

Issue 573

PS

August  
2000

# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-573

Approved for  
Public Release;  
Distribution Is  
Unlimited



THE GENERAL'S  
COMING! LET'S GET  
THIS PLACE CLEANED  
UP FAST!

BUT WHAT  
ABOUT THESE  
BRAKES?

AND  
THIS AIR  
LINE?

AND THIS  
FILTER?

THOSE THINGS CAN  
WAIT—YOU PUT UP ALL  
THE TMS, YOU SWEEP THE  
AREA AND YOU PAINT  
THOSE ROCKS.

The General's Coming  
... See Page 27



# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-573, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders.

ISSUE 573 AUGUST 2000



## WHEELED VEHICLES

2

Tire Care Controls Heat	2-3
M1074/M1075 PLS Starting CAUTIONS	4-5
M1070 Tractor Starting CAUTIONS	4-5
Vehicle Lube in the Desert	6
M939A2-Series Truck CTIS Wheel Nipple	7
FMTV Tailgate Rivet Removal	8
M35A3 Truck Wheel Nut Torque	8
350-GPM Fuel Pump Operations	9-11



## COMBAT VEHICLES

12

M1-Series Tank Turret Safety	12-13
M2/M3-Series Bradley Door Seals	14-15
MLRS Suspension Lockout System	16
M113-Series FOV Fuel Filters	17
M88A2 Recovery Vehicle Tank Towing	18
M109-Series Howitzer Linkage Lubing	19
M992-Series Ammo Carrier Linkage Lubing	19
M109A2-A5 Howitzer Bore Evacuator	20-21



## COMBAT ENGINEERING

22

Tire Checks, Pressure	22-23
DEUCE Winch Safety	24-25
DEUCE Idler Wheel Bolt Tightening	26



## AVIATION

35

Approved Cleaning Products	35
UH-1, UH-60 Wiper Converter Lubing	36-37
M260, M261 Launcher Tube Covers	38-39
Helicopter Tire Inflation Cart	39



## MISSILES

40

Avenger Slave Cable	40-41
MLRS W19, W20 Cable Adapters	42
IFTE Storage Shelter Dehumidifier	43



## SMALL ARMS

44

M16-Series Rifle Buttstock	44-46
M4-Series Carbine Carrying Handle	47



## COMMUNICATIONS

48

Small Generator Safety Clip Instructions	48-49
Telephone Cable	50-53



## SOLDIER SUPPORT

54

Modern Burner Unit Cable Check	54-56
Insulated Food Container Parts	57
3,000-Gal Water Storage Tanks	58-59



## LOGISTICS MANAGEMENT

60

Exception Data Request Parts Ordering	60
---------------------------------------	----

## EDITORIAL

1

## CONTINUITY

27

## CONNIE'S POST SCRIPTS

61

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:

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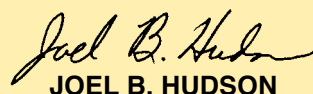
<http://www.logsa.army.mil/psmag/pshome.html>

By Order of the Secretary of the Army:

**ERIC K. SHINSEKI**

General, United States Army Chief of Staff

Official:



**JOEL B. HUDSON**

Administrative Assistant to the Secretary of the Army  
0015802

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# Help Wears Black Hats



When a maintenance or supply problem pops up, you want real help, right now! Did you know that help is as close as your nearest logistics assistance office (LAO)?

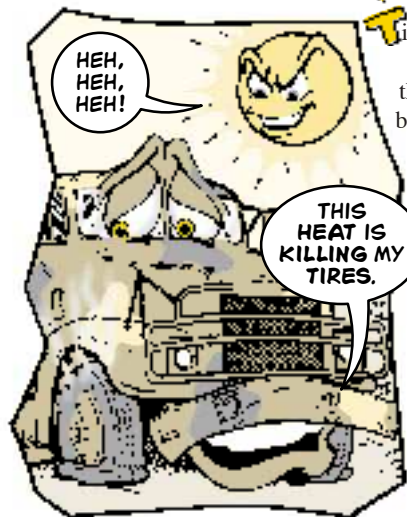
The US Army Materiel Command's LAO Program has logistics assistance representatives (LARs) all over the world. Their job is to help you solve your maintenance and supply problems.

If LARs don't have the answers right at their fingertips, they know where to get them. They have contacts with equipment managers, engineers, repair specialists and pubs folks.

If you don't know where the nearest LAO is located, you can find out at <http://www.logsa.army.mil/directories/maindirc.htm>. There you'll find a list of all the Army's LAOs, complete with addresses, phone numbers and e-mail addresses.

Questions about the LAO program? Call DSN 645-6589, (256) 955-6589, or e-mail: [laohelp@logsa.army.mil](mailto:laohelp@logsa.army.mil)

# Reduce the Heat



Tires suffer a double whammy in the desert.

First, there's the increased heat. Then, there's the terrain. You can't change either, but you can reduce the damage they cause.

Operating under normal conditions, tires get hot as they flex under load. When operating in desert heat, the tires can't cool off, causing them to weaken.

Help save your tires by not overloading the vehicle. Less weight means less wear and damage. Sure, you've got to move a load, but keep in mind the capabilities of your trucks and trailers and their tires.

If you use a lower tire pressure for driving in the desert, drop your speed, too, to reduce tire wear from flexing.

Some operator manuals list lower pressures to give the tires more flotation and traction in sand. Note that this can increase tire wear if vehicle speed is not lowered.

Here's an example for the M939-series trucks:

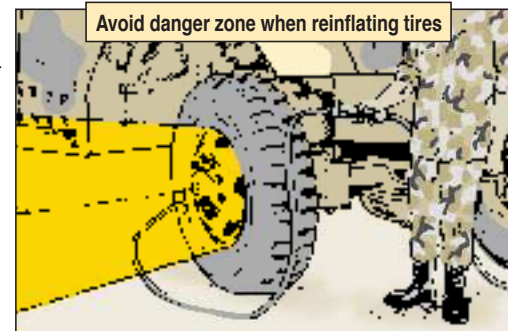
M939A1/A2 series (14.00 x R20)	M923	M925	M927	M928	M929	M930	M931	M932	M934	M936
<b>HIGHWAY</b> - front & rear										
Standard (psi)	60	60	60	60	60	60	60	60	60	80
Metric (kPa)	414	414	414	414	414	414	414	414	414	551
<b>CROSS COUNTRY</b> - front & rear										
Standard (psi)	35	35	35	35	35	35	35	35	35	35
Metric (kPa)	241	241	241	241	241	241	241	241	241	241
<b>MUD, SAND and SNOW</b> - front & rear										
Standard (psi)	25	25	25	25	25	25	25	25	25	25
Metric (kPa)	172	172	172	172	172	172	172	172	172	172
<b>EMERGENCY</b> - front & rear										
Standard (psi)	12	12	12	12	12	12	12	12	12	12
Metric (kPa)	83	83	83	83	83	83	83	83	83	83
<b>ALL MODELS, SPARE</b>	inflate to maximum highway pressure									

Trucks equipped with a central tire inflation system (CTIS) have a setting specifically for operating in sand, so use it.

# to Reduce the Wear

'Course, once you leave the sand you'll need to increase tire pressure for driving on hard surfaces. Again, drivers of CTIS-equipped trucks just need to flip a switch. For everybody else, it's a tougher job—for safety reasons.

If you have to add more than 10–15 pounds to the tires, use the inflator gauge and hose, NSN 4910-00-441-8685, to do the job. That'll put 10 feet of hose between you, the tire and the wheel as you reinflate it. It lets you stay out of the danger zone in case the tire explodes or the wheel flies apart.



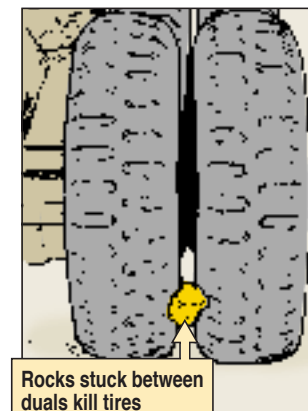
## Avoiding Flats

Try not to run over cactus or brush. Many have spines and thorns that break off in tires—where you can't see them—and work their way through. You'll have more leaks than you know what to do with.

Take it easy in rocky, rough terrain. The sidewalls on radial tires are thinner than bias ply tires and rocks cut them to ribbons. Small emplacement excavators (SEEs) are especially prone to tire damage because they're right out there where the going is rough.

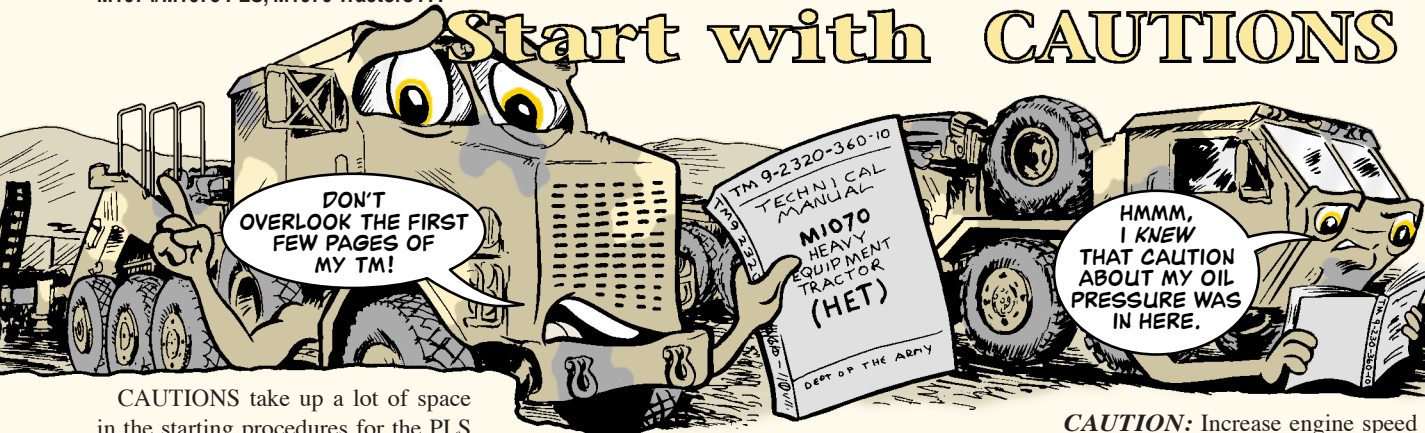
Tubeless tires lose air traveling through rocky terrain when the tire breaks loose from the rim. So check tire pressure more frequently when operating in the desert.

During stops, look for rocks caught between dual tires. Rocks between sidewalls rub holes in the tires.





