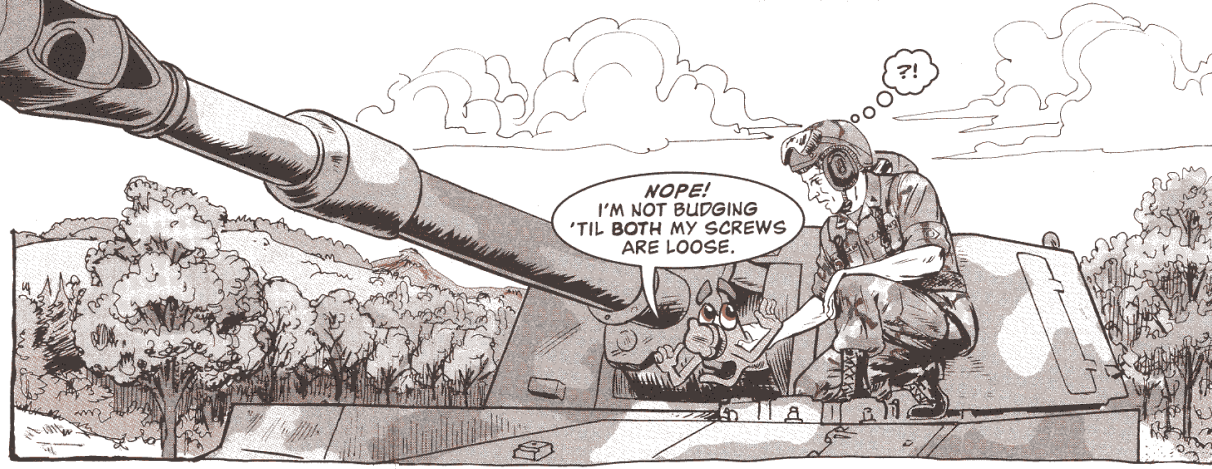
Don't think you're in the clear, though, even if the load's less than six tons.

Some operators leave the engine deck on the ground between the tank and the recovery vehicle while pulling a powerpack. The M88A1 straddles the deck as it gets ready to lift the pack.

As the pack goes up, the weight compresses the suspension enough that the hull bottoms out on the deck. If you're lucky, only the travel lock is broken, but the pressure can also warp the deck.

Play it safe on light loads. Either use the lockout blocks or keep anything that might be damaged out of the way.

Treat Gasket with Care



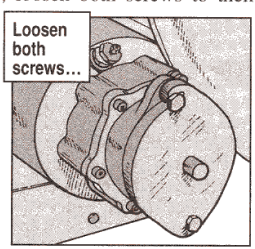
The -10 TMs say the indicator pins on your howitzer's recuperator must be checked before firing and after every 100 rounds of sustained fire.

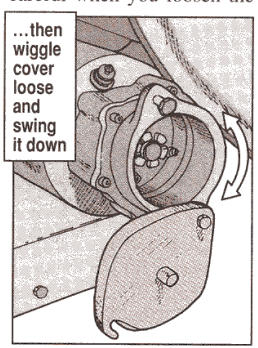
That means you crewmen should be familiar with removing the recuperator cover. It also means you have plenty of chances to damage the recuperator gasket.

A damaged or missing gasket lets corrosion and dirt into the inner cylinder. Then the cylinder loses nitrogen pressure.

You can prevent all this trouble by being very careful when you loosen the cover to make the indicator pin check.

Neither of the two screws holding the recuperator cover in place has to be completely removed. Instead, loosen both screws to their stop pins and gently pry the cover away from the recuperator with your fingers. Make sure the gasket is not torn loose.





Once the cover is completely free of the recuperator, turn it so you can get to the pins and fluid valve.

If you loosen just the top screw and twist the cover open, the gasket tears.

If the gasket is shot, tell your mechanic. He'll eyeball Page 5-42 of TM 9-2350-311-20-2 (M109A2-A5) or Page 4-86 of TM 9-2350-314-20-2-1 (M109A6) for replacement info. NSN 5330-00-034-4448 gets the right gasket.

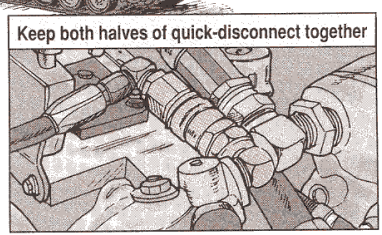
Never leave the cover loose to save time on checking the pins next time, either. That's an open invitation to dirt and corrosion.

Keep Quick-Disconnect Together

Mechanics, keep **all** of that fuel line quick-disconnect together when it's time to swap out powerpacks in M109-series howitzers or M992-series ammo carriers.

The quick-disconnect, NSN 4730-00-738-8571, has several manufacturers. All of them work fine—unless you try mixing different halves.

A mismatched quick-disconnect will reduce or even cut off fuel flow, stopping your vehicle in its tracks.



Take Time for Dozer PM

Operators, your D7/D8 dozer is tough and rugged, but it still needs lots of PM.

Keep these pointers in mind at the work site and before you shut down at day's end.

Warm Up and Cool Down

After startup, make sure you have oil pressure. Then run the engine at low idle—1/4 to 1/2 throttle—for five minutes. That gives the oil time to lubricate parts. It also lets the engine warm up enough to boil off condensation caused by normal engine breathing.

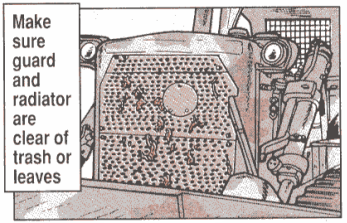
Now you won't have to worry about condensation mixing with oil and forming a sludge that'll clog the engine.

After you've run the dozer hard, idle the engine for three to five minutes before shutdown. The engine and turbocharger need to cool off before you shut down. Heat can crack the engine's block or warp a head or valve. Heat, and no oil flow, can ruin turbo bearings.

Radiator Cleanup

If you see the water temperature climbing during operations, idle down and then turn the engine off.

Could be a loose or broken fan belt—or trash and leaves—cutting off air



from the radiator. In brush or dusty areas, use low-pressure air (from the service truck's air hose) to blow out the radiator core from behind. A nickel's worth of air could save a $15,000 engine.

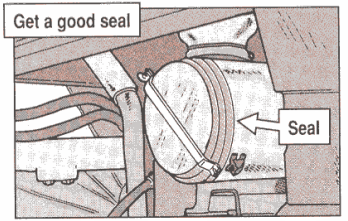
Air Filter Brush-off

Give your dozer's air filter the brush-off if you're at the work site and the engine chokes down, or if you notice a loss of power and black smoke.

Eyeball the air cleaner indicator. If it shows red, idle down and turn off the engine. Remove the filter element and tap it hard with the heel of your hand to loosen the dirt. Then shake it good and tap some more. This will knock enough sand and dust from the element to get you back to the motor pool where your mechanic can clean or replace it.

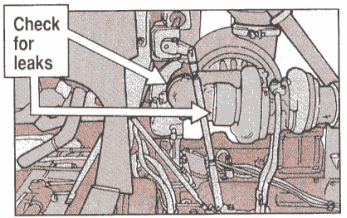
Good Seal Deal

But, even clean or new air filter elements need a PM hand. Make sure the rest of the system is doing its job. When the element is out, eyeball the air cleaner seals.



Look for nicked, broken, torn or missing seals. Have your mechanic replace any that are bad or missing.

Check for seal leaks at the joints between the air cleaner duct and the turbocharger, too. Leaks in either place



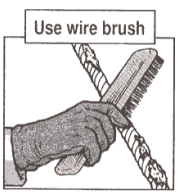
let in unfiltered air that can damage the turbocharger and engine. If you see a leak, report it to your mechanic—**now**!

Clean and Lube Cable

It's always open season on winch cables. Dirt, grit, rain, snow and rust all shorten a cable's life.

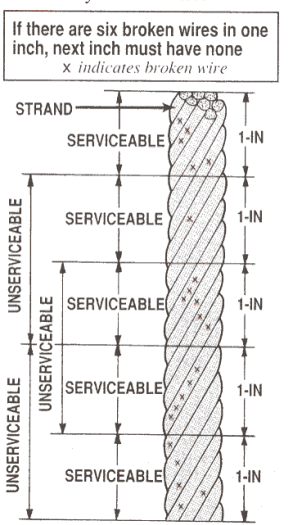
You can help stop that assault by cleaning and lubing the cable often. But before you do cable PM, be sure you're wearing a pair of leather gloves. If you don't, broken wires will declare open season on your hands.

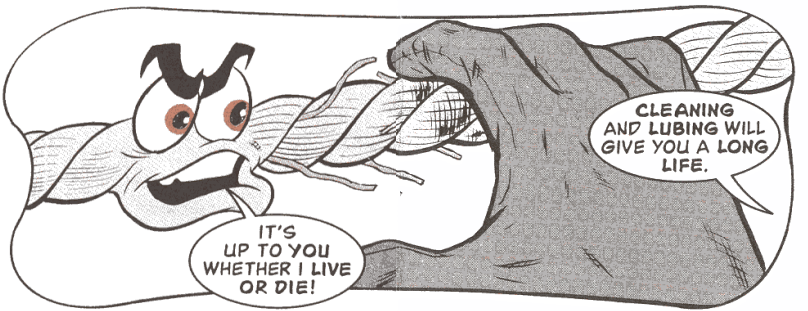
After every operation, unreel the cable and stretch it out. Use a wire brush to remove old lube, dirt and corrosion between strands.



Replace the cable if you find kinks or broken wires. See FM 5-125 Rigging Techniques, Procedures and Applications, and TB 43-0142, Safety Inspection and Testing of Lifting Devices, as well as your vehicle TMs, for specific damage limits.

Some TMs say that cable (or wire rope) is NMC if there are more than three broken wires per inch on one strand, or more than six broken wires on all strands within one inch of cable. Also, no more than six broken wires are allowed in any two consecutive inches of cable. So, if there are six broken wires in one inch, the next inch can't have any broken wires.





Lube cable according to the LO for your gear. If the LO doesn't cover it, here's what to do:

- Coat the cable with clean OE/HDO 10 engine oil if the cable gets a lot of use.
- Forget used oil. It has acid that weakens wires.
- In dry, dusty areas, cable doesn't need oil. In fact, oil just collects more dust and dirt. Don't lube.
- If the cable is not used much, or if conditions are damp or salty, lube it more often with MIL-G-18458 wire rope grease. Get a 35-lb can with NSN 9150-00-530-6814.

Don't leave the winch covered when the equipment is parked. That traps moisture that leads to rust. Covering the winch for travel is OK, though. That keeps the cable from picking up a lot of dirt.

