



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-559, 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:

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
05841

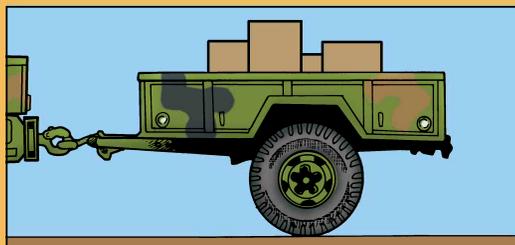
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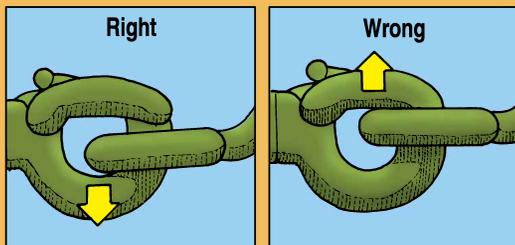
PREVENT TIP-BACK!

Before you unhook your 2-wheeled trailer...

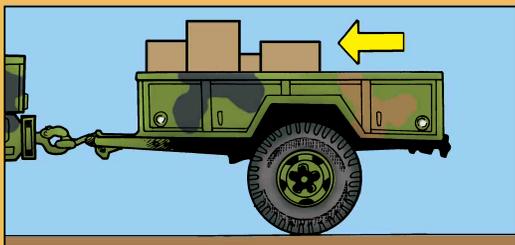
1. Park trailer on level ground



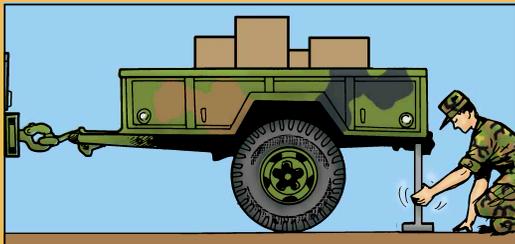
2. Make sure lunette presses down in tow pintle



3. Move cargo forward if needed



4. Use rear support leg for balance



Issue 559

PS

June 1999

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-559



Approved for Public Release;
Distribution Is Unlimited

Take Care of Your People

Institutional maintenance knowledge is a precious commodity—and it's fading fast. As the Army gets smaller, a lot of the people who have "been there, done that" are leaving military service.

Some of them just want to leave and never look back. Their only thought as they walk out is to keep the door from hitting their backside. They have enough problems figuring out what to do in their new jobs. They're not concerned about making sure those left behind know how to get the old job done.

Then there are those who have always taken pride in taking care of others. They made sure their people always had what they needed to do the job.

If you take pride in your job, take a second to think back to when you were the new kid on the block. Was there someone who took the time to help you along? What kind of soldier would you be if others hadn't shared their knowledge with you?

The people around you have gotten used to coming to you for answers. Take the time before you go to make sure somebody knows the things that you've learned the hard way.

Somebody helped you become a maintenance expert. Before you go, help make somebody else an expert. It's in your power to hand off some of your knowledge and experience to the new kid.

Pass it on.



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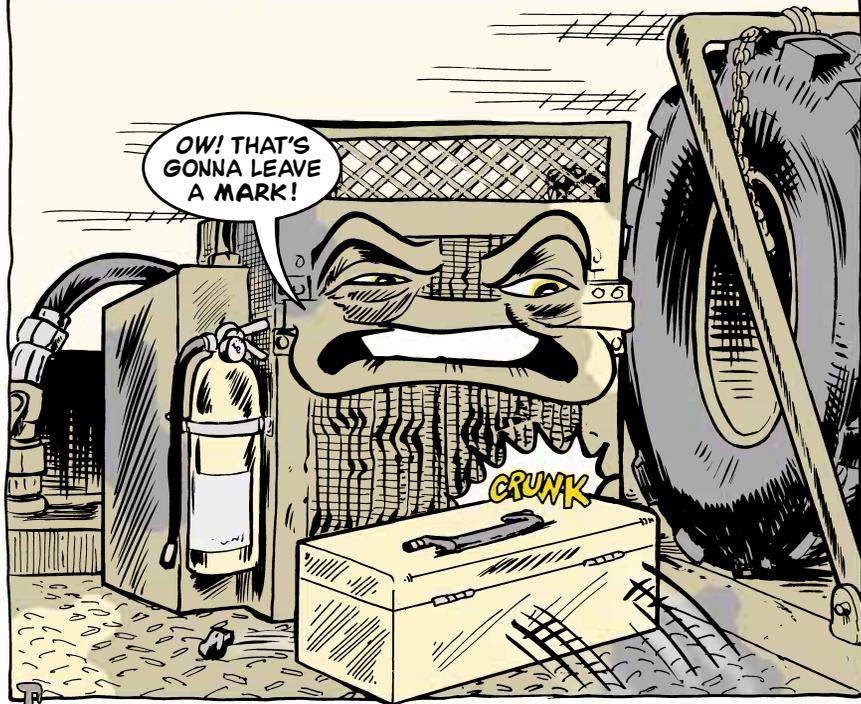
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PROTECT AUXILIARY OIL COOLER

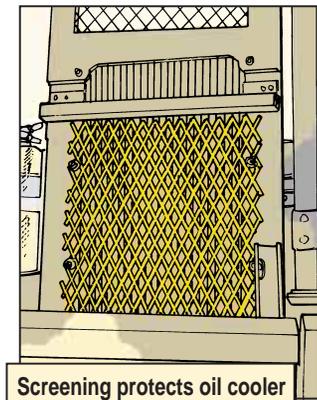


The transmission auxiliary oil cooler on 5-ton FMTV tractors and wreckers stands tall—and unprotected—to control oil temperature and pressure.

This oil cooler looks very much like a radiator, with cooling fins facing out from the vehicle. It is also very much unprotected from external damage, like kicks, slams, pokes and jabs.

Protect the cooler by installing a sheet of grill screen, NSN 2510-01-196-5311, in front of the fins.

The screen comes in a 26x22-in piece that you cut to fit so you can use the hardware already in place. All you need to remove before installing the grill is the oil cooler crossbar. Afterward, reinstall the crossbar.



Down with the Cab



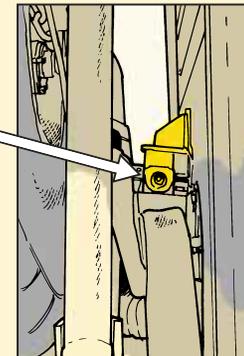
When you lower an FMTV cab using either the air hydraulic system or the backup hydraulic pump, keep an eye on the cab catch bracket assembly as it nears the latch assembly.

place and locks. Then, report it to your mechanic.

Backup Pumping Info

The backup (manual) hydraulic pump raises **and** lowers the cab. Surprised? You think the pump is just a bottle jack, with a relief valve that you can open to lower the load? Nope.

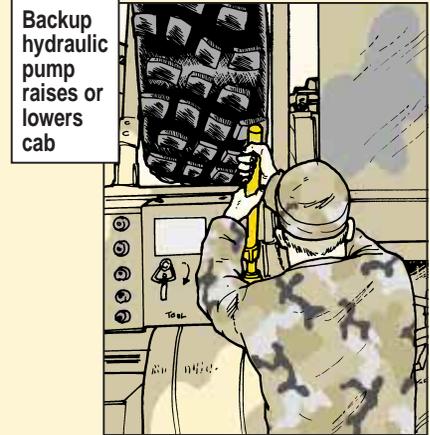
Make sure cab catch bracket and latch mate correctly



On some FMTVs, the cab support assembly (it looks like an upside-down U) can move toward the rear of the truck enough so that the latch assembly mounted on it doesn't cleanly contact the catch bracket.

Not only won't the cab lock safely in place, but the bracket and catch can be damaged.

If the support assembly on your FMTV moves so that the catch bracket won't fit into the latch, have a stick or rod handy to hold the support assembly steady as the cab lowers into



The right way to lower the cab is to turn the CAB TILT knob to LOWER. Then pump the handle until the cab is completely lowered and locked into its latch. Make sure the latch button is IN to show that the cab is locked in place.

Speedometer Setting

Repairmen, when you install a new FMTV speedometer, you have to make the right switch settings on the back of the speedometer to make sure it will register the right mph.

The switches are on the back of the speedometer under a cover. Since the information you need to set the switches is in none of the FMTV TMs, set them like this from left to right.

- Switches 1 and 2: **up**
- Switch 3: **down**
- Switches 4 and 5: **up**
- Switches 6 and 7: **down**
- Switch 8: **up**
- Switch 9: **down**
- Switch 10: **up**



Brake Caging for 5-tons

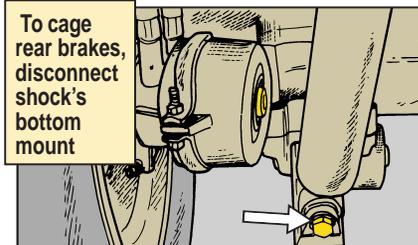
If you haven't caged locked-up rear brakes on a 5-ton model FMTV, make this mental note for when you do.

You must remove the shock absorber from its bottom mount to do the work.

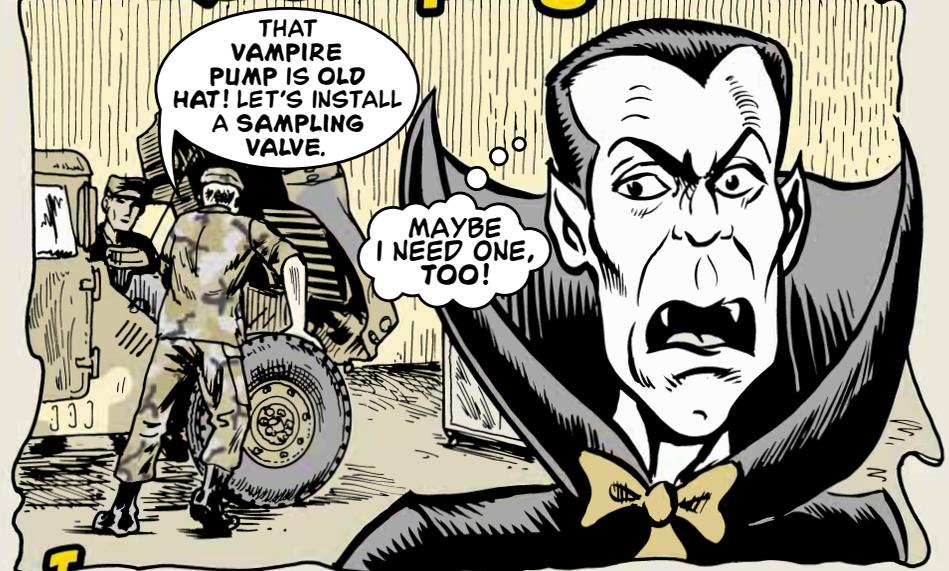
There's no room to get the caging bolt into the back of the spring brake chamber unless you disconnect the shock. Trying to do anything else to install the bolt may cross-thread the brake chamber.

Eyeball Para 11-8 of TM 9-2320-366-20-3 for the procedure.

Deuce-and-a-half FMTVs do not require this extra step to cage their brakes.



Make Sampling Easier



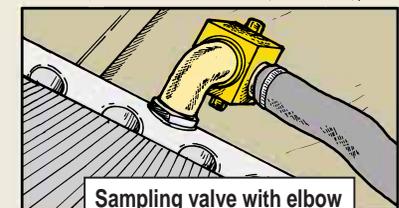
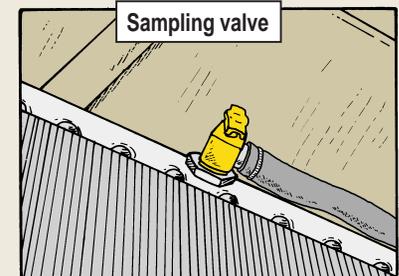
If you're still using the vampire pump and tubing to take oil samples on your HMMWV's engine and transmission, there's an easier way: Simply install valves, NSN 4820-00-845-1096, on both the engine and transmission oil coolers.

Then you can put the sampling bottle under the valve, open it and fill it cleanly. That's if the power steering oil cooler isn't in the way.

If it is, add an elbow, NSN 4730-00-277-5553, to the sampling valves to get them far enough away from the oil cooler to add a piece of hose, NSN 4720-01-159-5796, to the valve with clamp, NSN 5340-00-954-6014.

The elbow stays with the valve, but remove the hose after sampling. Use a new piece of hose for each sample.

Info on this change is in TB 43-0001-39-8 (Mar 96). If your local TACOM logistics assistance representative doesn't have a copy, write, call or e-mail Half-Mast.



Shorten Glow Plug Tool

If you have one of those glow plug removal tools that we provided the plans for in PS 524 (Jul 96), or if you plan to make one, listen up:

You may have to shorten the tool handle by 1 1/2 to 2 inches in order to remove the #6 and #8 plugs on the passenger side of the engine.

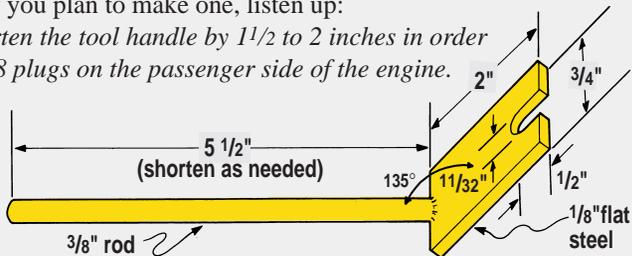
The handle is too long to use at those locations. It keeps you from applying upward pressure on the plugs as you remove them.

To make the tool, use 1/8-in flat steel, NSN 9415-00-204-3994, and 3/8-in round rod, NSN 9150-00-189-0652.

Make sure the open end of the fork is no more than 1 1/32 inch wide. The forked end fits behind the hex head of the plug. You can grind down the fork end if that makes it easier to use.

Place the fork behind the plug head with the angled portion against the fuel injector nozzle for leverage. Slowly unscrew the plug while applying steady outward pressure with the tool.

If you turn too fast or use too much pressure, you'll break the plug. Then your truck goes to support.



Direct Fuel Tank Access

There's a solution at hand so you won't have to drop the HMMWV's fuel tank to work on its sending unit or to replace a leaking access cover gasket.

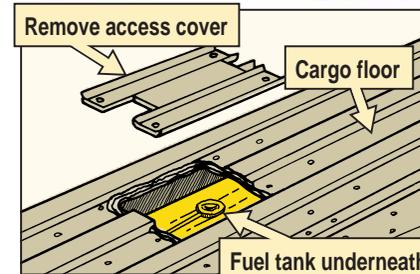
A cargo floor access hole and cover kit, NSN 2510-01-454-7077, has the instructions, hardware and plate to install an access cover in the truck's cargo floor.

Get the kit and the next time you have to drop the tank, install the cover while the tank's off. Then, you're set.

With the access cover installed, you can remove and replace the sending unit or gasket **with the fuel tank in place.**

The instructions show how unit mechanics can cut the cargo floor and install the cover plate.

But, this kit cannot be used on HMMWV ambulances (M996/M997) or Avengers because of their design.



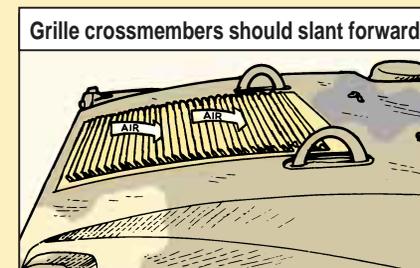
Radiator Grille Mounting

Watch how you install the radiator grille on HMMWVs, mechanics. They can be installed upside down.

Installed correctly, with the grille crossmembers slanted toward the front of the truck, the grille forces air into and over the radiator and oil coolers.

Installed incorrectly, with the grille crossmembers slanted toward the rear of the truck, the grille just passes air on over the truck. That overheats the engine, transmission and power steering oil.

It's a simple thing, but very important. Take a quick look at your HMMWVs and change any that are installed incorrectly.



AIR ELEMENT NEEDS SOFT TOUCH

Drivers, the HEMTT's primary air filter element needs careful handling to keep clean air going to the engine.

The primary element has a soft bottom that can't take much abuse. It certainly can't take being thrown around or beaten against a hard object to loosen dust and dirt.

