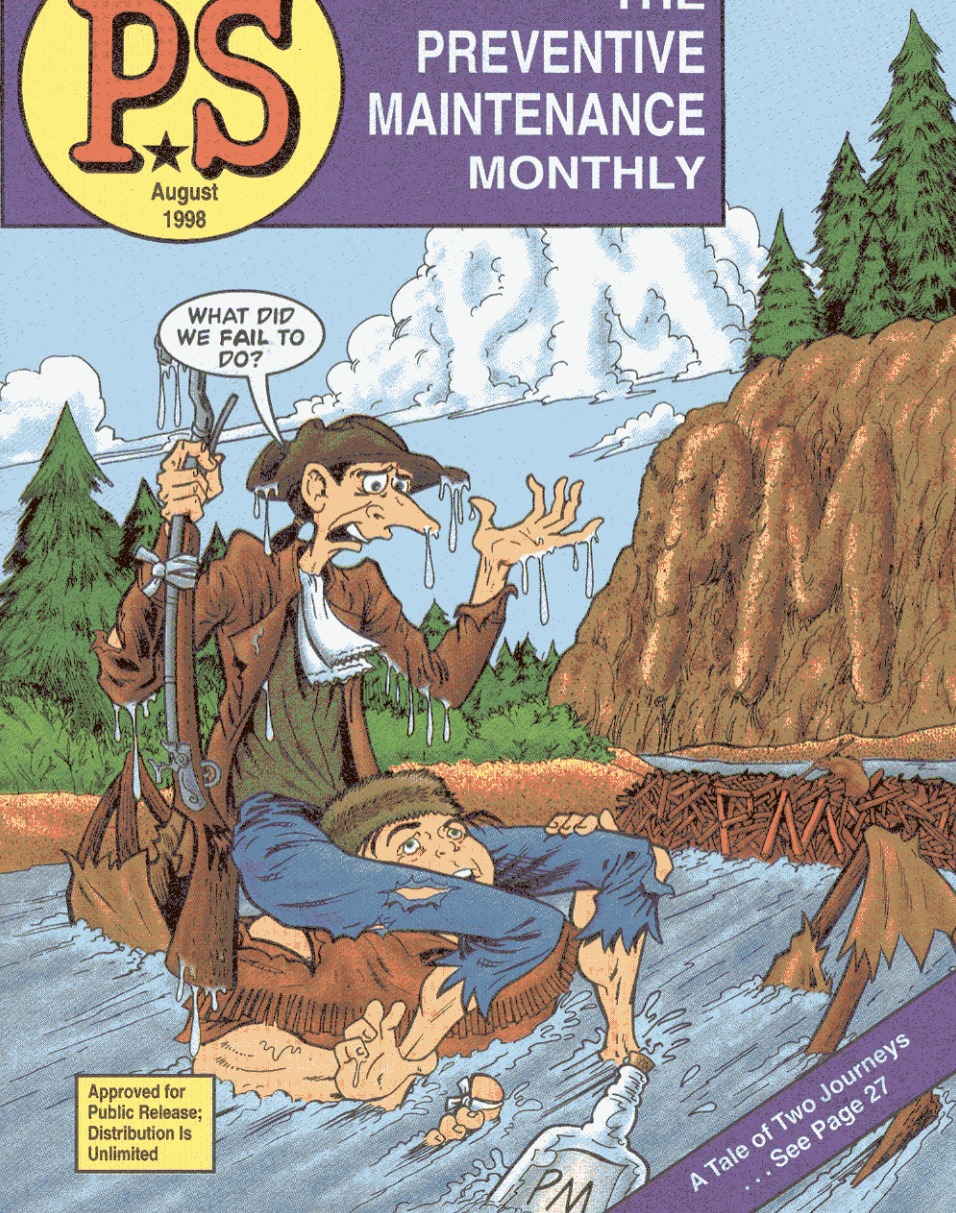
Issue 549

P.S

August 1998

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-549



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A Tale of Two Journeys . . . See Page 27

Making Molehills Disappear

Ever heard someone say, "Don't make a mountain out of a molehill"? That's exactly what happens when you don't do **all** of your preventive maintenance.

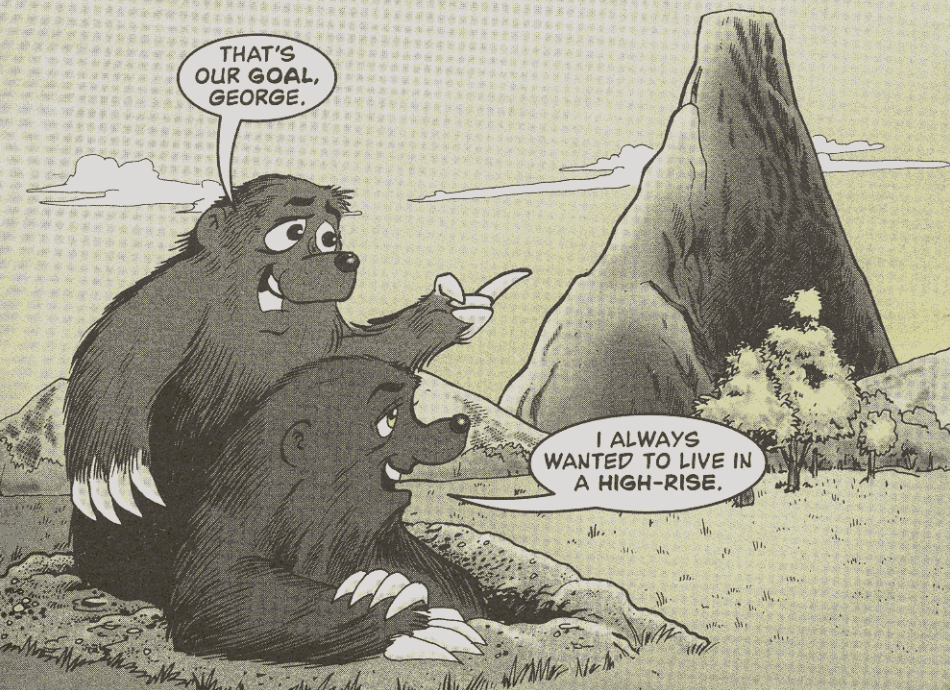
Some operators think the purpose of PMCS is to find and fix deadlining faults. They figure the small problems can wait until later.

Boy, are they wrong!

If you let those little problems go today, you'll end up with mountain-size problems tomorrow. Class I leaks turn into Class III leaks, dirty air filters result in damaged engines, a little corrosion results in dead batteries, a loose sprocket bolt turns into a thrown track...the list is endless.

Operators who neglect little problems soon end up with equipment that won't work. So, when you see a loose bolt, tighten it; when you see corrosion starting on your gear, clean it off; when you see a fluid leak, stop it, report it or keep an eye on it.

PMCS is **your** time to look for these little problems. Tend to them, then and there. Do it by the book and you'll find those molehills ***before*** they turn into mountains.



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-549, 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.

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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:

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Administrative Assistant to the Secretary of the Army
04877

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.

Steering Arm Pin Lubing

When you lube the straight headless pin that connects the steering gear arm to the slider shaft assembly on the M1000 semitrailer, don't stop with just two or three squirts of the grease gun.

That won't lubricate the bearing in the end of the slider shaft, which is where all the turning movement takes place.

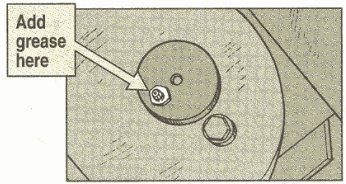
The bearing, along with the two rod-end bearings in the steering master cylinders, is the key to the steering operation. Those surfaces that don't get lube will soon begin to wear—and that can mean poor or no trailer steering.

To do the lubing right, chock the front axles and unhook the trailer from the M1070 HET tractor. Lower the gooseneck completely and put the outriggers down. Then, crank up the trailer's auxiliary power unit (APU).

Be aware that the steering cylinders move slowly but with enormous force. Stay away from the steering arm mechanism when it's being moved.

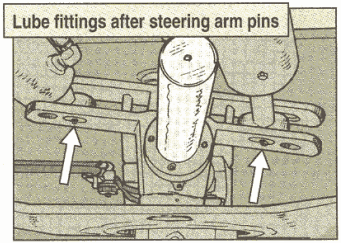
Also note that at full travel right or left, the steering cylinder can drive the steering arm mechanism too far and cause a lock-up. Manual steering to any position less than 45° from center is safe.

While a buddy moves the hydraulic steering control arms 35–40° left of center and then stops, you pump grease into the pin. Then your buddy moves the control arms 35–40° right of center and stops. Put more grease into the pin.



Movement of the steering gear arm to the right and left allows grease to get to all the surfaces that need lubing.

Apply lube until fresh grease is forced from the top or bottom of the bearing. Repeat at each of the two steering cylinder pins connecting the cylinders to the steering arm.



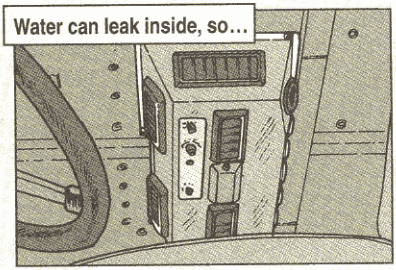
Finally, shut down the APU and lube the other fittings on the steering console.

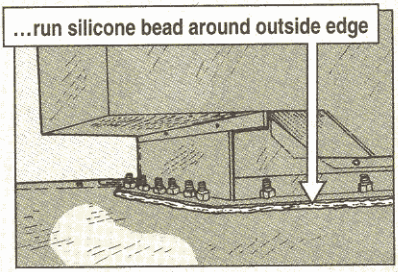
Ventilator Leak Fix

The ventilator on the roof of the M1070 HET tractor is a big source of water leaks.

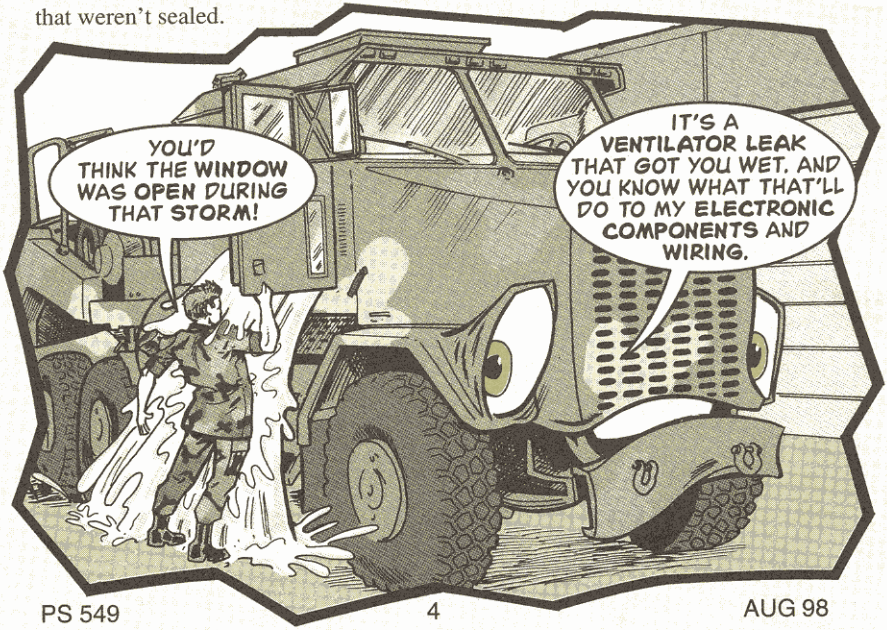
The leaks happen because the ventilator was just added to the truck, not made as a part of it. That means it doesn't always fit perfectly.

To keep the cab dry and electrical components and wiring undamaged, run a bead of silicone, NSN 8040-00-843-0802, completely around the ventilator where it's bolted on the top of the truck.





Let the silicone dry, then check for gaps. Work more silicone into any areas that weren't sealed.



Stop Steering Wheel Damage

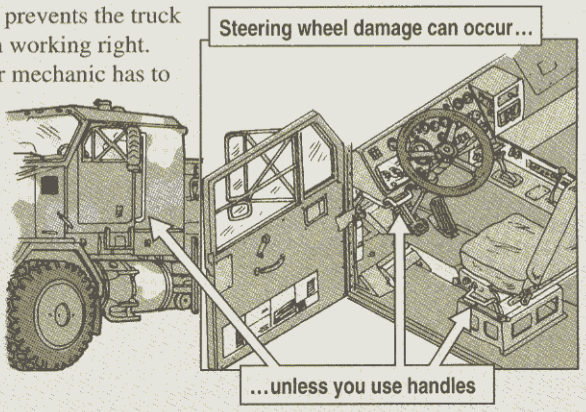
The M1070 HET tractor is no different than other Army trucks, drivers. You do not use its steering wheel to pull yourself into the cab.

Use one or more of the three handles provided for you. One is attached to the side of the cab, another is at the base of the driver's seat and the third is beside the steering wheel.

When you grab the steering wheel, you damage the plastic ring on the underside of the steering wheel, and, in the worst case, the steering wheel itself.

Damage to the ring prevents the truck and trailer lights from working right. That's unsafe, so your mechanic has to replace the ring, at about $5 each. Breaking the steering wheel means a new wheel, at about $125.

The ring is NSN 5977-01-447-5053. The steering wheel is NSN 2530-01-247-8541.



HMMWV Ambulances . . .

Softer Edges for Litter Tracks

Cover up those often-sharp litter skid tracks on HMMWV ambulances with edge trim. You could save some of your own blood.

Here's how to cover them:

Local purchase edge trim, PN SD1276, from its manufacturer, Uni-Grip Inc, CAGE 2L480. The trim must be ordered by the foot, so total up how much you need before ordering. A 60-ft roll costs about $30 plus shipping.

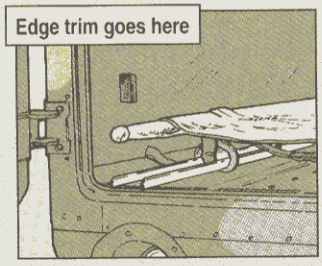
Ambulance models M996 and M996A1 need 30 feet of trim each. Models M997 and M997A2 need 58 feet and models M1035 and M1035A1 need 59 feet.

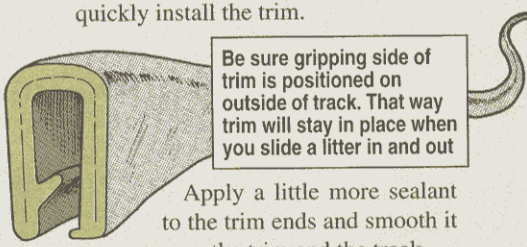
You'll also need RTV adhesive sealant, NSN 8040-00-865-8991, to secure the trim.

Once you have the supplies, measure the skid tracks and cut the trim to fit. Lop off an extra half-inch of the trim at the ends so you can apply sealant to cover the ends.

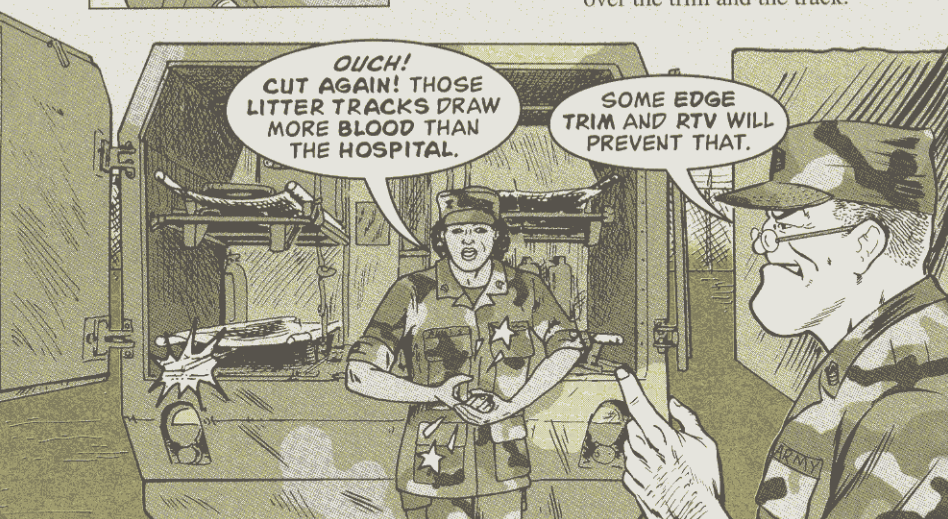
Do not apply the sealant before cutting the trim. It dries too quickly.