C530A Pneumatic-Tired Roller . . .

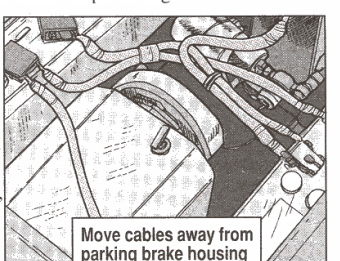
Battery Cable Rub

Mechanics, the C530A roller's parking brake drum housing turns when the vehicle is in gear. When it does, it can rub against the battery cables.

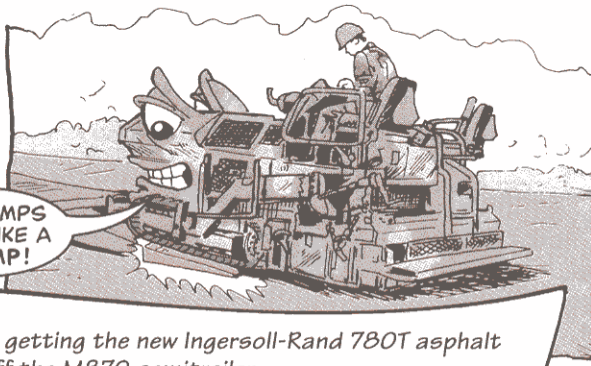
Enough rubbing wears through the battery cables' insulation. That shorts out the vehicle's electrical system and then the roller stops rolling.

Here's how to rub out the rub:

1. Remove the cockpit floorboards.
2. If a battery cable is touching the brake drum housing, loosen the battery clamps to reposition it.
3. Route the cables over the transmission housing, or position and hold them in place with an electrical tie-down strap, NSN 5975-00-570-9598.
4. Retighten the battery clamps before you put the floorboards back.



Loading Ramp Solution



Dear Editor,

Our unit had a problem getting the new Ingersoll-Rand 780T asphalt paving machine on and off the M870 semitrailer.

The paver's screed bowl bottomed out on the ramp approach. This damaged the semitrailer and broke off the mounting bolts on the paver's bowl.

We solved the problem by making loading ramps from excess wood cribbing. We cut the cribbing into two 6-ft x 16-in pieces that are eight inches high where they meet the trailer.

The ramps eliminate any damage to the semitrailer and paver.

We also use these ramps to load and unload the RS28 Tampo roller and CB534B vibratory roller.

SFC Michael Reinert
577th Engr Bn
Ft Leonard Wood, MO

SEAL OF Editor's APPROVAL

MW24C Scoop Loader . . .

Windshield Smear Job

Windshields on some MW24C scoop loaders are getting the royal smear job.

That's because the spray nozzle for windshield washer fluid is located smack dab in the middle of a bunch of grease fittings just below the loader's windshield.

The nozzle looks just like the grease fittings, so it's not surprising that it gets pumped full of grease each time the fittings are.

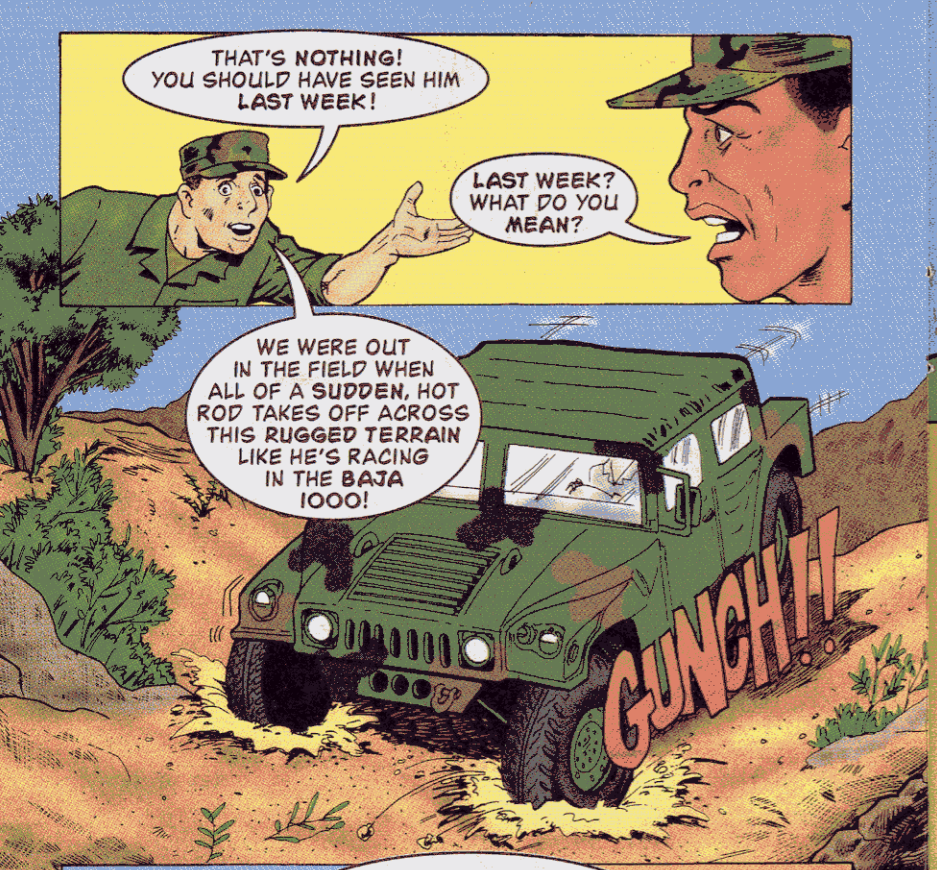
Grease, of course, either clogs the nozzle or ends up on the windshield when you push the washer fluid button to clean the windshield.

One way to prevent this mess is to stencil a small note above the nozzle that says, "Not a grease fitting."


DRIVIN' LIKE
HOT ROD LINCOLN
THIS IS THE STORY OF BIG DADDY DALE RUSTY BILL A.J. LINCOLN (NICKNAME: HOT ROD), IN HIS MIND THE GREATEST RACE CAR DRIVER OF ALL TIME. IN REAL LIFE, HOT ROD DRIVES A HUMVEE FOR THE U.S. ARMY. UNFORTUNATELY, HOT ROD LINCOLN DRIVES HIS HUMVEE JUST AS HE'D LIKE TO DRIVE THOSE RACE CARS...
HEY, SERGEANT. GREAT AFTERNOON FOR A DRIVE, HUH?
I NEED TO TALK TO YOU ABOUT YOUR DRIVING HABITS...


WHAT DO YOU MEAN? MY RECORD IS CLEAN AS A WHISTLE!
I'VE BEEN HEARING THINGS ABOUT YOU AND YOUR WILD DRIVING—I'M VERY CONCERNED!
WHAT THINGS?
LIKE YOU DRAG RACING BY THE PX.
I WAS JUST IN A LITTLE RUSH. I WAS TRYING TO STAY ON SCHEDULE, SERGEANT.
REALLY? WHY DON'T WE ASK SCHMIDT—HE WAS RIGHT THERE.
SCHMIDT, COULD YOU TELL ME WHAT YOU SAW HOT ROD HERE DOING EARLIER TODAY?
SURE, SERGEANT HARRIS.


I WAS AT A STOP LIGHT WHEN LINCOLN PULLS UP BESIDE ME. HE GIVES ME A LOOK AND REVS THE ENGINE.
REURT
THE LIGHT TURNS GREEN AND HE'S OUT OF THERE LIKE GREASED LIGHTNING!
I REMEMBER THINKING—IT WON'T BE LONG BEFORE WE SEE THAT VEHICLE IN FOR SOME TRANNY REPAIRS.
GEE, I GUESS I MIGHT HAVE PUNCHED IT... JUST A LITTLE.
YOU SHOULD KNOW BETTER, LINCOLN! THE HUMVEE WASN'T DESIGNED FOR RACING!


THAT'S NOTHING! YOU SHOULD HAVE SEEN HIM LAST WEEK!
LAST WEEK? WHAT DO YOU MEAN?
WE WERE OUT IN THE FIELD WHEN ALL OF A SUDDEN, HOT ROD TAKES OFF ACROSS THIS RUGGED TERRAIN LIKE HE'S RACING IN THE BAJA 1000!
GUNCH!!
AND EVERYTHING WAS FINE... UNTIL THAT BIG OL' ROCK POPPED UP AND SNAPPED THE IDLER ARM.
SNAP


POOR DRIVING HABITS LIKE JUMPING DITCHES AND BOTTOMING OUT ON CREEK BEDS AT UNSAFE SPEEDS LEADS TO BROKEN COMPONENTS AND WORSE!
AHA! THERE YOU ARE! YOU MUST BE CRAZY DRIVING AROUND THE MOTORPOOL LIKE THAT!
HUH?
WHOA, CALM DOWN!
I'VE JUST BEEN LISTENING TO STORIES ABOUT LINCOLN—WHY DON'T YOU TELL ME YOURS?
OK. I WAS WALKING TOWARDS THE MAINTENANCE BAY FROM THE LOT...
WHOOOOSH
WHEN FROM OUT OF NOWHERE—LINCOLN COMES FLYING AROUND THE CORNER AND MISSES ME BY INCHES!
KERANG

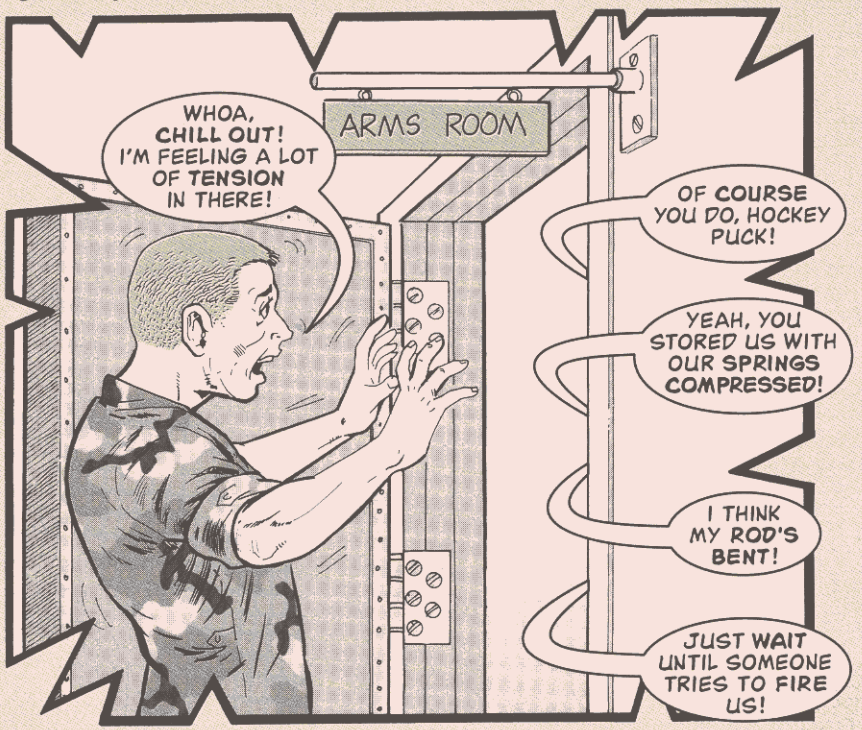

THAT TEARS IT, LINCOLN! YOUR LICENCE IS PULLED! FURTHERMORE, I WANT YOU TO REPORT TO THE ADMIN BUILDING AT 8 TOMORROW MORNING TO BEGIN YOUR REMEDIAL DRIVING COURSE!
THAT'S CRAZY TALK, SERGEANT. IT WOULD BE LIKE TEACHING A FISH TO SWIM!
THAT'S NOT ALL. WHEN YOU RETURN, I'LL BE DRIVING WITH YOU UNTIL I'M SATISFIED YOU'RE NOT A DANGER TO THE VEHICLE OR YOURSELF.
BUT, SERGEANT HARRIS...
THAT'S A DIRECT ORDER, LINCOLN!
Y-YES, SERGEANT!
THAT EVENING...
REMEMBER— 8 TOMORROW MORNING!
YEAH, AT THE ADMIN BUILDING.
HE CAN'T TELL ME HOW TO DRIVE THIS BABY!