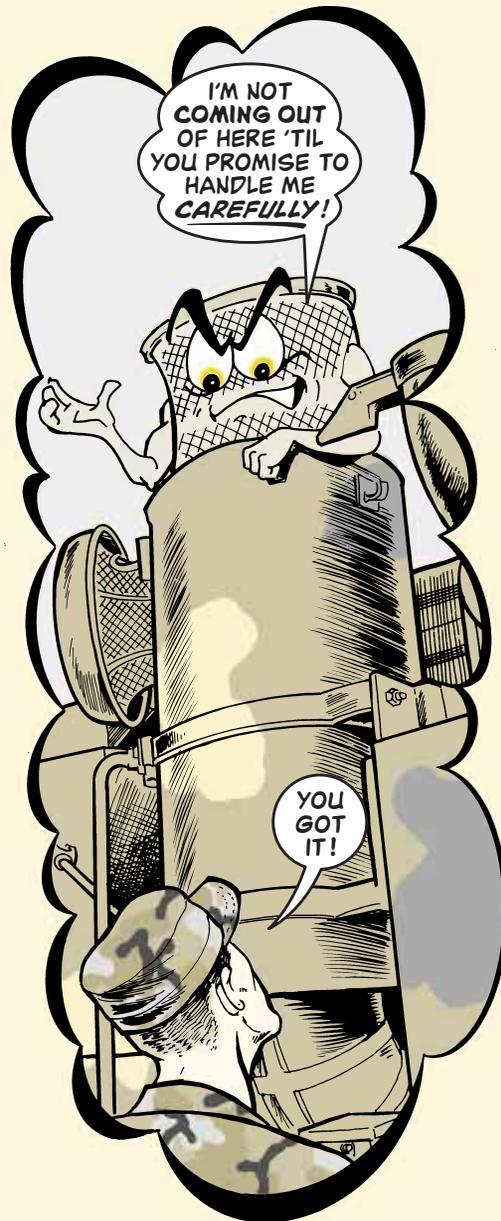
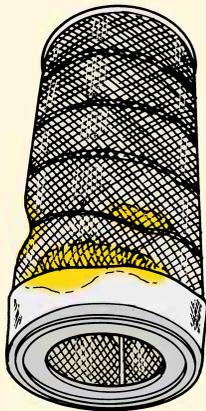
If the bottom gets dented or warped, the element doesn't fit easily in the air cleaner canister.

But some drivers just keep pushing or beating until the canister cover can be installed. That damages both the primary and secondary elements, letting dirty air through to the engine air intake.

If the filter's air restriction gauge shows red, remove the primary element and shake out as much dust and dirt as possible. Don't hit the element against any object harder than your hand.

If the element is so dirty after cleaning that the gauge still shows red, tell your mechanic. Only a mechanic can remove and replace the secondary element.

Damaged element will not do its job



PETROLEUM CENTER HAS ANSWERS

When put to the test, drivers and mechanics, can you answer the following questions?

- Q:** What kind of oil or lube is best for your equipment?
- Q:** How do you test or recycle antifreeze?
- Q:** Which hydraulic fluid is right for your vehicles?
- Q:** How do you remove moisture from fuels and fungus from fuel tanks?

On the outside chance that you need help for POL answers not found in your vehicle or equipment TM, write to:

US Army Petroleum Center
54 M Ave, Suite 9
ATTN: SATPC-L
New Cumberland, PA 17070-5008

Or call for technical assistance in these specific areas:

Area	Commercial DSN (717) 770- 977-
Operations (policy and procedures of petroleum operations)	8580/7040/6752
Quality (testing, disposition shelf life)	6053/4392
Package products	5868
Fuel requirements (type, quantity, delivery)	7247
Coal	7109
Identaplates, SF 149 (credit card)	4993
Facilities	
Equipment	6445
Engineering	5582
Environmental	5873

Watch the Cracks, Buddy

Motor vehicle tow bars, NSN 4910-01-365-9304, show wear through cracks and wallowing at the adjustment pin holes. These cracks and wallowed holes can cause accidents. Here's what to look for on your tow bars:

- Look at all welded joints. If you find cracks, turn in the tow bar! It is unsafe to use.
- Look at all adjustment pin holes on the tow bar legs. If you spot any cracks, replace the leg.
- If there are no cracks, look for pin holes that are wallowed out (no longer

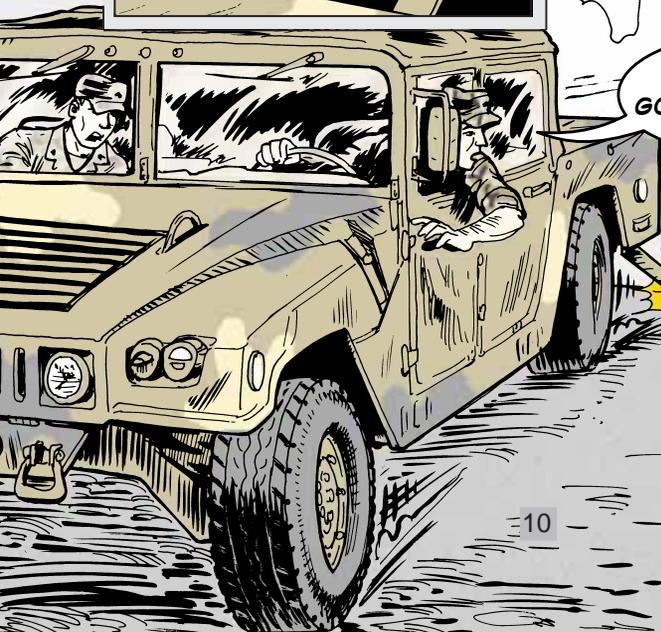
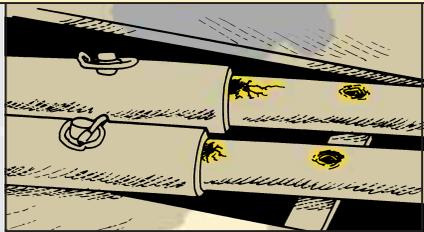
round, but oblong). Check the diameter of any odd-looking holes with calipers.

On male legs, the largest acceptable hole diameter is $\frac{25}{32}$ inch. On fixed and moveable legs, the max is $\frac{51}{64}$ inch. Replace any leg that has larger holes.

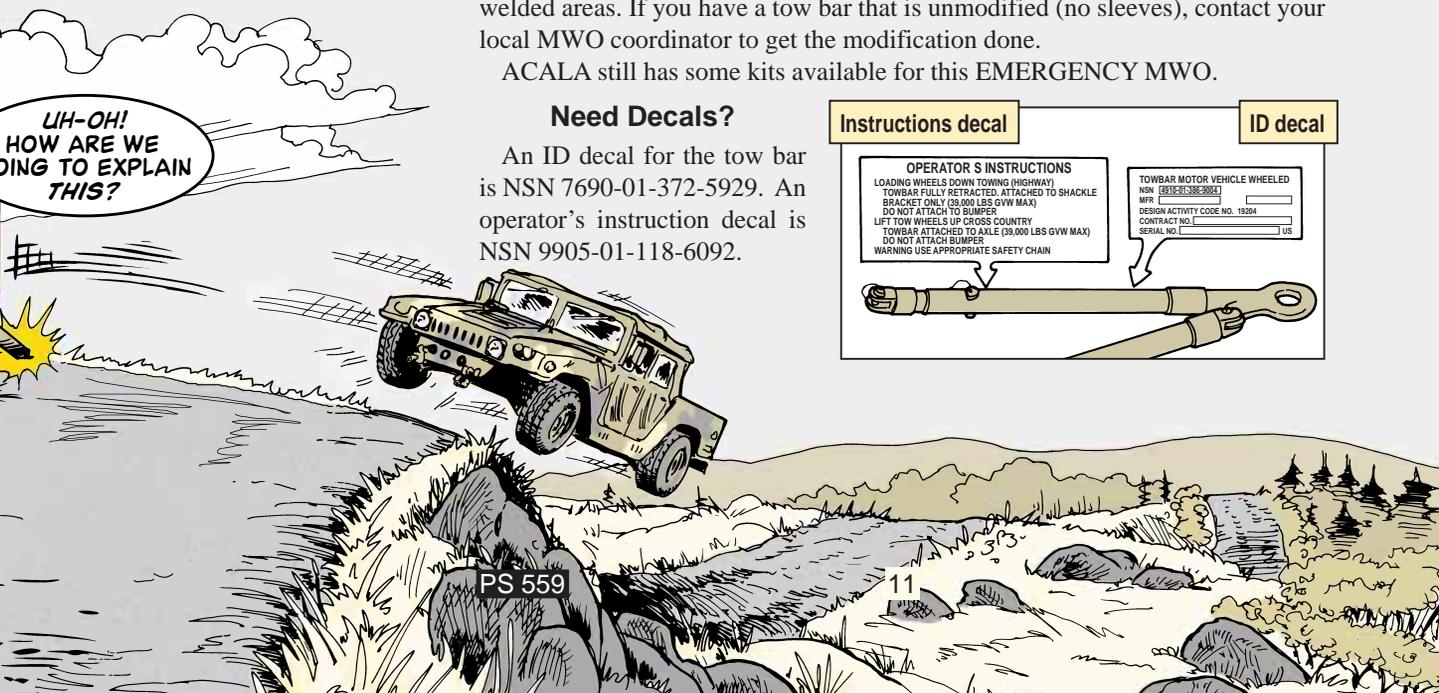
Legs that pass inspection still need attention. Deburr the pin holes that need it using emery cloth or sandpaper. Clean the holes with a dry cloth and apply corrosion preventive compound (either NSN 8030-00-837-6557 or 8030-00-546-8637).

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

Look for cracks and measure wallowed holes

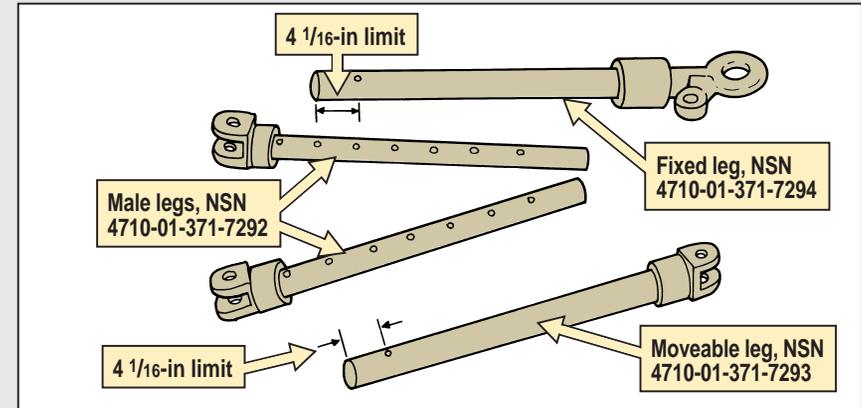


UH-OH!
HOW ARE WE
GOING TO EXPLAIN
THIS?



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

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



Is Yours Modified?

MWO 9-4910-593-20-1 (Mar 95) modified tow bars by adding sleeves to the welded areas. If you have a tow bar that is unmodified (no sleeves), contact your local MWO coordinator to get the modification done.

ACALA still has some kits available for this EMERGENCY MWO.

Need Decals?

An ID decal for the tow bar is NSN 7690-01-372-5929. An operator's instruction decal is NSN 9905-01-118-6092.

Instructions decal

OPERATOR'S INSTRUCTIONS
 LOADING WHEELS DOWN TOWING (HIGHWAY)
 TOWBAR FULLY RETRACTED, ATTACHED TO SHACKLE
 BRACKET ONLY (39,000 LBS GVW MAX)
 DO NOT ATTACH TO BUMPER
 LIFT TOW WHEELS UP CROSS COUNTRY
 TOWBAR ATTACHED TO AXLE (39,000 LBS GVW MAX)
 DO NOT ATTACH BUMPER
 WARNING USE APPROPRIATE SAFETY CHAIN

ID decal

TOWBAR MOTOR VEHICLE WHEELED
 NSN: 7690-01-372-5929
 MFR: _____
 DESIGN ACTIVITY CODE NO. 19204
 CONTRACT NO. _____
 SERIAL NO. _____ US

Keeping Tight Control

**MECHANICS,
A LOOSE PROP SHAFT
IN YOUR BRADLEY OR MLRS
IS A DANGEROUS
PROPOSITION.**



If the shaft pops loose, it flails around, tearing up the transmission, brake linkage, and even the driver if it breaks through the firewall.

That's why you should always check for loose prop shaft screws during semiannual services. Never reuse a loose screw. It won't stay tight. Replace the screw and torque it to 86–94 lb-ft. Tighten once, loosen and then tighten again.

Make sure the torque wrench doesn't touch the bearing cap or other parts while torquing, too. If it does, you'll get an incorrect reading and the screws may not stay in place.

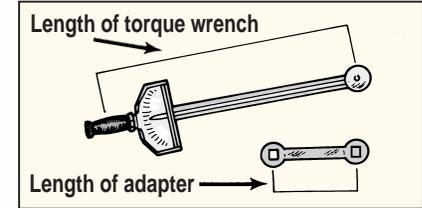
Make sure you torque it correctly, too. Some of the screws can't be reached with the end of the torque wrench, so you'll need the 4-in torque wrench adapter, NSN 5120-01-315-5708, called for in the -20-1-3 TMs. If you use the adapter, remember that it adds to the length of the torque wrench. That means the actual torque applied will be less than what the torque wrench dial or scale shows.

To use the adapter correctly, you must convert the torque value before you start. The conversion keeps you from under- or over-torquing the screws.

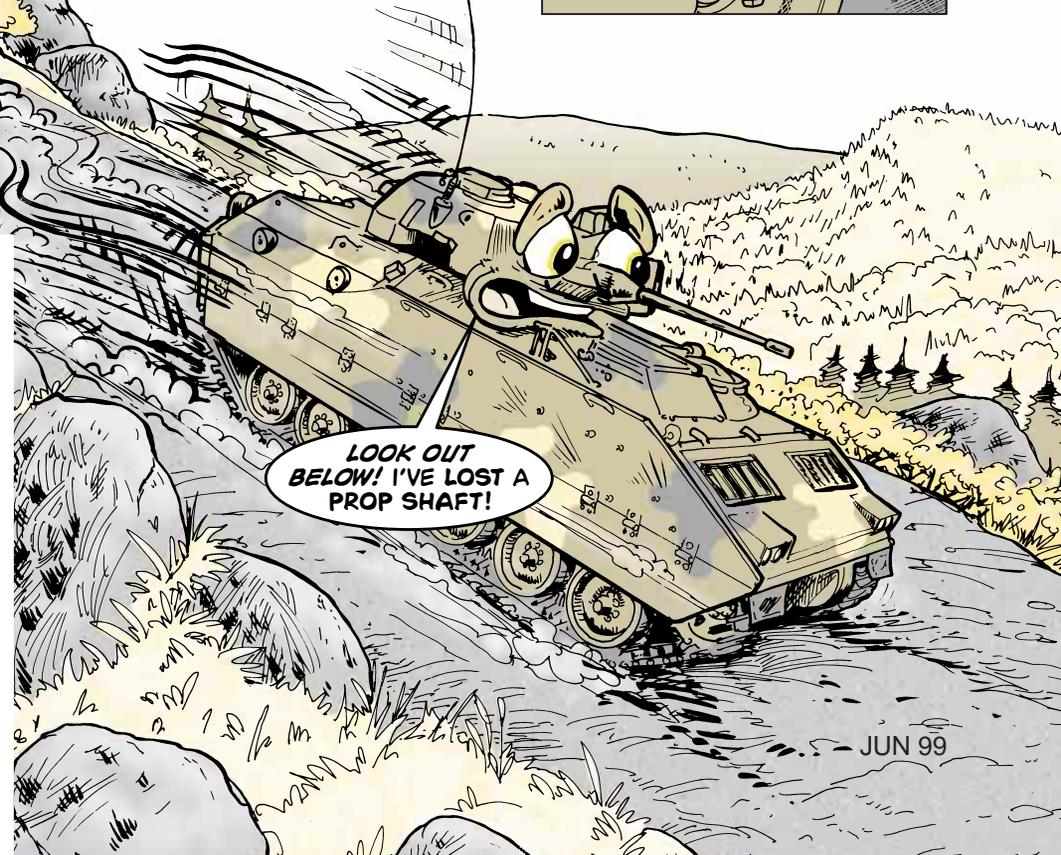
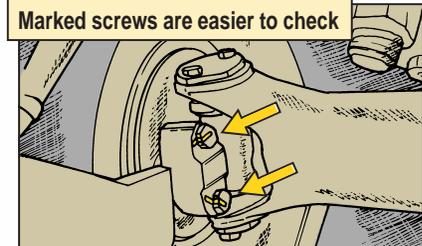
The conversion formulas are the same for both the Bradley and the MLRS:

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

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



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



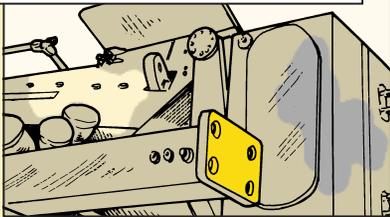
Handle Hatch Hang-up

Mechanics, if any of the Bradleys in your unit have uparmor driver's hatches, NSN 2510-01-391-1045, check 'em out now to save valuable time and money.