# Start with CAUTIONS

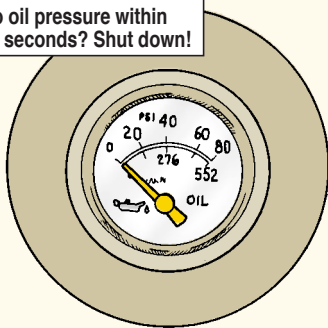


CAUTIONS take up a lot of space in the starting procedures for the PLS in TM 9-2320-364-10 and for the HET in TM 9-2320-360-10.

Some of you need to let a couple of those CAUTIONS sink into the space between your ears. Like these:

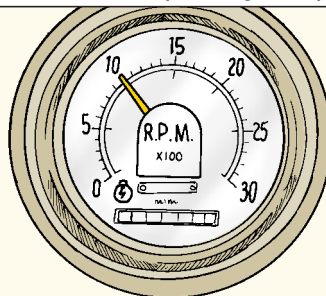
**CAUTION:** If the OIL PRESS gauge does not show engine oil pressure within 10–15 seconds after starting engine, shut down the engine immediately and refer to Trouble shooting Symptoms in Para 3-3 for the PLS and Table 3-1 on Page 3-13 for HET. Lack of lubrication may damage the engine.

No oil pressure within 15 seconds? Shut down!



**CAUTION:** Do not operate the engine above 1,000 rpm during warmup until the OIL PRESS gauge indicates 25–30 psi at 800–1,000 rpm. Lack of lubrication may damage the engine.

No more than 1,000 rpm during warmup

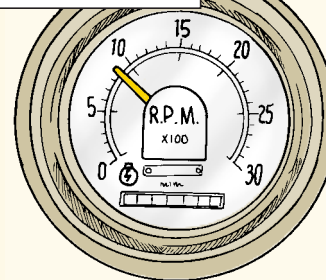


What each CAUTION means is don't jump into the cab of your truck, hit the starter, race the engine to build up air pressure and then tear off on your mission. That tears up engine parts and costs your unit time and money.

When you complete your mission, note the final CAUTION before shut-down:

**CAUTION:** Increase engine speed to 800–1,000 rpm with the transmission in neutral and hold for 3–5 minutes to allow the turbocharger to slow down and cool off. The turbocharger may be damaged if it's not allowed to cool off.

Cool down at 800–1,000 rpm for 3–5 minutes



If you just blow in to the motor pool and shut down without a cooldown, the turbocharger spins to a halt without oil pressure to keep it lubed and cool. Heat and high rpm help to ruin it way before its time.

Pay attention to the CAUTIONs. And have a nice day!

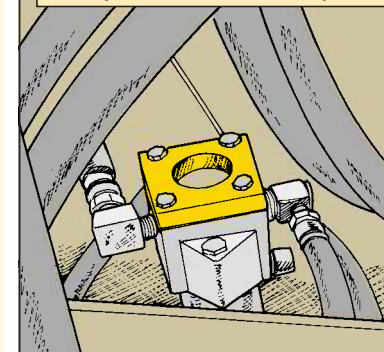
## Move Transfer Pump Spacer

As the temperature climbs toward summer heat, you need to make a spacer change to save transfer oil pumps on your M916, M917, M918, M919 and M920 trucks.

You must move the spacer to its warm-weather position to put the pump back to work as temperatures climb. Otherwise, the oil can't lubricate the transfer, leading to burned-out gears.

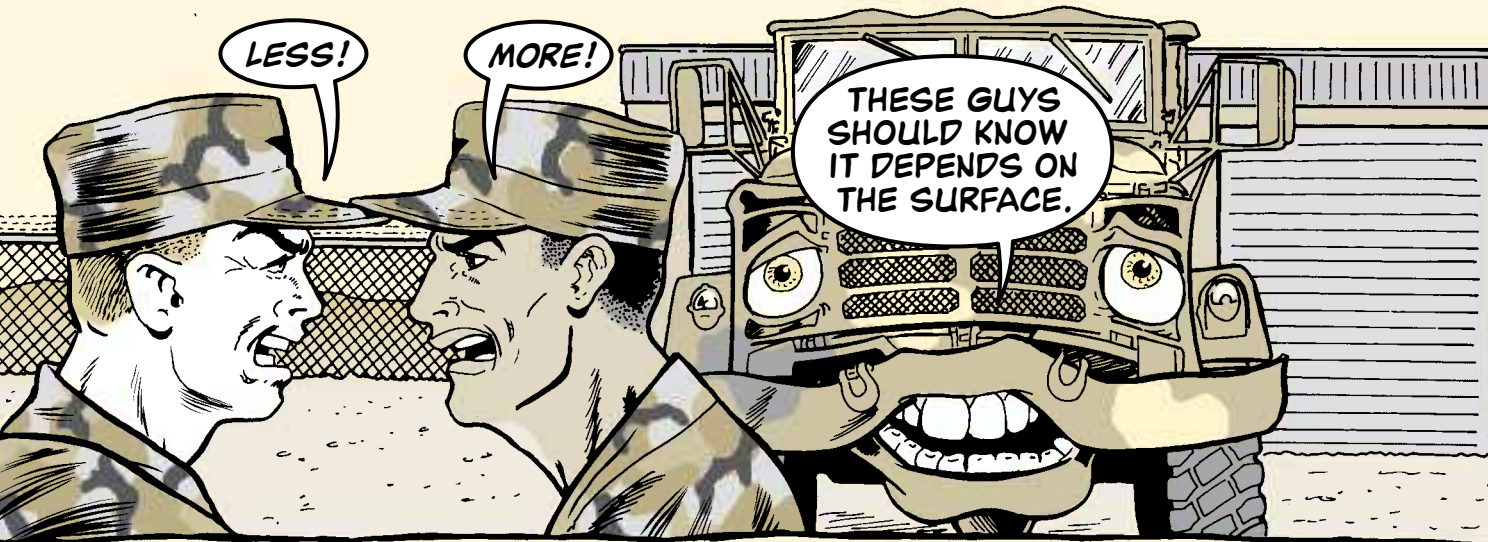
Eyeball Para 7-9 and associated figures of TM 9-2320-273-20 for the details. For warm weather operation, move the spacer from between the pump and the transfer case to its stowed position behind the pump. That engages the pump and lets the oil cool the gears.

Stow spacer for warm weather operation



When temperatures turn cold in the fall, move the spacer back to the cold-weather position by moving it from its stowed position to between the pump and the transfer case. That disengages the pump.

# Desert Lube—More or Less?



**T**o lube more or to lube less in the desert. Which is the correct answer?

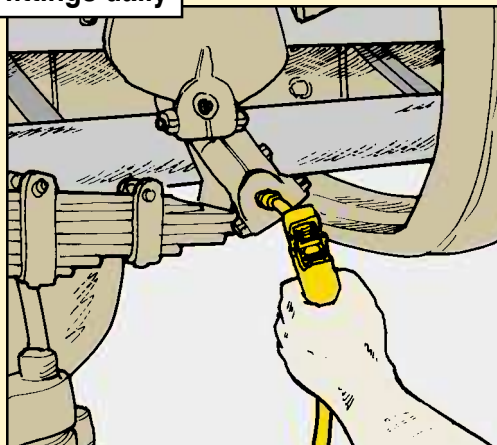
It depends. Don't you just love that answer? But it's true. It depends on whether you're talking about sealed bearings and surfaces or external gears and surfaces.

Here's how to remember what to lube under desert conditions:

- If the component has a lube fitting, grease it every day. Wipe the fitting clean before you pump in grease. That way, grit doesn't get pumped

into the fitting—and into the bearing.

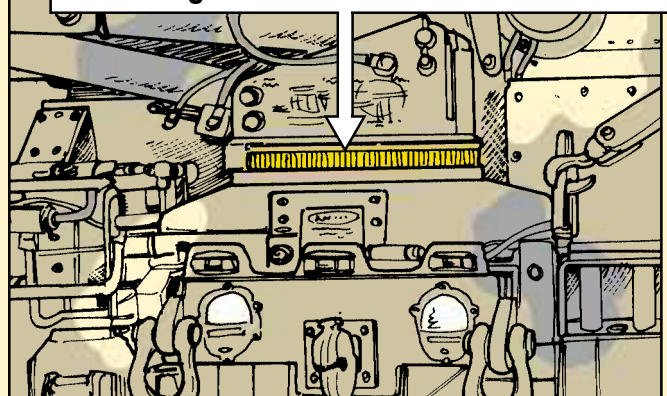
**Grease lube fittings daily**



Pump until you see new grease coming from the seal or relief valve. That gets rid of the old grease and any grit that's inside. Wipe off the excess grease so more grit isn't attracted to moving parts.

- External surfaces and gears should get the least lube necessary to provide free movement. That's because any lube on those surfaces and gears attract grit. The grit and lube act like sandpaper, wearing out seals and gears quickly.

**External gear or surface? Use little or no lube**



Eyeball your lube orders and TMs for any specific references to desert lubrication.

# Replace CTIS Air Valve Nipple

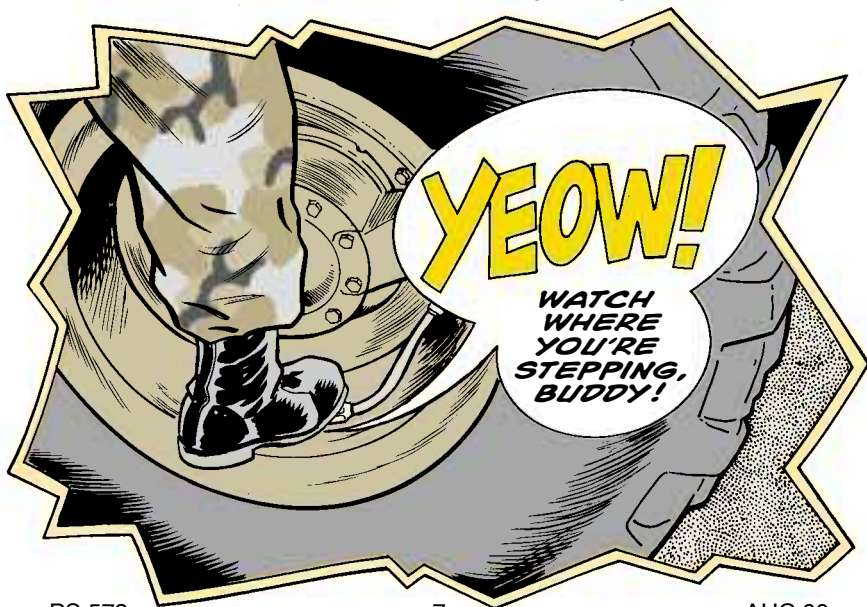
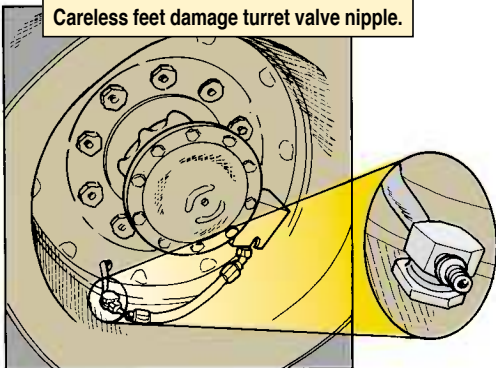
One of the items most often broken in the central tire inflation system on M939A2-series trucks is the nipple on the wheel inflation turret valve.