Apply a thin bead of sealant along the full length of one track edge, then quickly install the trim.





Apply a little more sealant to the trim ends and smooth it over the trim and the track.



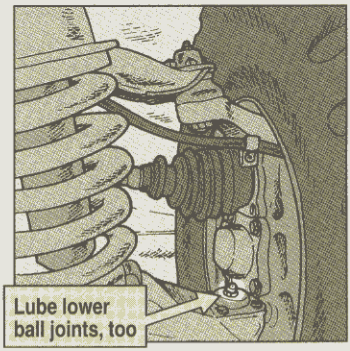
HMMWVs . . .

Lower Ball Joints Get Lube

Drivers of M998A2-series, XM1113 and XM1114 model HMMWVs need to know that unlike other HMMWVs, the lower ball joints on these trucks have grease fittings.

They need lube every 3,000 miles or six months, whichever comes first, or more often in unusual conditions.

The lube requirement for XM1113 and XM1114 models is found on Page G-6 of TM 9-2320-387-10 (Oct 97). It includes the lower ball joint.



The lube requirement for the lower ball joints on A2-series models is not found in TM 9-2320-280-10—**yet**. An upcoming change will add it, but you need to do the lubing now.

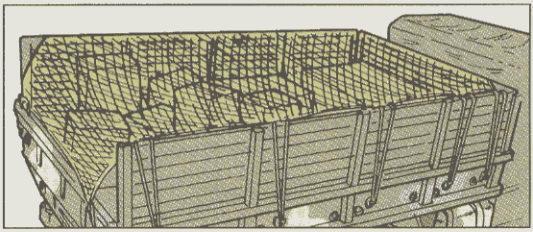
Eyeball your HMMWV to see if the lower ball joint has a lube fitting. If it does, use it.

Tactical Vehicles . . .

Tame Your Load

A cargo net can keep your vehicle's load from hitting the road.

Tailor-made cargo nets are now available for tactical vehicles. All are easily adjustable for a snug fit. Each black nylon net is held in place with snap hooks.

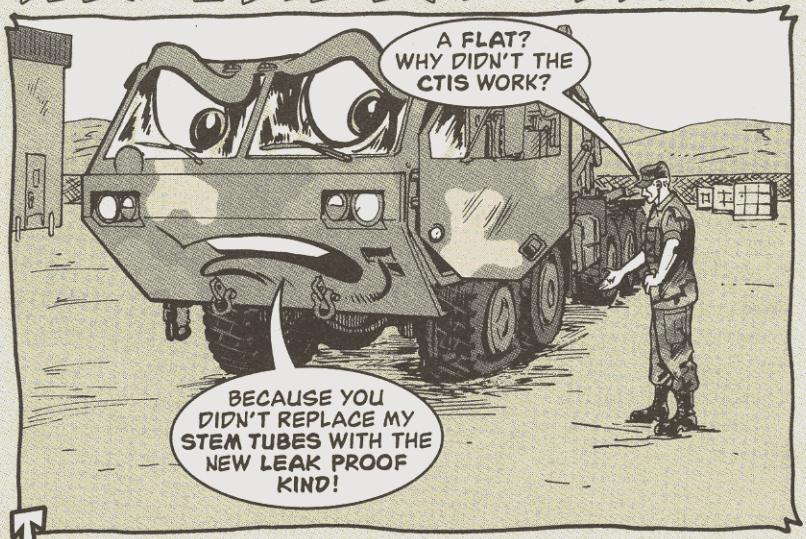


A three-position molded nylon clamp locks a cinching rope, which goes around the entire net.

Each net comes with a storage bag and attachment instructions.

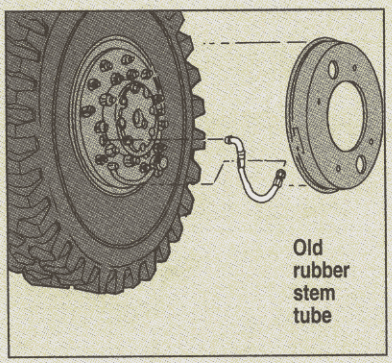
Vehicle	NSN 2590-01-449-
HMMWV	2379
3/4-ton trailer	2369
1 1/2-ton trailer	2369
2 1/2-ton truck	2385
5-ton truck	2385

New CTIS Stem Tubes



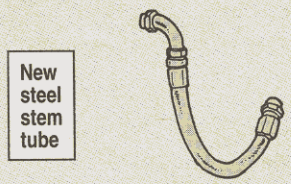
The third time may be a charm for CTIS stem tubes on the M1074 PLS tractor.

In the beginning, M1074s had rubber stem hoses, but they started leaking quickly because of high temperatures from heavy braking.



The rubber hoses were replaced by the steel tubes (PN N-1296) shown as Item 15 in Fig 266 of TM 9-2320-364-24P. They leak, too, so now there are new steel tubes to use.

Use NSN 4710-01-357-5666 to get the pre-bent tube for the left side of the brake valve, and NSN 4710-01-425-2122 to get the pre-bent tube for the right side of the brake valve.



If one is leaking, replace both. That way, you'll know you're using the better steel tube on both stems.

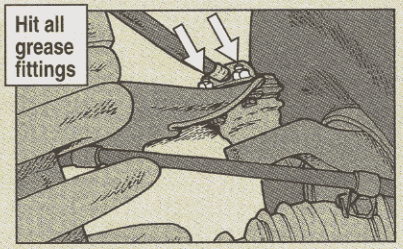
Wheeled Vehicles . . .

AFTER the WASH is the LUBE

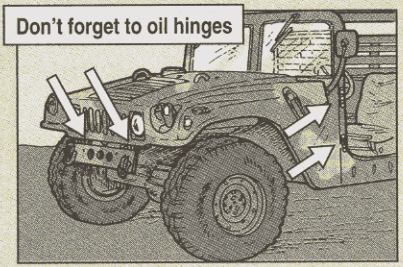
Let's not forget the second part of vehicle washing—**lubing**.

It doesn't matter if you just did a semiannual or annual service, once your vehicle returns from the wash rack, the following things need to be done:

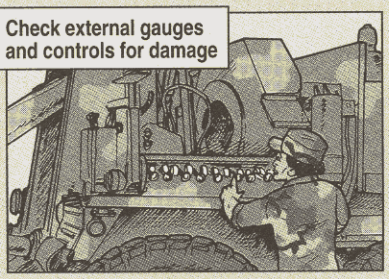
- Pull out your vehicle's lubrication order (LO), get your grease gun and hit every fitting called out.



- Use oil on all oil can lube points noted in the LO.



- Check all external controls and gauges for water damage. If you find any damage, report it.

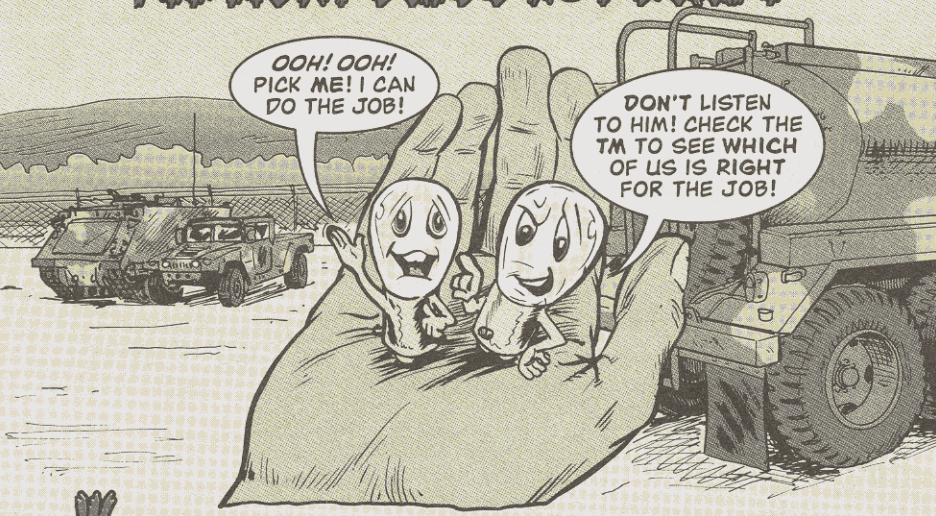


- Eyeball all fluid containers (hydraulic reservoirs, axles, transmissions, engines, etc.) for water contamination. If you find any fluid that has a milky color, report it.

The point is this: Leaving parts lubeless invites rust and it can be a long time until the next scheduled lube.

Water in fluids also invites rust, but you won't see the damage being done until something breaks down. Make the lube job and component checks your next moves after the wash rack.

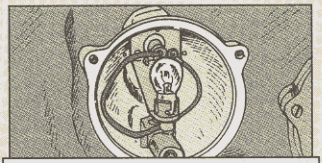
ALL LIGHT BULBS NOT EQUAL



When you have to replace a burned-out electric light bulb on your vehicle, don't think that any light bulb will do.

There are specific bulbs for specific uses, and your parts TM tells you which one goes where. Using the wrong bulb— like one with only one pin instead of the right one with two pins—can cause blown, dim or flashing lights.

Once you have the right light bulb to install, put a thin coat of silicone grease, NSN 6850-00-963-5402, on the base. That stops corrosion between the bulb base and its socket, and makes it easier to remove the bulb next time.

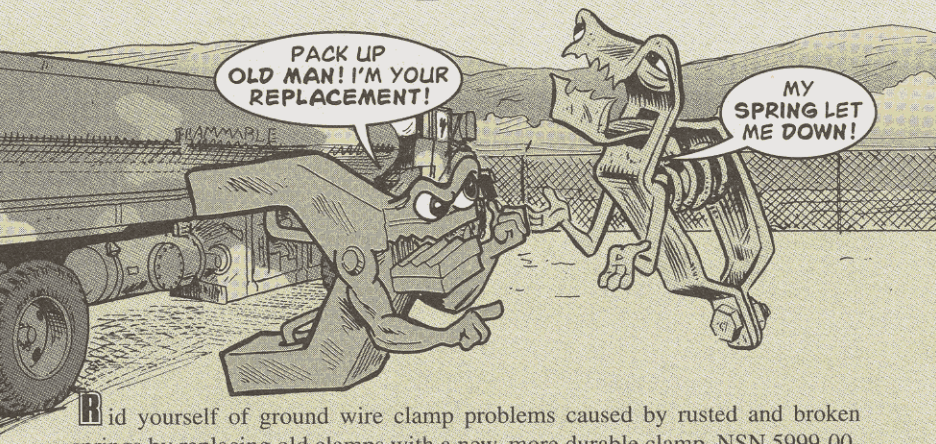


Add silicone before installing lens

Rust Inhibitor Update

Page 23 of PS 537 has the lowdown on a new rust inhibitor for tactical and combat vehicles. A good rule of thumb for applying the inhibitor is don't let it drip. All that's needed is a mist to wet metal surfaces underneath and inside your vehicles. That means roughly a gallon for HMMWVs and two gallons for a 2 1/2-ton truck. You can get a video on applying the inhibitor by calling (800) 856-6798.

Better Clamp, Less Damage



Rid yourself of ground wire clamp problems caused by rusted and broken springs by replacing old clamps with a new, more durable clamp, NSN 5999-00-134-5844.

The new clamp is a snap to install. Remove the old clamp, snip off the wire eyelet if there is one, then fit the wire into the new clamp. Use a 3/32-in hex wrench from the No. 1 or No. 2 Common shop set to tighten the clamp's handle screws to the ground wire.

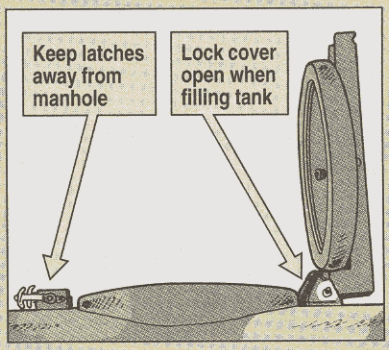
M149A2 Water Trailers . . .

Keep Manhole Gasket Hole-less

It takes just a moment of carelessness to poke a hole in the manhole cover gasket on M149A2 water trailers.

If you don't get the cover latches out of the way, any time the cover closes the gasket takes a poke. Any hole in the gasket can lead to contamination of your unit's drinking water.

In addition to making sure the latches are out of the way, lock the cover open while filling the tank. That way, the cover can't close unless you want it to.



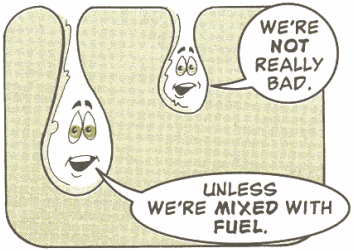
Get the Crud Out!

Does your combat vehicle go through fuel filters like there's no tomorrow?

Have clogged injectors and fuel lines put your vehicle down for the count too many times to remember?

Then you most likely have crud growing in your fuel tanks. Crud comes from the gradual breakdown of fuel and the growth of microorganisms. Crud clogs injectors and fuel lines and plugs fuel filters.

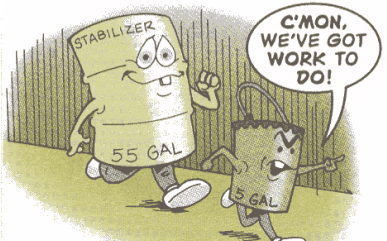
The main culprit is water—whether from condensation, a leaky fuel cap, or contaminated fuel. If a vehicle's been stored very long, water always manages to get inside and those little microorganisms quickly go to work.



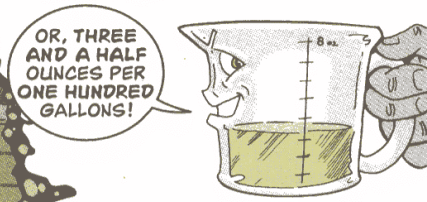
They attack fuel tank coatings and sealants, causing flaking and peeling, which makes for more clogs. They can also corrode fuel system surfaces, especially around tank filler necks.

Once crud forms, only a thorough fuel tank scrubbing by your support will get it out.

After the system's clean, keep it clean with diesel fuel stabilizer additive. The additive comes in a 5-gal can, NSN 6850-01-246-6544, and a 55-gal drum, NSN 6850-01-246-6545. It slows fuel breakdown, kills microbial growth and inhibit's corrosion.



Use one gallon of additive per 3,500 gallons of fuel.



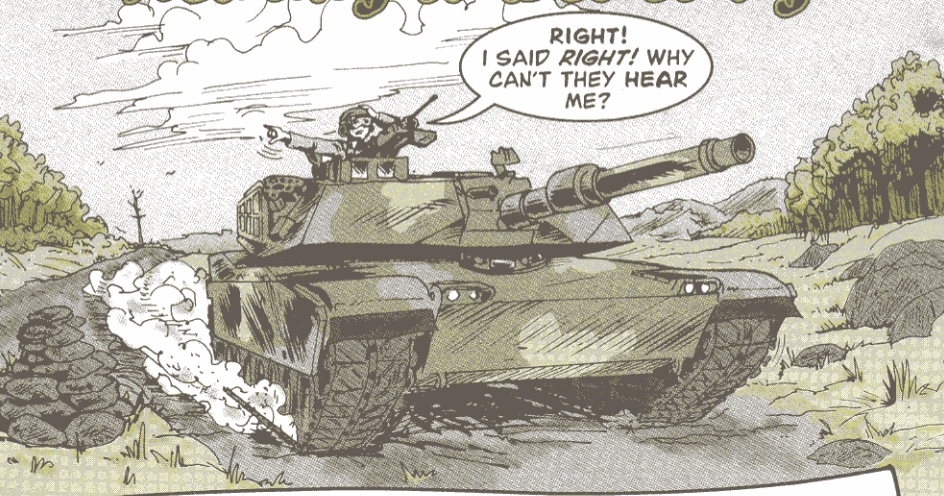
This additive won't dissolve crud that's already in the fuel tanks, but it will stop more crud from forming and kill all the microorganisms in your fuel.