Moisture from rain and condensation is getting trapped inside the torsion bar support tube and rusting the torsion spring. A rusted spring makes the hatch hard to open or close from inside the driver's station. Eventually, the hatch won't move at all.

A coating of sealant on the back of the support tube cover, NSN 2590-01-392-5150, is holding in the moisture. So, remove the cover, scrape off as much sealant as possible, then clean the rest off with dry cleaning solvent.

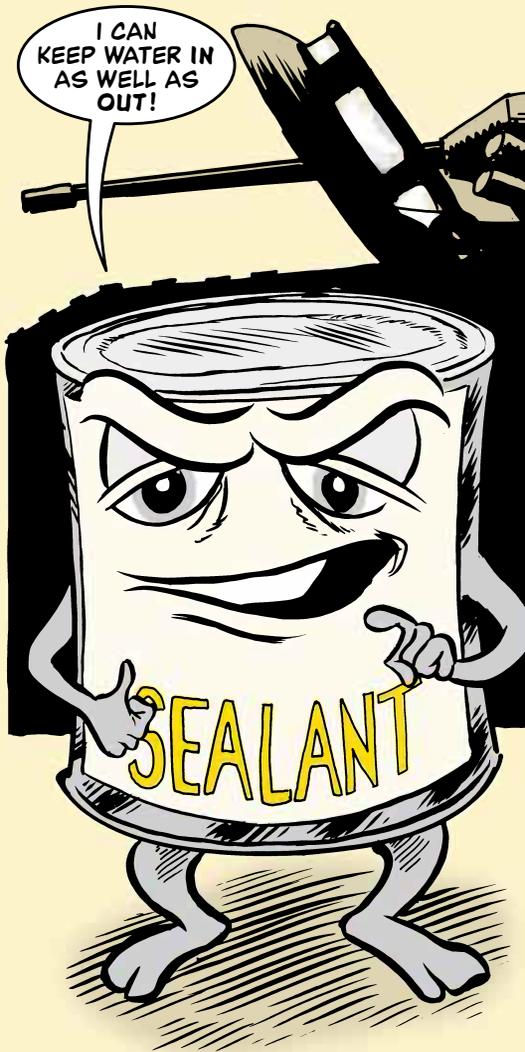
Remove cover and clear away sealant



Do not reseal the cover before re-installing it! That just starts the problem all over again.

With the sealant gone, moisture can drain from the support tube. No moisture, no rust.

See TACOM maintenance advisory message (MAM) 98-017 for more details.



Down the Chutes

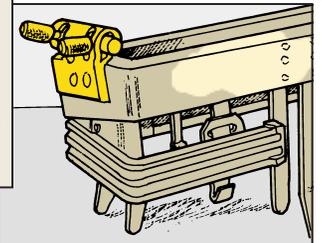


Prevent Bradley ammo chute damage with one simple rule: Hook up the ammo chutes when you install the M242 automatic gun.

Bradley crews sometimes forget to hook up the chutes, especially if they're not going to fire. Then when the gun is raised or lowered, the chutes catch on cables and the chute locking levers are damaged. The chutes can also rip out cables and wiring, causing the turret to lock up.

Don't pitch damaged ammo chutes. They can be fixed with the fitting repair kit, NSN 2320-01-268-7915.

Hook up ammo chutes to avoid damaging locking levers



M1A1 Wiring Harness

Fig 140 of TM 9-2350-264-24P-2 says Item 10 is a 1W108-9 wiring harness. Actually, Item 10 is the 1W108-2 wiring harness, NSN 6150-01-392-0063. The 1W108-9 harness, NSN 5995-01-189-7722, is only needed for M1A1 tanks without MWO 9-2350-264-50-2-5 applied.

DOES YOUR CUP RUNNETH OVER?

Drivers, you just can't avoid some occasional low-rpm idling in your M113A2 carrier. That means you also can't avoid the engine blow-by that low-idling causes.

Too much crud in the "slobber cup" creates excess pressure in the crankcase. Your engine burns too much oil and performance suffers.

So, clean the airbox drain and crankcase breather collector every couple of days rather than weekly like it says in TM 9-2350-261-10.

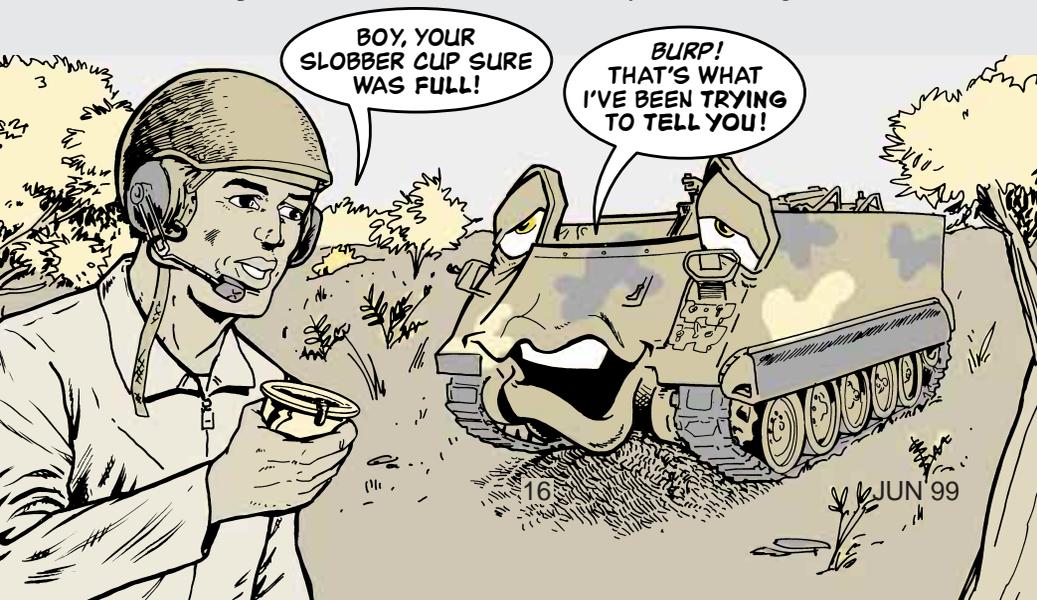
And if you **must** idle at a low rpm, like when you're in the field, keep an eye on the collector cup.



You can tell when the cup's full—blow-by will start seeping into the engine compartment. That's too late—the damage is already done. So, every other day or so, remove the cup, empty its contents into an approved container, and clean it and the inner plastic element.

In the field, just use a rag to clean out the cup and element. If you're near a maintenance outfit, clean the cup and element with dry cleaning solvent.

Whenever possible, run your carrier's engine at a higher idle—1,000 rpm or so—to burn blow-by inside the engine.



A Clean, Mean, Fighting Machine



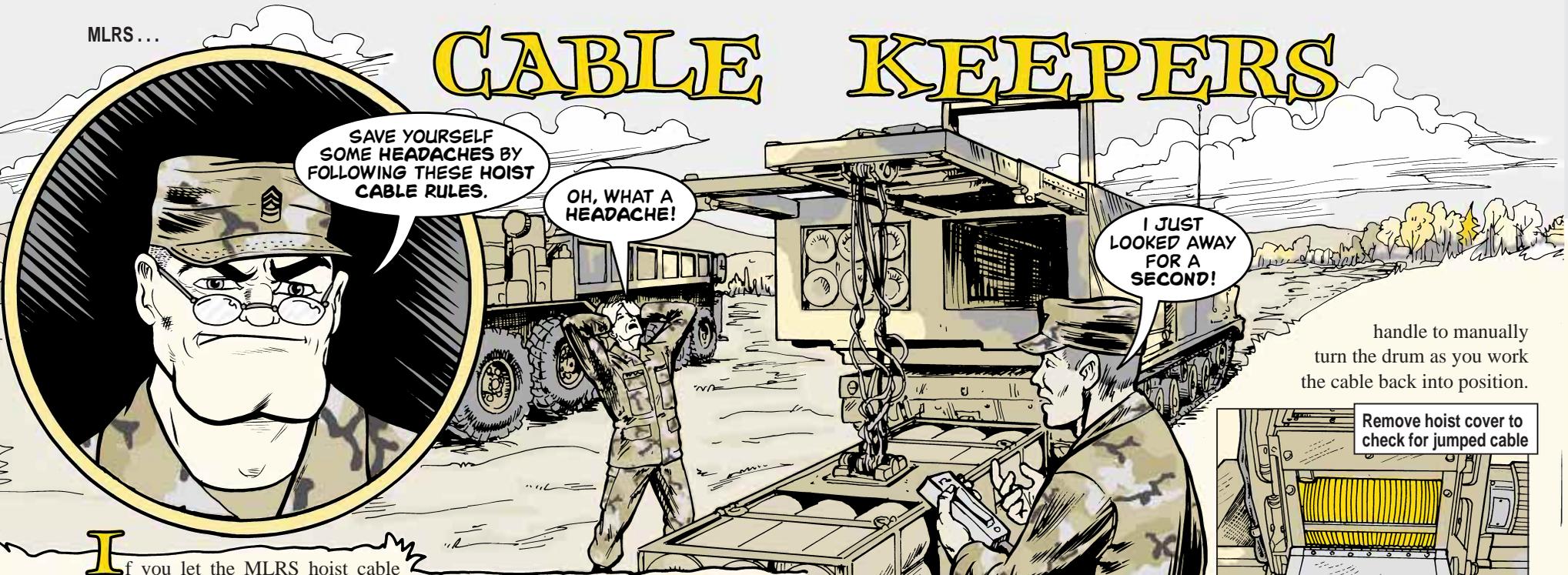
A good washing is the best way to keep your MLRS clean and mean. But before you grab that water hose, keep these things in mind:

- Tighten all cables and cannon plugs before washing. Loose connectors will let in water that can cause short circuits.
- Cover the electronics unit (EU) and electronics box with a garbage bag before washing. Both boxes have a gasket to protect against water, but you never know when the gasket will go bad. The bag provides an extra line of defense.
- Park the vehicle on an incline with the front higher than the rear whenever possible. That helps water drain out quickly.



Tighten loose plugs and connectors

CABLE KEEPERS

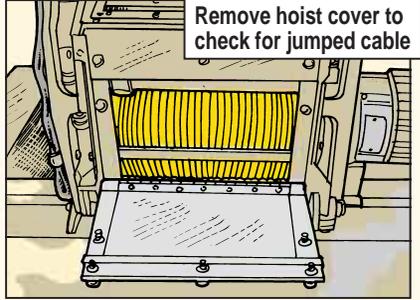


SAVE YOURSELF SOME HEADACHES BY FOLLOWING THESE HOIST CABLE RULES.

OH, WHAT A HEADACHE!

I JUST LOOKED AWAY FOR A SECOND!

handle to manually turn the drum as you work the cable back into position.



Remove hoist cover to check for jumped cable

If you let the MLRS hoist cable foul up, you've really fouled up. Letting the cable kink and jerk can ruin the cable and maybe even the hoist itself. What a mess!

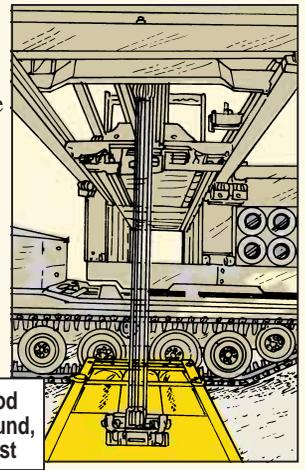
The first step in keeping the cable out of trouble is to keep it clean—but not lubed. Lubricants attract sand, which cuts and weakens the cable. As part of your weekly PMCS, clean the cable with a rag and isopropyl alcohol. The alcohol not only gets rid of dirt, but also any rocket residue, which is fertile ground for corrosion.



Clean cables with rag and alcohol

The second step is to keep a tight cable during hoist operations. Too much slack is what causes the cable to kink, tangle, break, and jump track on the hoist.

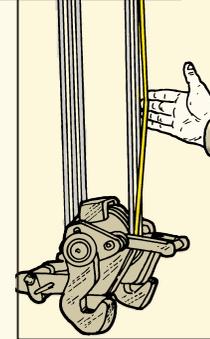
When you set a pod on the ground, stop the hoist as soon as the pod hits the ground.



When pod hits ground, stop hoist

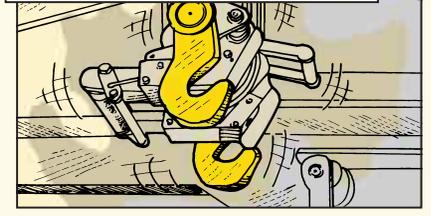
A little slack in the cables can usually be cured by pulling straight back on the center cable while the hook assembly is down. If you suspect the cable has jumped the drum track, take the cover off the hoist and look.

Pull center cable to eliminate slack



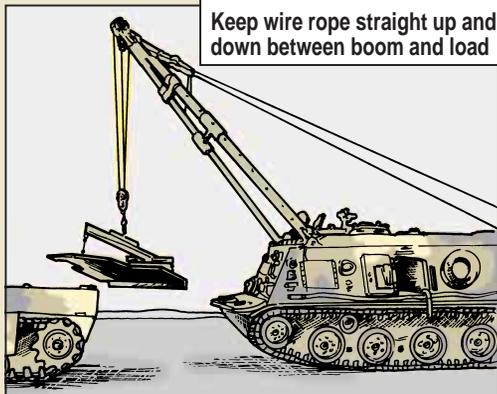
Be careful stowing the hoist, too. If the hook assembly swings back and forth, it bangs against the hoist carriage and the hooks are bent and the pulley jams. Stop the hoist when the hooks reach just below the hoist carriage and wait for the hooks to stop swinging before stowing the hoist.

Don't stow a swinging hook assembly



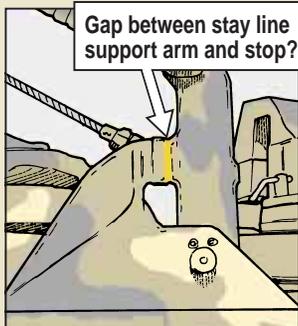
UPLIFTING BOOM SOLUTIONS

Mechanics, unless you're careful, lifting a load with your M88A1/A2's boom can cause a lot of damage to your vehicle's wire rope assembly and hydraulics. Pay particular attention to these two problem areas:



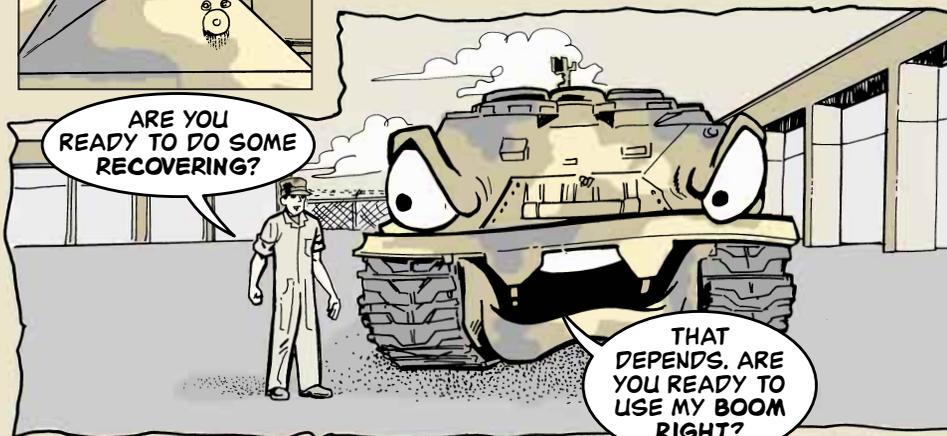
1. Be careful when paying out or retrieving the boom winch's wire rope. If the rope's not straight up and down, it will bind as it rides in the pulley sheave. That's a knot you'll have a hard time unangling.

So, when you set up for operation, keep the boom and the object to be moved or recovered in a straight line. That keeps the rope straight and prevents binding.