That's because it's right out in the open where soldiers put their big feet when they climb on board from the side.

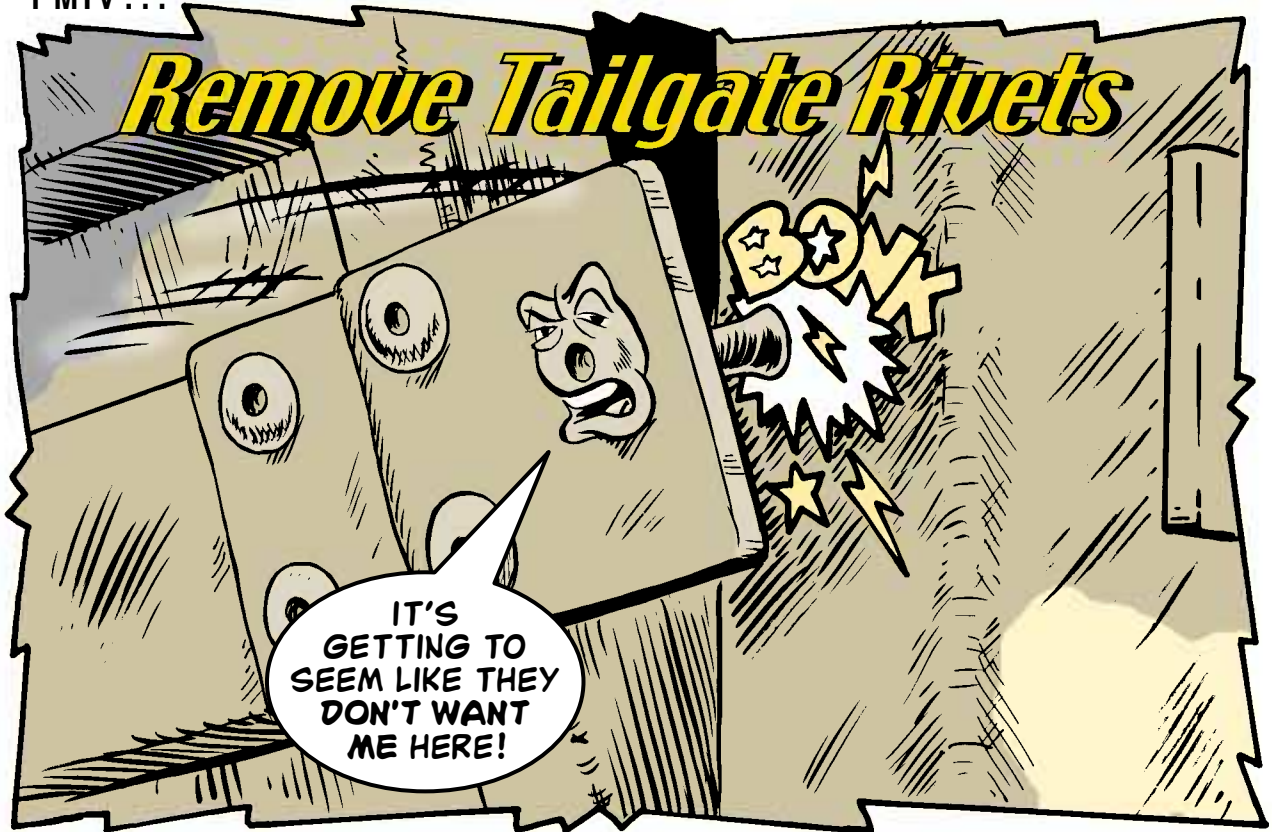
In the past, it was \$12+ to replace the turret valve because the nipple wasn't available as a repair part. Now you can save at least \$10 by ordering the nipple—called a pneumatic tank valve, NSN 4820-01-119-8862.

Now that you've saved some money, help save yourself some repair time by convincing soldiers to climb in from the rear of the truck using the tailgate.

Careless feet damage turret valve nipple.



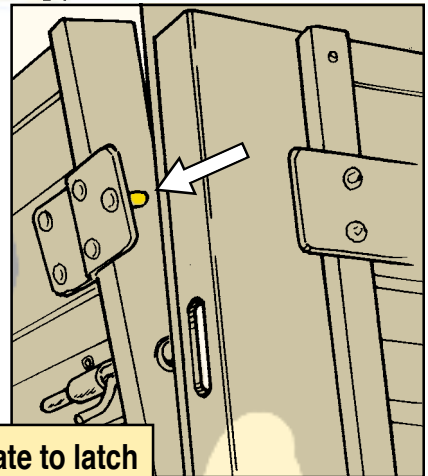




**T**ailgate strike plate rivets have been troublemakers on some FMTVs since the trucks were fielded.

The rivets can keep the tailgate from closing and latching easily—or at all—by butting against the rear canvas bow.

Solve the problem by simply removing the single, stand-alone rivet on each strike plate. Once the rivets are gone, the tailgate should close tighter and latch and lock easier.



**Remove rivet to allow tailgate to latch**

## M35A3 Wheel Torque Talk

**A**ny time you install a wheel on an M35A3 truck, the stud nut torque must be rechecked after 50 miles.

Here's the torque required to hold the wheels:

**Hollow stud ( CTIS ) : 275–300 lb-ft**

**Solid studs: 390–420 lb-ft**

Make a note in your TMs until the next revision or update.



# TANK UP ON PM TIPS

LET'S  
JUST SEE IF  
THERE'S FUEL IN  
THIS PUMP.

DON'T  
TRY TO RUN ME  
TO RECHARGE MY  
BATTERIES UNLESS  
THERE'S FUEL IN  
MY PUMP!

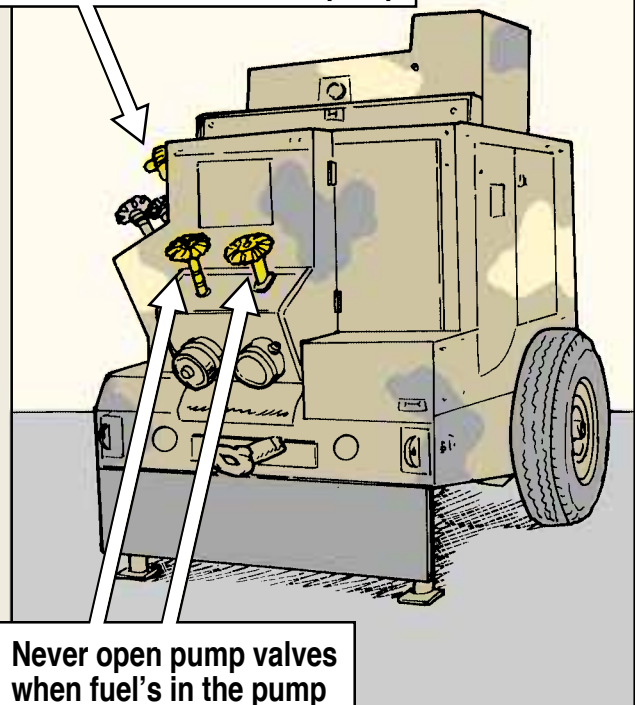
**F**uel handlers, sit a spell and eyeball these preventive maintenance and operation tips for your 350-gpm pumps:

◆ Battery recharging requires running the engine. No problem, except that when the engine runs, the centrifugal pump also turns. The pump must have fuel going through it or it burns up. So make sure the pump is full of fuel before starting the engine.

Para 2-7 of TM 10-4320-324-14 shows how to raise the port cap to check for fuel in the pump without causing a fuel spill.

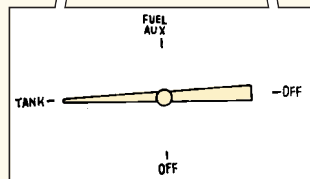
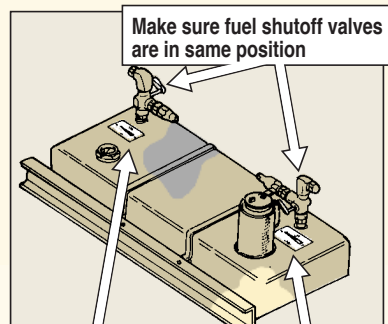
Warn anyone who goes near your pump to never open the pump valves without asking you first. Opening the valves when there's fuel in the pump puts fuel on the ground.

Raise port cap slightly to  
see if there's fuel in the pump



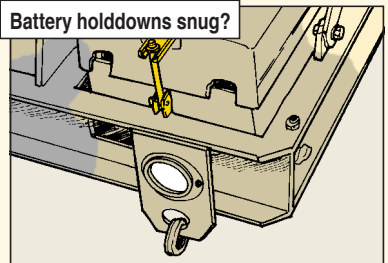
Never open pump valves  
when fuel's in the pump

◆ Set both fuel shutoff valves to the same position—TANK or FUEL AUX—before you try to start the engine. Otherwise, it won't start no matter how long you crank the starter.



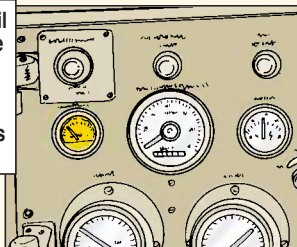
◆ The pump uses a 12-volt starting system. It has two 12-volt batteries connected in parallel. If you use jumper cables to start the pump, hook them up across only one battery in the slaving vehicle and one battery in the pump.

◆ Don't overtighten the battery holdowns. Snug will do. Too tight can crack the battery case.



◆ Don't worry about the engine oil pressure reading until the engine is running. Before you start the engine, the oil pressure gauge may show a reading. Disregard it. The gauge is electronic, and it may show the oil pressure before the engine was last shut down. Then, when you pull out the START/STOP switch to make a start, the gauge will show 0 pressure. The real reading is the one taken when the engine is running.