Never put the additive in an empty fuel tank. It works best when added to a half-full tank just before you finish filling it.

If you use the additive without first cleaning the fuel tanks, keep a close eye on your fuel filters. As chunks of the crud break loose, filters can clog real quick. Clean or change them often until the crud disappears.

Follow the instructions that come with the additive. Always wear protective gloves and goggles when handling fuel additives and be sure to work in a well-ventilated area.

Hearing Is Believing



Dear Editor,

The M1-series tank commander spends a lot of time with his head sticking out of the hatch.

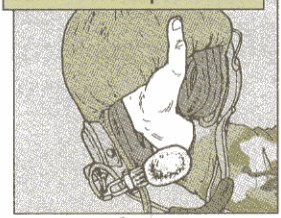
Unfortunately, that causes a lot of problems with wind noise over the microphone of his CVC helmet. The noise makes communication with the rest of the crew difficult.

We've stopped this problem by covering the microphone with a foam shield, NSN 5965-01-411-1856. The shield is held in place with a rubber O-ring, NSN 5331-00-248-3835.

The tank commander's voice comes through fine, but all other noise is greatly reduced.

SFC Christopher Worick
2/34th AR
Ft Riley, KS

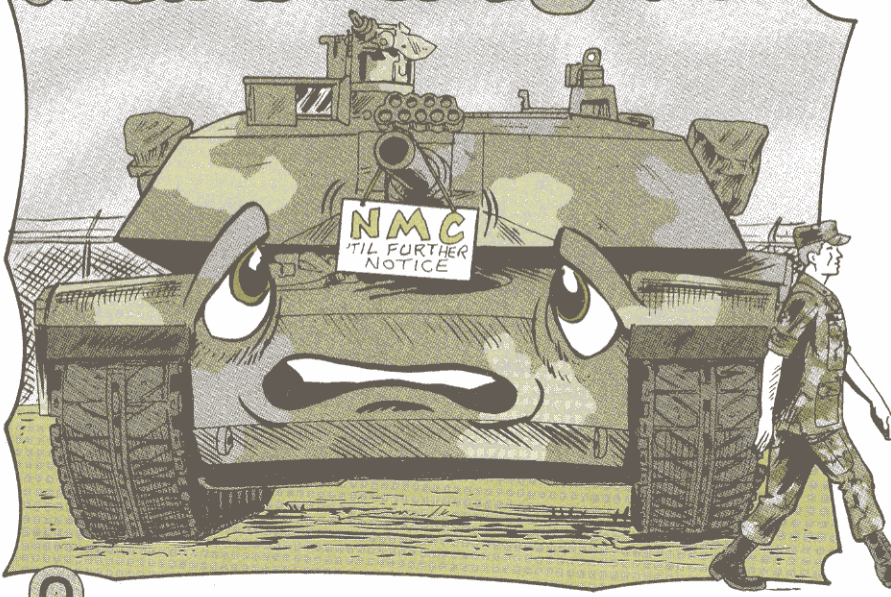
Foam shield prevents static and wind noise problems



FROM THE DESK OF THE *Editor*

Your solution came through loud and clear!

Make the Change Now

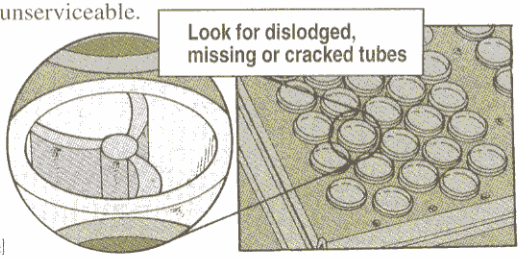


Operators, Change 11 to TM 9-2350-264-10-1 has some NMC information that is deadlining some M1A1 tanks needlessly.

Item 113 on Page 2-105 of the PMCS chart says the tank is NMC if the "Precleaner-baffle has 10 or more damaged tubes or fins." **That's not true**.

The NMC criteria should read, "Precleaner-baffle has 10 or more unserviceable tubes." According to TACOM, unserviceable means the **outlet end** of a tube is dislodged, missing, or cracked all the way through. Minor edge chips, cracks and bends do not mean it is unserviceable.

The third NMC criteria, "Precleaner-baffle handles are damaged or have broken welds", should be deleted entirely. Be sure to tell your mechanic if you see this problem, but it **does not** deadline your vel



These corrections are in Change 12 of the TM.

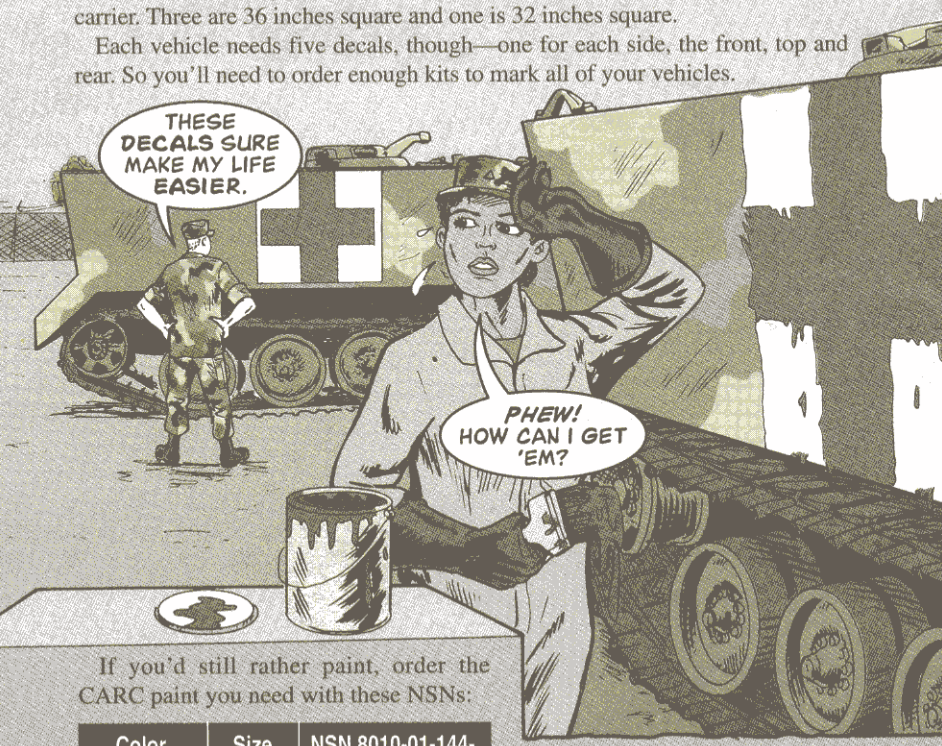
Brush Away Paint Problems

So it's time to re-paint the Red Cross markings on your medical M113-series carriers. You hate the mess and hassle, but it's gotta be done.

Put away that paint brush!

Instead of painting, order a set of Red Cross decals for your vehicles. NSN 7690-01-103-6312 gets four Red Cross decals large enough for your medical carrier. Three are 36 inches square and one is 32 inches square.

Each vehicle needs five decals, though—one for each side, the front, top and rear. So you'll need to order enough kits to mark all of your vehicles.

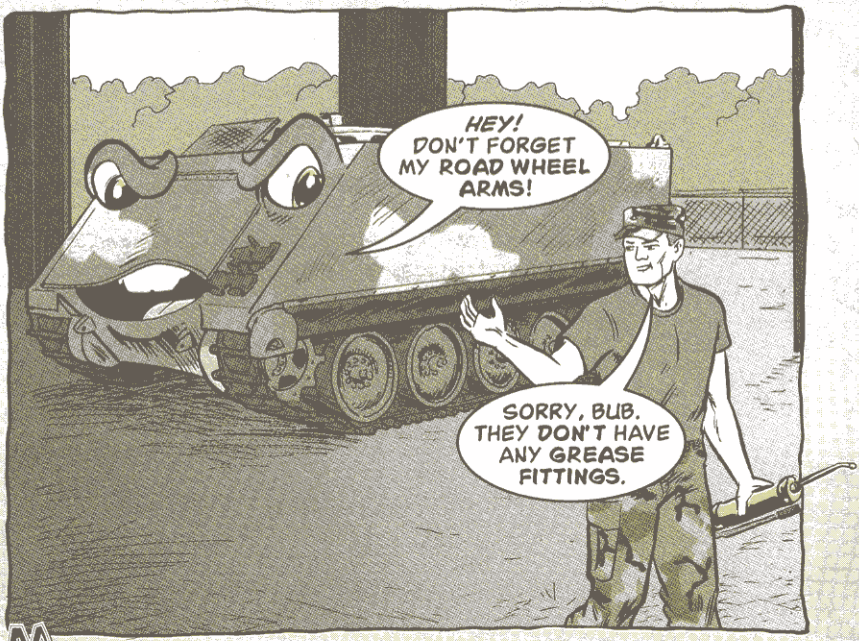


If you'd still rather paint, order the CARC paint you need with these NSNs:

Color	Size	NSN 8010-01-144-
Aircraft red	1 1/4-qt	9884
Aircraft red	1 1/4-gal	9873
White	1 1/4-qt	9883
White	1 1/4-gal	9872
White	5-gal	9877

This CARC paint comes in two-component kits. Component A is a polymer resin and component B is a curing agent. The components are mixed in a four-to-one ratio of resin to curing agent. That allows you to mix up only as much paint as you need for the job.

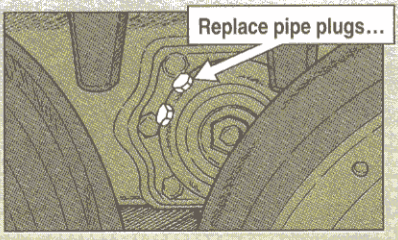
PULL THE PLUGS

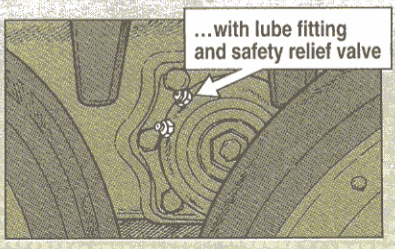


Mechanics, new M113-series carrier roadwheel arms come with pipe plugs installed. Unless you replace the plugs with a relief valve and grease fitting, it won't be long before you're installing **another** new roadwheel arm.

Crewmen can't lube the arm when there's no grease fitting. With no grease, the bearings burn out.

So, pull the plugs and put in a safety relief valve, NSN 4820-01-070-7670, and grease fitting, NSN 4730-00-050-4208, whenever you put on a new road wheel arm.



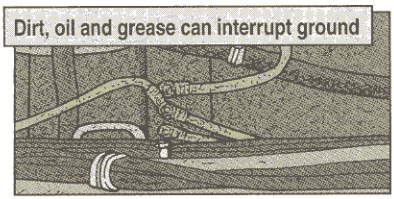


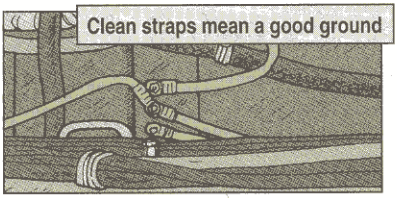
A Well-Grounded Solution

Dear Editor,

Over time, grease, oil, dirt and water collect in the hull of your MLRS. It forms a gunk that works its way between the hull and the ground straps for the engine and transmission. Then your vehicle is no longer grounded!

That causes all sorts of problems—shorted electrical gauges, fire control system glitches, sudden loss of electrical power, power surges, and much more.





We prevent these problems by cleaning the ground straps during semiannual services. Here's how:

1. Disconnect the carrier's batteries.

2. Remove the three bolts and washers holding the straps in place.

3. Clean the hardware and the metal ends of the straps with dry cleaning solvent and a clean cloth. You may need a wire brush as well if the crud buildup is bad.

4. Clean the contact point on the hull with dry cleaning solvent. Scrape away any paint that would come between the hull and the ground straps. The straps MUST make bare metal contact or the engine and transmission aren't grounded.

5. Reattach the ground straps and reconnect the batteries.

Crewmen and Mechanics
A Btry, 1/3 FA
Ft Stewart, GA

SEAL OF Editor's APPROVAL

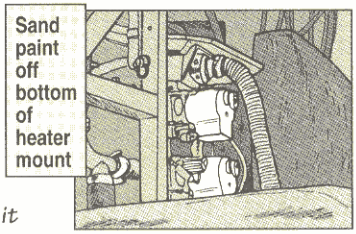
GROUNDING CBR HEATERS

Dear Editor,

The Chemical Biological Radiological (CBR) heaters we get for our MLRSs are painted on the bottom of their mounts. The paint keeps the heater from establishing a good ground and working.

Sand off the paint on the bottom of the heater mount before you install it and you'll get a solid ground.

SSG Michael Hatfield
SGT Bobby Copeland
C Co, 6/37 FA
Camp Stanley, Korea



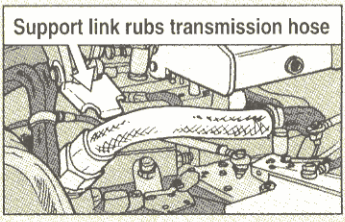
M2A2/M3A2 Bradley . . .

Rubbed the Wrong Way

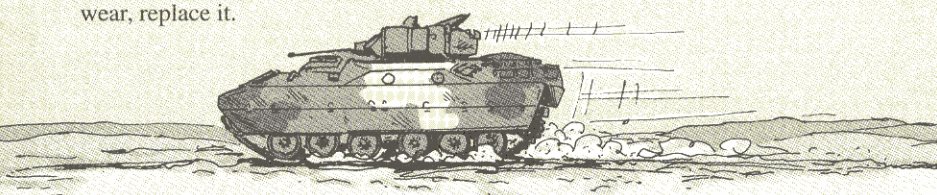
The Bradley's engine panel support link does a great job of holding up the engine access panel. Problem is, it also does a job on the transmission hose.

As the link moves up and down, it rubs against the hose. Enough of this rubbing wears the hose until a leak develops.

You can prevent that problem by wrapping the hose in duct tape. NSN 7510-00-515-0319 brings a 2-in wide by 60-yd long roll. The tape withstands temperatures up to 350°F.



Once you've wrapped the hose, check it weekly. If the tape shows excessive wear, replace it.



A Change for the Better

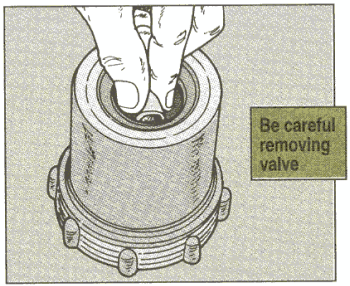
Dear Editor,

When the desiccant in your M109A4/A5 Howitzer's hygroscopic breather assembly changes colors, it's time for a new assembly, NSN 4330-01-287-4060. But that sets you back more than $240.

If you've got the clear, plastic breather assembly, though, there's a way to fix it for a fraction of the cost of a new assembly. Here's how:

1. Remove the plastic portion of the breather assembly.

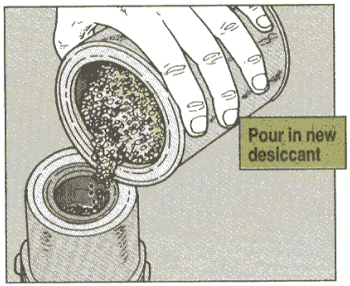
2. Take out the valve and filter located at the top of the breather assembly. Be especially careful with the valve. If it's damaged or stretched, you'll have to toss the whole assembly and order a new one.