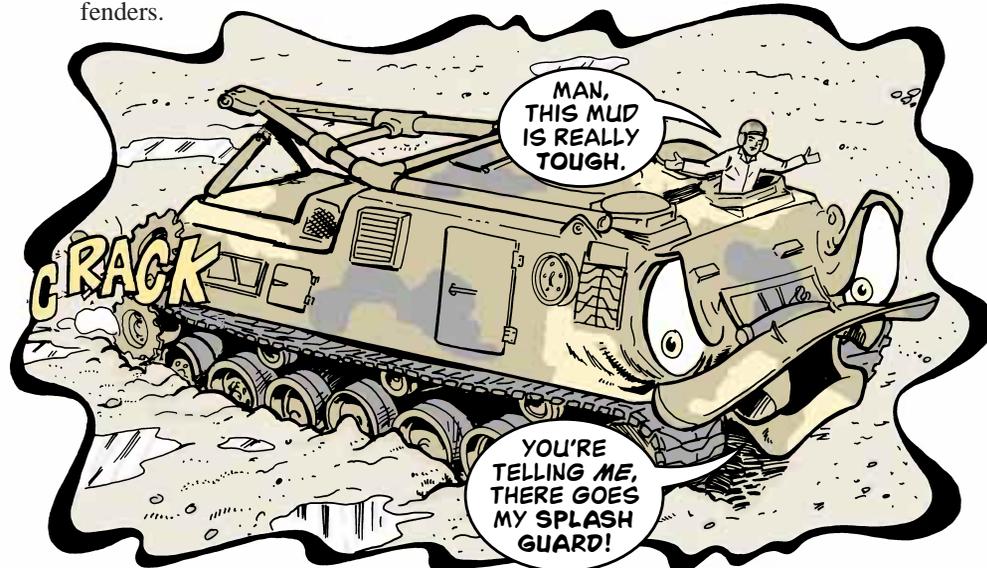
2. Make sure the stay line support arms are flush against their stops before lifting. If they're not, the hydraulics support the entire weight of the load.

If the load's heavy enough, the hydraulic cylinder seals will blow. Even light loads will weaken the seals and shorten their life.

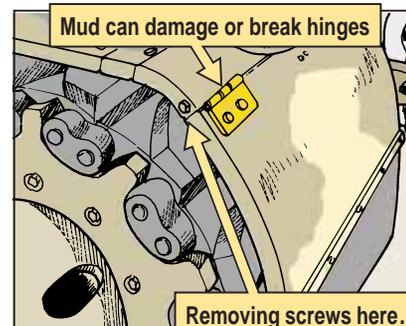


At Home in the Mud

Drivers, mud is a real hazard for your M88A1 recovery vehicle's splash guard fenders.



As your vehicle plows along, the tracks throw gobs of mud against the fenders. Enough of that will damage or break the hinges that fasten the fenders to the hull. Then your unit pays to replace the fenders.



Before traveling over muddy terrain, remove the two screws that hold each of the fenders in place. The fenders can then swing freely on their hinges, lessening the impact of the mud.

Reinstall the screws when you reach your destination or when mud is no longer a problem. The fenders protect soldiers and other vehicles from rocks thrown by the tracks.



Crewmen, you're supposed to clean the generator air filter on your ammo carrier's auxiliary power unit (APU) weekly. That's hard to do if you can't get the weather hood off.

The weather hood is held in place with a wing nut. It works great until

one or both of the wings break off. Then the wing nut is difficult, if not impossible, to remove by hand.

That's too bad, because a filter that doesn't get cleaned or replaced regularly results in a burned-up APU generator.



Broken wing makes nut hard to remove



Uncleaned filter gets clogged quickly



Crewmen, loose or missing end connectors are a sure invitation to a thrown track on your M109A6 Paladin. So, make sure you check the track after every operation.

Cracked and missing end connectors are easy to spot. Loose ones, however, are another matter. It takes sharp eyes to detect those.

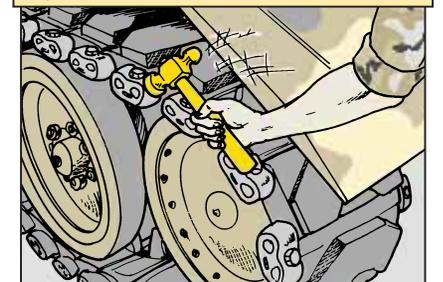
Tap each of the end connectors gently with a ball peen hammer. Watch for any movement of the connector. If there's any movement at all, the end connector is loose.

Get your mechanic to torque loose end connectors to prevent damage to them and the rest of the track. Remember, any missing or cracked end connectors make your vehicle NMC.

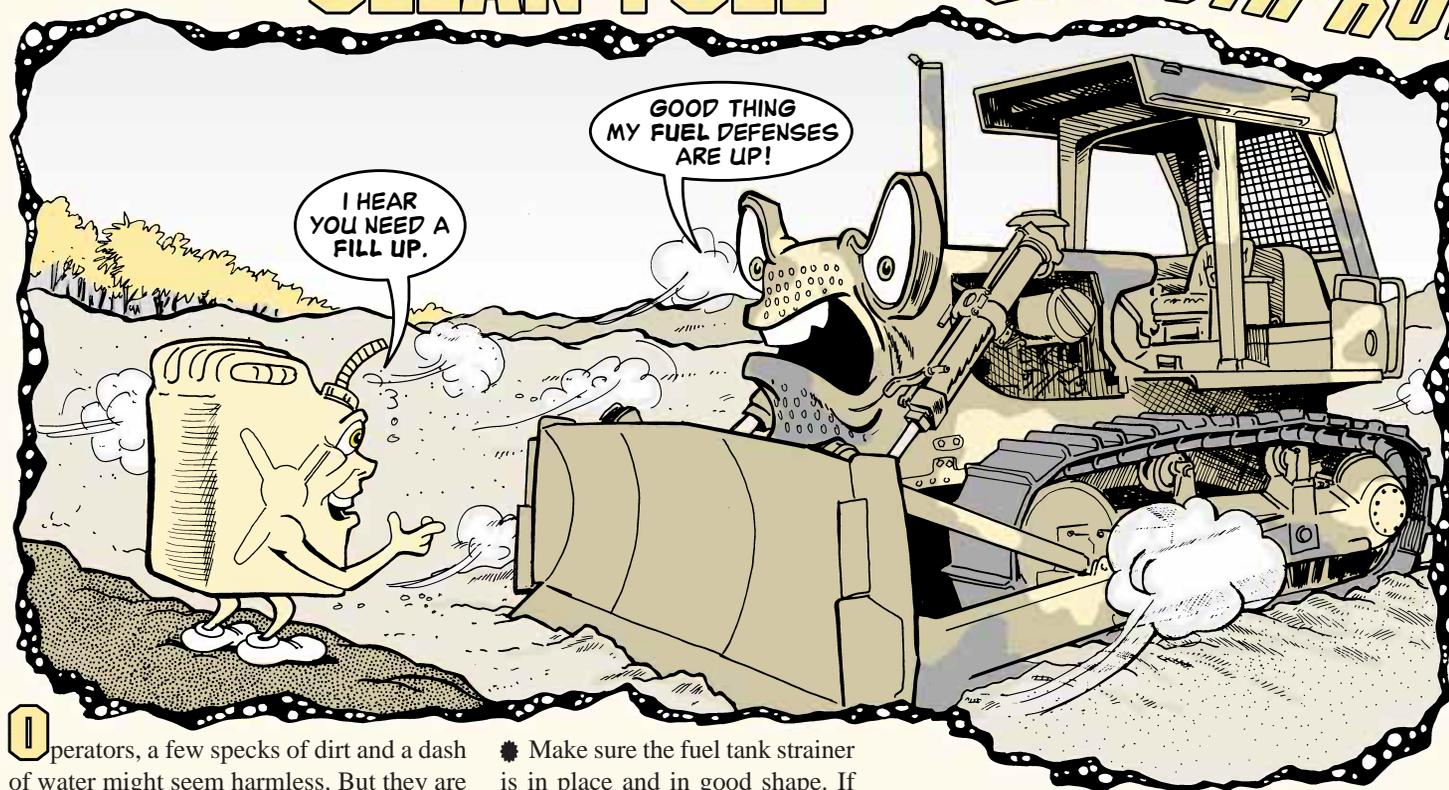
Some crewmen think replacing the wing nut with a regular nut solves the problem. Unfortunately, there never seems to be a wrench handy when it's time to check the filter. Again, the filter ends up ignored.

No, the only **real** solution is to replace that broken wing nut with a new one, NSN 5310-01-064-8787. And don't forget to keep a washer, NSN 5310-01-353-0338, under the wing nut. That keeps the wing nut from vibrating loose.

Tap end connectors to check for looseness



CLEAN FUEL = SMOOTH RUNNING



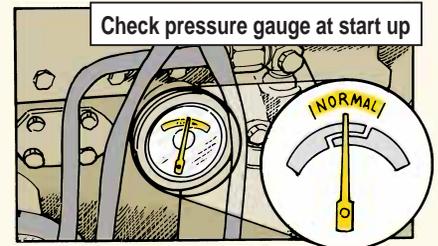
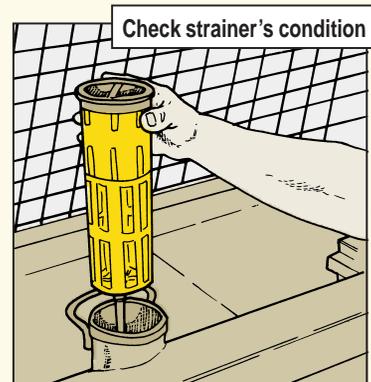
Operators, a few specks of dirt and a dash of water might seem harmless. But they are deadly when it comes to the fuel system on your Cat equipment.

Dirt clogs the fuel strainer or the filter. Water can rust out the tank and damage the engine's injectors.

Keep your fuel supply clean by keeping it covered and protected:

- Drain water and sediment from the fuel tank before you start up.
- Before you refuel, wipe away any dirt around the filler cap.
- Be careful when you put the fuel nozzle in the tank. You could tear a hole in the side of the strainer or knock out its bottom.

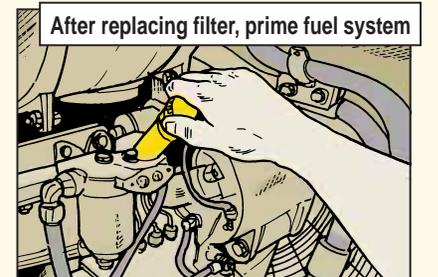
• Make sure the fuel tank strainer is in place and in good shape. If it's damaged or missing, replace it.



Catch the fuel you drain in a clear container. Drain until you get clean fuel free of water. Dispose of this drained fuel properly. If draining doesn't help, get the filter elements replaced.



Make sure the mechanic primes the system after he changes the element, too. Otherwise, you may not be able to start your dozer.



Good fuel PM will keep dirt and moisture where they belong—outside.

• When it's raining or dust is blowing, lay a clean rag around the nozzle while you refuel.

• When refueling's done, replace the cap and snug it down to keep dirt out during operations.

• Fill the fuel tank at the end of operations to help prevent condensation in the tank.

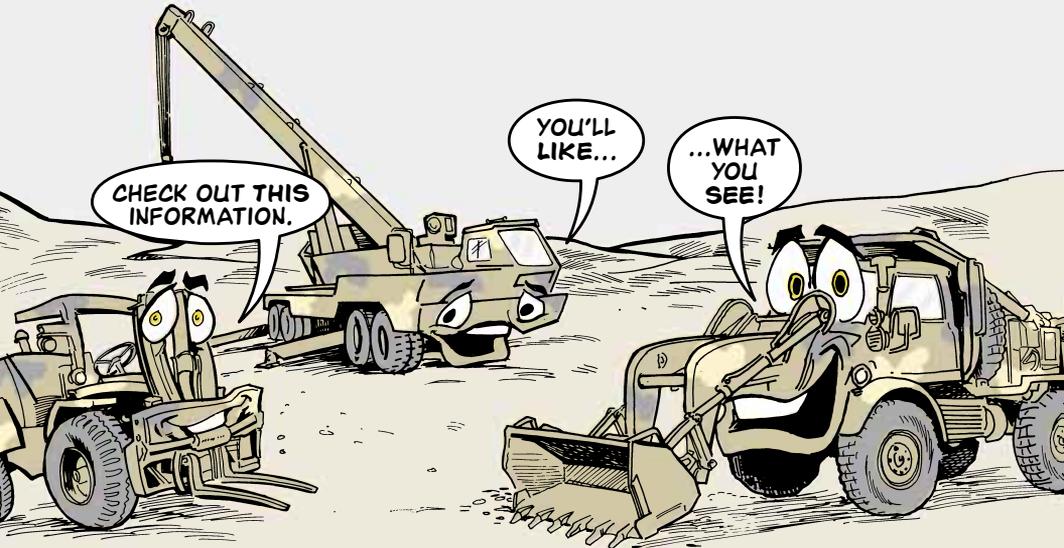
• When you start up, check the fuel pressure gauge on the final filter. If the gauge is reading out of the normal range, shut down and drain the filters. If the gauge isn't working, get it replaced.

SEE Hydraulic Filter

NSN 4330-01-224-5507 gets the filter element for the SEE's hydraulic tank. The NSN listed for Item 16 in Fig 318 of TM 5-2420-224-24P is no longer available.

SEE Brake Lines

Corrosion does a real number on the carbon steel brake line between the small emplacement excavator's pressure regulator and air tanks. If corrosion has ruined the brake line on your SEE, replace it with stainless steel tubing, NSN 4710-01-384-6291. Pages 3-26 through 3-31 of TACOM EIR Digest TB 43-0001-39-5 (Jun 95) have the removal and installation instructions. If you need a copy, see your local TACOM LAR, or write Half-Mast.



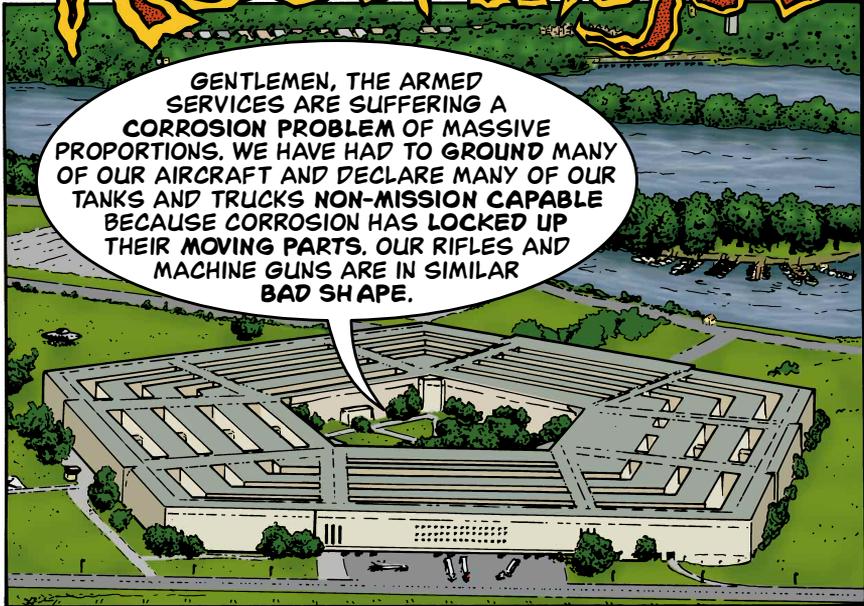
25-Ton Crane Alternator

NSN 2920-01-182-0820 gets the alternator for the 25-ton P&H crane. The alternator shown as Item 1 in Fig 18 of TM 5-3810-293-20P is no longer available.

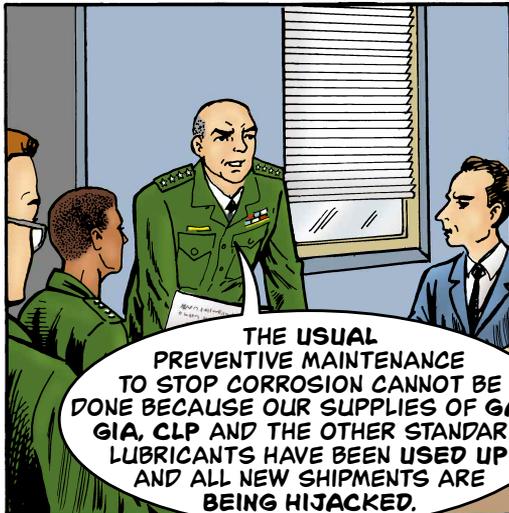
Forklift Fire Extinguisher

NSN 4210-00-775-0127 gets a 5-lb dry chemical fire extinguisher for use on all rough terrain forklifts. It replaces the Halon extinguisher shown in the Additional Authorization List (AAL) in each vehicle's -10 TM.