WHAT THE— THOSE CRAZY RACERS AREN'T GOING TO MOVE!
VRROOOOOOOM
AAAAAAHHHH!!
SERGEANT HARRIS WAS RIGHT!


HEY, SERGEANT HARRIS. WHAT'S UP?
THE GANG FROM THE MOTOR POOL WANTED ME TO CHECK UP ON YOU. THAT WAS SOME CRASH YOU HAD.
POST NEWS
SOLDIER INJURED BY OFFBASE RACERS
YEAH, IT SURE TAUGHT ME A LESSON. I'LL NEVER AGAIN DRIVE AN ARMY VEHICLE IN A MANNER IT WASN'T DESIGNED FOR.
MILITARY VEHICLES ARE NOT RACE CARS. THEY'RE MADE FOR THE LONG HAUL, NOT A QUARTER MILE, 100 LAPS, OR EVEN 1000 MILES. DRIVE 'EM RIGHT, MAINTAIN 'EM RIGHT AND THEY'LL BE WITH YOU FOR YEARS. THAT'S THE REAL WAY TO WIN THE RACE!

Give 'em Some Slack, Jack

Think *relax, give it a rest, ease up* when you store your unit's rifles, machine guns and pistols, armorers.



If the weapons are stored with bolts or slides to the rear, the action and recoil springs are left compressed or "tense."

As the weapons sit sometimes for weeks without being used, this compression takes its toll on the springs. When your unit is ready to fire again, the springs have lost their spring. Problems like poor recoil and feeding result.

In the case of the M9 pistol, the recoil spring guide rod is left exposed when the pistol is stored with the slide back. The rod's often bent or dented and must be replaced.

So leave the bolt or slide forward for storage. And don't forget the springs for the sear, trigger, and hammer. They should be relaxed, too.

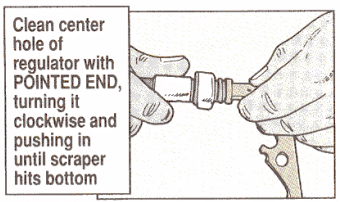
Fighting the Carbon Battle

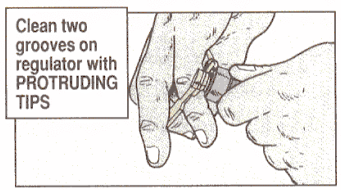
The M249 machine gun generates more carbon than other machine guns—and that's a big problem. Carbon coats moving parts and plugs the gas system. The M249 fires slower and slower…and then not at all.

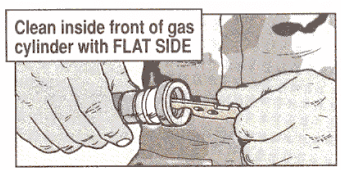
Here's how to win the carbon battle:

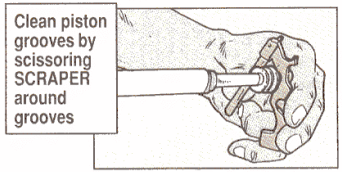
Wear out the scraper. There's nothing easy about cleaning off baked-on carbon. It's mostly just scraping and scraping. The sooner after firing you attack the carbon, the easier it comes off.

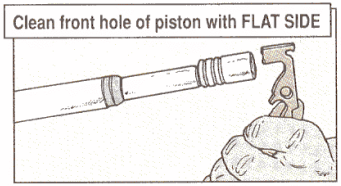
The scraper has different parts for different jobs:



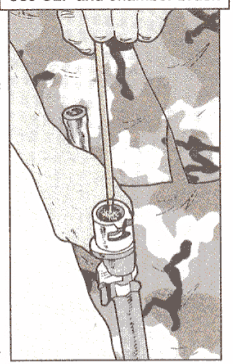






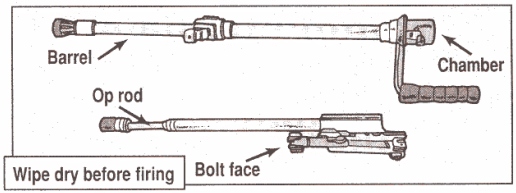


The chamber is also a big carbon collector. Use CLP and the chamber brush on the chamber. You may need to do this in the field if your M249 has trouble extracting.



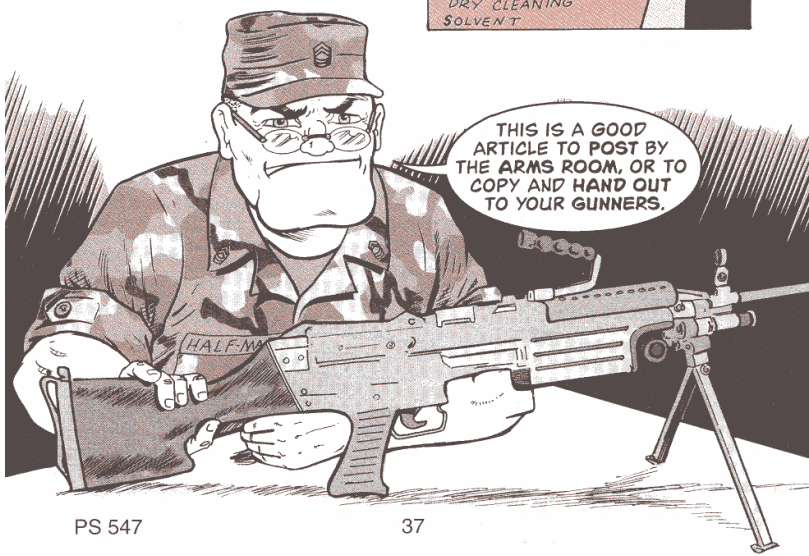
CLP is great for cleaning off carbon, but it is also great for collecting carbon. So, never use CLP—or any other lube—on the barrel's gas regulator hole, the gas regulator, the gas cylinder, and the piston end of the op rod. Clean these with the scraper only.

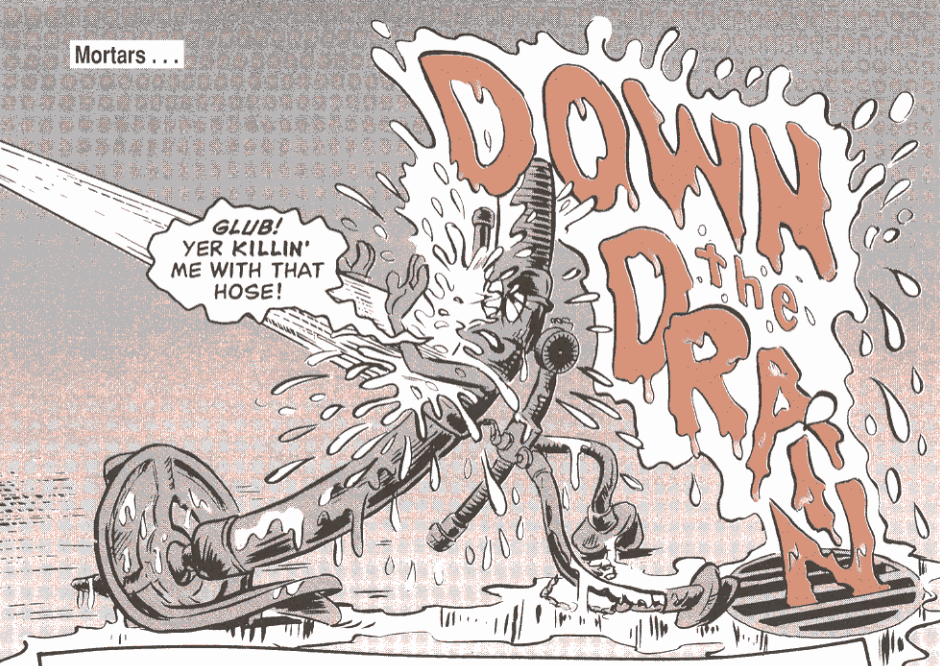
Use CLP to clean the barrel, the chamber, the rest of the op rod, and the bolt face, but wipe them dry before firing.



If CLP or the scraper won't whip carbon, don't try sandpaper or any other abrasive. That takes off the M249's finish and corrosion is on the way. Your armorer can whip tough carbon with dry cleaning solvent.

Armorers, don't dunk the new buttstock in solvent. Solvent dissolves the seals in the buffer.





Dear Editor,

At the Ft Benning weapons pool, we are seeing mortars go down the drain because crews are washing them with high-pressure water.

Water with that much strength pushes through the seals for the elevating and traversing mechanisms and for the buffer assembly. The mortar looks great from the outside, but on the inside rust is eating it up like a cancer. Rust eventually locks up the mortar's internal parts and it has to be junked.

If a mortar is mounted in a vehicle, remove it before the vehicle goes through the wash rack. Always keep high-pressure hoses away from mortars.

Clean off mud with a damp rag and then lube the mortar like it says in the -10 TM. If treated right, most mortars will last forever.

Lou Lindsey
Directorate of Logistics
Ft Benning, GA

SEAL OF Editor's APPROVAL

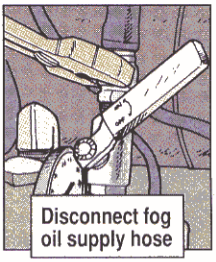
Relieving Relief Valve

Dear Editor,

M157 smoke repairmen often overdo it with the fog oil pressure relief valve. When they can't get enough fog oil pressure, they keep adjusting the valve. Eventually, they max out the valve, which makes it impossible to increase the fog oil pressure and can damage the valve.