Check oil pressure gauge only when engine is running

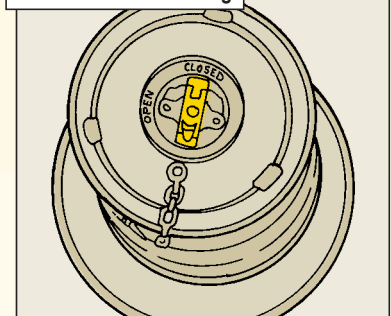


◆ The pump's fuel tank has a vent valve in the cap. During normal operations, set this valve to the OPEN position to release the pressure that builds up in the tank.

For fording or swimming, however, set the valve to the CLOSED position so water cannot get into the fuel.

Eyeball the underside of the fuel cap to make sure the valve is set correctly for your operation. See Para 2-11 of TM 10-4320-324-14 for the details.

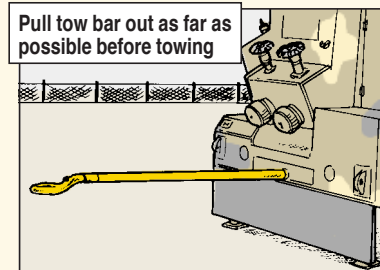
Close valve when fording



◆ Pull the tow bar out as far as possible before towing the pump. You can hook up the bar while it's in the stowed position, but there won't be enough maneuver room between the

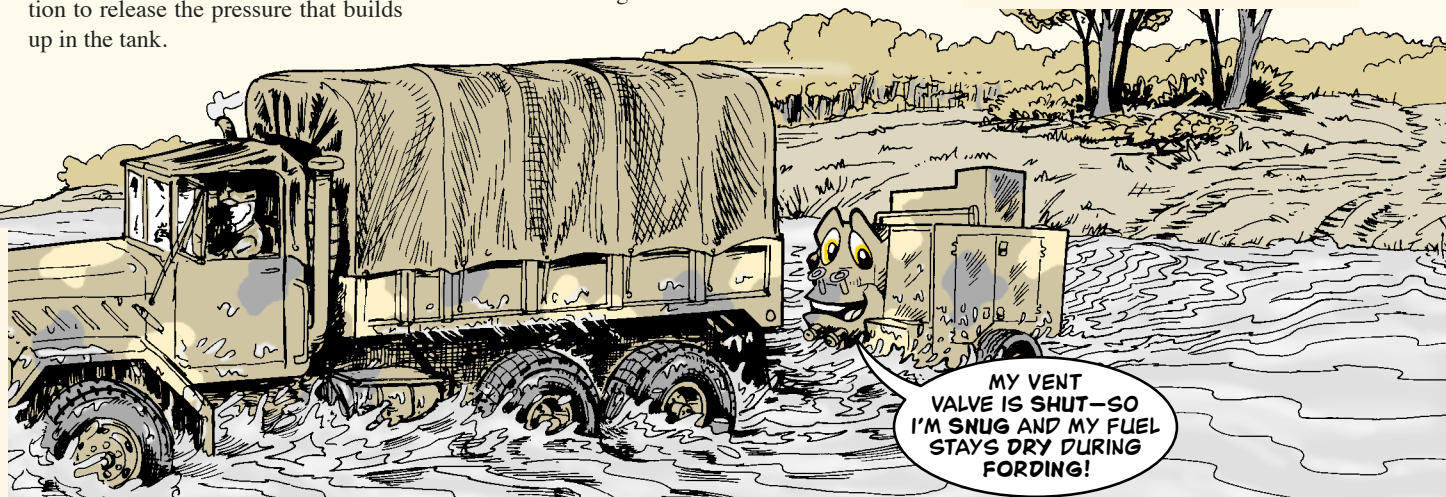
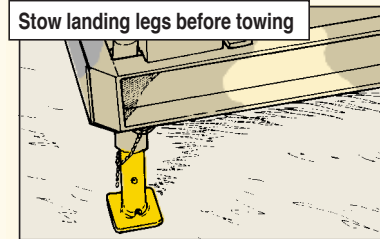
truck and the trailer to prevent equipment damage.

Pull tow bar out as far as possible before towing



◆ Raise all pump landing legs completely before towing. Driving with the legs down can bend the legs or upend the pump.

Stow landing legs before towing



MY VENT VALVE IS SHUT—SO I'M SNUG AND MY FUEL STAYS DRY DURING FORDING!



# Think Safety in the Turret



Just a few seconds. That's all it takes to be killed or seriously injured by the breech while moving around in your tank's turret.

It only takes a few seconds longer to keep yourself safe. Here's how:

- ★ Check all turret safety guards. Missing or improperly installed guards can't protect you when the turret is in operation.

Check the guard pads, too. Guards protect you from serious injury, but you can still get bruised or cut if the pads are worn out. Replacement pads aren't available, so your mechanic will have to install new guards.

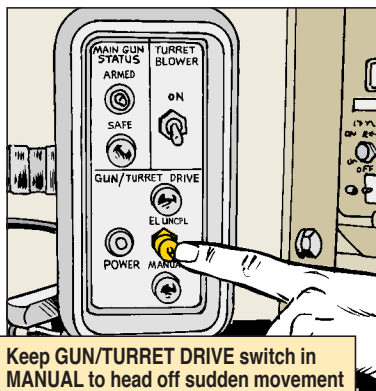
Make sure the intercom system is working and in use whenever the tank turret is traversed. That way, even when you can't see your buddies, you can keep track of them.

- ★ Never reach or lean over the breech—for any reason—during operation. If it moves and you're in the way, you suffer.

- ★ Keep your feet out of the turret

basket when in the loader's or gunner's position.

- ★ If you're a mechanic working on the gun, be sure **all** unnecessary power is off. Keep the turret and gun locked if possible. Use the GUN/TURRET DRIVE switch on the loader's panel. In MANUAL, it prevents sudden movement.



- ★ Alert the crew and make sure all areas around the turret, main gun, and breech are cleared before operation

and before using palm switches. Depressing the palm switches can cause the main gun or turret to move suddenly if **any one** of the following is true:

- The MRS lever is in the IN position.

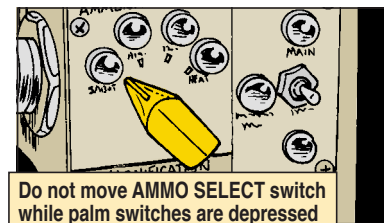
- The GUN/TURRET DRIVE switch on the loader's panel is in the POWERED position and the FIRE CONTROL MODE switch on the gunner's primary sight is in the NORMAL or EMERGENCY position.



- The GUN/TURRET DRIVE switch is moved to or from the EL UNCPL position.

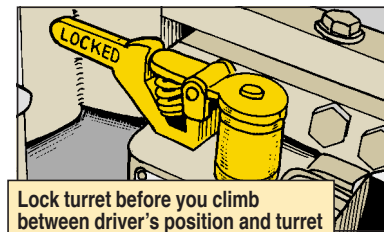
The FIRE CONTROL MODE switch is in the NORMAL or EMERGENCY position and the main gun is over the rear deck and below 0° elevation.

- The AMMO SELECT switch is moved from one ammo position to another.



- The TARGET RANGE switch is changed.

- ★ Never move between the driver's position and the turret unless everyone in the turret knows you are moving **and** you know the turret is locked.



- ★ Keep the driver's hatch closed and latched whenever the turret or gun is unlocked and turret power is ON.

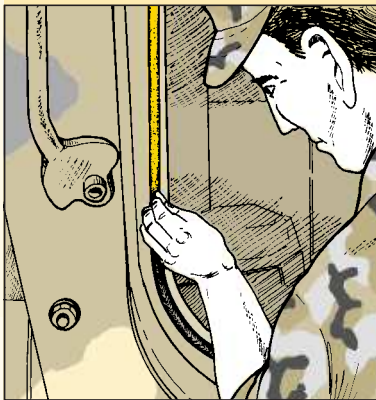
The list of soldiers killed or badly hurt in accidents caused by violating these rules gets longer and longer. To stay off that list, think safety every minute you're in the turret.

# Stay Dry during Fording

Crewmen, your Bradley is no longer allowed to swim, but it can still ford water up to 3½ feet deep. So, if you're going to be fording and want to keep water out of the troop compartment, make sure the ramp and rear door seals are in good condition.

Here's how to check them:

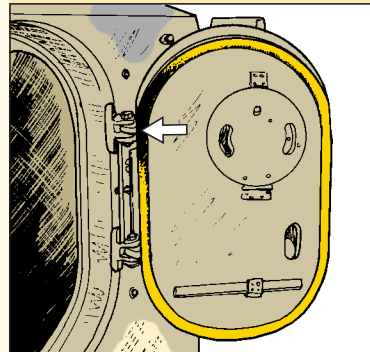
1. Open the ramp door and rub chalk on the inner edge of the door frame. Mark all the way around the frame where the seal seats.



2. Close and latch the ramp door.

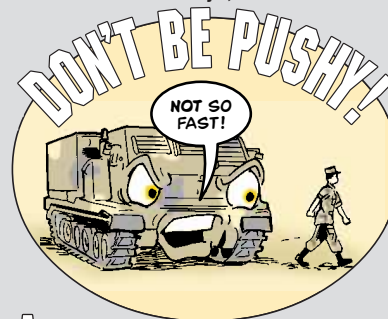


3. Open the ramp door and inspect the seal. If the entire seal is marked with chalk, the door is OK. Unchalked spots mean the seal isn't doing its job. Your mechanic will replace a bad door seal with NSN 5330-01-124-9314.



4. Follow steps 1-3 to check the ramp seal for leaks, too. Mechanics will use NSN 5330-01-125-4269 to replace a bad ramp seal.

Checking the ramp and rear door seals semiannually is the only way to keep your Bradley high and dry the next time you have to ford a stream.

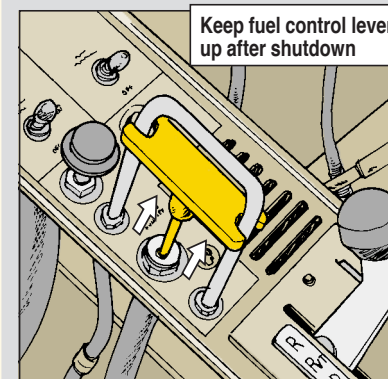


A pushy driver is bad news when it's time to shut down a Bradley or MLRS.

Pushing the fuel control lever down after shutdown—even slightly—lets fuel trickle through the fuel lines into the engine cylinders. The fuel works its way past the piston rings into the crankcase.

Fuel-thinned oil doesn't lube well, so parts wear out quicker. When that happens, the engine is a good candidate for a breakdown.

So leave the fuel control lever pulled **all the way up** after shutdown. That keeps fuel out of the crankcase and where it belongs.