Rustfinger



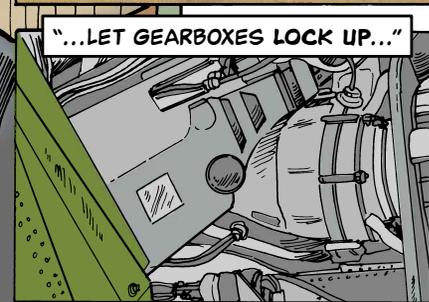
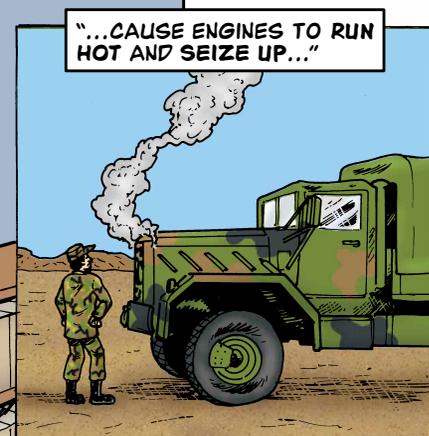
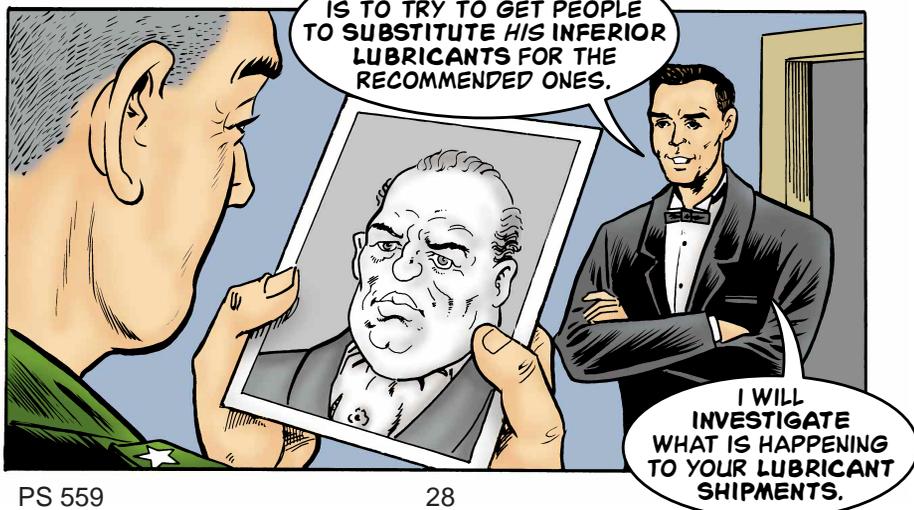
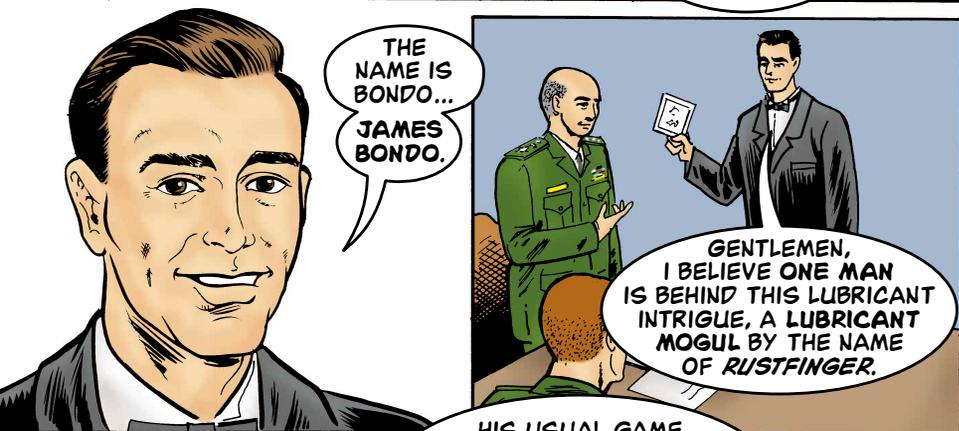
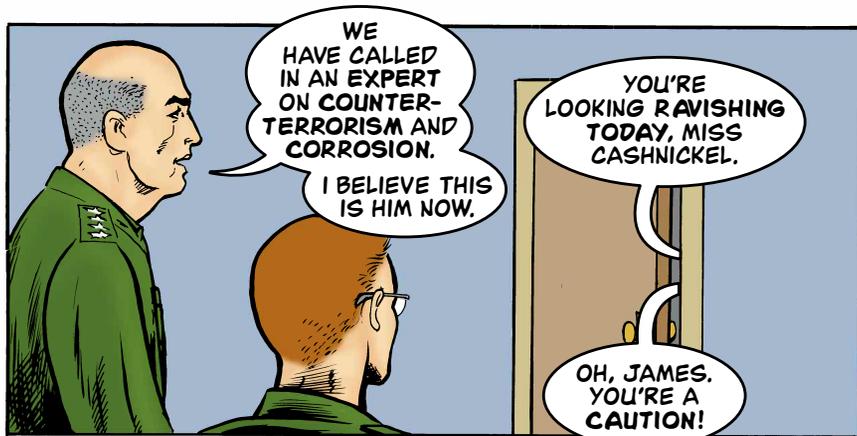
GENTLEMEN, THE ARMED SERVICES ARE SUFFERING A CORROSION PROBLEM OF MASSIVE PROPORTIONS. WE HAVE HAD TO GROUND MANY OF OUR AIRCRAFT AND DECLARE MANY OF OUR TANKS AND TRUCKS NON-MISSION CAPABLE BECAUSE CORROSION HAS LOCKED UP THEIR MOVING PARTS. OUR RIFLES AND MACHINE GUNS ARE IN SIMILAR BAD SHAPE.



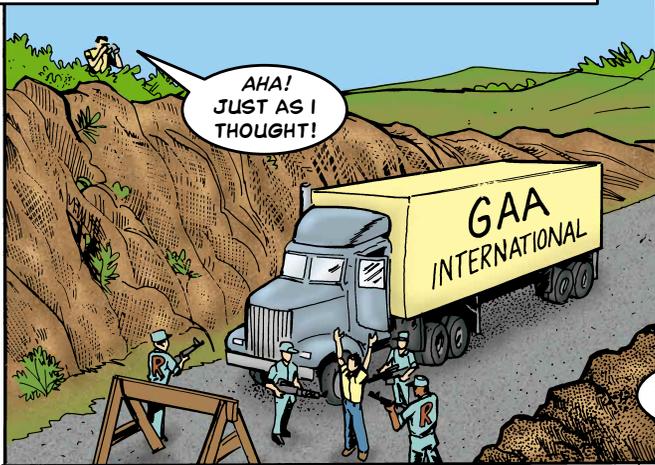
THE USUAL PREVENTIVE MAINTENANCE TO STOP CORROSION CANNOT BE DONE BECAUSE OUR SUPPLIES OF GAA, GIA, CLP AND THE OTHER STANDARD LUBRICANTS HAVE BEEN USED UP AND ALL NEW SHIPMENTS ARE BEING HIJACKED.



WE SUSPECT TERRORISM.



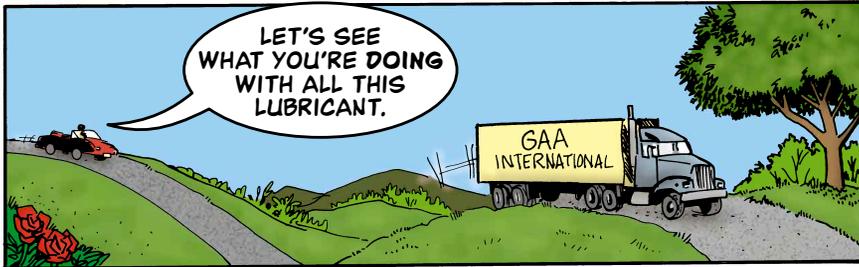
BONDO PICKS UP RUSTFINGER'S SLIPPERY TRAIL...



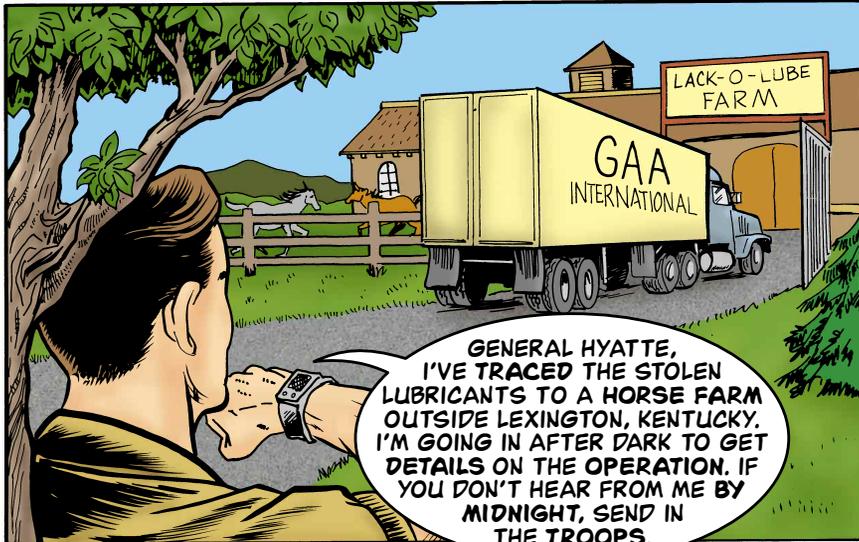
AHA!
JUST AS I
THOUGHT!



UP TO
YOUR DIRTY TRICKS,
RUSTFINGER.



LET'S SEE
WHAT YOU'RE DOING
WITH ALL THIS
LUBRICANT.



GENERAL HYATTE,
I'VE TRACED THE STOLEN
LUBRICANTS TO A HORSE FARM
OUTSIDE LEXINGTON, KENTUCKY.
I'M GOING IN AFTER DARK TO GET
DETAILS ON THE OPERATION. IF
YOU DON'T HEAR FROM ME BY
MIDNIGHT, SEND IN
THE TROOPS.

BONDO GETS
A CLOSER LOOK
AFTER SUNDOWN...

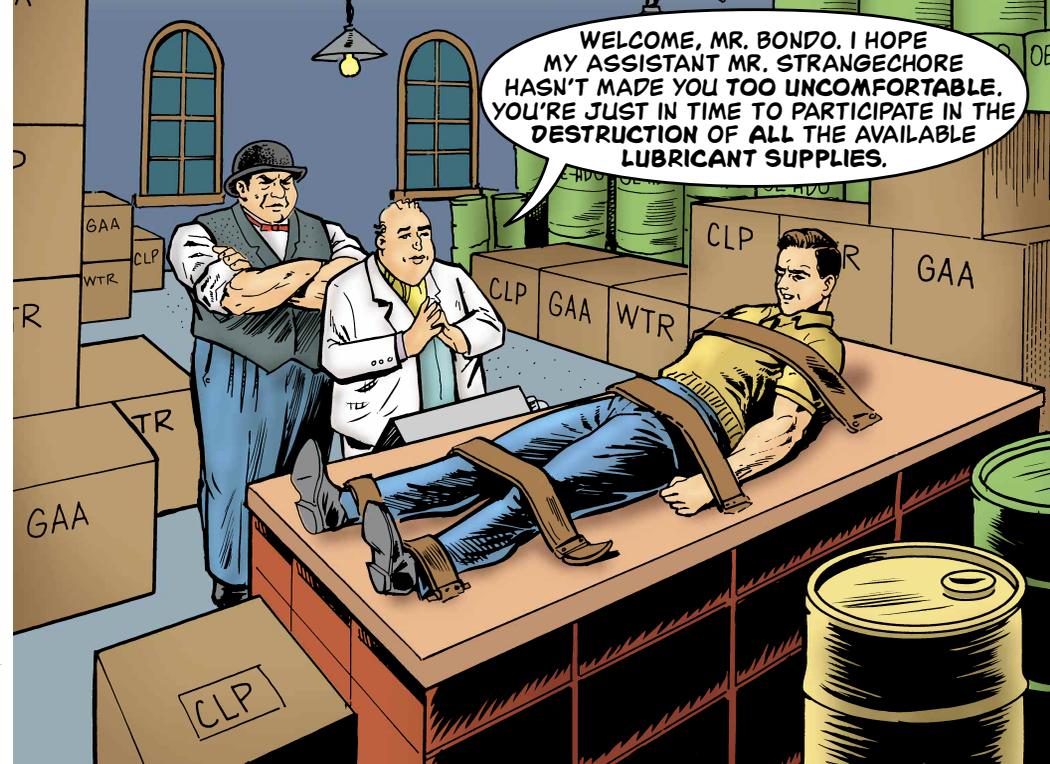


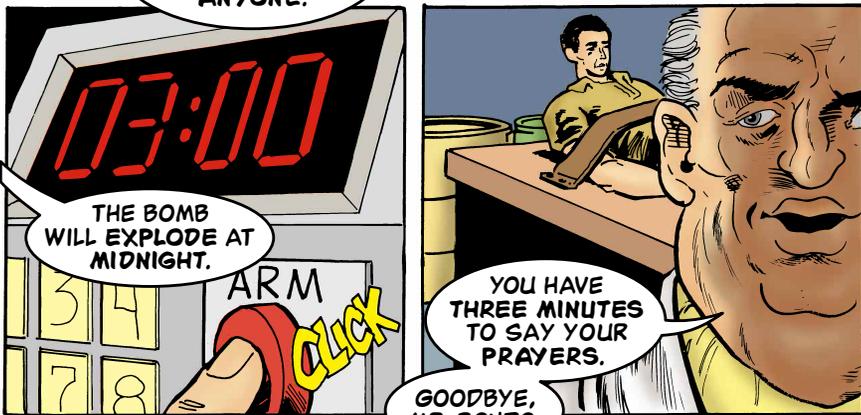
WHUH - WHUH - WHUH

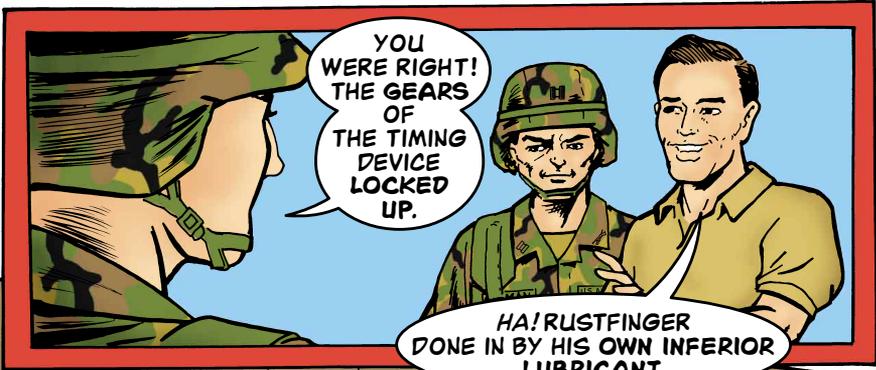
WHAT IS
YOUR PLAN NOW,
RUSTFINGER?



WELCOME, MR. BONDO. I HOPE
MY ASSISTANT MR. STRANGECHORE
HASN'T MADE YOU TOO UNCOMFORTABLE.
YOU'RE JUST IN TIME TO PARTICIPATE IN THE
DESTRUCTION OF ALL THE AVAILABLE
LUBRICANT SUPPLIES.







YOU WERE RIGHT!
THE GEARS
OF
THE TIMING
DEVICE
LOCKED
UP.

HA! RUSTFINGER
DONE IN BY HIS OWN INFERIOR
LUBRICANT.

LATER...



THE MOST IMPORTANT
TOOL IN FIGHTING CORROSION
IS THE LUBRICATION ORDER. USE
ONLY THE LUBE IT RECOMMENDS AND
LUBE WHERE AND WHEN
IT TELLS YOU TO.

AND REMEMBER,
CLP SHOULD BE SHAKEN,
NOT STIRRED.

DIGITAL SCALE GETS IT RIGHT



Airframe repairers, forget the “guess and hope” method when mixing fiberglass resins and structural adhesives to make repairs.

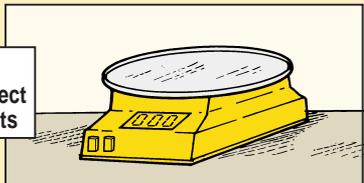
If you guess on the mix and get it wrong, it will either remain a sticky paste or it will harden too quickly, become brittle and crack.

A fiberglass resin like Epon 828 or diethylentriamine (DTA) mixed wrong will actually “cook off” and produce harmful fumes.

Get the mix of adhesives and resins right the first time by using a digital scale, NSN 6670-01-325-3162.

Airframe repair TMs provide the ratios you need, and the digital scale makes sure you get the right mix the first time.

Digital scale ensures correct measurements



Mix in Paper Cups

Need something to do the mixing in? NSN 7350-01-359-9524 gets you 1,000 8-oz paper mixing cups. You can write the time of mixture right on the side of the cup, so you can track pot life.

You can also keep the cups with any extra mixture for 24 hours to see if it cures. Sometimes the area repaired is so deep in a panel that you don't know for sure when it has cured.

Checking the paper cup with the mixing time, resin and curing agent used is an easy way to check the repair's progress.

Don't Bomb on B1 PM

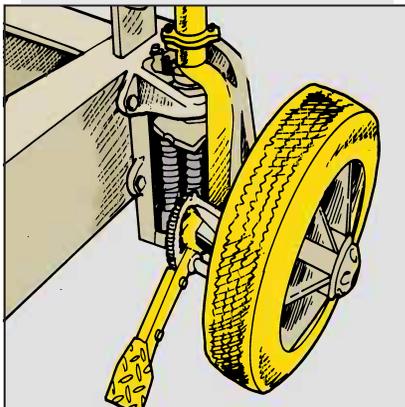
THE B1 MECHANICAL MAINTENANCE PLATFORM, NSN 1730-00-529-6235, HELPS YOU DO THE PM ON YOUR BIRDS. BUT THE B1 NEEDS PM, TOO, SO PAY CLOSE ATTENTION TO THESE DETAILS...