You should be able to see at least one thread on the relief valve stem with the jam nut installed. If not, either the valve's adjusted wrong or it's a bad valve.

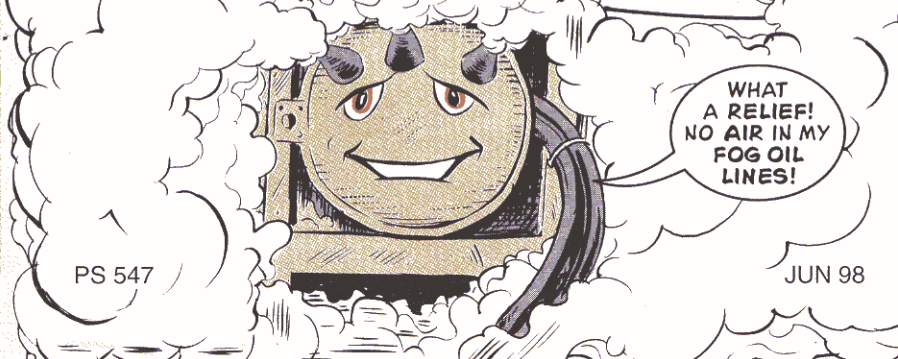
If you don't have fairly constant fog oil pressure from week to week, air is probably in the system. Here's how to get it out:



1. *Disconnect one fog oil supply hose at the flare fitting on the fog oil pump assembly ball valve for the M157A2 or the fog oil pump quick disconnect bracket for the M157.*
2. *Attach in its place a hose, NSN 4720-00-187-4279, with adapter, NSN 4730-00-542-2807.*
3. *Put the other end of the hose in the fog oil tank's filler opening.*
4. *Turn on the fog oil pump using the fog oil bypass switch and control panel fog oil switch and run it until a steady stream of fog oil comes out the hose. It should take about 30 seconds.*
5. *Reconnect the supply hose. Do the same procedure for the other fog oil pump and you're back in business.*

Paul Rambo
Aberdeen Proving Ground, MD

SEAL OF Editor's APPROVAL

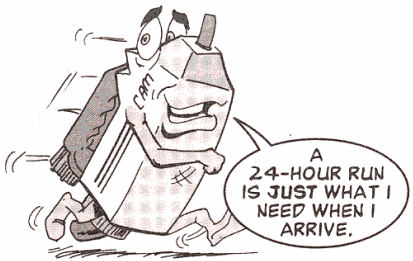


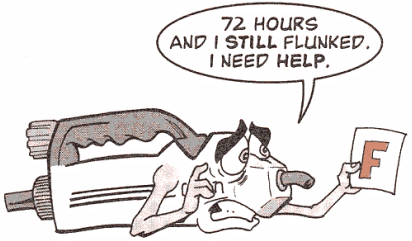
A CAM-Do Attitude

To give the CAM a can-do attitude for detecting chemical danger, NBC NCOs must run it regularly and run it right.

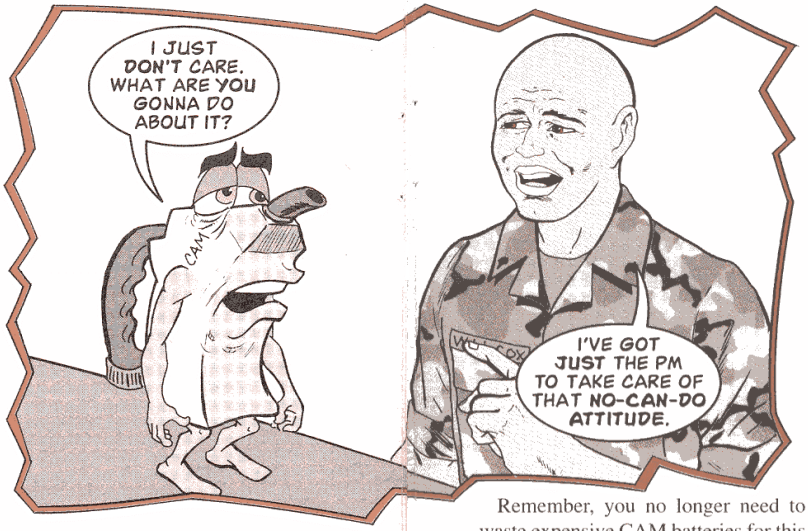
Weekly Exercise

Break in a new CAM by running it for 24 hours. Then give it a sniff of a confidence sampler. If it doesn't pass the first confidence test, run it until it does pass—but no more than 72 hours.

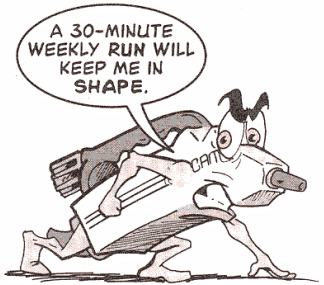




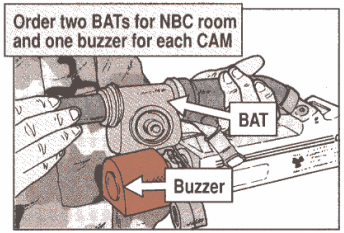
Any longer than that burns out the CAM circuits. Support needs to check out a CAM that doesn't pass within 72 hours.



Once it passes, give the CAM a 30-minute weekly run. Also run it at least five minutes after it clears all bars from the confidence test.

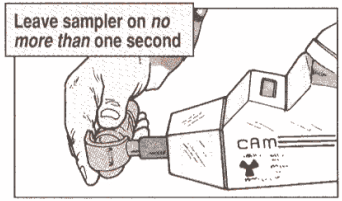


Remember, you no longer need to waste expensive CAM batteries for this weekly exercise. Use the battery assembly trainer (BAT), which can be powered by cheap D-cell batteries or 110/120VAC. Two BATs per NBC room should be enough. Order the BAT with NSN 6910-01-333-3631 with project code GG4 on your request.



How to Run

Never leave the sampler on for more than one second. Any longer saturates the CAM. If the CAM doesn't pass the confidence test, wait 10 seconds and try again. Still fails? You can do the test up to five times. If it still doesn't pass, it's not going to. Testing it more only saturates it. Send it to support.



In the field, maintain the proper sampling distance: put the nozzle no closer than 1/2 inch to people and no closer than one inch to equipment. Any closer risks contamination.

PS MORE

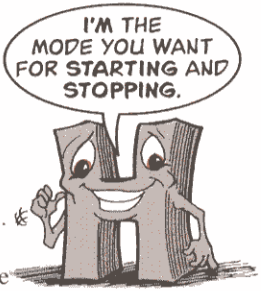
The new CAM buzzer, NSN 6350-01-394-9916, makes it easier to watch distance. The buzzer goes off when the CAM senses chemical agent, so you don't have to look back and forth between the nozzle and the display. Order a buzzer for every CAM in the unit. The buzzer's powered by 9-volt batteries.

If your CAM detects something, pull it away immediately to avoid saturation.

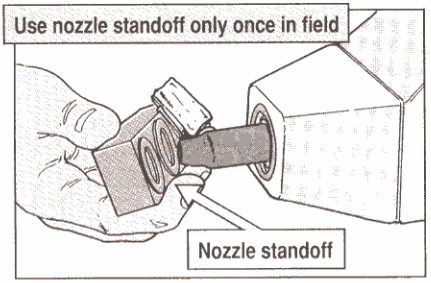
For best results, always start and stop the CAM in the H mode.

Clear the CAM to one bar before switching modes to prevent clearing problems.

Operate the CAM as much as possible in the open, away from exhaust, cleaning fluids, and solvents. These contaminants make it very difficult to clear the CAM.

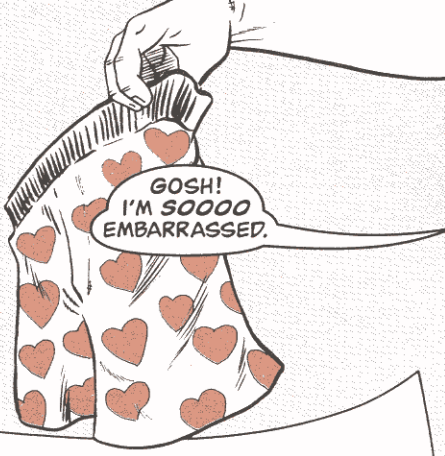


In the field, use the nozzle standoff once only. Keep the standoff as clean and dry as possible so it stays sensitive. If it gets wet or dirty, replace it.



AH-64 . . .

Finding Helmet Shorts



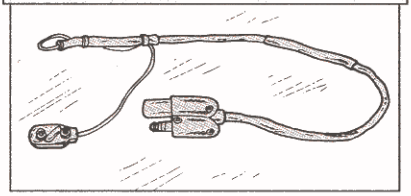
Dear Windy,

As an ALSE technician, one of the tough chores of my job is isolating a short in the communications wiring in the Apache helmet.

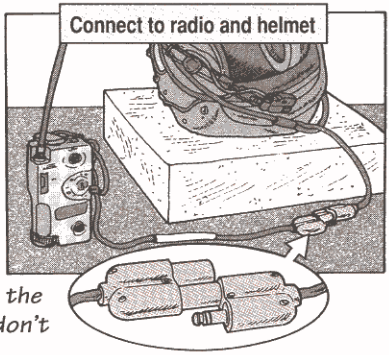
I've taken some of the guesswork out by making a tester. The tester tells me whether the problem is with the microphone end or the earcup end of the wiring.

The tester is made from an integrated helmet and display sight system (IHADSS) common harness. I wire that harness to an AN/PRC-90 radio earphone jack.

Make tester with harness and earphone jack



Connect to radio and helmet



When I want to find a short, I put the earphone jack into the radio. Then the harness goes first to the earcup. If I don't find the problem, I reverse it for the microphone. Static on the radio tells me where the problem is.

CW2 Brad Coy
Hunter Army Airfield, GA

Thanks for the tip, Mr. Coy. Sounds like you've invented a hearing aid.

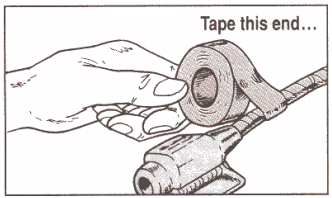
Windy

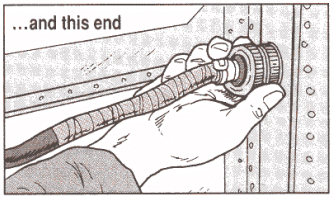
Cable Stress Relief

A lingering problem for Chinook crews is the microphone cord ripping out from the electrical connector plug—at both ends of the intercommunications cable.