# Quick SLO Solutions

**M**echanics, if you can't get the suspension lockout (SLO) system working on an MLRS, your first stop should be the troubleshooting procedures in TM 9-1450-646-20-1. The task list on Page 3-9 tells you where to find them.

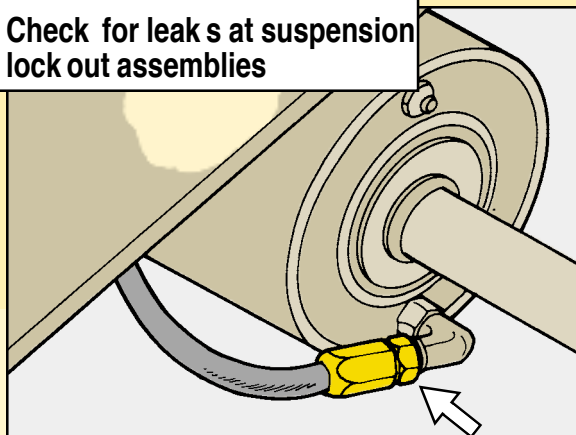
But if troubleshooting leads to a dead end, don't despair. There are two other areas that could be the source of the problem:

## Area 1

The hydraulic lines that attach to the SLO assemblies on the numbers 1, 5 and 6 roadwheel support arms could be leaking.

Get someone to pump the SLO handle while you check each of these

**Check for leaks at suspension lock out assemblies**



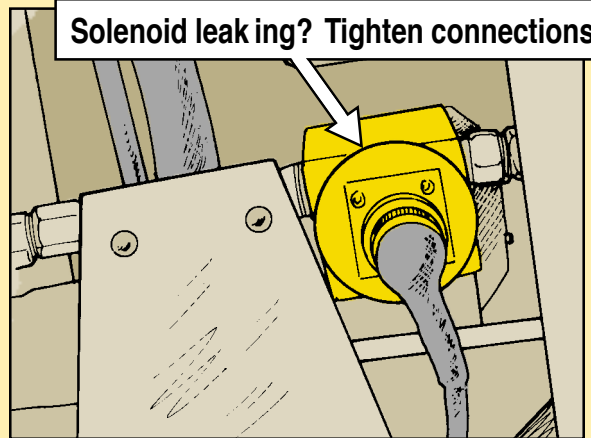
fittings. If you see fluid coming out of any fitting, tighten the connections.

If the leak continues, replace the leaking parts. They're listed in callout E in Fig 28 of TM 9-1450-646-24P.

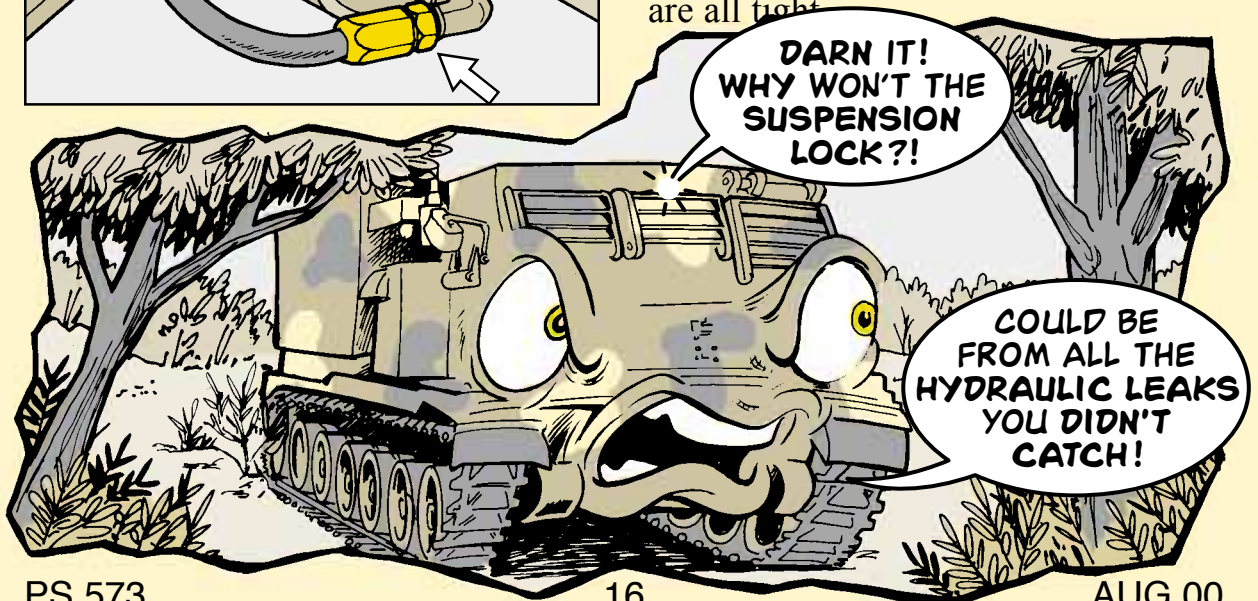
## Area 2

Look for a leaking connection at the solenoid valve, NSN 4810-01-108-5223.

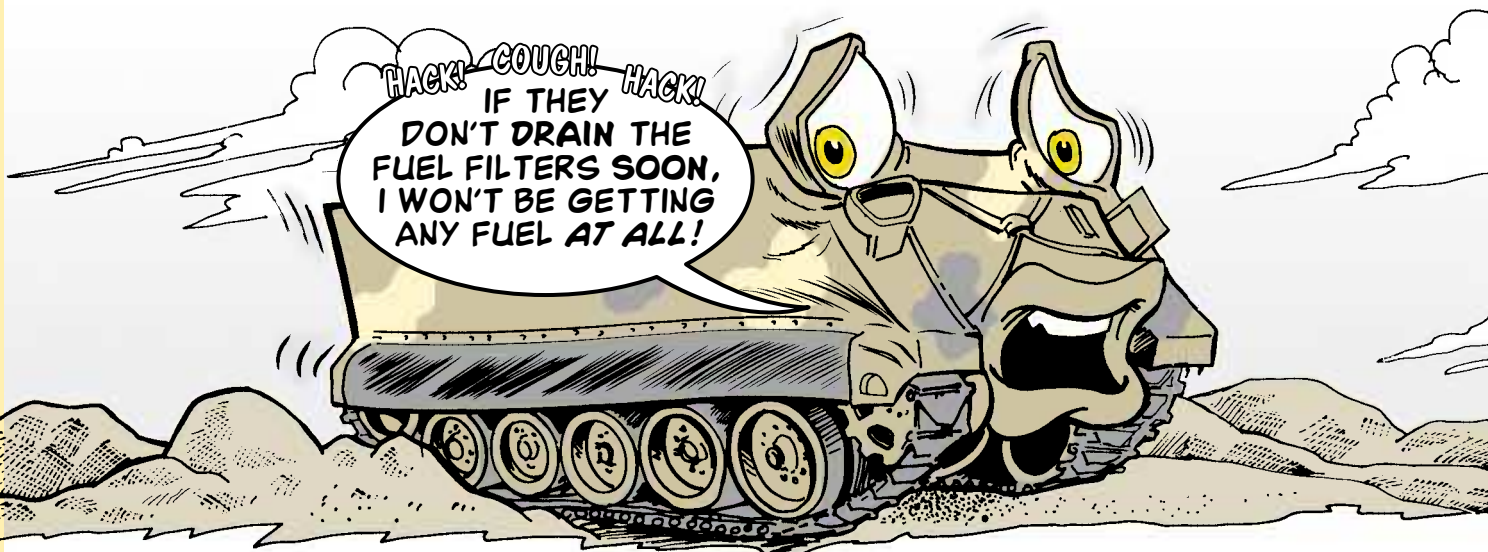
**Solenoid leak ing? Tighten connections**



A leak can limit the pressure at the valve. Without enough pressure to force fluid through the solenoid, the system won't lock the roadwheel support arms. Make sure the connections are all tight.



# Drain Away Fuel Problems



**C**rewmen, draining the primary and secondary fuel filters on your vehicle is required after **every** operation. If you drain 'em only when you feel like it, you've probably set yourself up for a real fuel flow problem that's caused when:

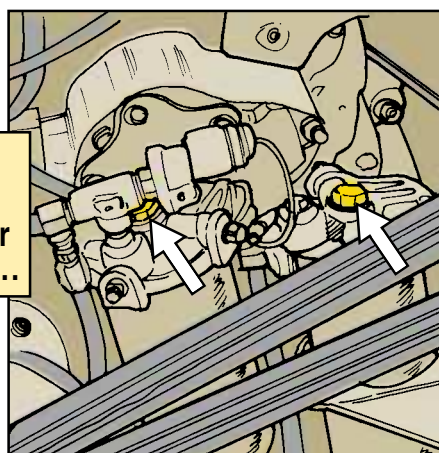
- ◆ Sediment build-up plugs the bottom of the fuel filter.
- ◆ Water build-up creates rust inside the filter canister. Rust is just another form of sediment that puts a stop to fuel flow.
- ◆ Cold weather freezes the water. As the ice plug expands and contracts, it can also crack the canister.

Your problems may not be over even if you drain the primary and secondary fuel filters as part of your after-operation PMCS.

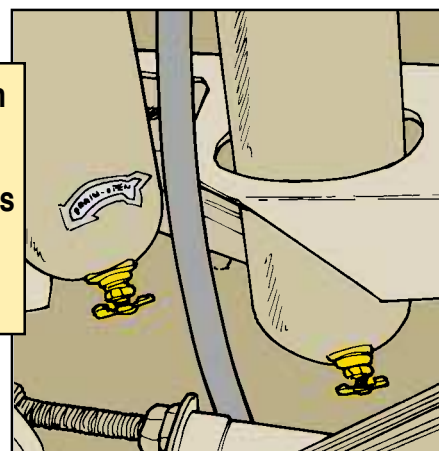
Since both filters sit at a slight angle, a draincock that sits on the high side of the canister's bottom will not allow all of the water and sediment to drain.

If that's the case, have your mechanic loosen the canister from the filter housing and turn it so the draincock is at the lowest point.

Loosen bolts on top of filter housings...