Make sure all the platform's parts are in place. Repair or replace any corroded, cracked, bent or missing parts on the frame, handrails, steps and platform.

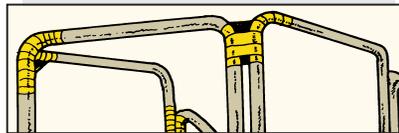


Check the wheel assembly for worn-out swivel lock pins, bad brakes, failing brake set levers and a poorly working wheel jack ratchet.

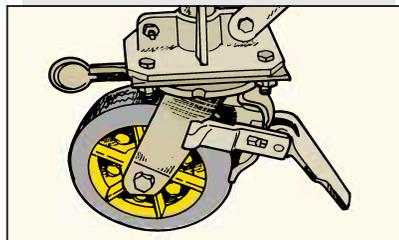


Check tires for good tread. Make sure they have no deep cuts.

Reinforce the platform railing by taping the end rail to the two side rails. Use a strong tape—some units prefer duct tape, NSN 5640-00-103-2254.

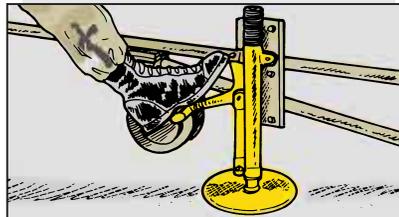


Make sure the platform wheels and casters are lubed with GAA every six months or 600 hours like it says in TM 55-1730-223-13.

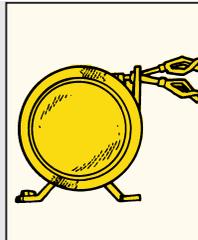


You can replace the bearings and seals in each platform's wheels instead of replacing an entire wheel. Replace the outer wheel bearing with NSN 3110-00-159-1631 and the inner bearing with NSN 3110-00-198-2169. A new grease seal comes with NSN 5330-01-133-0666. (Order on a DD Form 1348-6 and add "NSN not on AMDF" in the REMARKS block.)

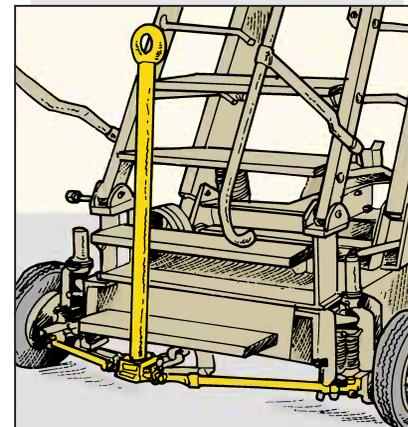
Make sure the two immobilizing jacks are working right. Set the foot pedals on the jacks so the platform doesn't move when the jacks are in place. If foot pressure doesn't easily set the jack pads, grease the pivot points.



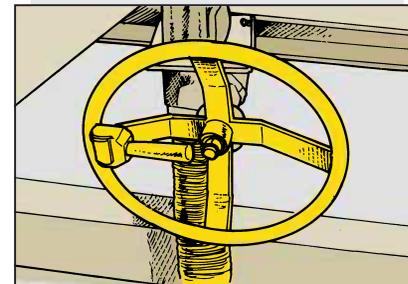
Check the static discharge reel for missing alligator clips and frayed or damaged static wire. Make sure the wheel turns freely.



Make sure the lunette assembly isn't badly bent, cracked or missing pieces—like the steering pin, tie rods, detent pins, or the tongue.



The jackscrew should be checked for cracks in the bellows, grinding noise in operation or binding due to no lubrication.



Same goes for the handwheel. Check it for a broken collapsible handle, grinding, or binding.

A Better Installation Tool

Dear Editor,

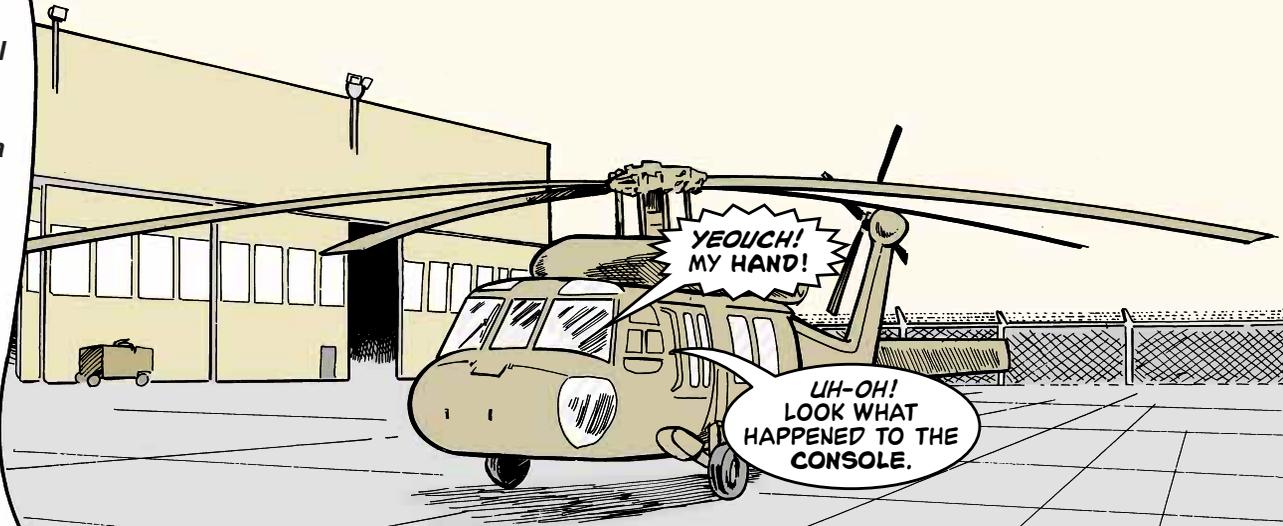
There are dozens of dzus fasteners on aircraft radio and breaker consoles and installing them can be a royal pain. It takes two people about 10 minutes to install each fastener and requires a punch and block set.

To install a fastener with a punch and block requires a hammer. One erratic swing in a cockpit and you've got major damage.

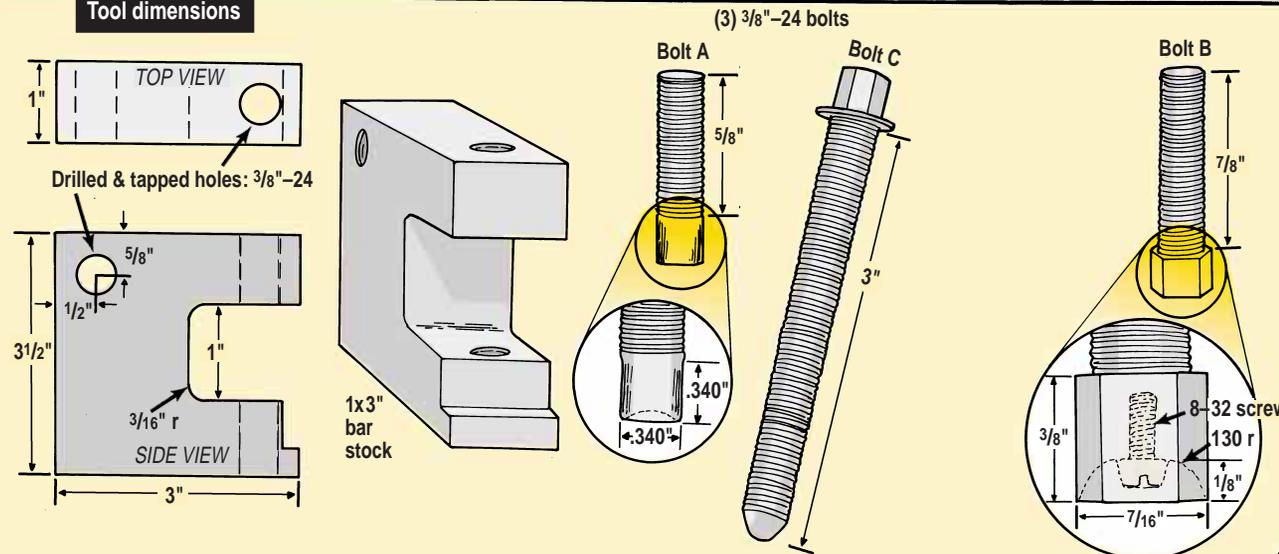
I made a tool that installs the fasteners without a punch and block set. With the tool, one man can install a fastener and eliminate the risk of hammer damage.

The tool is machined from steel bar stock and uses three 3/8-in bolts. It takes a few hours to make, but the benefits in time saved and equipment protected are well worth it.

Robert L. Espeland
AASF
Aurora, CO



Tool dimensions



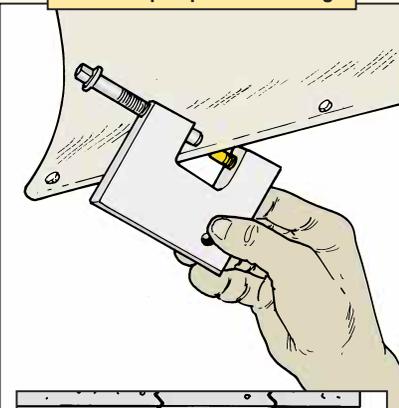
FROM THE DESK OF THE Editor

Thanks, Bob. Mechanics, this tool looks like a real winner.

One note: The drawing shows the bottom leg of the tool with a section cut away. This is done so that the tool can be used on all aircraft and in all situations. A tool without this cut in some situations has clearance problems. The depth of the cut is up to you based on the aircraft you're working on and how much clearance is needed.

Check out the following pages to see just how the tool is used.

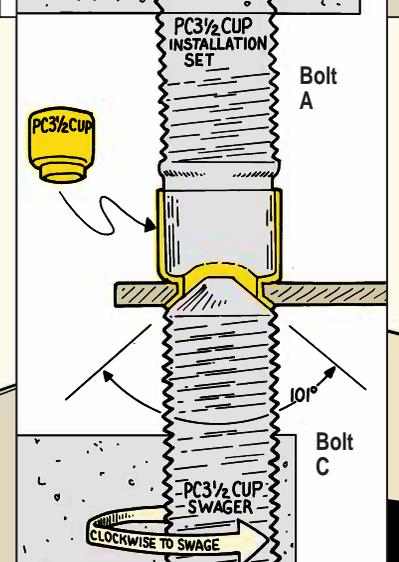
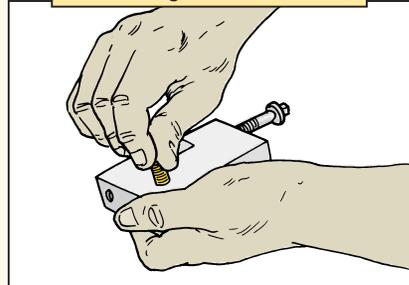
1: Set cup in place and swage



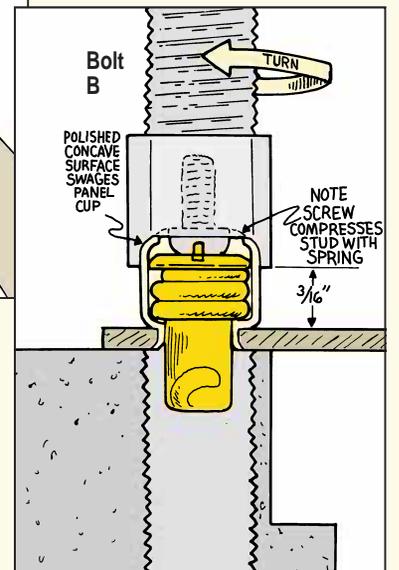
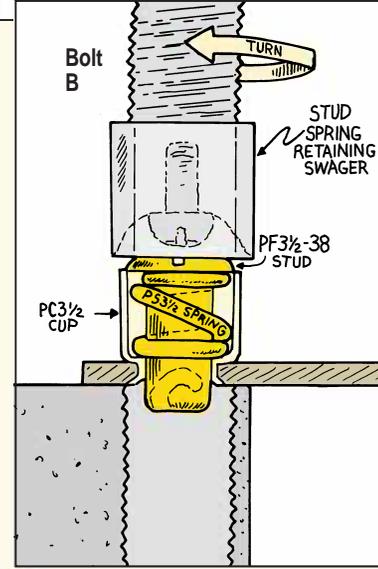
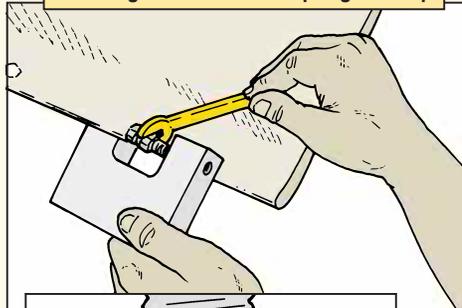
Cup installed



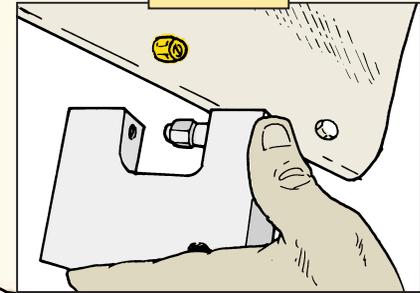
2: Disengage tool, remove bolt C and change bolt A to bolt B



3: Swage dzus stud and spring into cup



4: Finished!



THIS LI'L GEM WILL PREVENT MASHED HANDS AND SMASHED COMPONENTS.

HEY—HERE'S A TOOL THAT MAKES THE JOB EASY.

NOW HE TELLS ME!

QUICKER WARNING LIGHT

Dear Editor,

The Avenger's control display terminal is supposed to be set at 2100 for the minimum watt hours. That kicks on the battery warning light when there's 72 percent battery power left and tells the crew to start the truck and recharge the Avenger's batteries.

But sometimes that's not enough warning, especially if we're operating remotely. Before the operator knows it, he has a powerless Avenger.

We set the minimum watt hours at 2404 instead. That kicks on the warning light when 80 percent battery power remains and gives the operator an extra half hour to recharge the batteries. See Para 4-9c in TM 9-1440-433-24-1 for instructions on changing the minimum watt hours.

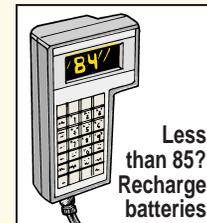
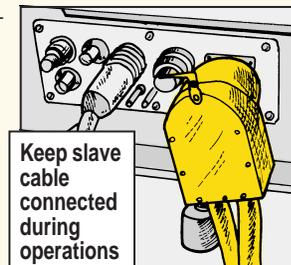
SFC Jeff Miller
C Co, 1/62 ADA
Ft Lewis, WA

FROM THE DESK OF THE Editor 

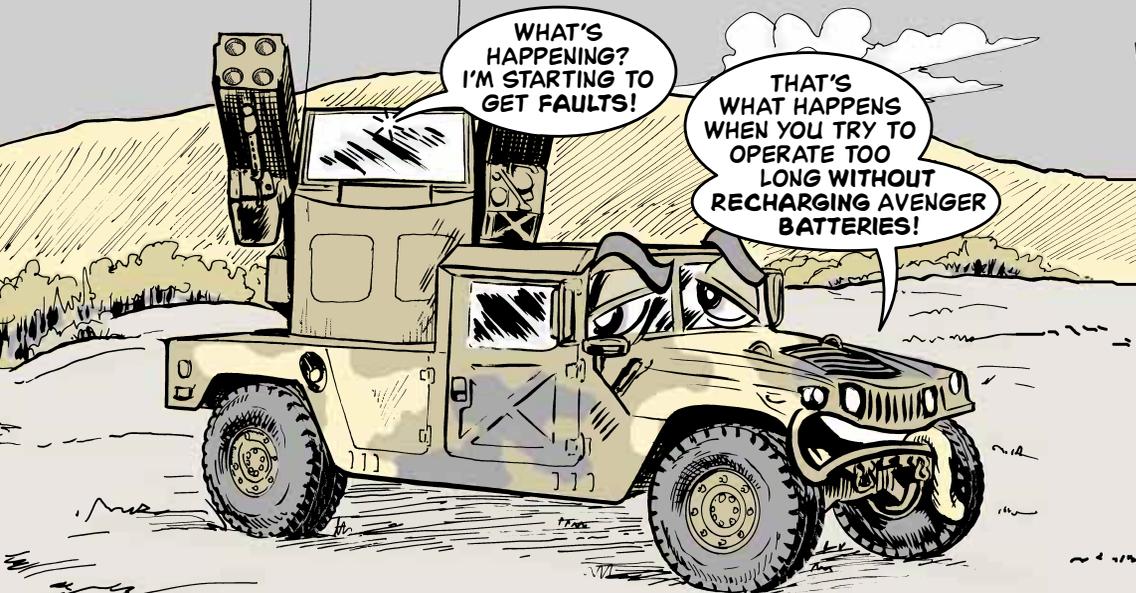
Thanks for the tip. The next change to TM 9-1440-433-24-1 will say in Para 4-9.c to set the minimum watt hours at 2350.