Here are two things to do to help solve that problem once and for all.

First, wrap both areas down from and up to the connectors with black electrical tape. This will reinforce the cable connections and absorb some of the cable stress.



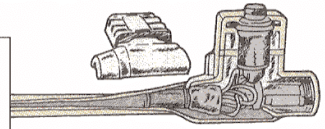


Then make a support for the push-to-talk switch end of the cable that takes some more of the stress off.

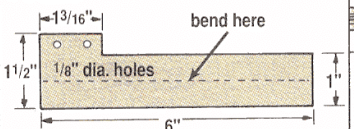
3. Round off corners and file edges smooth

What it looks like:

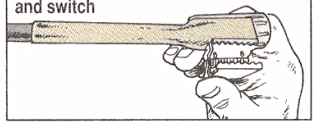
4. Remove clip from push-to talk switch and attach support. Bend support around cable



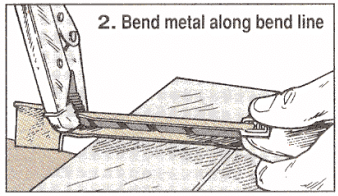
1. Dimensions used to cut sheet metal and drill holes:



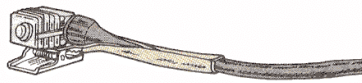
5. Reconnect clip using same hardware though holes in support. Now, support is between clip and switch

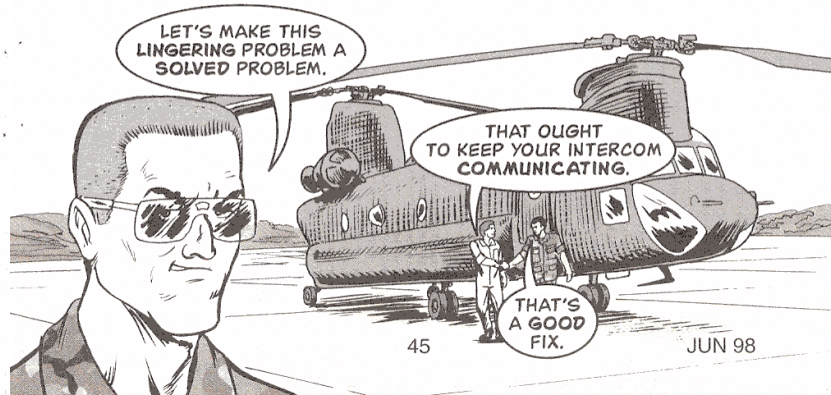


2. Bend metal along bend line

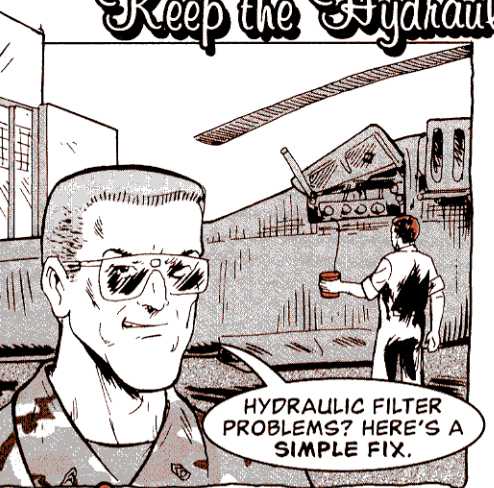


Finished product





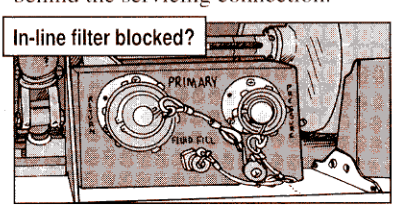
Keep the Hydraulic Fluid Flowing



So, it's time to service the hydraulic system and you've got a problem.

The fluid flows freely from the hydraulic cart, but topping off with the hand pump is a no-go. Fluid rises from the can into the tube, but deadends before it gets into the hydraulic system.

Chances are good the in-line filter is blocked. The filter sits in the line just behind the servicing connection.



Now what could possibly block that filter?

Glad you asked.

I'll bet when you remove the filter you'll find a small ball of rubber.

Rubber?

That's right.

It's a ball of rubber that started as a sliver of rubber that once was a part of the servicing tube.

Here's what happens:

Most of you grab a can of hydraulic fluid, punch it open with a screwdriver and bend in, or pull out, the lid with pliers. What you leave surrounding the newly created hole is a jagged-metal edge. As you insert the servicing tube, that edge peels off a sliver of rubber and drops it into the fluid. A few pumps later and that sliver is lodged in the filter and blocking the path of the fluid.

Some of you think the solution is to use a braided hose instead of the rubber tube.

Sorry, wrong.

The braided hose is raked by the jagged edge, too, and small particles of metal get into the fluid and into the hydraulic system. Not good.

The key, of course, is not to create a jagged edge on the can and to be careful when placing the tube or hose in the can.

Open the can with a can opener and make sure the edges are bent in and under. If you don't have a can opener, create a wide opening so the tube can be inserted without scraping the can edges.

Shackles for Stuff

Dear Windy,

We had problems with Chinook crews hanging their flight vests, helmet bags, and other stuff on the upper seat straps on the side passenger seats.

The weight made the seat straps tear and sag out of adjustment. Poorly adjusted straps put extra stress on seat material and cause premature seat wear.

We solved these weighty problems with heavy duty shackles, NSN 4030-00-015-3896. It's the shackle, shown as Item 11 of Fig 50 in TM 55-1520-240-23P, that is located on the right side troop seat next to the lower hatch.

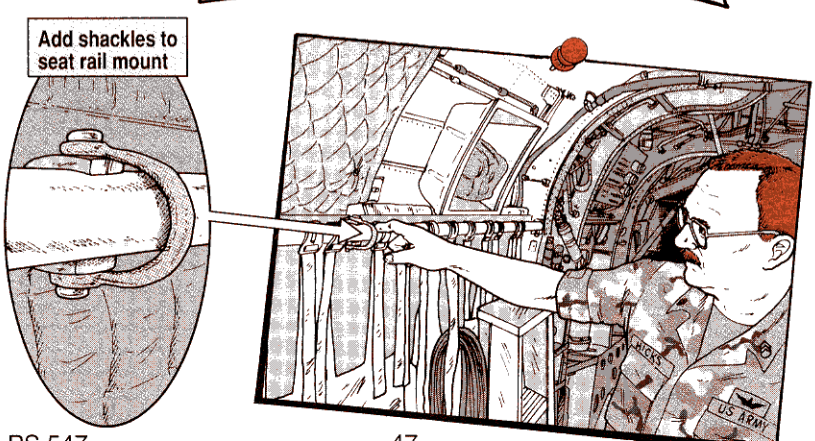
We put 12 extra shackles on each upper passenger seat rail mount. We secured them with the shackle hardware—Items 9, 10, 7 and 6 in Figure 50:

Item	NSN
Bolt	5306-00-151-1412
Bushing	3120-00-948-9370
Washer	5310-00-167-0740
Nut	5310-00-903-8282

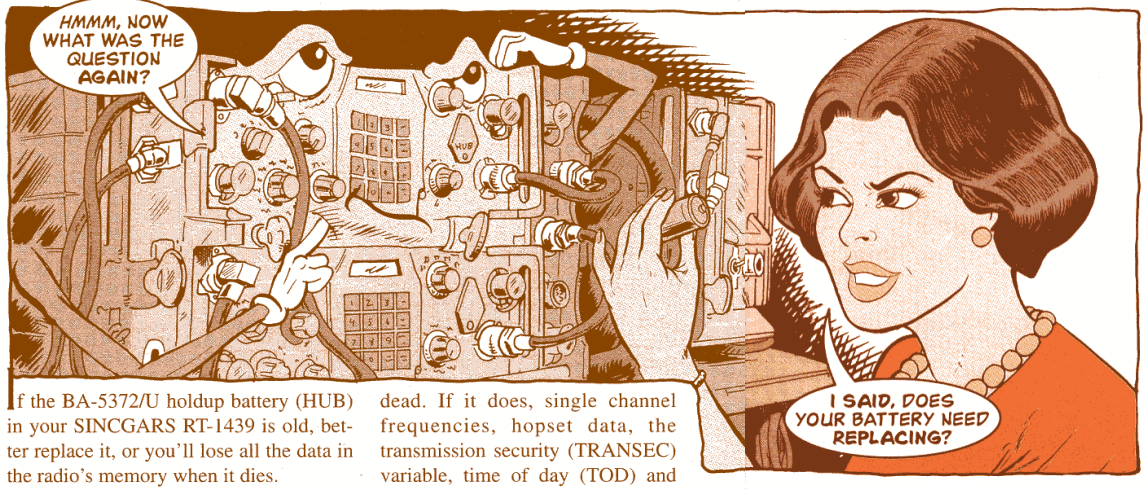
Now crews and passengers can use these shackles to hook up their equipment. This keeps the seats clear, secures equipment, and extends the life of the seats and straps.

SSG Stephen Hicks
SSG Gary Cooper
PAARNG
Ft Indiantown Gap, PA

You've hooked us on your good idea! Windy

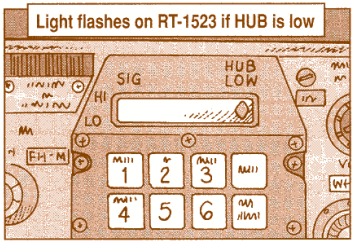


ARE YOU LOSING YOUR MEMORY?

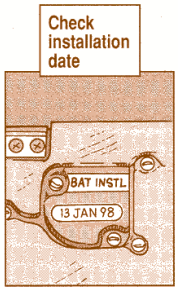


If the BA-5372/U holdup battery (HUB) in your SINCGARS RT-1439 is old, better replace it, or you'll lose all the data in the radio's memory when it dies.

ICOM radio sets let you know when it's time to change the HUB. Both the RT-1523 and the C-11561 remote control unit have a keyboard display on the front panel marked HUB LOW. A diamond-shaped light flashes if the battery is low on power. Non-ICOM radios don't let you know.



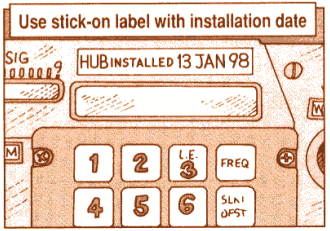
The longer the HUB has been in the radio, the greater the chance it will go dead. If it does, single channel frequencies, hopset data, the transmission security (TRANSEC) variable, time of day (TOD) and Net ID will all be wiped out.