...and turn canisters until draincocks are at lowest point





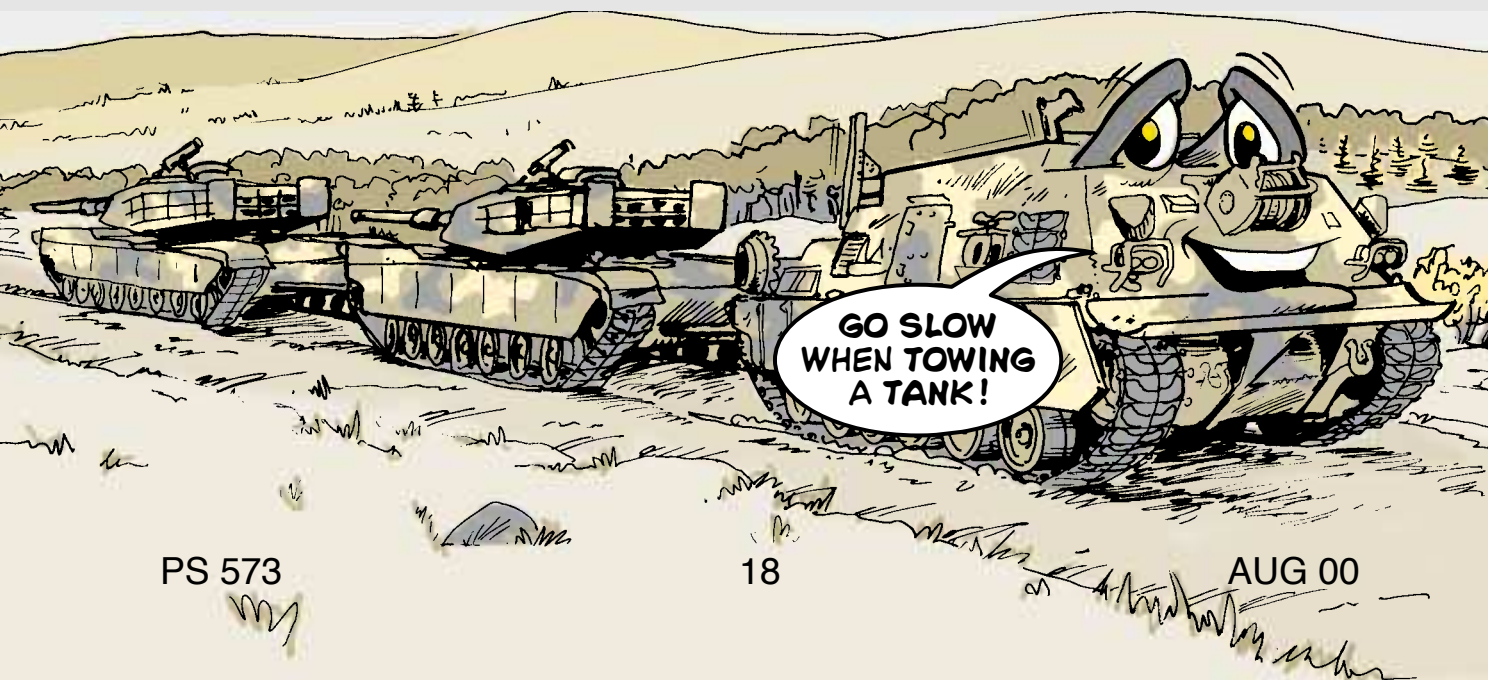
# TAKE SOME TIPS ON TOWING

THE HERCULES  
IS A LOT HEAVIER AND  
STRONGER THAN THE OLD  
M88A1 RECOVERY VEHICLE.  
BUT YOU STILL NEED  
TO USE CAUTION  
WHEN TOWING A TANK.  
FOLLOW THESE  
TIPS...



- ① Never allow anyone to ride in or on the tank being towed.
- ① Always perform the recovery tow operational risk assessment shown in Para 2-9ad of TM 9-2350-292-10 to determine if a hold-back vehicle—either another tank or a second Hercules—is needed.
- ① Adjust your towing speed for the road conditions. Follow the guidance in Para 2-9ad and 2-9ae of TM 9-2350-292-10.
- ① Avoid steep slopes whenever possible. Your track can slip when towing uphill or downhill.
- ① Avoid making sharp turns or sudden stops. Keep turns slow and gradual and stay in first gear.

If you don't do these things, the tank you're towing can jackknife, push you sideways, run into the back of your vehicle, ruin your transmission or brakes, and maybe even flip you over.



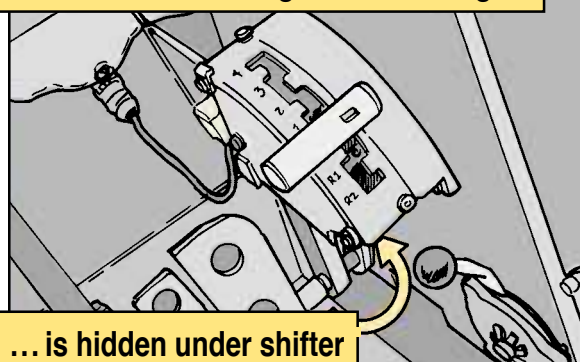
# A Little Drop'll Do It



**D**rivers, follow the lubing instructions in your ammo carrier's -10 TM step-by-step or you're bound to forget something.

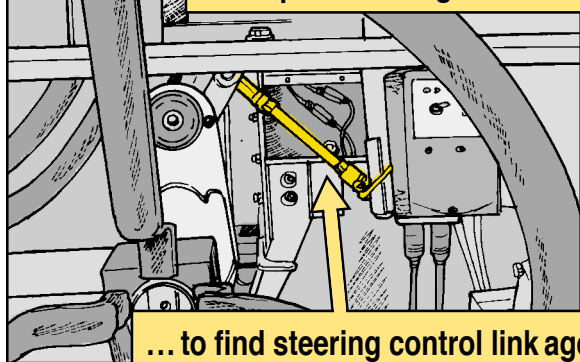
The transmission shifting control linkage and the steering control linkage are perfect examples. Both are hidden and easy to forget. The transmission shifting control linkage is behind the shifter and the steering control linkage is behind the steering wheel and column.

**Transmission shifting control linkage...**



**... is hidden under shifter**

**Look past steering column...**



**... to find steering control linkage**

If you miss 'em too many times, the linkages will bind. That means you can't shift gears or steer.

Semiannually, put a few drops of CLP, NSN 9150-01-079-6124, on the rods and bearings of each of the linkages. Then wipe off the excess and exercise the linkages so you'll be ready to go for another 6 months.



# Give Carbon the BOOT

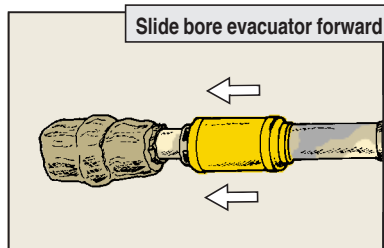
**C**rewmen, keeping the bore evacuator clean and lubed is one secret to trouble-free shooting with your M109A2-A5 howitzer.

Each time the cannon is fired, a little carbon builds up inside. If you wait too long to clean it, carbon accumulates and freezes the bore evacuator in place. It becomes almost impossible to remove.

Avoid that sticky problem by cleaning and greasing the bore evacuator daily during firing periods and monthly during non-firing periods.

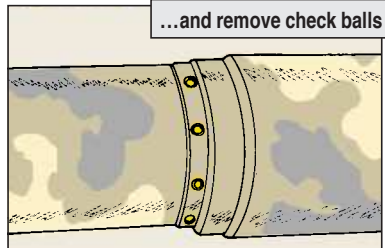
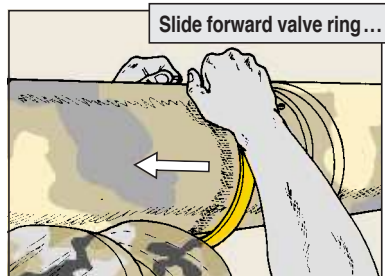
Here's what to do:

1. Loosen and slide the bore evacuator forward on the gun tube following the instructions in Appendix G of TM 9-2350-311-10.
2. Slide the valve ring forward and remove the check balls. Remember, your howitzer is NMC if any check balls are missing, per TACOM SOUM 00-011.

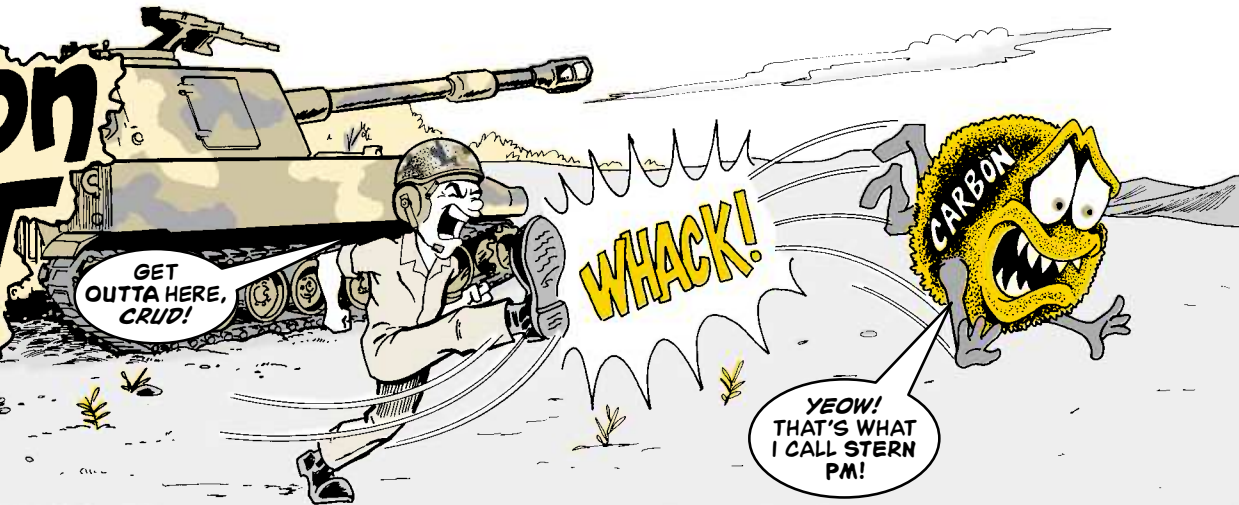


PS 573

20



AUG 00



Clean the check balls, evacuation vents, three metering holes, valve ring, and the unpainted surface of the cannon tube. Use the CLP and bore evacuator brush comes with the artillery cleaning kit, NSN 1025-01-196-2172.

3. Wipe off the loosened carbon and CLP with a clean cloth. Then lightly coat the check balls, valve ring, and the unpainted surface of the cannon tube with general purpose grease, NSN 9150-00-985-7316, or molybdenum disulfide grease, NSN 9150-00-754-2595.