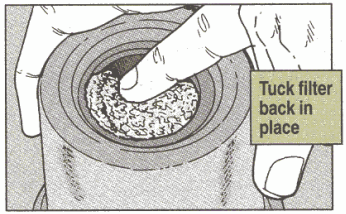
3. Pour out the old desiccant and wipe away any leftover moisture with a clean dry rag.

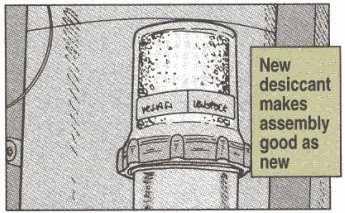
4. Refill the assembly with new desiccant. NSN 6850-00-680-2233 brings a 1 1/2-lb can. That's more than enough to fill one breather assembly.

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



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





This fix costs less than $8 and can be done over and over again.

SFC Ray D. Hanson
CSMS #1
SDARNG

FROM THE DESK OF THE Editor

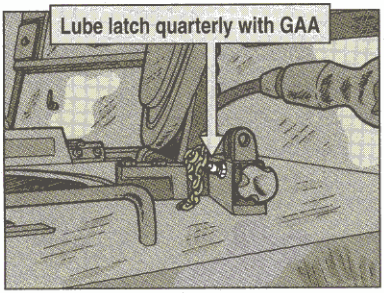
Good job! Mechanics, there are two different types of breather assemblies under the same NSN. If the one you have isn't made of clear plastic, the desiccant can't be removed and you'll have to replace the whole assembly.

M992A2 Ammo Carrier . . .

Be a Latch Luber

The hold-open latch is **supposed** to lock open the driver's hatch on your M992A2 ammo carrier. Without good PM, though, that won't always happen.

Unless you lube the hold-open latch quarterly with GAA, the latch pin will rust in place. If the pin can't move, the hatch won't lock. That means the hatch could come crashing down on your head, drivers.



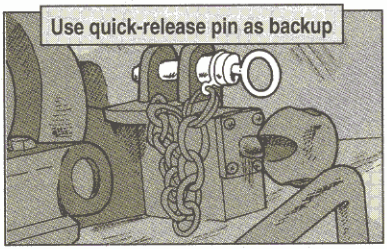
Check the hold-open latch weekly to make sure it locks. If the pin is hard to move or won't move at all, lube the latch until you see grease oozing out around the pin. Then, pull the latch knob in and out until the pin moves smoothly.

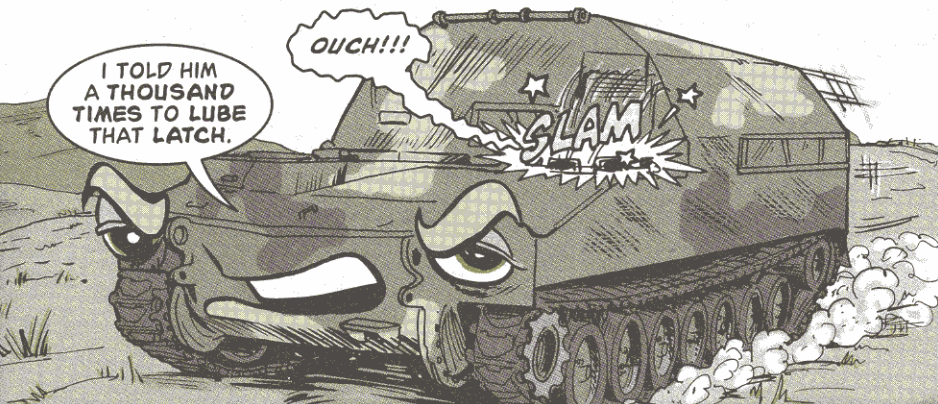
If the pin still won't move, report it. Your vehicle is NMC.

WARNING!

Even if the pin seems to be working perfectly, don't rely on it alone to hold open the driver's hatch.

For safety's sake, always slide the quick-release pin through the strike brackets on the hold-open latch. The quick-release pin acts as a backup in case the hold-open latch fails.





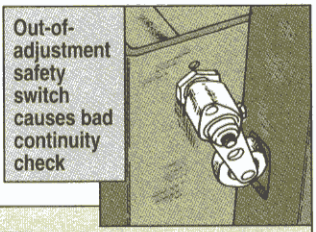
Clearing MICLIC Problems

Dear Editor,

A couple of discoveries we've made on the MK-155 mine clearing line charge (MICLIC) make troubleshooting easier.

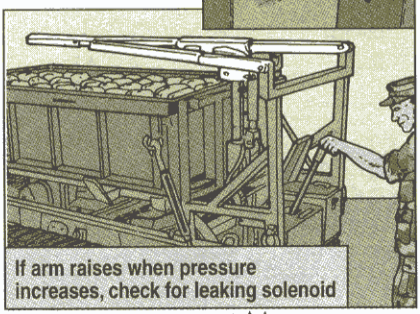
When a MICLIC fails the continuity test that's part of the pre-firing checks, repairmen usually fix the problem by replacing the control box.

But the box is probably OK. The safety switch is probably not OK. If the switch wasn't installed correctly, it throws off the continuity. Adjust the switch and do the continuity check again. It should pass. Instructions on adjusting the switch are on Page 5-12 in TM 9-1375-215-13&P.


Out-of-adjustment safety switch causes bad continuity check

If you pump up pressure and it raises a launcher arm instead of staying in the accumulator, you likely have a bum solenoid. A solenoid that sticks open even a tiny bit lets pressure leak out of the accumulator.

Replace the solenoid, NSN 4810-01-351-5845, and the accumulator should start accumulating pressure again.


If arm raises when pressure increases, check for leaking solenoid

WO1 Salvador Lopez
HHC, 317th Engr Bn
Ft Benning, GA

SEAL OF Editor's APPROVAL

Lowdown On Safe Travel

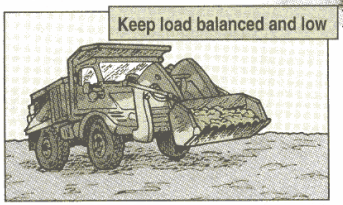
Operators, the SEE has unique characteristics that you need to remember every time you crank it up. Always heed the word in TM 5-2420-224-10 and use these helpful hints:

Travel Low and Balanced

Recent reports show that far too many SEEs have tipped or rolled over.

Here's how to avoid rollovers:

- Run your SEE low and balanced, especially when going over bumps, gullies and slopes.

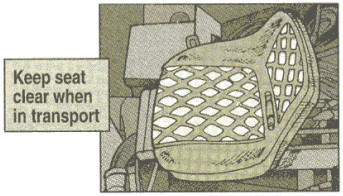


- Never run the SEE with a full bucket carried overhead. It makes the excavator top-heavy.

Clear Backhoe Seat

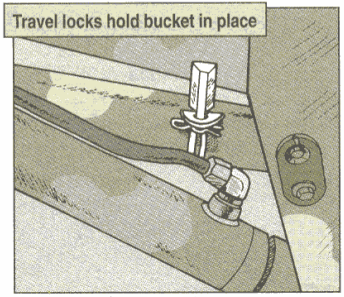
Any gear left on or under the backhoe seat, like a field jacket or ALICE pack, will activate the control levers when the backhoe is set in the stowed position. Then the boom damages anything that gets in its way—like the exhaust stack and muffler.

Make sure the backhoe seat is clear—or you could be setting yourself up for disaster.



Travel Locks Reminder

Before going long distances—or any time the front loader won't be used for a while—make sure you install the loader's travel locks.



They hold the travel lock bracket in place, about a foot above the ground. That way the bucket's weight isn't riding on the hydraulic cylinders. The bucket also won't hit the ground if the cylinders let it drop.

Pages 2-87 and 2-88 of the -10 TM tell how to install and remove the travel lock's spring clips.

Loading or Backfilling

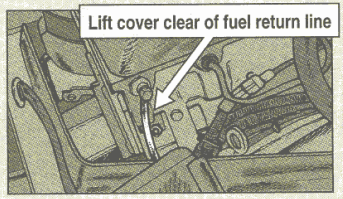
Remember what the SEE is designed to do. Use the front bucket only for loading or backfilling loose dirt. Never use it to excavate banked or compacted soil. It does not have the digging power of a bulldozer or the M9 ACE. Hydraulic failure is a sure result if you try to dig.

Stop Fuel Line Rub

Operators, go slow and easy when you remove the SEE's engine cover to check the coolant level expansion tank during PMCS.

If you're not careful, you can bump or rub the cover against the engine's fuel return line. In time, that can wear a hole in the line and create a fuel leak.

Lift the engine cover so that it clears the fuel return line and you won't have to worry about the rub.



780T Paving Machine . . .

STAY OFF GUIDE SHAFT

Operators, the guide shaft for the 780T paver's control console looks like a handy spot to sit or place your boot.

Problem is, that can scratch the shaft rod's polished metal. A scarred rod ruins the rod's wiper seal and can cause a hydraulic fluid leak.

To save on repair bills and downtime, stay off and step over the guide shaft. It's that simple.

Keep Shaft Clean

The guide shaft is an open target for dirt and hot asphalt during and after paving operations. Hardened asphalt will tear up the shaft rod's wiper seal, too.

To get rid of asphalt, wipe the rod with a clean rag and 134 Hi-Solv or P-D-680, Type III, dry cleaning solvent. Get five gallons of Hi-Solv with NSN 6850-01-277-0595, or five gallons of P-D-680 with NSN 6850-01-331-3349.

Battery Hookup Made Safer

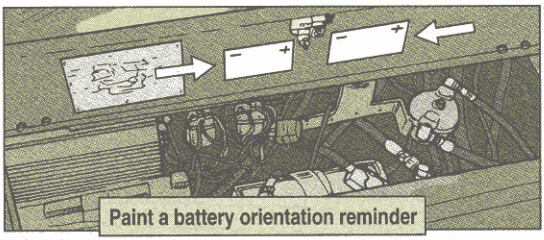
Mechanics, it takes a steady hand and a strong back to remove the 780T paver's batteries. And it takes a good eye to see how they go back in place.

The batteries are down in a compartment under an access door that makes 'em hard to get at and difficult to work on.

If you reverse the positive and negative cables, it could damage the alternator, or blow up the battery.

To make sure there's no mistake, paint positive (+) and negative (–) marks on the bottom of the access cover—right above the batteries.

That will remind you which way the batteries go back in their compartment and head off equipment damage.



Paint a battery orientation reminder

A Tale of Two Journeys

ON NOVEMBER 17TH, 1805, MERIWETHER LEWIS AND WILLIAM CLARK—AFTER 18 MONTHS OF ARDUOUS TRAVEL—REACHED THE PACIFIC OCEAN. THEY HAD MAPPED NEW LANDS, AND DONE EXTENSIVE STUDY OF CLIMATE AND WILDLIFE. AHEAD OF THEM LAY 10 MORE HARD MONTHS BEFORE THEY WOULD BE HOME.

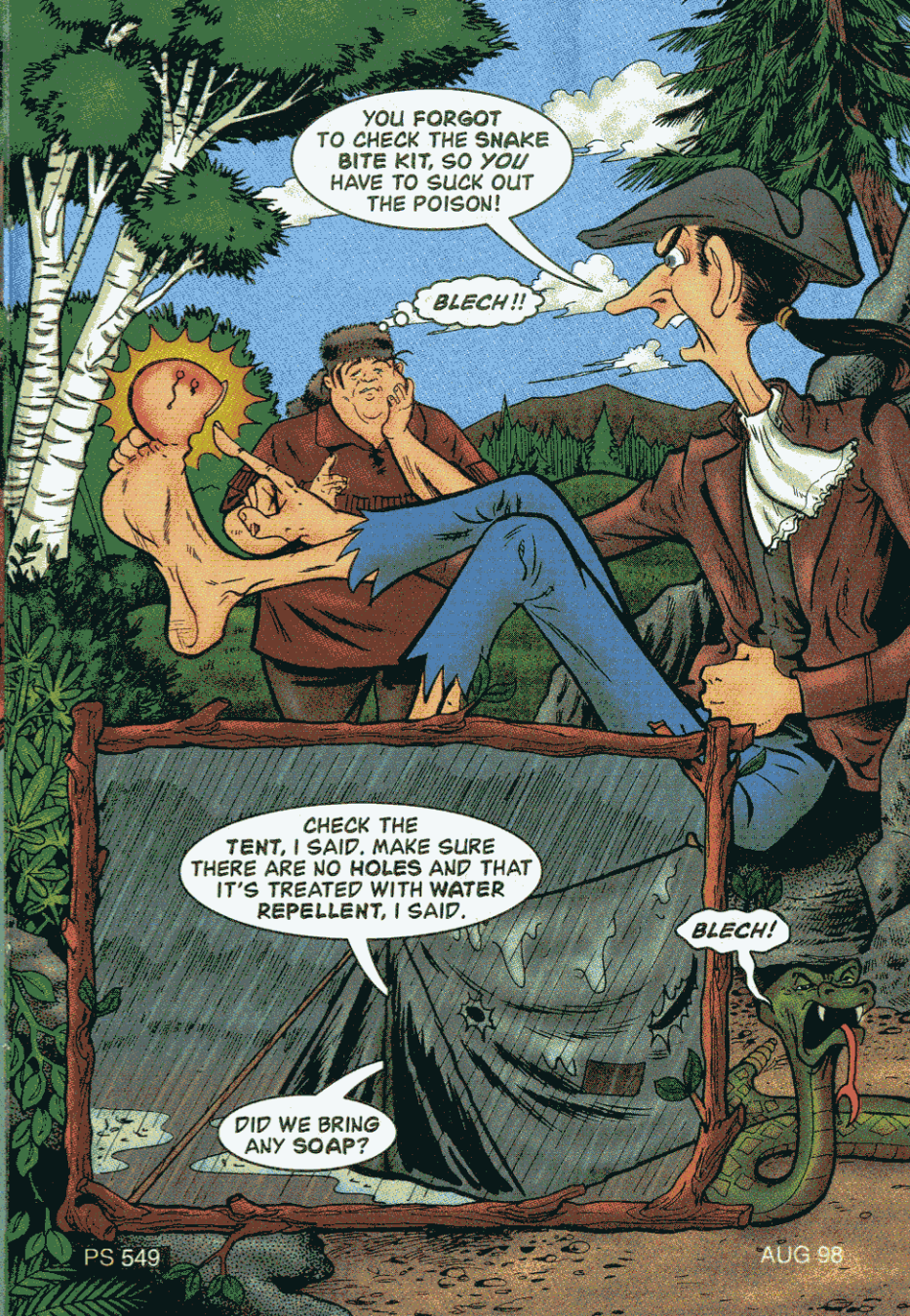
GOOD PLANNING AND PREVENTIVE MAINTENANCE MADE THEIR JOURNEY A SUCCESS AND TODAY EVERYONE KNOWS THEIR NAMES. BUT HAVE YOU HEARD OF THE TWO EXPLORERS WHO WENT WEST *BEFORE* LEWIS AND CLARK?

HAVE YOU EVER HEARD OF...


...FOULWEATHER SMEDLAP AND BILLY BUTTERFINGER—TWO GUYS WHO TRIED, BUT FAILED?
RETURN WITH US NOW TO THE START OF THEIR JOURNEY. OUR LESS-THAN-DYNAMIC DUO HAD NOT GONE FAR WHEN...


I TOLD YOU TO MAKE SURE THE SKIN WAS WELL ATTACHED TO THE FRAME.
DON'T WORRY, IT WILL HOLD TOGETHER.
IS IT TIME TO WORRY YET?