Look at the installation date on the battery cover. If it's more than six months old, replace the battery.

The battery cover with the installation date is on the bottom of the RT. You won't be able to read the date unless you remove the RT from the mounting adapter. And that's a pain, because you have to unhook antenna, cables and latches.

So, next time your unit repairer changes the HUB, get a stick-on file label, NSN 7530-00-082-2661, and trim it to 2 inches by 1/2 inch. Write the battery installation date on the label and stick it above the RT's keyboard display.



You can make your own label with a label gun, NSN 7490-00-835-0443.

Shelf-Life Extensions

Shelf-life extensions for lithium batteries are now posted on the Internet at

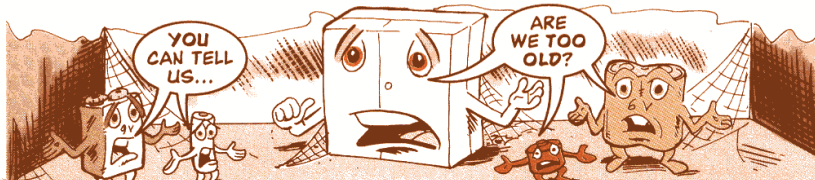
http://134.80.11.9/web/batterysl.nsf

You can search by battery type number or by contract number. During your search, don't use dashes. Also, for the letter O enter the numeral zero.

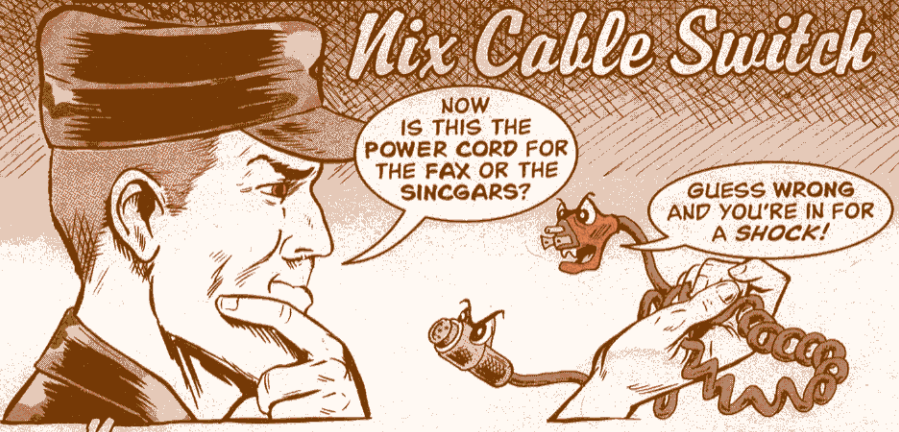
If your search turns up a lot of batteries, contract numbers and date codes, find the listing that matches the information on your batteries then click on the battery type to get shelf-life information.

If you can't find the specific date code you're looking for, the battery probably wasn't tested. For those batteries, look in SB 11-6 for the field test of shelf life. SB 11-6 is also on the web at

http://www.monmouth.army.mil/cecom/lrc/lrchq/power/sb11_6/index.html



Mix Cable Switch



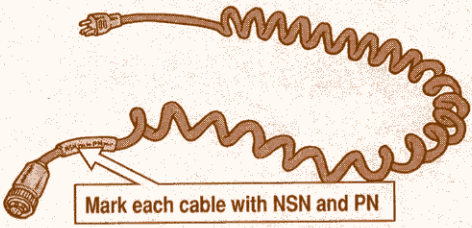
Never substitute the power cord used with the SINCGARS PP-6224 power supply for the power cord used with the AN/UXC-7 facsimile. The cords look identical, but mixing them could energize the equipment casing and cause injury or death!

The PP-6224 AC power cord, NSN 5995-00-135-4555, and the AN/UXC-7 AC power cord, NSN 5995-01-090-6101, have the same 5-pin connector on the equipment side, but they are not wired the same.

The problem is compounded in the field because the SINCGARS setup and the fax are often located in the same tent. This makes mixing the power cords too easy.

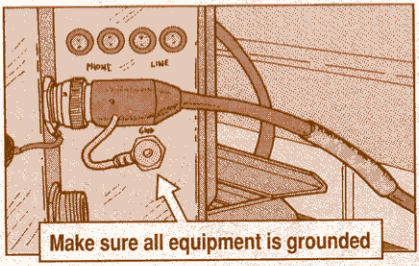
Here's what you need to do to avoid big problems:

Mark each cable with yellow shrink wrap that has the NSN and part number for the cable. If you find a cable that is not marked, don't use it! Get your repairman to identify each cable and to mark it accordingly.



If there is any doubt about which cable is which, he can check the pinout with the procedure on Page 3-158 of TM 11-5815-615-23. If he can't identify a cable, don't use it.

Make sure all of your equipment is correctly bonded and properly grounded.

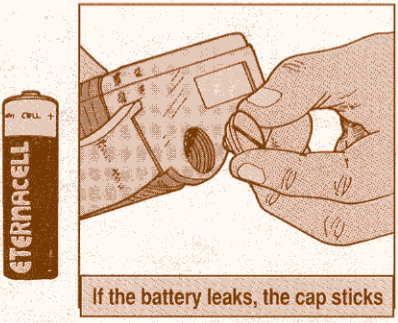


PLGR . . .

A DEAD BATTERY LEAKS

Your precision lightweight GPS receiver's (PLGR) lithium memory battery, NSN 6135-01-301-8776, may leak after it's used up.

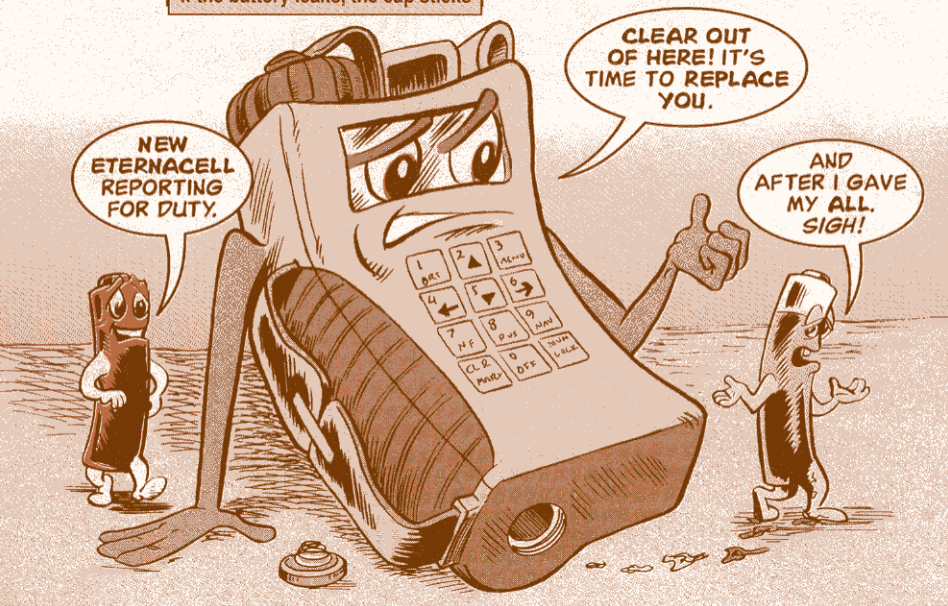
The problem is only the Eternacell battery. All other batteries are OK. When the Eternacell dies, it leaks a blackish residue. If you don't catch it soon enough, it leaks out around the battery cap, dries there, and seals the cap in place. If that happens, there's nothing left to do but turn the PLGR in for repair.



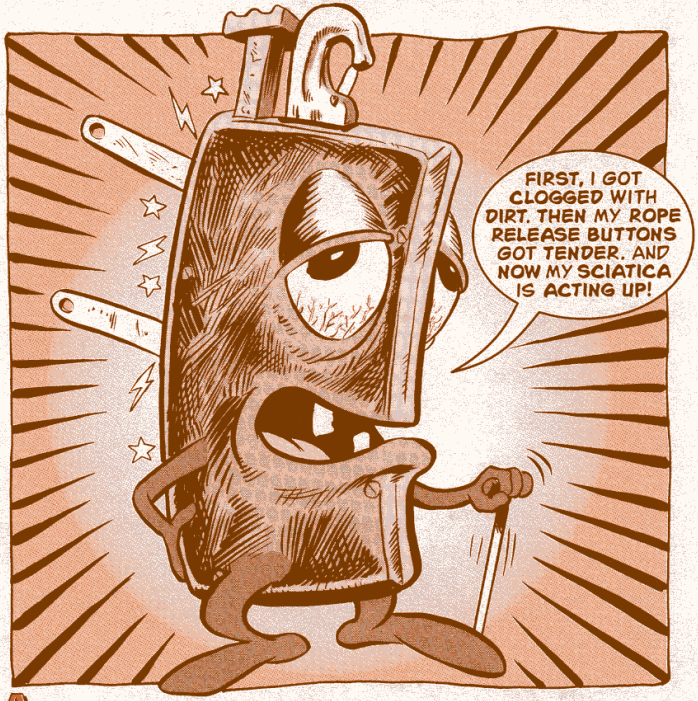
If the battery leaks, the cap sticks

The key to preventing damage to the PLGR and battery compartment is to prevent the leak in the first place. To do that, simply remove and replace the memory battery when the low memory warning comes on. **Don't give the battery a chance to die in your PLGR!**

Your replacement battery probably will be an Eternacell, too. They're going to be in the supply system for quite awhile. So, until the Eternacell is out of the system, just make it SOP to replace the memory battery when the low memory warning comes on.



Griphoist Gripes



Are you having problems with the griphoist on the AN/TRC-170 antenna system?

Problems like:

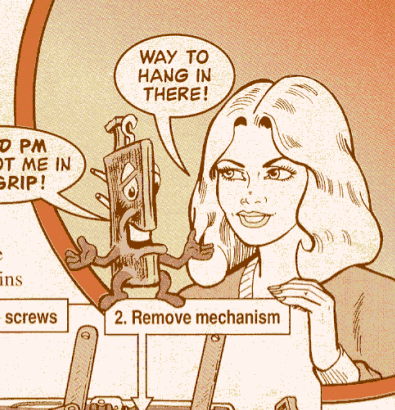
☑ the griphoist not working, not working smoothly or the internal mechanism grinding.

☑ the griphoist clogging with dirt.

☑ the side button releases not springing back smoothly.

☑ the rope release catch not working.

☑ the side buttons releasing the wire rope with only light fingertip pressure. (It should take some effort to release the cable. If it releases too easily, it might release when you don't want it to.)