But, remember, crews, that the Avenger should always be run with the slave cable connected. Also, whenever possible, it should be operated with the engine running so the batteries aren't drained and to prevent false errors and fault indications. Operating with the engine running also makes it unnecessary to power down the Avenger to start the HMMWV.

When it is necessary to operate with the engine off, such as during remote operations or simulating battle conditions, gunners should keep an eye on the battery indicator and recharge the batteries when there's less than 85 percent charge.



Less than 85? Recharge batteries



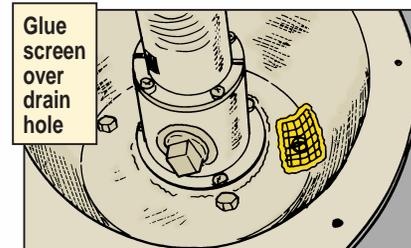
Slip Ring Help

Dear Editor,

We had a problem with loose screws falling into the drain hole in the Avenger's slip ring during maintenance. When the Avenger was traversed, a screw would tear up the slip ring and the cables running to it.

We stopped screws from getting into the slip ring by cutting a 3 x 3-in piece of window screen and gluing it over the drain hole. Silicone adhesive is good for the gluing. Water can still go through the drain hole, but screws can't.

CW2 Richard L. Gale
C Btry, 2/6 ADA
Ft Bliss, TX



FROM THE DESK OF THE Editor 

I think you've got the slip on that slip ring problem. Good job.

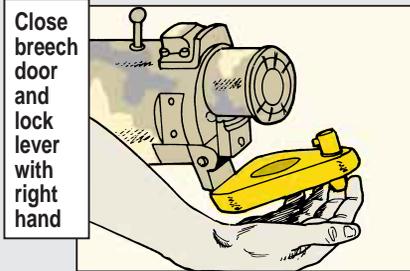
VIPERS CAN BITE

Even during simulated firing Vipers can bite, as several soldiers have found out.

The anti-tank weapon's effect signature simulator (ATWESS) recreates the backblast of a real Viper to the tune of 2,000°F. *That will cook you!*

Here are some ways to keep from being bitten by your Viper:

- ★ Do not load the ATWESS with a cartridge until you're ready to fire.
- ★ When loading an ATWESS, stand to the right rear of the launcher, facing away from the target. Close the breech door and move the breech lock lever to the closed position with your right hand.



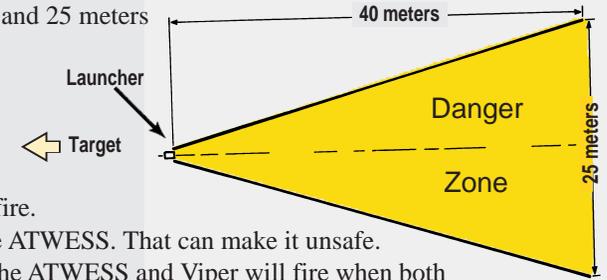
★ Do not stand behind the launcher when you're moving the SAFE/ARM lever. Make sure the backblast danger zone (40 meters long and 25 meters wide) is clear.

★ Handle the Viper carefully when the ATWESS is loaded and armed. A hard jolt could cause it to fire.

★ Do not modify the ATWESS. That can make it unsafe.

★ Remember, both the ATWESS and Viper will fire when both trigger buttons are pressed.

For further info, see TM 9-1265-368-10-3, which covers the multiple integrated laser engagement system (MILES) for Viper.



Extract This, Armorers

Armorers, most of your M249 machine gun extractor problems can be solved with a few inexpensive parts and a little PM.

Replace worn-out extractor parts with a parts kit, NSN 1005-01-383-0168, every three years or 20,000 rounds (including blanks).

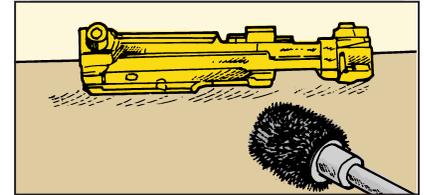


Extract This, Armorers

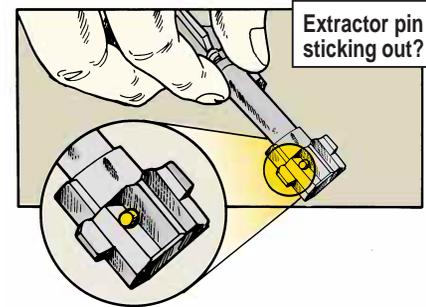
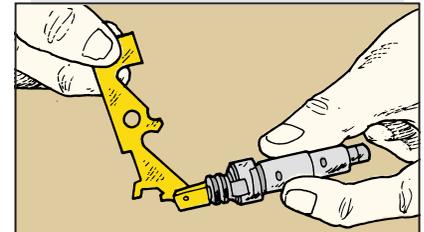
Pages 2-22.1 through 2-25 in TM 9-1005-201-23&P tell you how. If you fire your M249s frequently, order several parts kits. You'll need them.

Check bolts to see if the extractor pins are sticking out. If you find any, replace the extractor, extractor pin, extractor spring, and guide pin. Any time you disassemble a bolt, replace these parts to prevent problems later.

2. Check the chamber, bolt, and slide assembly for carbon buildup. Clean them if necessary with a chamber brush and CLP. Wipe them dry to prevent more carbon.

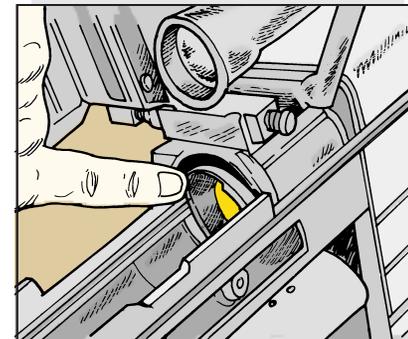


3. Look for carbon in the gas cylinder and gas regulator. Clean out any with a scraper.

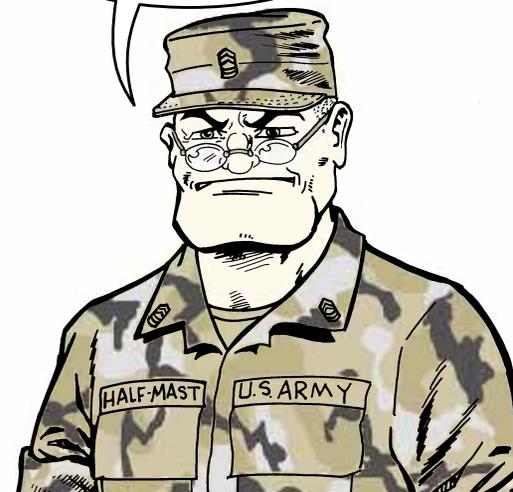


Train your gunners to handle extracting problems in the field with these troubleshooting steps:

1. Look for a stuck cartridge case in the chamber. Remove a case with a cleaning rod.



IF THESE THREE STEPS FAIL TO CURE POOR EXTRACTING, THE EXTRACTOR NEEDS TO BE REPLACED.



Water's a Pain, Unless You Drain

Moisture can sneak up on your AS-1729 antenna's MX-6707 matching unit and put it out of commission before you know it.

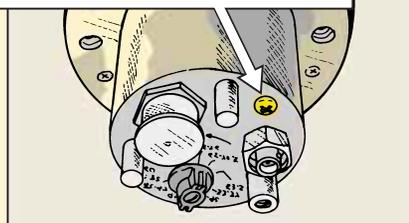
Here's how to win the war on moisture:

The matching unit stays out in all kinds of weather while other antenna parts are indoors, so it needs extra protection, like this:

* Take out the drain screw at least quarterly to let out the water. Drain it more often in wet weather or high humidity.

To make sure all the water drains, stick a hollow swizzle stick, coffee stirrer or sleeving, such as NSN 5970-00-729-2969, in the drain hole to release the vacuum.

Remove drain screw to let water out



After the unit's dry, put back the drain screw.

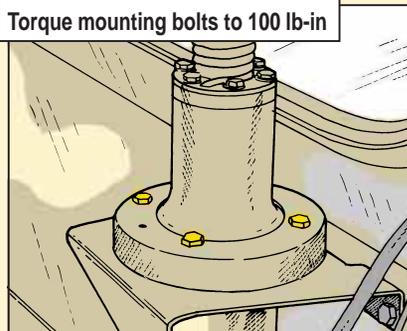
* **Never** clean the MX-6707 with a high pressure hose. Likewise, watch your aim when you clean the rest of your vehicle. To clean the MX-6707, use a damp cloth.

* Make sure the steel reinforcing ring, NSN 5985-01-012-5425, is in place. It keeps water from getting into the matching unit.

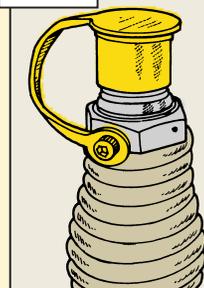


* Torque the mounting bolts to 100 lb-in. Overtightening cracks the plastic cover and lets in water.

Torque mounting bolts to 100 lb-in



Cover protects contact



* Whenever you remove the antenna, put a cap on the matching unit. Get the cap with NSN 5985-01-135-2307.

To put on or take off the cap, gently rock it in line with the tang. Twisting it breaks the cap's strap. Then the cap disappears.

If you don't have a cap, try one of these fixes until you can get one:

* Use an M203 grenade protective cup. Attach the cup to the matching unit with some rope, such as an extra piece of antenna tiedown rope.

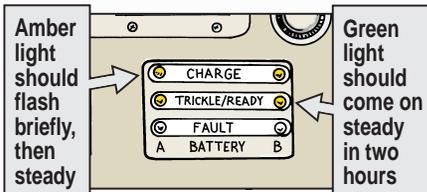
* Use an aerosol can cap. Fasten the cap to the matching unit with a thin piece of wire.

* In a pinch, use masking tape. But, don't forget to get all the sticky stuff off before you put the antenna back on. Use an eraser to wipe off the sticky residue.

Amber to Green and No In-between



When battery chargers PP-8444A/U, NSN 6130-01-443-0970, and PP-8444/U, NSN 6130-01-427-9604, are turned on with an adapter connected and loaded with two batteries, the amber indicator light should flash briefly and then glow steadily. It should remain lit until the charge is completed and the green indicator light comes on in approximately two hours.



If the amber light flashes while charging, you have a bad battery or a bad adapter.

Check the batteries first. Touch them. They should be warm, not hot. If one is hot, remove it from the adapter and let it cool. Note the port location on the adapter.



After the battery cools, try another charge cycle with the battery in a known good adapter. If it overheats again, dispose of the battery like your SOP says.

To check the port, use a known good battery. Restart the charging cycle. The amber light should flash, then glow steady. If it stays flashing amber at the same port, you have a bad adapter and should order a new one.

Note that BB-390 adapters (J-6358/P), NSN 5940-01-427-9110 serial numbers 400-1370 may require replacement. Questions? Call CECOM at DSN 992-4948, (732) 532-4948 or visit the CECOM website at:

<http://www.monmouth.army.mil/cecom/lrc/lrchq/power/rechargebat.html>

for more info.

If all batteries charge up fine, then the adapter is good.

SHELF LIFE EXTENSIONS

Dear Half-Mast,

I have some lithium batteries with expired shelf lives. They're a Type II shelf-life item. That means their shelf life can be extended after an inspection and a test.

My problem is that no one knows how to perform this inspection and test. So, when the shelf life expires, the batteries are turned in for disposal. That's like throwing money away.

Please help us save these bucks. What are the inspection criteria?

SPC D. S. T.

Dear Specialist D. S. T.,

Before you test, check the Internet.

CECOM often extends the shelf life of lithium batteries based on their own tests of wholesale assets. They publish these extensions at:

<http://lrc1.monmouth.army.mil/internet/batterysl.nsf>

CECOM doesn't test every battery, so units can do their own evaluations and tests following the procedures in SB 11-6, FSC 6135 Primary Battery Supply and Management Data.

Since the publication of SB 11-6, a new test set for the BA-5372 battery has been approved. Information on ordering and using this new test set is on the web at:

<http://www.monmouth.army.mil/cecom/lrc/lrchq/power.html>

If you don't have Internet access and need any of this information,

write CECOM at:

US Army CECOM
ATTN: AMSEL-LC-P-PST
Ft Monmouth, NJ 07703-5601

Or call:

DSN 992-2270
(732) 532-2270

Half-Mast



Send Battery with PLGR



When you send an AN/PSN-11 or AN/PSN-11(V)1 precision lightweight global receiver (PLGR) under warranty to the manufacturer for repair, be sure to include the LS6 lithium storage memory battery, NSN 6135-01-301-8776.

The memory battery preserves fault codes the manufacturer needs in order to diagnose and repair your PLGR.

But, don't send the BA-5800 lithium main power battery, NSN 6665-99-760-9742, in the PLGR. The BA-5800 is hazardous material.

GPS Return Addresses

Cross out the address shown in TM 11-5825-291-13 for returning defective GPS receivers.

DODAAC EZ7415
Rockwell Collins, Inc
ATTN: Rockwell Collins Service Center
(M/F AN/PSN-11 warranty)
855 35th St NE
Cedar Rapids, IA 52402-3613

The new address for returning the AN/ASN-169 and AN/ASN-175 receivers made by Trimble is:

Trimble Navigation, Ltd
ATTN: Repair Center (SAGR or CUGR)
2105 Donley Drive
Austin, TX 78758



HOW TO COME CLEAN

Before you clean your commo equipment, you need to bone up on the info in TB 43-0135, Environmentally Safe Substances for Use with Communications-Electronics Equipment.

If you don't have a copy, but have Internet access, use this address to get a copy: <http://p2.monmouth.army.mil> Once at the site, click on P2 Library.

Among other things, the TB will give you:

- A list of ozone-depleting chemicals and cleaning solvents that are no longer approved for use.
- Environmentally safe replacement solvents that are available in the supply system and through local purchase.
- Descriptions and characteristics of approved solvents.
- Guidelines for cleaning commo gear.
- Cleaning solvent and protective equipment WARNING statements.

Installation Kits . . .

LINs Are Dropped

Let's face it. Keeping the unit property book can be a big pain in the neck.

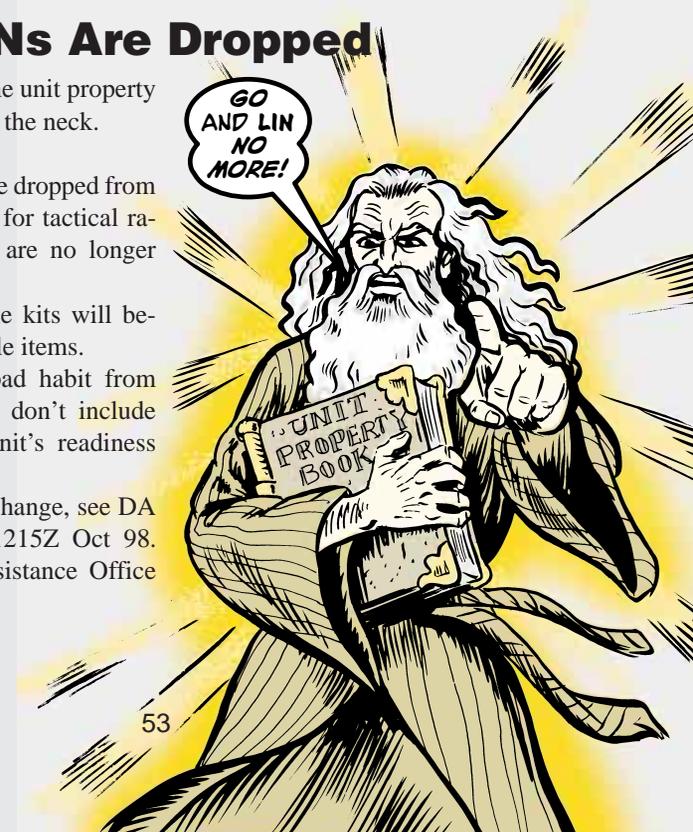
But it just got easier.

As of Jun 99, LINs were dropped from all radio installation kits for tactical radio systems. These kits are no longer property book items.