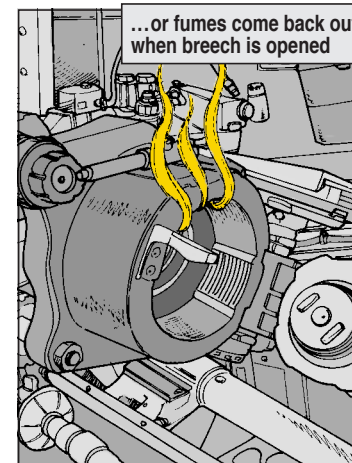
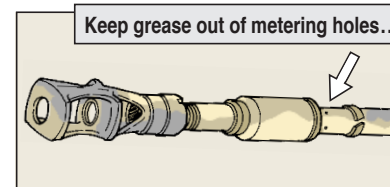
4. Be **very** careful not to plug the metering holes with grease while lubing the cannon tube. When the howitzer is fired, propellant fumes are expelled through the metering holes and out the end of the gun tube.

If the holes are plugged, the fumes travel back down the gun tube and inside the howitzer when the breech is opened. Those fumes contain lead and aren't good for your health.

5. Reassemble the bore evacuator.

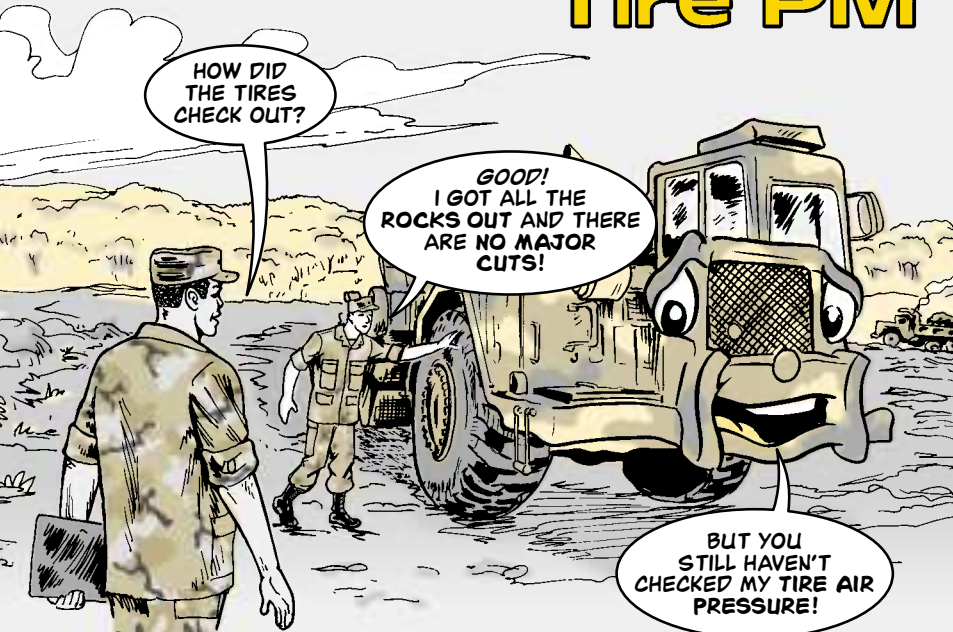
PS 573

21



AUG 00

# Tire PM Saves Money



**O**perators, the cost of replacing a tire on your construction and material-handling equipment should make you think twice about your driving habits at the work site.

For example, to replace one tire on the 621B scraper costs about \$2,500 including the price of the tire and removal/replacement costs. That's \$10,000 to replace all four tires on one scraper! Save those tire dollars with good operator PM.

## Driving Tips

Slow down when you leave or enter the load or dump area from the haul road. Slower speed reduces impact damage and tire cuts.

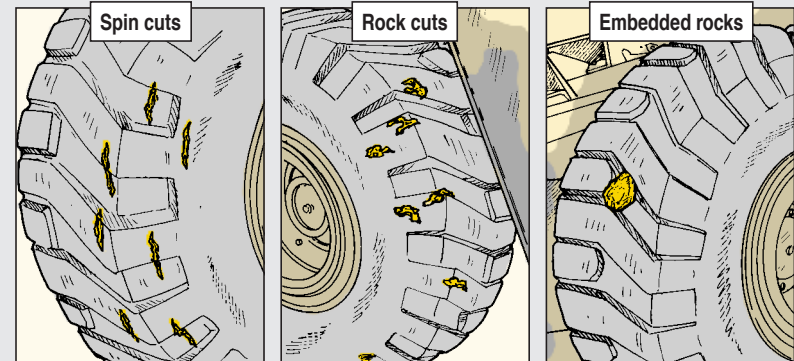
Never skid down steep slopes. Next to outright spinning your wheels, the quickest way to strip a tire is to lock the wheels of a fully loaded vehicle while going downhill.

Braking a fast-moving scraper or loaded dump truck down a 20 percent grade grinds off rubber like an emery wheel grinding down a piece of soft metal.

And remember to approach piles and banks straight on. Angling into the pile exposes tire sidewalls to a beating from fallen rocks.

## Check 'em Often

Eyeball your vehicle's tires for cuts every time you take a break, especially when working in quarries. Get rid of all embedded rocks, too. If you don't, every time the tire turns, rocks are pushed deeper into the tread. Eventually, a rock passes through the tread and into the soft body rubber. Then it's just a matter of time before a blowout or flat.



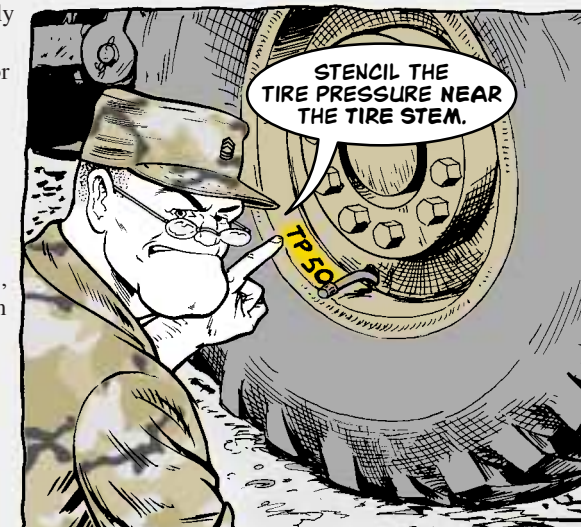
## Watch Air Pressure

Keep the right amount of air in tires. Never overinflate tires to make them match in size or circumference. Have your mechanic stencil the recommended tire pressure on the wheel rim near the valve stem.

Never mix radial and bias-ply tires on the same vehicle. You lose steering control, have poor handling, and risk mechanical damage and uneven tire wear.

Always use the type of tire that's designed for the job you're doing. Match tire tread designs on all drive wheels.

On earth-moving equipment, replace tires that have less than 13/32-in tread depth.





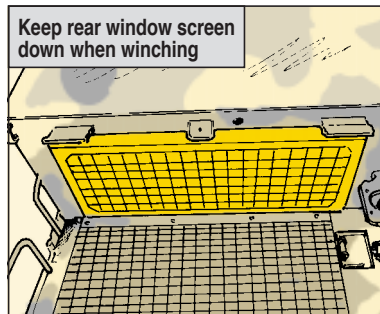
# Winch In

# These Safety Tips

**O**perators, safe use of your DEUCE's winch can save it major repair work down the road. So keep these safety tips in mind whenever you operate the winch:

\* Make sure the rear window screen is down during winching operations. The screen protects the window—and you—from thrown debris or a snapped cable.

Keep rear window screen down when winching



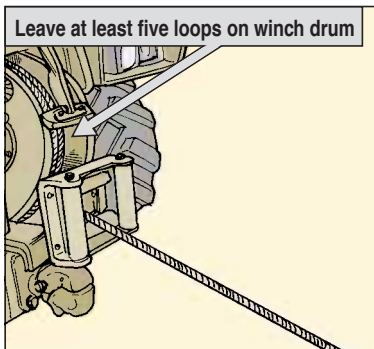
\* Use leather gloves, NSN 8415-01-394-0208, when handling the cable. The gloves will protect your hands from burrs and broken wires that are hidden by dirt and grease.

Use leather gloves when handling cable



\* Always leave at least five loops of cable on the winch drum when pulling a load. That keeps the pressure off the attaching hardware and on the cable—where it belongs.

Leave at least five loops on winch drum

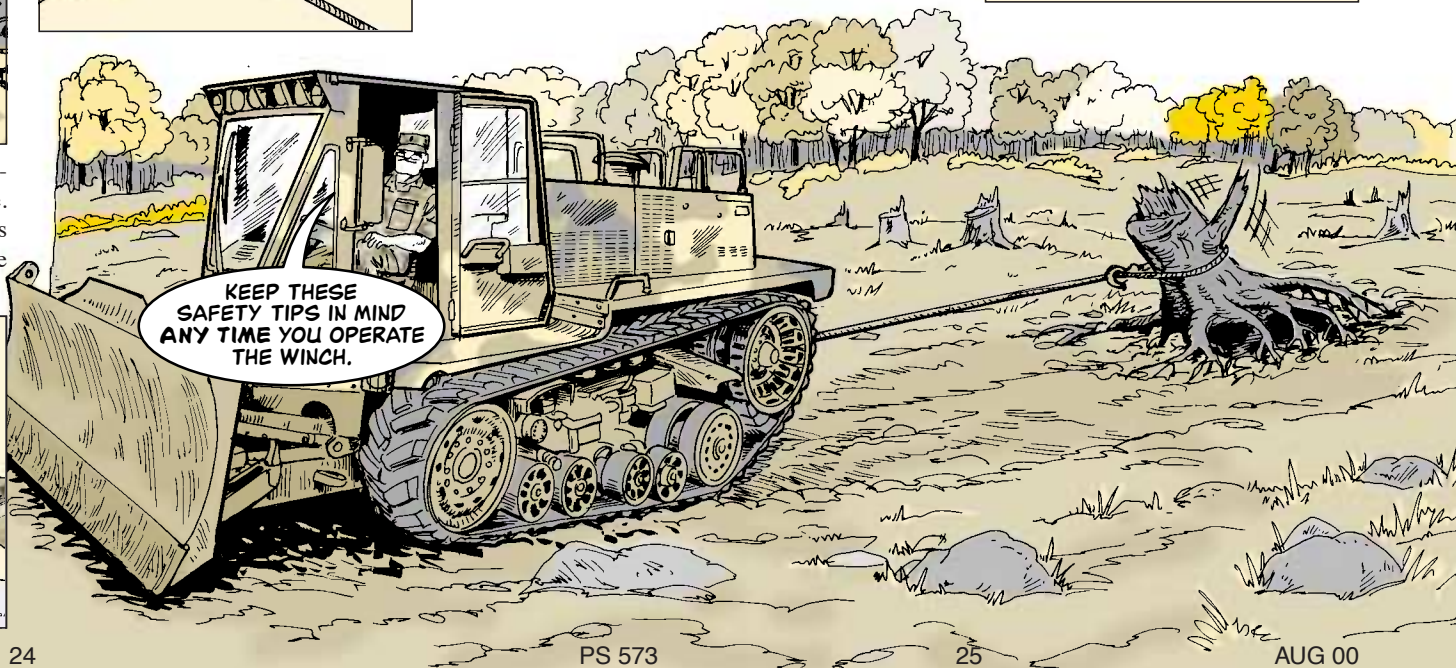
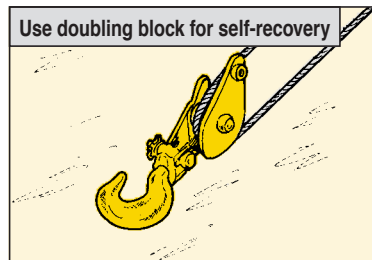


\* Keep the DEUCE and its load in a straight line. Pulling the load at an angle puts too much stress on the winch drum and attaching hardware. Also, your sight is blocked by the rollover protective structure (ROPS). That's an accident waiting to happen.