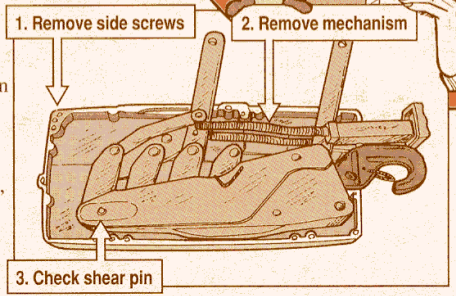
Here's how to correct these problems:

1. Remove the five side screws from the casing.

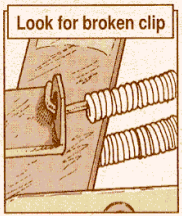
2. Open the side of the casing and remove the mechanism. Remove the spare shear pins stored in the upper corner of the case.

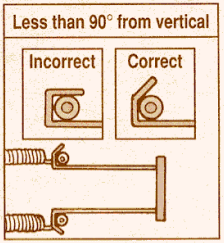
3. Look the mechanism over. If you find any broken parts or see obvious wear, discard the hoist and get a new one.

4. If the mechanism is OK, clean it and both halves of the case with mineral spirit solvent.



5. Once the mechanism has been cleaned, check the brass shear pin. If it has sheared or is deformed, drive it out with a pin punch. Put in a new shear pin and peen over both ends to keep it from falling out.





6. Look for deformed or broken clips on the spring-loaded wire rope release catch. When looking at the clips on the spring-loaded wire rope catch, they should make less than a 90° angle. If the clip is broken or deformed, get a new hoist. **Don't straighten out the clips!** Trying to straighten out the clips weakens the metal.

7. Lubricate the hoist by immersing the mechanism in 90 weight gear oil. Let excess oil drip off. Now lubricate all rotating, sliding or moving parts with wheel bearing grease. **Do not use graphite or molydisulfide lubricants or grease containing them.** These lubricants are too slippery and the hoist will fail. They keep the grip hoist from gripping!

8. Reassemble the unit. Check function of the hoist before using it in the field. Winch failure could cause serious injury.

Fair Wear Takes Good Care

Cleaning

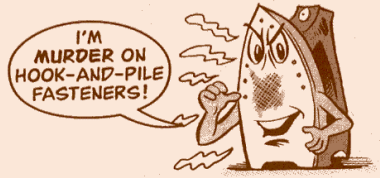
Before washing your Nomex coveralls, shirts and trousers, turn the pockets inside out and brush them off. Close the zippers and the hook-and-pile fasteners to protect them from damage.

Nomex clothing can be dry-cleaned, hand-laundered or machine-washed. If you use a machine, use a mild detergent and set the washer to the wash-and-wear or delicate cycle for a warm wash and cold rinse. **Never** use bleach. It fades colors and can ruin the clothing's anti-static treatment.

To prevent static buildup, add some fabric softener to the rinse cycle. Make sure **all** detergent is rinsed away. Detergent keeps Nomex from doing its job, so rinse a second time if necessary.

Either drip-dry the clothing on a rust-proof hanger or machine-dry it at low heat. For extra static protection, add a fabric softener sheet to the dryer.

If you iron your Nomex clothing, keep the hot iron away from the plastic hook-and-pile fasteners. They'll melt. Never starch Nomex clothing, either. Starch will burn.



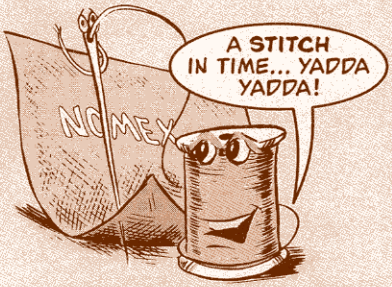
Hand-wash Nomex gloves by putting them on and washing with soap and warm water as if you were washing your hands. Rinse with more warm water, then remove the gloves and squeeze—don't wring or twist—the water out. Machine-washing is OK, too.

Drip-dry gloves, but not in direct sunlight. You can also toss them in the dryer with other Nomex garments. Once the gloves are dry, stretch them back into shape by pulling them on and slowly flexing your hands.

Dry cleaning is the only way to clean your lightweight and cold-weather jackets and hood.

Repairs

If a Nomex garment gets torn, don't toss it. You can replace buttons; re-sew or patch rips and tears up to four inches, re-sew torn-out buttonholes, loose seams and zippers; and reattach belt loops.



Patches **must** be made of Nomex fabric, NSN 8305-01-042-9678. Use olive green Nomex thread, NSN 8310-00-130-6245. Order the thread on a DD Form 1348-6 and put "NSN not on AMDF" in the Remarks block.

Any other repairs are done by direct support.

PS END

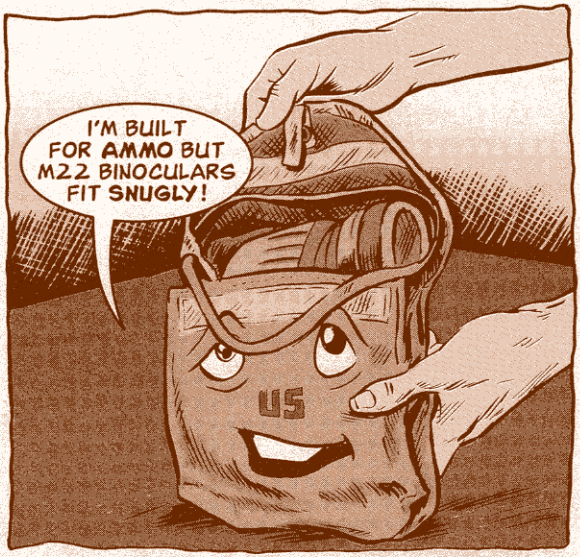
M22 Binoculars . . .

Substitute Carrying Case

There is no carrying case available for M22 binoculars. A good way to protect them is to store them in the ammo case for the M249 machine gun.

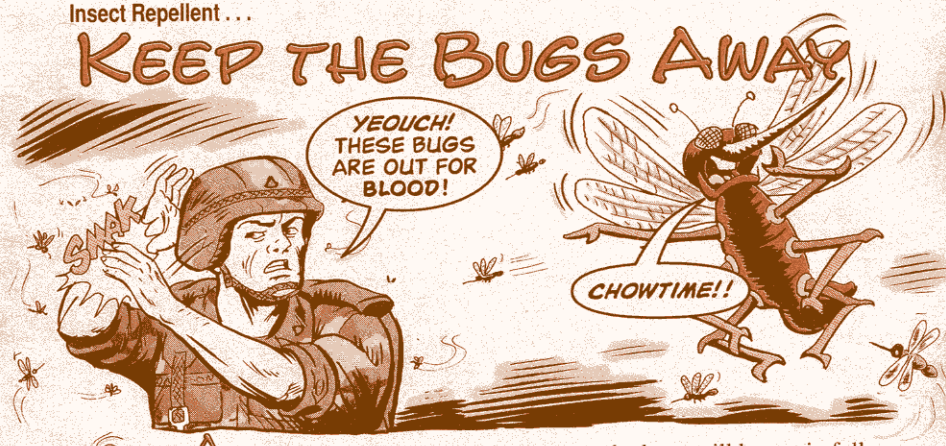
The M22 slides snugly sideways into the case. With the lens covers held in place, there's less danger of breaking or scratching the lens.

Order the ammo case with NSN 8465-01-157-4834.



Insect Repellent . . .

KEEP THE BUGS AWAY



As things start heating up this summer, the bugs will be out in full force. So how do you keep from getting bugged?

When you're out among them, insect repellent works well. It's available in cream, spray and liquid forms.

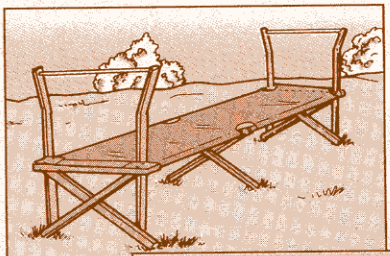
Use cream repellent for your skin. NSN 6840-01-284-3982 gets a dozen 2-oz tubes. NSN 6840-01-278-1336 gets 12 spray cans for uniforms, tents and mosquito netting.

If you have the insect repellent jacket used in the tropics, treat it with a 2-oz bottle of liquid repellent, NSN 6840-00-753-4963.

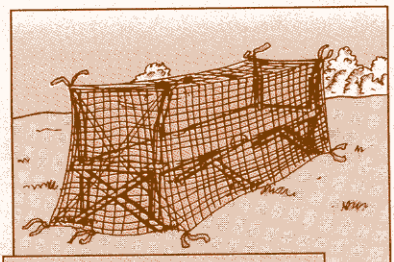
During the day, give yourself extra protection with an insect net hat, NSN 8415-00-935-2914. It has an elastic headpiece and nylon netting that covers your face and neck.

At night, protect yourself with mosquito netting. NSN 7210-00-266-9736 gets a 68x200-in roll of netting.

Drape the netting over the wooden insect frame, NSN 7210-00-267-5641, that's used with the collapsible canvas cot.



Attach insect frame to cot…



…and cover with mosquito netting

Oh, Say Can UOC

TM9-2320-280-24P-1

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
21	PAOZZ	80204	B1821BH044C200N	BOLT 7/16-14 X 2.00 UOC:AVY,A15,B16,HVY,H15,H16	1
22	PAOZZ	80204	B1821BH038C150N	BOLT 3/8-16 X 1.50 UOC:BVY,B15	1
					2

Code	Used On	Code	Used On	Code	Used On
AVY	M1097A1	B16	M996A1	H15	M997
A11	M966A1	B17	M1025A1	H16	M996
A13	M998A1	B18	M1026A1 W/W	H17	M1025
A14	M1038A1 W/W	B20	M1035A2	H18	M1026 W/W
A15	M997A1	B24	M1045A2	H20	M1035
A20	M1035A1	B25	M1043A2	H21	M1037
A24	M1045A1	C17	M1025A2	H24	M1045
A25	M1043A1	HVY	M1097	H25	M1043
A26	M1044A1 W/W	H11	M966	H26	M1044 W/W
A27	M1046A1 W/W	H13	M998	H27	M1046 W/W
BVY	M1097A2	H14	M1038 W/W	H28	M1042 W/W
B15	M997A2				

Code	Used On
HPM	M1097 W/W and L119 Prime Mover Kit
SLT	M1097 W/W and S250 Shelter Kit
KTV	M1097 W/W and Towed Vulcan System Kit

Knowing what UOC means can mean the difference between receiving the right parts or receiving the wrong parts—and lots of grief from your unit.

Most major equipment items, like a tank or truck or helicopter, come in several models. A part that fits one model may not fit another.