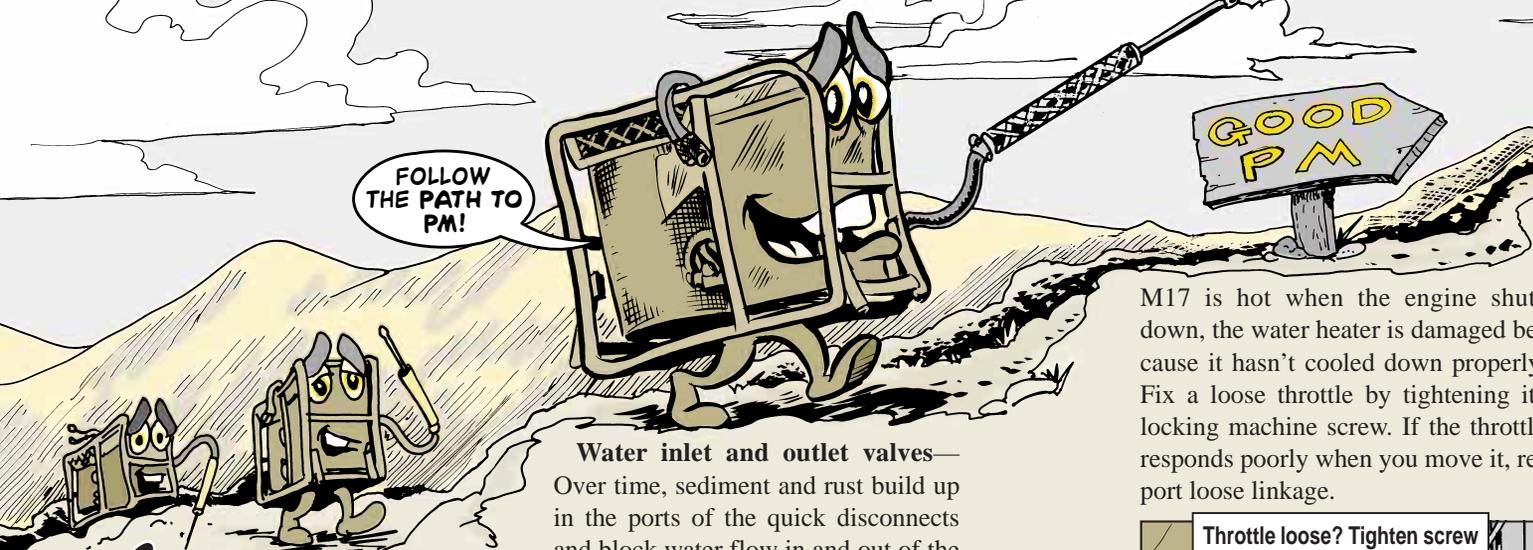
In September 1999, the kits will become Class IX expendable items.

So drop 'em like a bad habit from your property book and don't include them as part of your unit's readiness reports.

For more info on this change, see DA MSG DAMO-FDC, 191215Z Oct 98. Your local Logistics Assistance Office will have a copy.

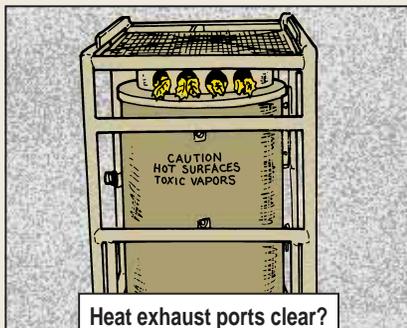


Follow the Path to Good Deconning



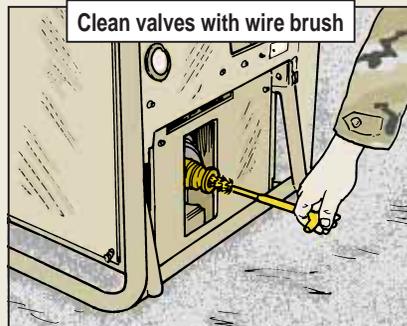
a few quick checks of your M17 before you operate are the first steps on the path to good deconning.

Heat exhaust ports—Are ports clear of leaves and dirt? If the ports are clogged, you have a fire hazard. Even if the ports are clear, stand away from them when starting the heater. Flames can shoot out of the ports.



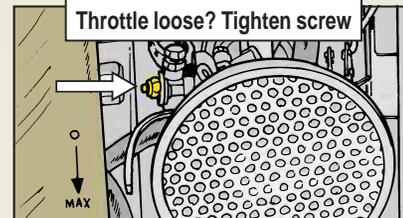
Heat exhaust ports clear?

Water inlet and outlet valves—Over time, sediment and rust build up in the ports of the quick disconnects and block water flow in and out of the M17. That strains the water pump and eventually kills it. Run your wire brush through the ports to break up the sediment and flush out the system with clean water.

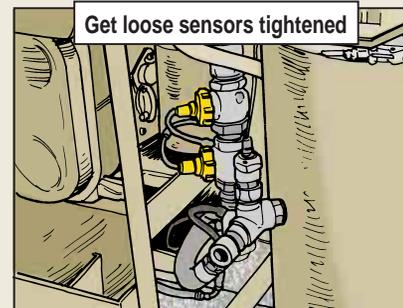


Throttle—Feel it for play and move it up and down to see if the linkage is working. If the throttle is loose, it can vibrate to OFF during operation. If the

M17 is hot when the engine shuts down, the water heater is damaged because it hasn't cooled down properly. Fix a loose throttle by tightening its locking machine screw. If the throttle responds poorly when you move it, report loose linkage.



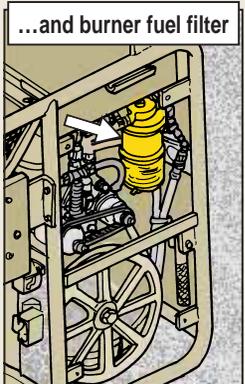
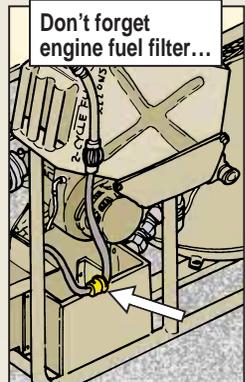
Temperature sensors—If they're loose, steam and hot water can pour out of their connections and burn you. Have DS tighten them if they're loose.



Filters—The fuel and water lines, engine, and burner all have filters. If they're dirty, they clog and your M17 has trouble drawing fuel or water.

If dirt has accumulated in the burner filter, drain it out. Clean the fuel can filter with your fingers or a toothbrush.

Get the engine fuel filter replaced if it's clogged. Clean the water suction hose and branch hose filter with your wire brush.



It's All Teamwork

WE'RE A TEAM!

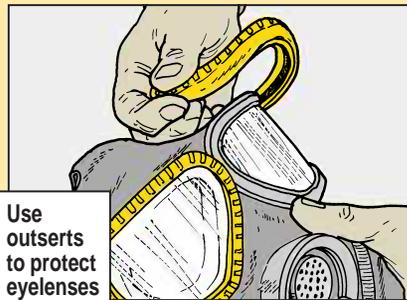
YEAH, LET'S WORK TOGETHER TO KEEP EACH OTHER HEALTHY.



If your M42 mask is going to keep you in good health, it needs to stay healthy, too. Follow this prescription for its good health:

Take off the carrier before you climb through a tank hatch and hand it out. It's tough to wiggle through if you're wearing the carrier. You'll probably bang the mask against the side of the hatch. That can break stuff like the eyelenses or drink tube. If you're having trouble seeing through the tank

sights, take off the mask outserts. That lets you get your eye closer to the sight. But remember to put the outserts back on when you're finished sighting.



The outserts do an excellent job of protecting the eyelenses. If the outserts are scratched, they can be cheaply replaced. If the eyelenses are scratched, you're buying a new facepiece.



Testing the Tester

If the sampler for the chemical agent monitor (CAM) is not doing its job, it can mislead you about your cam's performance. But it's difficult to tell when the sampler should be replaced, since it doesn't have an expiration date.

Here's how to tell for sure:

If the sampler doesn't produce a reading on the CAM, try a known good sampler from another CAM kit. No reading? The CAM's the problem. If you do get a reading, it's time for a new sampler.

If you get no reading, try another sampler



The H (blister) end of the sampler has a wintergreen scent. If you can smell it, it's good. The G end, though, has no smell. You can check it out only with the known good sampler.

If you smell wintergreen, it's still good



Normally, a sampler should last at least 10 years.

Paddles and Mod Kits

Defective M273 maintenance kits for the M8A1 alarm are in the supply system. The kits contain test paddles that won't set off the M43A1 detector. The defective kits have lot numbers of TG 198E102L001 and TG 198F102L001.

If you find any in your unit, NBC NCOs, discard the test paddles, but keep the 10 air filter paddles. Any unit that got a bad M273 kit will automatically receive 10 new test paddles, but not filter paddles.

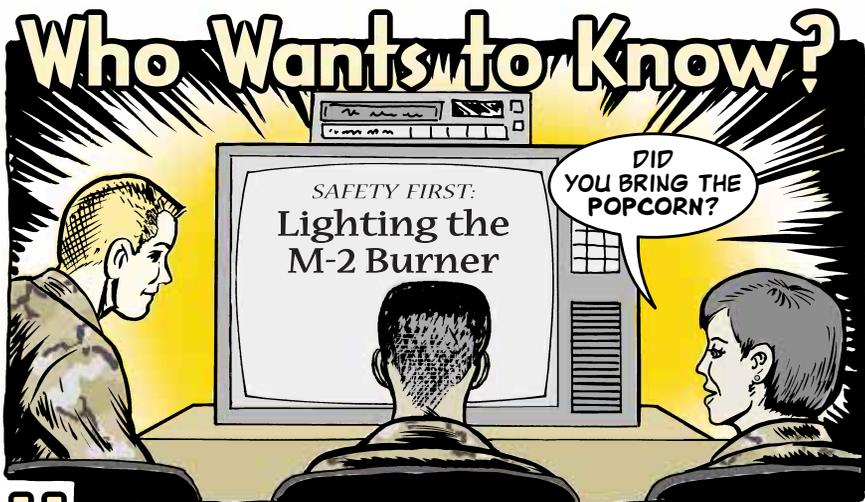
Mod Kits

Free M8A1 modification kits are available that add tethers to tie the rain shield and flowmeter to the M43A1 and a jumper wire that lets you silence the M43A1 horn. You can install the tethers. But your support will need to install the jumper wire. Instructions come with the kit. To receive a kit, contact Rebecca Morse at DSN 793-4773, (309) 782-4773, or e-mail:

morser@ria.army.mil



DON'T GET CAUGHT UP A CREEK WITHOUT A PADDLE.



Have to give a class? No time for formal training? Check out the video store of the military world, the Defense Automated Visual Information System/Defense Instructional Technology Information System (DAVIS/DITIS).

Go to their web site:
<http://dodimagery.afis.osd.mil/>

then clicking on [Search DAVIS/DITIS](#). You can find a wide selection of audiovisual and interactive multimedia instruction productions. And the price is right—free.

See what's available for your unit's training needs, and order it right on the web. There is no hard copy catalog.

You can search for videos on any type of equipment, from air conditioners to wheeled vehicles. Tapes will be sent to your military address and you can usually keep them indefinitely.

All DOD customers can also order by e-mail, fax, web-link, or snail mail. Here's how:

E-mail: vibuddy@ptd.net
 Fax: DSN 795-6106, (717) 895-6106
 Mail: Joint Visual Information Services
 Distribution Activity
 Warehouse 3/Bay 3
 11 Hap Arnold Blvd
 Tobyhanna, PA 18466-5102

Include your name, full military mailing address, the title and PIN number of the film, format (VHS, for example) and the quantity of films you need. APO addresses must include their unit/box number, CMR box number, or PSC/box number.

For information—but not orders—call:

	DSN	Commercial
Army	795-7937	(717) 895-7937
	795-7827	(717) 895-7827
Navy, Marines	795-7772	(717) 895-7772
Air Force	795-6543	(717) 895-6543
DOD	795-7937	(717) 895-7937

Keep Feet Cool in Hot Weather

Take care of your hot weather boots and your feet will stay cool in the hottest weather. Here's how:

Keep boots clean. Brush off mud and dust after every outing. Clean the screened vents to open the way for cooling air.

Prevent leather from getting hard and cracking by polishing it often. Use shoe polish containing silicone.

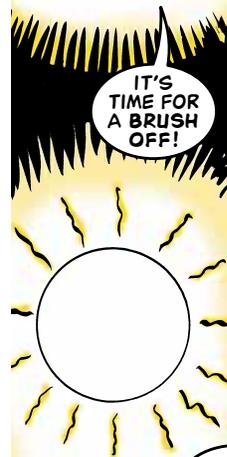
Once a week or so, wipe the inside of the boot with a moist, soapy rag. Let the inside of the boot dry completely.

If they get wet, dry boots and insoles in the sun. Don't put them near intense heat. Heat destroys nylon, leather and plastic.

The boots come with a molded cushion insole. When selecting your boots, be sure to allow room for the insoles, and the swelling that your feet will do in hot weather. A rule of thumb is to get shoes that are a half-size larger than your usual footwear.

Carry extra socks, and change them often. If you don't have extra socks, try to stop once a day and take the boots off to let your feet dry.

For safety's sake, take a careful look inside the boots before you put them on. Spiders, scorpions, and even snakes have been found lurking there. Don't start your day with a sting or a bite.



Remember Fire Extinguishers



A fire extinguisher can save your bacon if problems come up when you refuel, light, or use your M2/M2A-series burners.

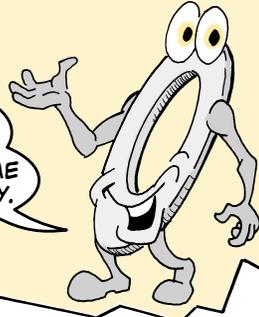
So, make sure there are enough extinguishers on hand when you go to the field. You'll need at least three extinguishers—one at the fuel site, one at the burner lighting point, and a third for the field kitchen trailer.

Use NSN 4210-00-270-4512 to order extinguishers. That'll get you the 5-lb carbon dioxide model from the basic issue item list in TM 10-7360-204-13&P.

Immersion Heater Plug

If the fuel tank of your immersion heater springs a leak at the filler plug, you have to order the entire plug assembly, NSN 4730-00-555-8527, to fix it. The gasket is not stocked separately, despite what TM 5-4540-202-12&P says.

SORRY, FOLKS. I DON'T COME SEPARATELY.



Army Correspondence Courses

Information on the Army Correspondence Course Program (ACCP) is now on the Internet. You can access the ACCP web site at:

<http://155.217.35.238/accp/aipd.htm>

In addition to program information, you can also link to the DA Pam 351-20 course catalog, check your course data, update your student information, and even complete examinations on-line.



New Antifreeze NSNs

The antifreeze NSNs shown in operator TM expendable supply lists for most vehicles show up on FED LOG as terminal items. For 1-gal containers, NSN 6850-01-441-3218 is replacing NSN 6850-00-181-7929. The new 5-gal container is NSN 6850-01-441-3221. It replaces NSN 6850-00-181-7933.

Heater Blower Motor

The heater blower motor for most heaters used in M939-series and M809-series 5-ton trucks is NSN 6105-00-512-9225. The motor fits heaters made by Hunter Manufacturing Co.

SEE Dust Boot

NSN 9390-01-244-4892 gets the dust boot for the small emplacement excavator's master brake cylinder. The boot is missing from Fig 147 of TM 5-2420-224-24P.

New Mechanic's Tool Kit

A new mechanic's tool kit, NSN 5180-01-454-3787, is now available. The new kit has lifetime warranties for all its tools, weighs less than 80 pounds, and has storage cutouts for its tools so it can be inventoried in less than 15 minutes. It costs \$1,500 and is covered by SC 5180-95-B47. If you have questions about the kit, call (309) 782-1709, DSN 793-1709, or e-mail:

heritaged@ria.army.mil

Key Rings

Keep keys for the motor pool, security locks, arms rooms and other areas together with steel key rings. Use these NSNs to get what you need:

NSN 5342-	Dia (inches)
01-067-1960	3/4
01-068-7573	1
00-829-6717	1 1/64
00-533-1720	1 1/4

Field Feeding FM

For the basics on field feeding equipment maintenance planning and operations, get a copy of FM 10-23, *Basic Doctrine for Army Field Feeding and Class I Operations Management* (Apr 96). Order the FM with PIN 023687000. To get future changes or revisions, add 110868 to your account. Or you can read the FM on the Army Training and Doctrine website at:

<http://155.217.58.58>

M109-Series Recuperator Pins

The -10 TMs for the M109-series SP howitzer say the guide pins on the recuperator must extend between 1/8 inch and 3/4 inches for your vehicle to be FMC. That's no longer true. ACALA says the new measurement is 1/4 inch to 3/4 inches. Make a note until the TMs are updated.

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?