PWANG!
I TOLD YOU BEFORE WE LEFT TO MAKE SURE THE BUFFALO RIFLES WERE WELL COATED WITH OIL!
I GUESS I FORGOT TO SHARPEN THE AXE.
WHAT DO YOU HAVE TO SAY FOR YOURSELF?
DO WE HAVE ANY KETCHUP?

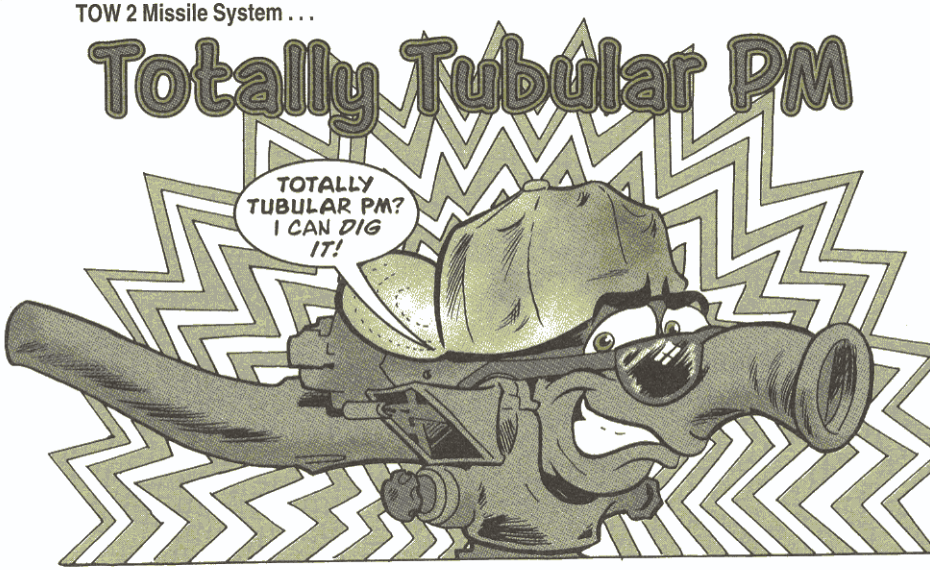

YOU FORGOT TO CHECK THE SNAKE BITE KIT, SO YOU HAVE TO SUCK OUT THE POISON!
BLECH!!
CHECK THE TENT, I SAID. MAKE SURE THERE ARE NO HOLES AND THAT IT'S TREATED WITH WATER REPELLENT, I SAID.
BLECH!
DID WE BRING ANY SOAP?


YOU CALL *THIS* A CABIN?! YOU WERE SUPPOSED TO GO TO THE CLASS ON CABIN BUILDING!
I AM... NEXT WEEK.
ROAAR!!
I TOLD YOU TO READ THE TRAP TM!!
WE'LL *NEVER* OUTRUN THIS BEAR!
I DON'T HAVE TO! I JUST NEED TO OUTRUN *YOU!*


LET ME GUESS, YOU DIDN'T DO ROPE PM.
WE MADE IT! AND JUST IN TIME TO SEE THE SUN COME UP OVER THE OCEAN.
THIS IS GONNA HURT.
THE SUN *RISING* IN THE WEST?! PREVENTIVE MAINTENANCE ON THE COMPASS BEFORE WE LEFT MIGHT HAVE BEEN A GOOD IDEA.

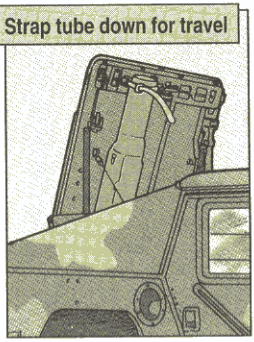

WELCOME BACK
LEWIS AND CLARK
WE SHOULD HAVE PULLED PM!
WE KNOW IT WAS PM THAT MADE LEWIS AND CLARK'S JOURNEY A SUCCESS, BECAUSE NO JOURNEY CAN SUCCEED WITHOUT IT. DON'T BELIEVE ME? HAVE YOU EVER HEARD OF SMEDLAP AND BUTTERFINGER?

Totally Tubular PM



TOW launch tubes are going down the tubes because TOWsters are forgetting some basic PM.

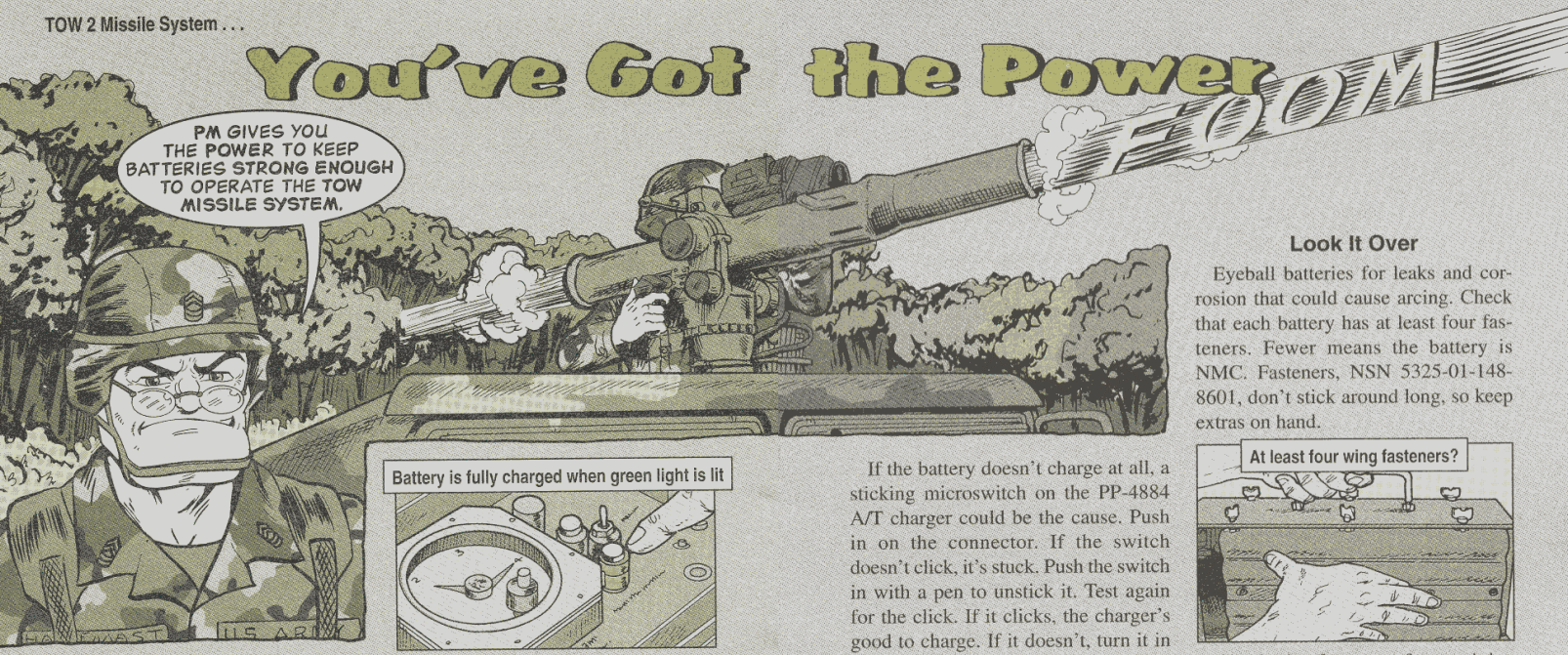
Handle with care. The launch tube is made of fiberglass and it can't withstand rough treatment. Always lay a tube down, don't toss it. Strap it down for travel so it's not bouncing around, and never stack stuff on top of it.



Paint outside only. It's OK to paint the outside of the launch tube—it's not OK to paint the inside. Paint drops make the inside bumpy, which affects missile accuracy. After painting, feel the inside of the tube for bumps and other rough spots. Sandpaper smooth any bumps.

Inspect for cracks. It's good PMCS to check the tube for cracks, especially before you paint. Paint hides cracks and cracks make the tube unsafe. If you find any crack longer than 1 1/2 inches, the tube is down the tubes. Turn it in.

You've Got the Power



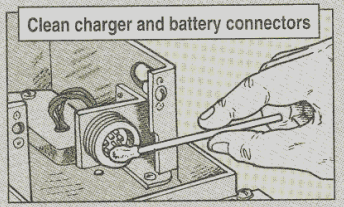
Storage and Charging

Repairmen, store MGS batteries in a cool, dry place.

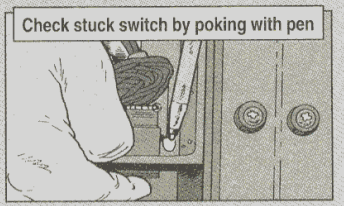
Charge the batteries at least every 30 days. Write the charge date on a piece of tape and put the tape on the top of the battery to help you keep track.

Two charging reminders: Fully discharge the batteries before you charge, and then fully charge the batteries. A complete charge takes four hours. Otherwise, the battery develops a memory that prevents a full charge. That means a battery that should last four hours doesn't.

If you charge correctly but get only a couple of firings from a battery, dirty connectors may be the problem. Clean the battery and charger connectors with denatured alcohol and a swab made with a clean cloth and stick. Then recharge the battery.



If the battery doesn't charge at all, a sticking microswitch on the PP-4884 A/T charger could be the cause. Push in on the connector. If the switch doesn't click, it's stuck. Push the switch in with a pen to unstick it. Test again for the click. If it clicks, the charger's good to charge. If it doesn't, turn it in to support.

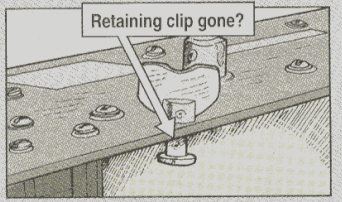


Sometimes chargers become defective and show good batteries as not taking a charge. If you're running into a lot of bad batteries, ask support to check out the charger. It could save you from junking a good $600 battery.

Look It Over

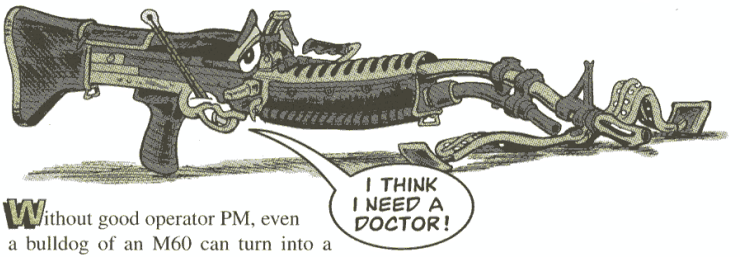
Eyeball batteries for leaks and corrosion that could cause arcing. Check that each battery has at least four fasteners. Fewer means the battery is NMC. Fasteners, NSN 5325-01-148-8601, don't stick around long, so keep extras on hand.

Check the fasteners for retaining clips, too. Without the clips, the fasteners vibrate out. Replace missing clips with NSN 5365-00-298-6564.



While you're waiting for replacements, have your armorer lockwire the fasteners.

PM Diet Keeps M60 Healthy

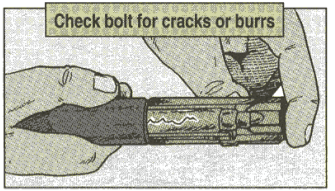


Without good operator PM, even a bulldog of an M60 can turn into a sick puppy in a hurry.

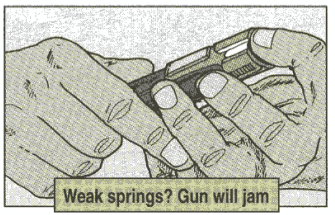
Here are a few tips to remember to keep that machine gun barking happily:

Bolt

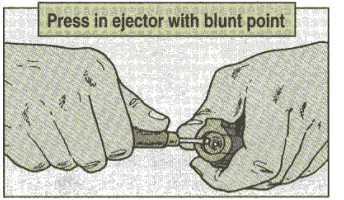
Make sure the bolt has no cracks or burrs.



Test the strength of the extractor and ejector springs. If the springs are weak, the M60 will jam. Using your thumb, press up and in on the extractor. It shouldn't depress easily, but should quickly spring back.

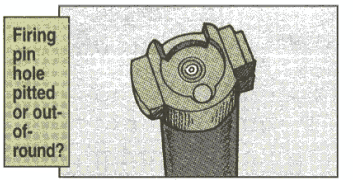


Use a blunt point to press in the ejector. It also shouldn't depress easily, but should spring back quickly.

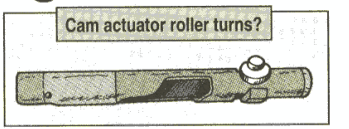


If the springs are weak, get your armorer to replace them.

Check the firing pin hole in the bolt face. If it's out-of-round or the edges are pitted, you'll have firing problems.

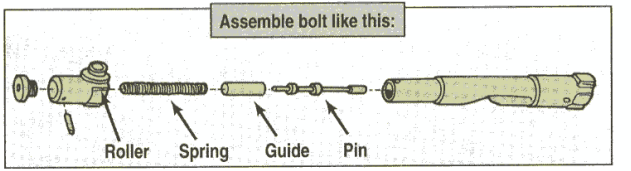


Try to turn the cam actuator. If it doesn't move, it's frozen. Your M60 will fire sluggishly and the feed cam in the cover will wear out quickly.



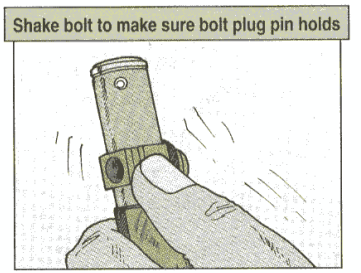
Report any problems to your armorer.

Take the bolt apart and clean it with CLP until all the carbon is gone. Put the bolt back together correctly or the spring will break. When it's assembled, you should see the firing pin sticking out of the hole, but you shouldn't see the spring.



The long end of the firing pin goes into the bolt first. The small hole in the guide fits on the short end of the firing pin. The spring goes in the guide. The cam actuator's roller end goes on the bolt first.

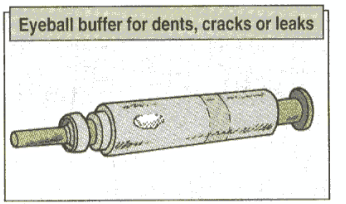
The firing pin spring should stick out from the end of the bolt. If it doesn't, see your armorer for a new spring. Otherwise, the next time you fire, the spring might break.



Once you have the bolt assembled, give it a shake. If the bolt plug pin falls out, tell your armorer. He needs to replace it.

Buffer

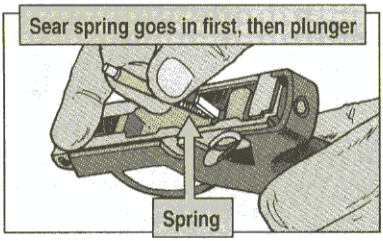
Eyeball the buffer for dents, cracks or leaks. Depress the plunger. It should pop out quickly when you release it.



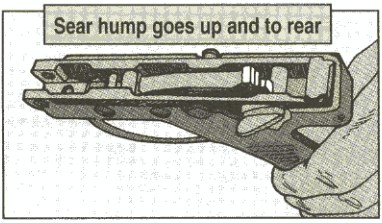
The plunger should have a slight amount of hydraulic fluid on it. If it has lost its spring, or is dry, your M60's recoil will get worse. It could damage the gun.

Sear

Put the trigger assembly back together right or you'll have a runaway gun.



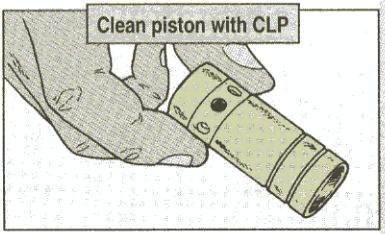
The sear spring goes in first, then the plunger. Put the sear in so that its hump is up and to the rear.



Insert the hinge pin from the right side, and the hinge pin latch from the left side. Make sure that the hinge pin and the hinge pin latch interlock.