That's where the parts manual's usable on code (UOC) comes in. It identifies which parts fit which models. If you ignore the UOC when you hunt up an item in the parts manual, you may order a part that doesn't work on the model you have.

Then you have to reorder the right part, fill out paperwork to turn in the wrong part, and explain to your repairmen that you goofed. Plus, your unit has to eat at least part of the cost of the wrong part.

So when you look up a part, check for a UOC. It will be a series of numbers and letters next to the part's description. If there is a UOC, go to the Special Information section in the TM's introduction. It will tell you what models the letters or numbers represent. If no UOC's listed, the part fits all models.

DCSLOG Pubs on the Net

Wouldn't it be great to have all Deputy Chief of Staff for Logistics (DCSLOG) publications on the Internet?

Well, they are and it is.

The Logistics Integration Agency (LIA) home page—**http://www.lia.army.mil/**—will link you to the DCSLOG Publications Management System (DPMS).

This system gives you:

- All DCSLOG publications at your fingertips, like AR 735-5, Policies and Procedures for Property Accountability, and AR 750-1, Army Materiel Maintenance Policies.
- On-line access to policy and procedure data 24 hours a day, seven days a week.
- The opportunity to e-mail recommended changes to the subject matter experts responsible for the documents.

Recording Performance

Dear Sergeant Habla,

AR 600-55, the Army Driver and Operator Standardization Program, requires a physical evaluation and performance test for operators.

We used to record the results of this evaluation and test on the back of DA Form 348, Equipment Operator Qualification Record. ULLS uses DA Form 5983, Operator's Qualification Record which has no place to record this information. Do we still need to record it, and if so, where do we do it?

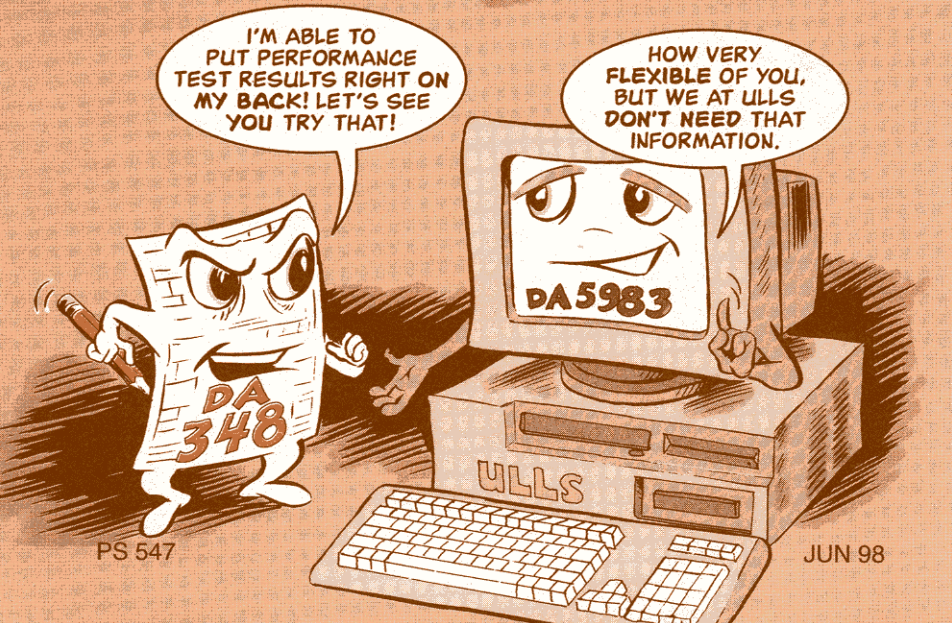
SGT B.C.

Dear Sergeant B.C.,

In ULLS, the physical evaluation and operator's performance test don't have to be recorded. Once the new driver passes the evaluation and test, the commander signs the license. His signature indicates that the individual meets all requirements for operating the equipment.

If the commander wants other info recorded, it must be done manually elsewhere.

Pablo



Connie's Post Scripts

A Bright Idea

DLA wants to brighten your life. Dial (800) DLA-BULB (352-2852) for info and NSNs on hundreds of types of light bulbs and energy-efficient lighting.

Life Preserver

Use NSN 4220-00-200-0538 to order a life preserver for 3-, 7- and 15-person inflatable boats. The NSN listed in Appendix D of TM 5-1940-278-12&P is wrong.

AMCOM 2028s

Make one correction to the Aviation and Missile Command information we gave you on Page 51 of PS 544. When you send a DA Form 2028, Recommended Changes to Publications and Blank Forms, to Aviation and Missile Command, send it to:

US Army AMCOM
ATTN: AMSAM-MMC-LS-LPP
Redstone Arsenal, AL 35898-5230

Kiowa Engine Flush Can

Get the engine flush can for the OH-58D's T703-AD-700 engine with NSN 3740-00-641-4719. The NSN listed for Item 41 on Page B-13 of TM 55-2840-256-23 is wrong.

M8A1 Alarm Radiation Sticker

If the radiation warning sticker on the M43A1 detector case wears off, order a new one with NSN 7690-01-448-3208. Clean the area on the case with acetone (nail polish remover) before putting on the sticker. The sticker NSN is being added to the M8A1 TM.

M870A1 Tiedown Shackle

NSN 4030-00-169-9298 gets the tiedown shackle for the 40-ton semitrailer. The parts info for Item 9 in Fig 19 of TM 5-2330-378-14&P is no good.

AR 710-2 PLL Correction

The PLL management policy information, Para 2-21, in the new AR 710-2 (Oct 97), Inventory Management Supply Policy Below the Wholesale Level, has some big errors. Recent policy changes did not catch up to the publication of the AR. For the correct information, get a copy of DA DCSLOG Msg, DALO-ZA, 071849Z Jul 97, Retail Supply Policy Changes. For a copy of the message call DSN 227-9833 or (703) 697-9833. Or e-mail your request to:

crytzid@hqda.army.mil

M2/M2A Burner Safety Device

The correct NSN for the M2/M2A burner safety device is 7360-01-343-9014. Make a note until Fig D-7 of TM 10-7360-204-13&P is updated.

Field Desk Stool

Need a replacement stool for your field desk, NSN 7110-00-267-1999? NSN 7105-00-282-0684 will get you one. Appendix A of CTA 50-970 is your authorization.

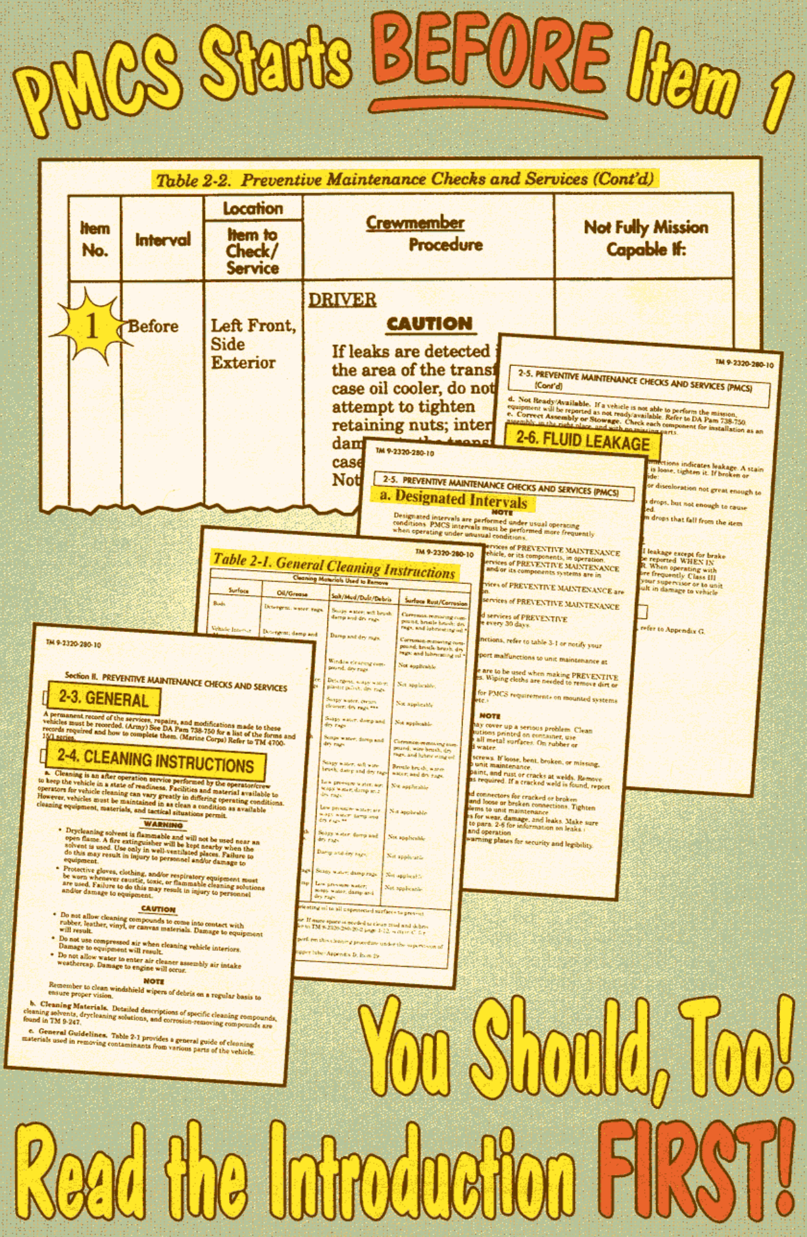
Tire Training Course

TACOM's Team Tire is co-sponsoring a three-day course on tire maintenance 6-8 Oct 98 in Louisville, KY. Students learn about tire construction, markings, inspection, classification, tread wear limits, repair, mounting/demounting and inflation procedures. The course costs $368. For more info, call DSN 786-6325 or (810) 574-6325.

DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 340312, requirements for TB 43-PS-Series.

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

☆ U.S. GOVERNMENT PRINTING OFFICE: 1998 — 650-065/20042
For sale by the Superintendent of Documents, U.S. Government Printing Office Washington, DC


PMCS Starts BEFORE Item 1
Table 2-2. Preventive Maintenance Checks and Services (Cont'd)
Item No.
Interval
Location
Item to Check/ Service
Crewmember Procedure
Not Fully Mission Capable If:
1
Before
Left Front, Side Exterior
DRIVER
CAUTION
If leaks are detected
the area of the transf
case oil cooler, do not
attempt to tighten
retaining nuts; inter
2-5. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) (Cont'd)
2-6. FLUID LEAKAGE
2-5. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)
a. Designated Intervals
Table 2-1. General Cleaning Instructions
Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES
2-3. GENERAL
2-4. CLEANING INSTRUCTIONS
WARNING
CAUTION
NOTE
You Should, Too!
Read the Introduction FIRST!