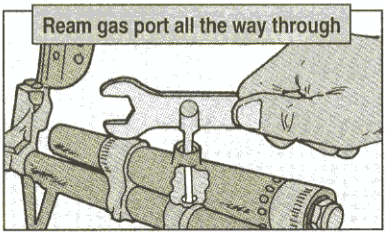
Cylinder

If the piston won't slide back and forth in the cylinder when you tip the barrel end-to-end, take the gas cylinder apart and clean it.



Use CLP to clean the piston. If that doesn't work, use RBC. Never use anything rough, like crocus cloth, on the piston **or** the cylinder. It scratches the surface and lets more carbon build up. It also enlarges the cylinder and lets gas leak.

Remember to clean the gas port with the combination tool. Push it all the way in or the cylinder clogs. Clean all the holes in the piston and cylinder, too.



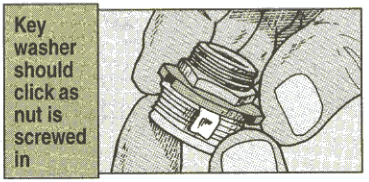
Clean out the extension vent hole with lacing wire.

Always wipe the piston completely dry before you put it back in. CLP

fouls the gas system. Make sure the piston holes line up with the cylinder holes. The shiny piston end goes in last.

When you put the cylinder back together, the key washer's long prong should point toward the opposite end of the cylinder. If you put the washer in backwards, you'll have a hard time removing the cylinder nut, and you'll probably damage it.

Listen for the key washer's click as you screw on the cylinder nut. If it doesn't click, the washer's weak and will let the nut back out. Get a new key washer.

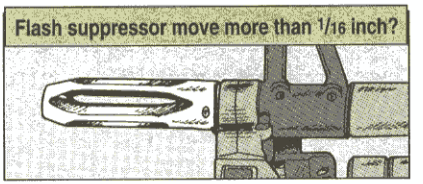


Have your armorer safety wire the gas cylinder and the gas cylinder plug—if you have the old-style plug—after you've put it back together. That keeps the gas cylinder tight. The new plug doesn't need safety wire.

Barrel

When you fire, the M60's barrel takes a beating. The bolt slams into it and the rounds explode out of it. If the barrel is dirty or damaged, you'll have a barrel full of problems.

Check out both barrels by trying to turn the flash suppressor. If it turns more than 1/16-inch, it's too loose. If it's cracked, it's bad, too.



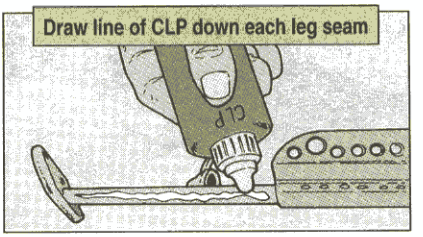
Hold the barrel with one hand and gently try to turn the front sight with your other hand. If the front sight is loose, report it.

Bipod

Give your M60 a leg up with some bipod PM. Move the leg locks in and out, the leg extensions up and down and the bipod back and forth.

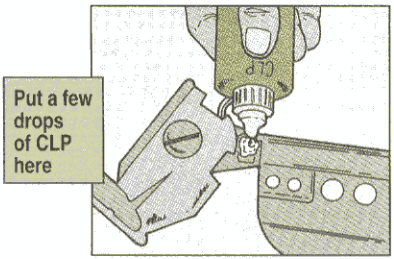
If the bipod legs don't move smoothly, put a few drops of CLP on the leg locks. Work them in and out until they move smoothly.

Draw a line of CLP down the seam in each leg extension. Work extensions until they move smoothly.



PS MORE

Put a few drops of CLP where the bipod slides back and forth, and work in the CLP.



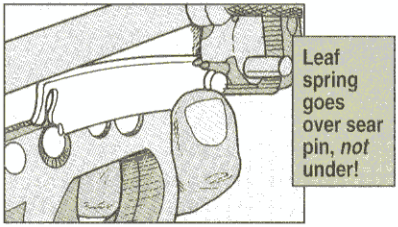
Give the bipod legs a shake to feel for looseness. If the legs move, tighten the bipod screws with a combination tool. If the screws keep loosening when you fire, have your armorer stake them.

Test the leg extensions in each latch position. If a latch won't hold, don't try to bend it to keep it in place. That'll weaken the latch. Tell your armorer.

Anytime your M60 is not in use, keep the legs locked back. Bumping bends the legs. Lay your M60 on its side for travel.

Remember This

Put your M60 together right. On the leaf spring, the hooked groove goes over the sear pin from the top. If you put it on from underneath the sear pin, the leaf spring can slip off, along with the trigger housing.



Get the ends of the cover's torsion spring in the holes of both the cover and receiver. If you forget a hole, the cover won't stay up.

If you're using a BFA, make sure it's on tight or your gun will stop firing.

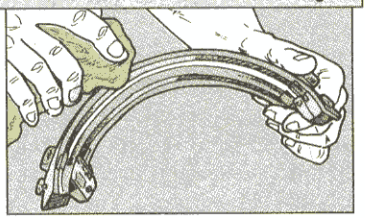
When you aren't using the rear sight, keep the leaf assembly in the stored position. It's fragile and bends easily. If it's damaged, it has to be replaced.

A Clean Track Record

Dear Editor,

When we got back from NTC, many of our flight helmets' visor tracks were gunked up. That can cause the visors to jam when crewmembers try to flip them up or down. If they try to force them, the adjustment knob can bend or even break.

Clean helmet visor tracks with detergent



We removed the gunk by spraying the tracks with general purpose detergent, NSN 7930-00-357-7386, then wiping the crud off with clean rags. No more jammed visors or broken knobs.

SPC Tim Vonbargen
A Co, 6/101st Avn
Ft Campbell, KY

FROM THE DESK OF THE Editor

That's using your head. Tell crewmembers it's a good idea to check visor tracks before every mission. Dust and sand can gum up the works. If the visor doesn't flip up and down smoothly, get ALSE to take care of it.

Aviation Safety Message Web

Not sure you're getting the latest aviation safety action messages (ASAM) or safety of flight (SOF) messages?

Check the AMCOM Safety site on the Internet at:

http://www.redstone.army.mil/safety/home.html

You'll find a list of the last quarter's ASAMs and SOF messages. But actual messages aren't available on-line, since it's a public domain website.

For copies of messages that affect you, contact your next higher headquarters, AMCOM logistics assistance representative, or your local safety office.

You can get older messages through the AMCOM Safety Office;

e-mail:
safeadm@redstone.army.mil
Call:
DSN 788-8620, (256) 842-8620
Fax:
DSN 897-2097, (256) 313-2097

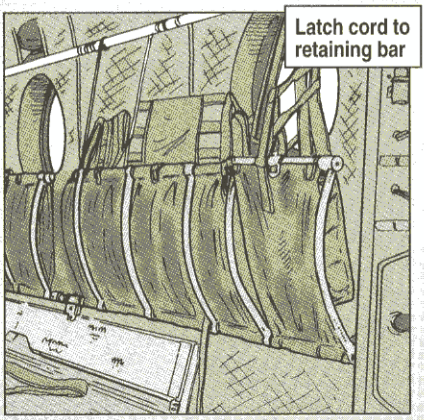
CH-47 . . .

Stand UP Seats

Chinook transport seats get a bad case of the sags. To lift the seats and keep them out of the way, the seat bottom is clipped to the seat back. It's not long until the heavy seat sags.

Sagging seats are not just unsightly. They cause a hazard to personnel at night and make tight loading jobs tougher.

Get those seats to stand up straight by using cord, NSN 1680-00-862-9248, or any similar "bungee" cord. Hook the cord to the seat clip and then up to the seat retaining bar.

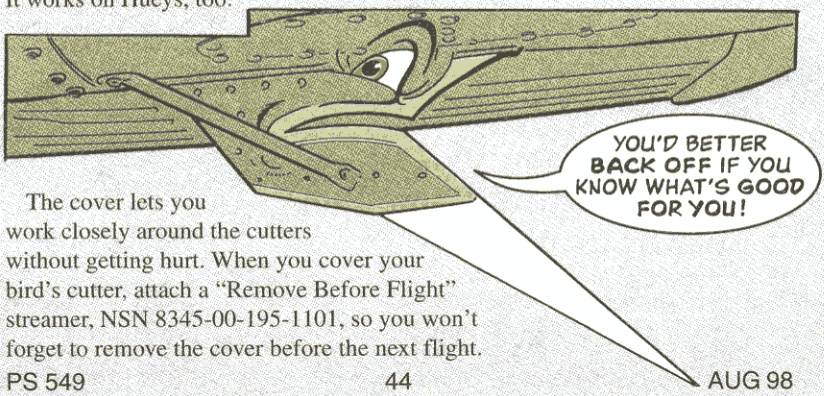


AH-64, UH-1 . . .

Cover That Cutter

The Apache or Huey's wire strike protection system can be a real friend when flying low. But it's not so friendly to mechanics on the ground when they have to work closely around it—***ouch!***

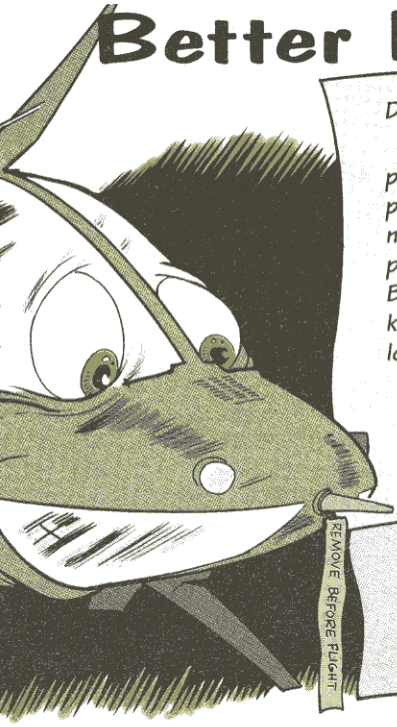
Protect yourself in the clinches. Get a cover for that cutter with NSN 1560-01-326-2265. That's the same cover called out in the AH-64's TM-1-1520-238-23P. It works on Hueys, too.



The cover lets you work closely around the cutters without getting hurt. When you cover your bird's cutter, attach a "Remove Before Flight" streamer, NSN 8345-00-195-1101, so you won't forget to remove the cover before the next flight.

OH-58s . . .

Better Pitot Cover



Dear Windy,

We have replaced the standard cloth pitot cover on our Kiowas with the CH-47 pitot cover, NSN 1730-00-435-7802. It is made of rubber and fits like a glove on the pitot tube. With the proper "Remove Before Flight" streamer it automatically keeps you from scraping your legs on the lower Wire Strike Protection System.

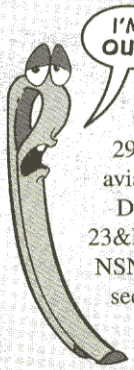
CPT Roy Tackett
OKARNG
Reconnaissance and Drug Interdiction
Norman, OK

That's a keeper, Captain Tackett. The headshed doesn't plan to add it to the Kiowa's TM, but for the money, it's a honey.

Windy

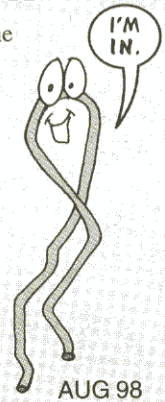
OH-58D . . .

.50-Cal Machine Gun Lockwire

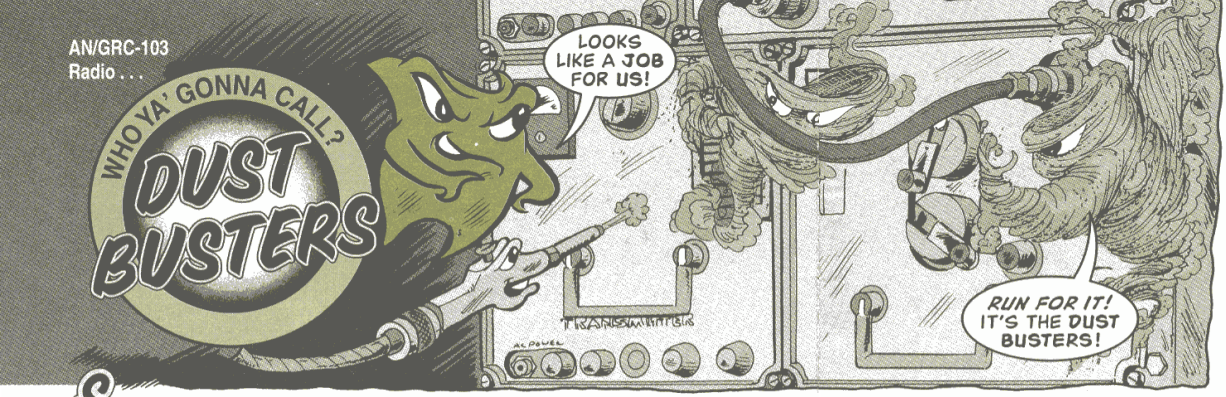


TM 9-1090-214-23&P, the parts manual for the OH-58D Warrior's .50-cal machine gun, does not show the receiver cotter pin that holds the nut on the breech lock cam bolt. But the pin, NSN 5135-00-298-1481, is shown in TM 9-1005-213-13P, the non-aviation .50-cal machine gun's TM.

Don't worry about the omission from TM 9-1090-214-23&P, though. The word from ACALA is to use lockwire, NSN 9505-00-076-8640, instead of the cotter pin to secure the nut on the breech lock cam bolt.



WHO YA' GONNA CALL? DUST BUSTERS



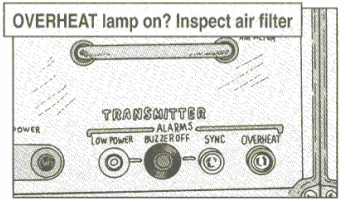
Sometimes something really small can cause really big headaches. Dust is tiny, but it packs a big wallop when it clogs the transmitter's air filter on the AN/GRC-103 radio.

A clogged air filter makes the ventilation fan work harder to draw in cooling air. The transmitter overheats and the OVERHEAT lamp comes on and stays on. The transmission signal weakens or goes out altogether.

That's just the beginning of the radio's problems. Components begin to burn up—like driver tubes, the RF amplifier, frequency-generating circuits and the transmitting section of the duplexer.

All this is bad—and all this is avoidable.

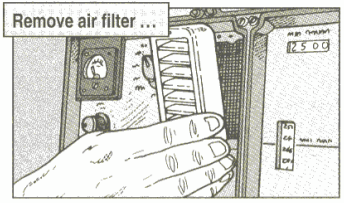
OVERHEAT lamp on? Inspect air filter



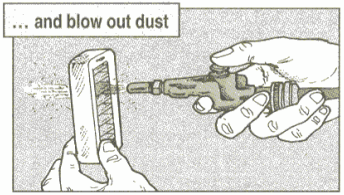
Look at the filter before and during operations to make sure it's clean and stays that way. If you're in a dusty environment, check more often.

If the filter is dirty, remove it from the transmitter by loosening the captive screws. Use an air hose, to blow dust out of the filter.

Remove air filter . . .



. . . and blow out dust



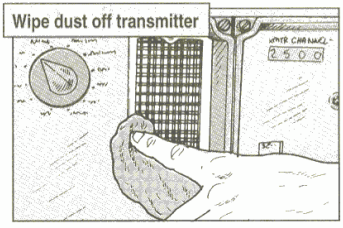
Direct the airflow from the inside of the filter to the outside. Don't use the air hose unless you have an air gun, NSN 4940-00-333-5541, to attach to it. The air gun limits the outlet pressure to 30 psi, a safe level that won't damage the filter.

If you don't have an air hose or the air gun, tap the filter and shake the dust out. If your mission permits, wash the filter in warm water and a mild detergent, NSN 7930-00-929-1212. Let it air dry for a few hours before reinstalling it.

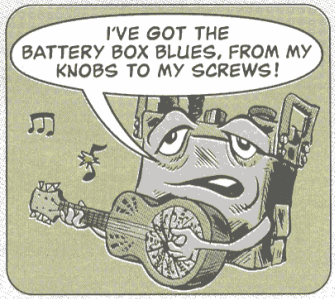
Dust also collects on the recessed area and the metal screen where the filter fits on the transmitter. Use a cloth to wipe them clean.

Also wipe down the transmitter frequently to keep dust away from the ventilation fan.

Wipe dust off transmitter



Two for the Box

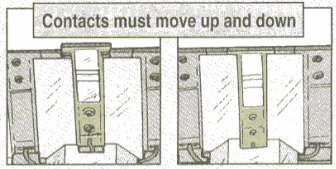


Ever hear of the AN/GRA-39 battery box blues?

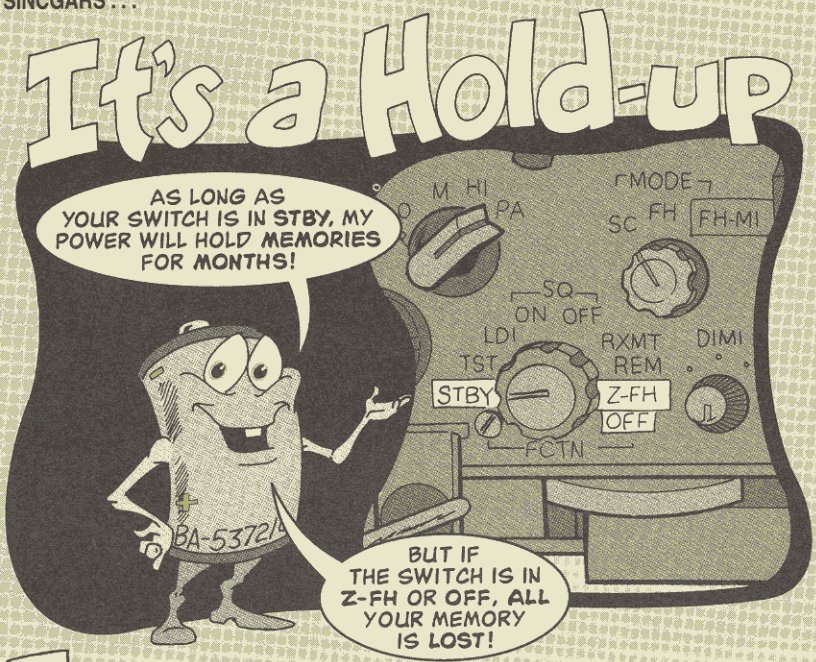
The guys at DS who have to fix the "fixes" that some units make sure have—they're singing the blues over two of those "fixes".

Bogus fix #1: gluing down the contacts like we suggested in PS 541. *Don't do it!* The contacts were made to move. A repairman can't replace them without damaging the box unless they move. If they get too loose to do the job, turn the box in.

Contacts must move up and down



Bogus fix #2: using a 9-volt battery in place of the six D-cells. The 9-volt won't fit the box without a modification—an unauthorized modification! Plus, it's just not smart. The 9-volt does not last nearly as long as the six D-cells.



The hold-up battery (HUB) in your SINCGARS receiver-transmitter ensures the loaded data will stay put even if power to the radio is lost.

But you've got to use the right battery!

The right battery is the 6-volt, BA-5372/U, NSN 6135-01-214-6441. The wrong battery is any other battery.

One of those wrong batteries is the 3-volt, BA-5123/U, NSN 6135-01-351-1131. That's the battery used with the AN/CYZ-10 automatic net control device (ANCD). It seems to wind up in the HUB's battery compartment all too often. And it won't do the job!

Another HUB problem begins with the position of the FUNCTION switch.

Keep the switch in STBY (standby) when there's no power to the radio. If the function switch is in STBY, a fresh HUB will hold memory for at least six months.

If the function switch is set to Z-FH or to OFF when you shut off the power, you can say goodbye to memory.

The OFF position is for radio storage. There is no power drain on the HUB, so the battery will last its entire shelf life; but remember, no drain means no memory.

LC-2, Yes! ST-138, No!

Quit buying and stop using the ST-138/PRC-25 electrical equipment harness!

The harness was used to carry the AN/PRC-25 and AN/PRC-77 radios. It was removed from supply 20 years ago! It contributed to the drowning of a soldier and, for safety reasons, was booted out of the system.

But some of you continue to buy the harness directly from the manufacturer.

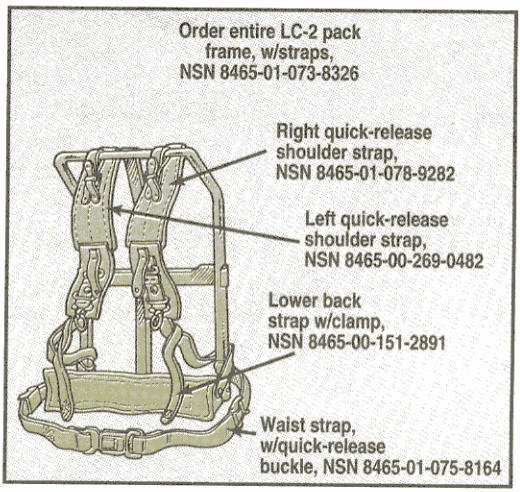
Why?

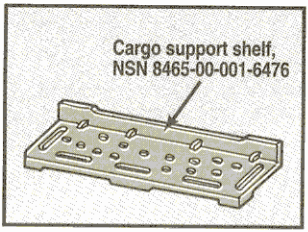
Good question.

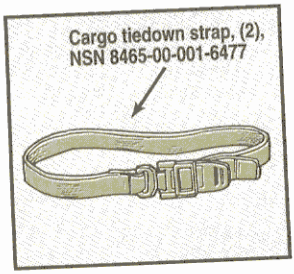
It may be that hand-me-down information and penciled-in TM notations are leading some of you to local purchase the ST-138 harness. Some of you even use it to carry the SINCGARS, AN/PRC-119 radio set.

Stop it! It's still not safe.

Instead, make an LC-2 harness from these parts:

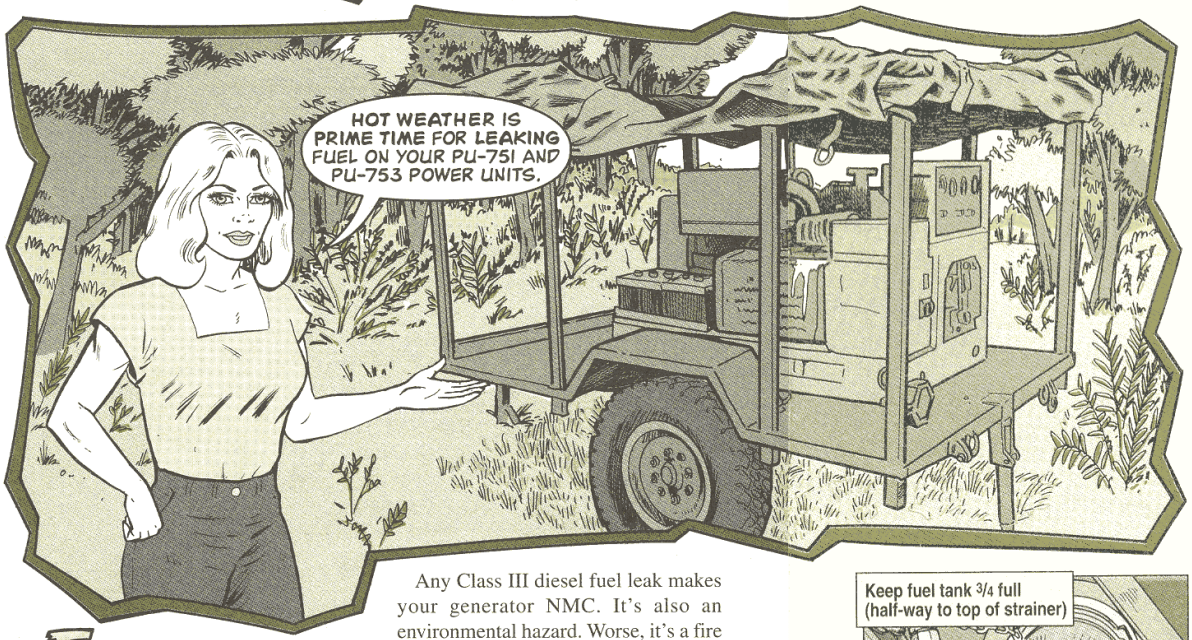






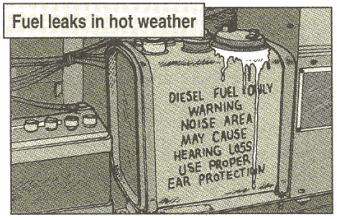
If you still have an ST-138, destroy it.

A Peek at Leaks



Fuel expands when the weather is hot and the generator's not running. If the tank's more than three-quarters full, expanding fuel leaks out through the cap.

Fuel leaks in hot weather



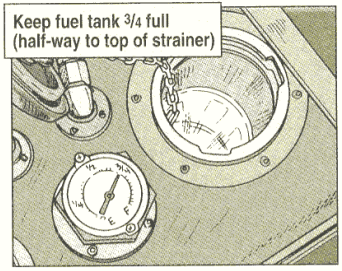
Any Class III diesel fuel leak makes your generator NMC. It's also an environmental hazard. Worse, it's a fire hazard since the leak is so close to the engine.

How do you put a stop to this kind of leak?

One way to stop fuel from expanding is to keep the generator cool. Park the trailer in the shade. You can also roll up the trailer's canvas cover to give the generator some cooling air.

Another way is to make sure the fuel tank's no more than three-fourths full. That means keeping an eye on the fuel gauge when you're fueling up.

Keep fuel tank 3/4 full (half-way to top of strainer)



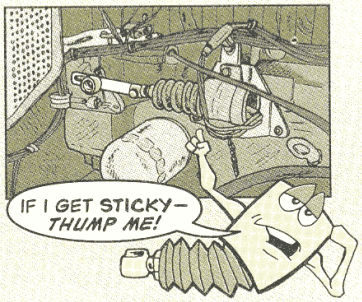
You can double check the amount in the tank by taking off the cap and looking inside. If the fuel reaches halfway to the top of the strainer, then the tank's three-fourths full.

Sticky Linkage and No Starts

Your 5- or 10-KW tactical quiet generator has strong batteries and plenty of fuel, but as the starter spins the engine, it's obvious that you aren't going to get a start.

What'll you do first?

Before you start your troubleshooting routine, give the fuel solenoid shaft a little thump with your fingers. Many times that's all it takes to get a start.



You know why? Because the linkage is sticking closed and no fuel is getting in the engine. The "thump" opens the valve.

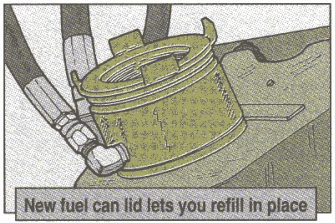
After the mission is over, tell your mechanic that the fuel solenoid needs to be checked out.

He'll eyeball TM 9-6115-641-24 (5-KW) or TM 9-6115-642-24 (10-KW) for a check of the distance between the solenoid housing and the shaft nut that'll tell if the solenoid is working right. If it isn't, he'll have to replace the solenoid.

SMOKING JUST GOT EASIER

New parts for the M157 smoke generator have made refueling and PMCS easier.

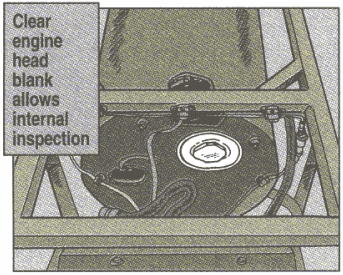
Fuel can lid: The new lid, NSN 5120-01-440-7566, lets you fill an empty can without taking it off the vehicle. It screws on both metal and plastic fuel cans and has hose fittings for return, vent, and supply lines. It replaces quick-disconnect fittings with pipe-to-hose adapters, which eliminates leaking O-rings.



New fuel can lid lets you refill in place

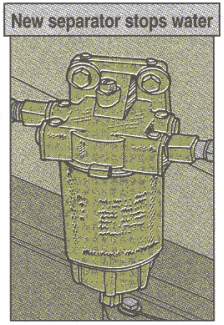
Engine head: The new head, NSN 2805-01-425-9864, has a larger air intake port that makes for smoother running at altitudes higher than 4,000 feet.

Engine head blank: The clear blank, NSN 4910-01-449-5335, attaches to the head opening and lets you see inside the engine to check the igniter.



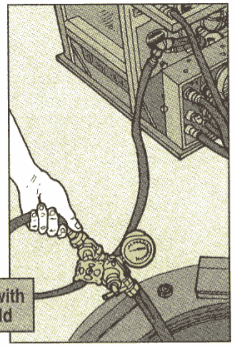
Clear engine head blank allows internal inspection

Fuel-water separator: The new separator, PN 31-15-2958, does a much better job of filtering out water and dirt than the old-line filter. To mount the separator on the HMMWV, you need bracket, PN 31-15-2923. No bracket is needed for the M113.



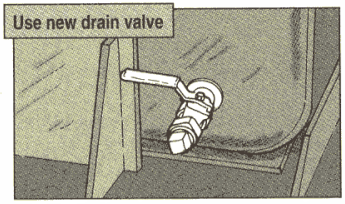
New separator stops water

Water manifold: The manifold, PN 31-15-3401, lets you blow steam instead of smoke. That means you can do PMCS in the motor pool without choking everyone to death.



Blow steam with water manifold

Fog oil tank drain valve: The new valve, NSN 4820-00-417-1120, tells you at a glance if the valve is open. It screws into the fitting for the old valve.



Use new drain valve

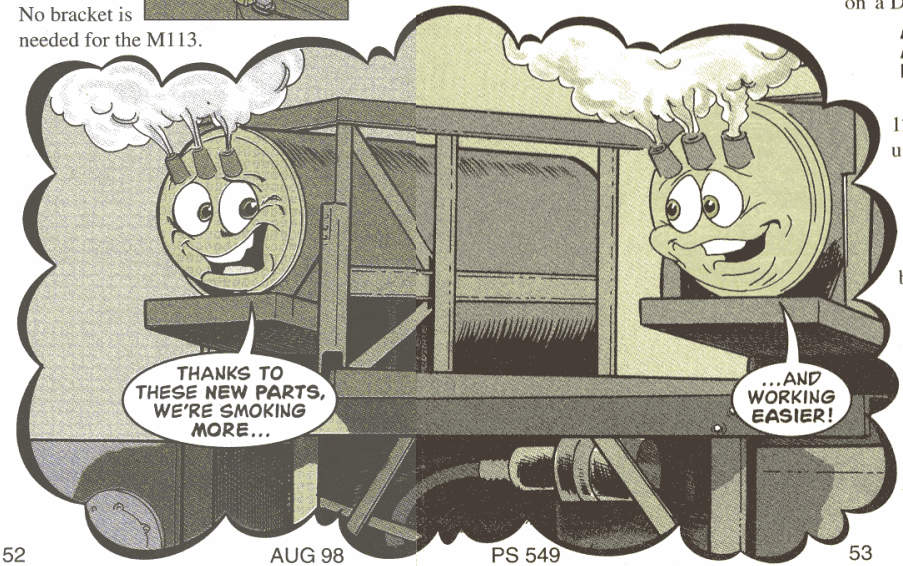
The fuel-water separator and mounting bracket and the water manifold must be ordered directly from ACALA on a DD Form 1348-6. Send orders to:

ACALA
ATTN: AMSTA-AC-CTCS
Rock Island, IL 61299-7630

Change 4 to TM 3-1040-279-12&P explains how to install and use these new parts.

Air compressor and fog oil pump supply shutoff valves are being added to upgrade the M157s. After they are modified by the ACALA fielding team, M157s are designated M157A2s and are covered by TM 3-1040-283-10 and-20&P. The M157A2s can operate on MOGAS, JP4, JP8, and diesel fuel.

If you have questions about these new parts, call ACALA at (309) 782-5978, DSN 793-5978.



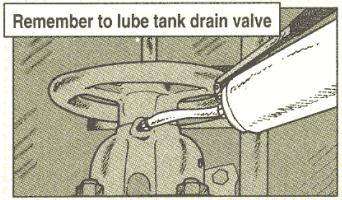
Lube Now or Forget Later

If M12A1 decon crews forget lubing now, they can forget deconning later. When an M12 sits for weeks with no grease protection, corrosion locks up valves and pumps.

A grease gun, GAA, and the info in LO 3-4230-209-10 will take care of corrosion...if you remember these points:

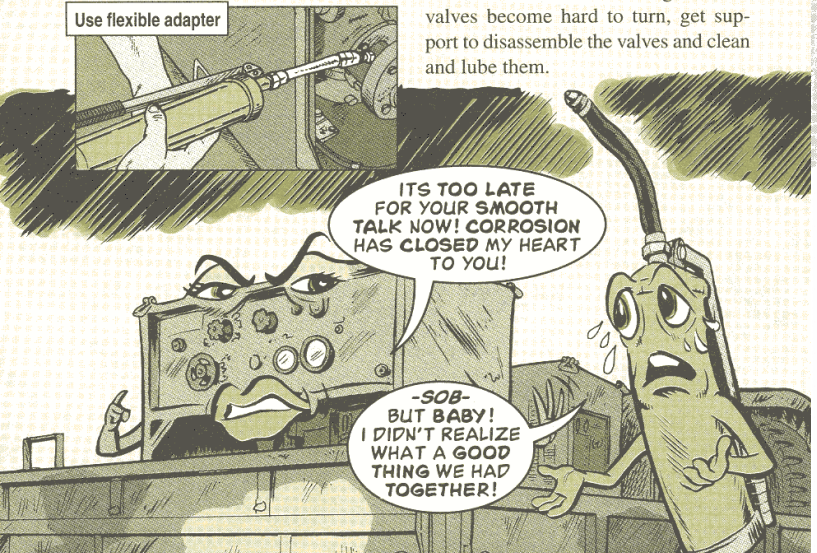
- The LO says lubing every three months is enough. That's true, unless you're doing lots of deconning or operating in a humid area. Then you need to lube monthly.
- One pump of the grease gun is enough. Too much grease pops seals.
- Some of the fittings are hard to get to. The job's much easier if you use the grease gun flexible adapter that's part of the M12 BII.
- Remember to lube the drain valve on the tank unit. It's often forgotten. If the valve freezes, you can't drain the tank.

Remember to lube tank drain valve

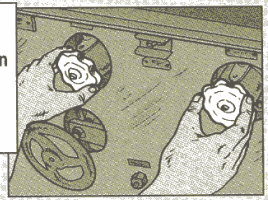


- The upper and lower reel valves have no lube points, so all you can do is coat the valve stems with GAA. But sometimes that's not enough. If the valves become hard to turn, get support to disassemble the valves and clean and lube them.

Use flexible adapter

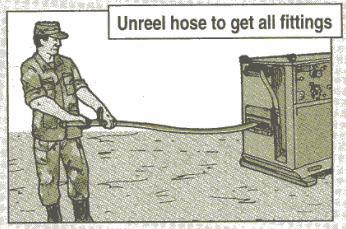


Valves hard to turn even *after* lubing? Call support



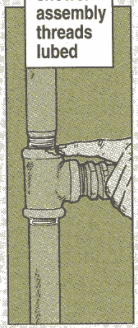
- The hose reel has four—not two—lube points. The only way to get all four is to unreel the hose before you start lubing. If the reel is hard to turn even after lubing, give the areas where the reel turns a few squirts of a light oil.

Unreel hose to get all fittings



- You'll never get the shower assembly apart if corrosion locks the sections together. So clean corrosion off the sections' threads with P-D-680 dry cleaning solvent and coat threads lightly with GAA. Inspect the shower at least monthly for corrosion and clean and re-lube it if necessary.

Keep shower assembly threads lubed



- If the M12's going to sit for more than a day, run a mixture of three pints of PL-M or PL-S oil and three gallons of water through the water pump. Run the pump for 30 seconds. Drain the pump into a container and safely dispose of the contents. That keeps corrosion from locking up the pump while the M12 sits.

M157-Series Smoke Generator . . .

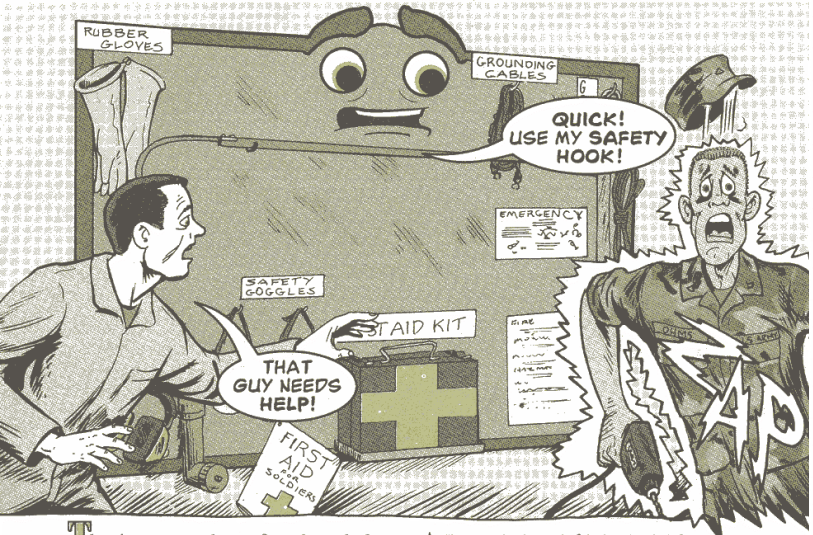
Better Hoses

A better hose is now available to make the M157 smoke generator's fuel, fog oil, and air lines. The new hose has a braided synthetic cover that won't crack as easily from being exposed to sunlight.

Until the NSNs are added to the TMs, use these to order the hose you need.

Inside diameter (inches)	NSN 4720-
1/2	00-187-4279
3/8	00-187-4102
1/4	01-121-0873

SAFETY BOARDS



The items on the safety board that should be in every motor pool and shop provide life-saving help in an emergency. But because—fortunately—there are very few electrical emergencies, the safety boards may be neglected. That neglect can kill.

So, check out your shop's safety board for the following:

★ FM 21-11, First Aid for Soldiers, and local safety instructions

★ Emergency procedures

★ Emergency telephone numbers (hospital, ambulance, or doctor). Make sure they're up-to-date.

★ Safety goggles, NSN 4240-00-052-3776

★ Rope, halyard, 3/8 inch, 25 feet, NSN 4020-00-599-7529.

★ Flashlight, NSN 6230-00-264-8261

★ Rubber gloves

Size	NSN 8415-01-158-
9	9449
10	9450
11	9451
12	9452

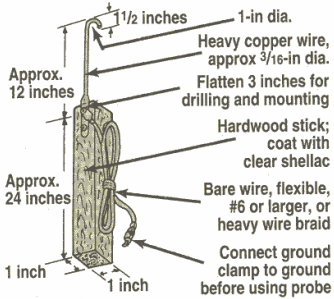
The final makeup of your safety board will be based on the type of work you do. Ask your local safety office for help. They may suggest items like heavy leather gloves, fire extinguisher, or eyewash kit.

SAVE LIVES

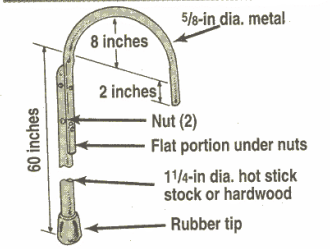
Your local medical authority must approve other items that are needed on the safety board, such as first aid kits, hearing protection, and resuscitators.

A grounding stick, safety hook, and grounding cable must be fabricated locally. TB 385-4, Safety Requirements for Maintenance of Electrical and Electronic Equipment, gives instructions on how to make them. If you don't have a copy, here are the measurements and materials:

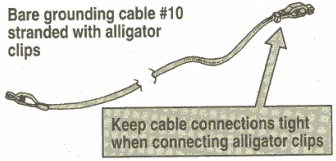
Grounding stick



Safety hook



Grounding cable



The safety board won't do much good unless everybody in the shop knows how to use everything on it. Make sure they do.

Check out the board monthly to make sure all items are in place, in good shape, and clearly labeled.

Spiral Wrap Protects Wiring

Protect loose wiring on your equipment by bundling it up inside plastic spiral wrap tubing.

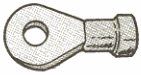
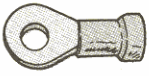
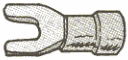
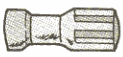
NSN 9330-00-027-3345 gets a foot of tubing that fits over 5/16-in to 5/8-in bundles. NSN 9330-00-980-1419 gets a 100-ft roll of tubing that fits over 3/16-in to 2-in bundles.

CTA 50-970 is your authorization to order.

Electrical Terminal NSNs

Electrical terminal kit, NSN 5940-00-525-0907, gets you 500 terminals (20 different types and sizes), a crimping tool, NSN 5120-00-278-2423, and a storage box.

Don't order a whole new kit when you're running low on some of the terminals, though. Instead, use these NSNs to get replacements:

Ring terminal 18 AWG .144-in hole dia.  5940-00-204-8966	Ring terminal 18 AWG .201-in hole dia.  5940-00-143-4771	Ring terminal 14 AWG .147-in hole dia.  5940-00-113-8179	Ring terminal 14 AWG .190-in hole dia.  5940-00-143-4780
Ring terminal 14 AWG .266-in hole dia.  5940-00-230-0515	Ring terminal 10 AWG .201-in hole dia.  5940-00-143-4794	Ring terminal 10 AWG .266-in hole dia.  5940-00-143-4777	Ring terminal 10 AWG .391-in hole dia.  5940-00-113-9826
Spade terminal 18 AWG .144-in slot width .310-in tongue width  5940-00-833-1705	Spade terminal 14 AWG .144-in slot width .297-in tongue width  5940-00-539-2193	Spade terminal 14 AWG .201-in slot width .375-in tongue width  5940-00552-2019	Spade terminal 10 AWG .201-in slot width .380-in tongue width  5940-00-727-535
Spade terminal 18 AWG .144-in slot width .297-in tongue width  5940-00-938-5515	Butt connector 16 AWG  5940-00-143-5147	Butt connector 14 AWG  5940-01-232-8636	Butt connector 12-10 AWG  5940-01-079-1936
Disconnect tab 14 AWG  5940-00-378-7225	Quick disconnect receptacle 14 AWG  5940-00-926-0085	Quick disconnect tab 18 AWG  5940-00-867-9573	Quick disconnect receptacle 18 AWG  5940-00-436-1632

SB 710-1-1 on FED LOG

The Standard Study Number Master File Cross Reference Index, SB 710-1-1, is now at your FED LOG fingertips.

The index leads you from a line item number (LIN), a DOD Ammunition Code (DODAC), or a National Stock Number (NSN) to a standard study number (SSN).

The SSN is used to roll together data on requirements, assets, procurements, distribution and overhaul for primary equipment. That collected data is then used for budget and planning purposes.

The SB is the DA/AMC authorization document for items authorized float support. It also gives you the factors used to compute float requirements.

SB 710-1-1 is in the **ARMY** portion of FED LOG. If you're using Windows, go to the **View** menu. If you're using DOS, hit the **F5** function key.

If you don't have FED LOG, open an account by writing to:

Commander
USAMC LOGSA
ATTN: AMXLS-ML
Redstone Arsenal, AL 35898-7466

Or call DSN 645-0782 or (256) 955-0782.

Or send a fax to DSN 645-7720/7901 or (256) 955-7720/7901.

MAINTENANCE EXCELLENCE AWARDS

ACTIVE ARMY TOE ORGANIZATIONS

LIGHT CATEGORY

Winner: 1097th Trans Co (CW) (Rodman Naval Station, Panama)
Runner-up: HHD, 191st Ord Bn (Miseau, Germany)

INTERMEDIATE CATEGORY

Winner: 109th Trans Co (Mannheim, Germany)
Runner-up: 268th Sig Co (Mannheim, Germany)

HEAVY CATEGORY

Winner: 532nd MI Bn (Seoul, Korea)
Runner-up: 272nd MP Co (Mannheim, Germany)

ACTIVE ARMY TDA ORGANIZATIONS

LIGHT CATEGORY

Winner: 1st Bn, 81st Armor, Ground Mobility Div (Ft Knox, KY)
Runner-up: Pusan Storage Facility (Pusan, Korea)

INTERMEDIATE CATEGORY

Winner: Jungle Operations Training Bn (Ft Sherman, Panama)
Runner-up: 34th Spt Gp (TMP) (Yongsan, Korea)

HEAVY CATEGORY

Winner: 751st MI Bn (Camp Humphreys, Korea)
Runner-up: 58th Trans Bn (Ft Leonard Wood, MO)

U.S. ARMY RESERVE

LIGHT CATEGORY

Winner: 125th Trans Co (Lexington, KY)
Runner-up: None selected

INTERMEDIATE CATEGORY

Winner: HHC, 300th Spt Gp (Area) (Ft Lee, VA)
Runner-up: 281st Trans Co (Las Cruces, NM)

HEAVY CATEGORY

Winner: 371st Chem Co (Smoke/Decon) (Greenwood, SC)
Runner-up: 411th Eng Com Bn (Heavy) (Ft DeRussy, HI)

U.S. ARMY NATIONAL GUARD

LIGHT CATEGORY

Winner: 1031st Eng Co (PB) (Gate City, VA)
Runner-up: HHC, 385th Avn Gp (Phoenix, AZ)

INTERMEDIATE CATEGORY

Winner: Co B (Maint), 429th Spt Bn (Richmond, VA)
Runner-up: 2222nd Trans Bn (Tucson, AZ)

HEAVY CATEGORY

Winner: Co D, 109th Avn Bn (Johnson, IA)
Runner-up: Spt Co, 2/20th Special Forces Gp (Jackson, MS)

Maintenance Awards

Time is running out to submit your FY98 Army Award for Maintenance Excellence packages. Change 1 to AR 750-1 has the details on submissions and your MACOM supplement to the AR has the date the package is due. MACOM nominations are due to the Ordnance Center and School no later than 15 Dec 98.

M109 Shield Defogger

Keep the panoramic telescope ballistics shield on your M109-series SP howitzer fog-free on those cold, wet nights with anti-fogging kit, NSN 6850-00-127-7193. The kit includes a can of anti-fog compound and an anti-fogging cloth.

M1A1 Lube Change

LO 9-2350-264-12 (Jun 92) changed the lube for the M1A1 tank's traversing mechanism manual drive from Dexron II to OEA. No need to drain or flush the Dexron, though. Just top off the drive with OEA, NSN 9150-01-330-0692, semiannually when you check the fluid level. Then, make the complete switch to OEA the next time you have to drain the traversing mechanism.

Move HMMWV Mirror

Want to lower the West Coast mirror on the driver's side of your HMMWV because it blocks out too much of your forward vision? Get your mechanic to order and install mirror kit, NSN 2540-01-424-7363. The kit contains a new mirror (that compensates for a lower viewing angle), hardware and instructions on how to relocate the mirror.

Shelter Tiedown for FMTV

Use tiedown kit, NSN 3990-01-444-1013, to install the S-280 commo shelter on the M1083 and M1085 5-ton models of FMTV. The kit for the M1078 2½-ton model is NSN 3990-01-449-8358.

MHE/CCE Tire Gauge

Get an air pressure gauge for material handling equipment and commercial construction equipment tires with NSN 4910-01-003-9599. It's specifically made for tires with large diameter valves.

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

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

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