\* The earthmover's winch can handle debris like logs, stumps and fallen trees, and even recover another DEUCE. To do that, though, the winching DEUCE must be stationary. You can't tow another DEUCE with the winch cable.

\* Always use the doubling block from the BII compartment when doing a self-recovery. The block doubles the DEUCE's pulling force, giving you the muscle you need—44,000 pounds—to do the job.

Use doubling block for self-recovery



# You Can't Roll without Wheels



**O**perators, loose bolts on your DEUCE's front and rear idler wheels can leave you waist deep in mud.

Just one loose bolt can cause the other bolts to loosen. Then the wheels begin to wobble, wallowing out the stud holes and ruining the wheel.

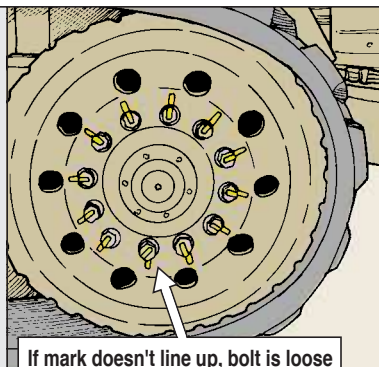
Enough wobble and wallow and the wheels could break off.

So, it's in your best interest to eyeball bolts for tightness before and after operation.

Look for shiny spots on the bolts' washers and corrosion around the bolts. For quick visual checks any time, use a marker pen or torque seal, NSN 8030-00-408-1137, and mark a line across each bolt head and onto the wheel rim.

Marks on the bolt head and wheel rim that don't line up mean the bolt has moved and must be loose. Tighten bolts if you can and report them.

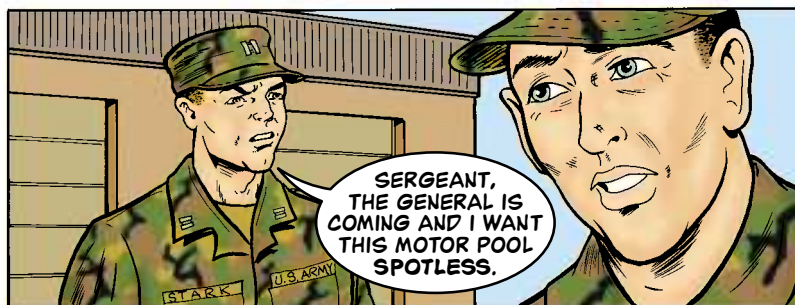
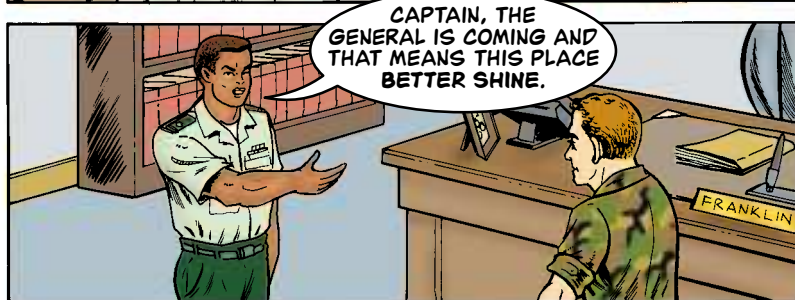
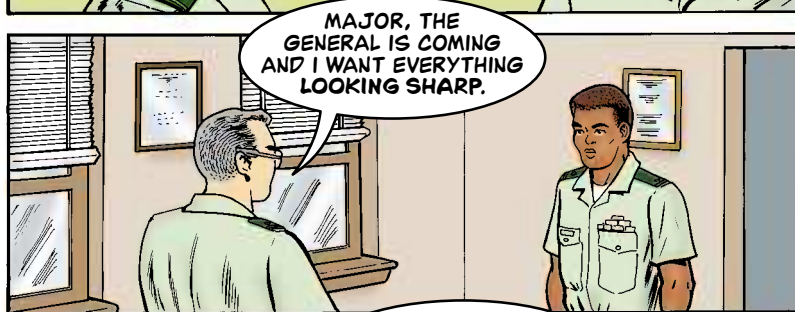
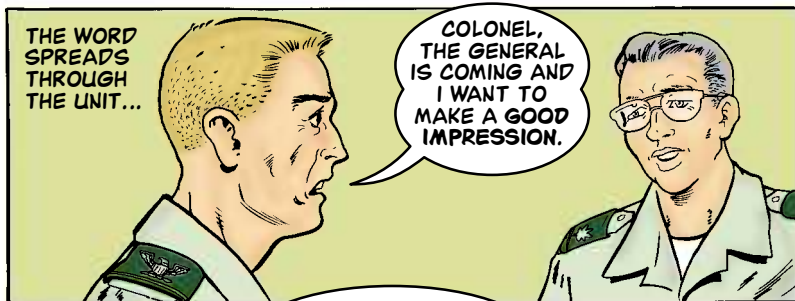
Paint line across bolts heads and onto wheel



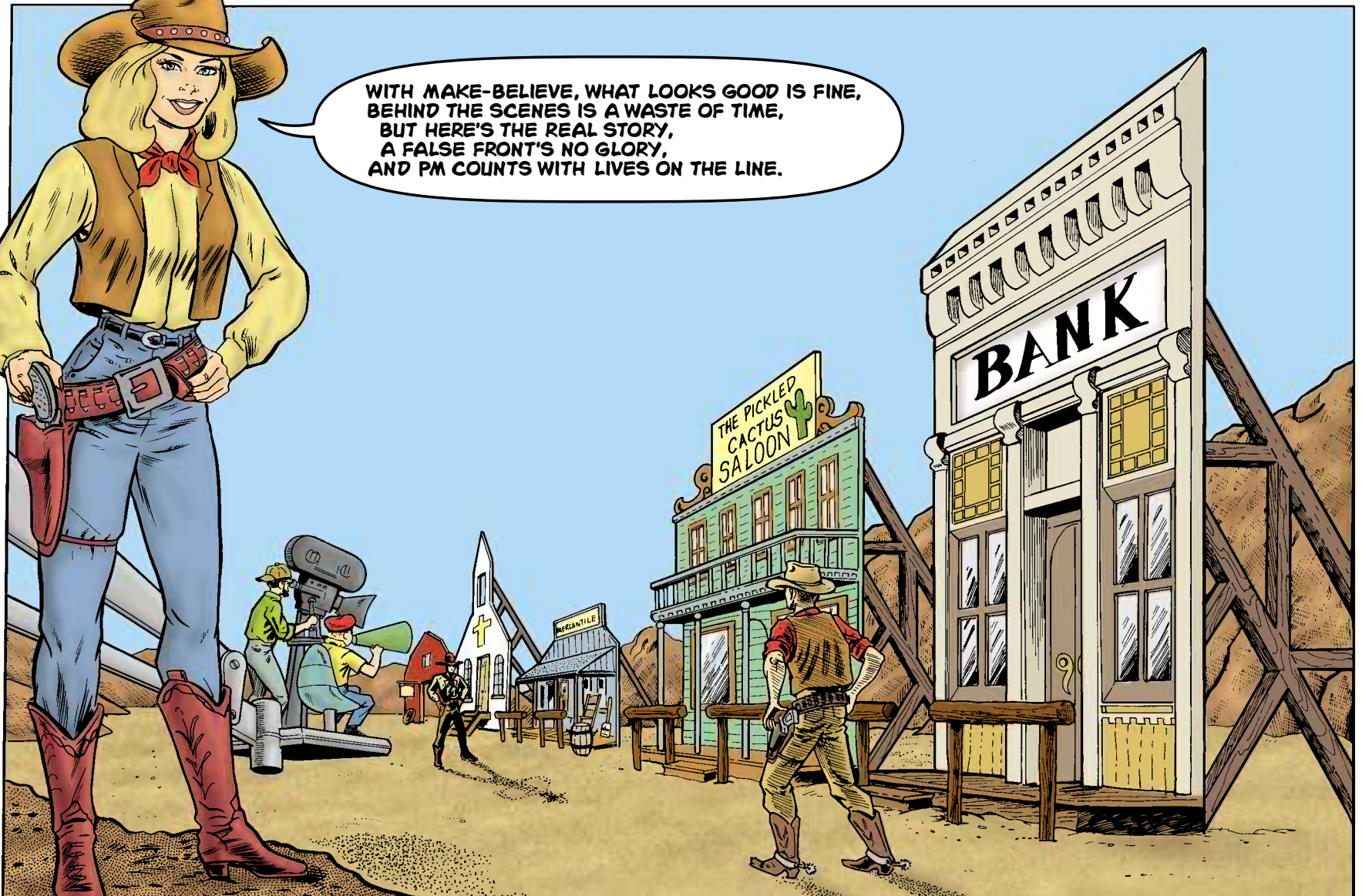


# THE GENERAL'S COMING!









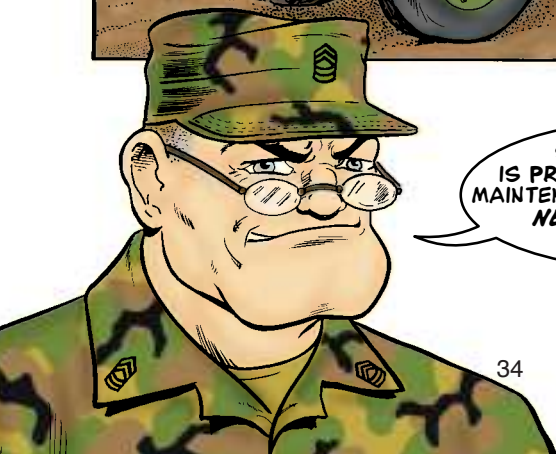
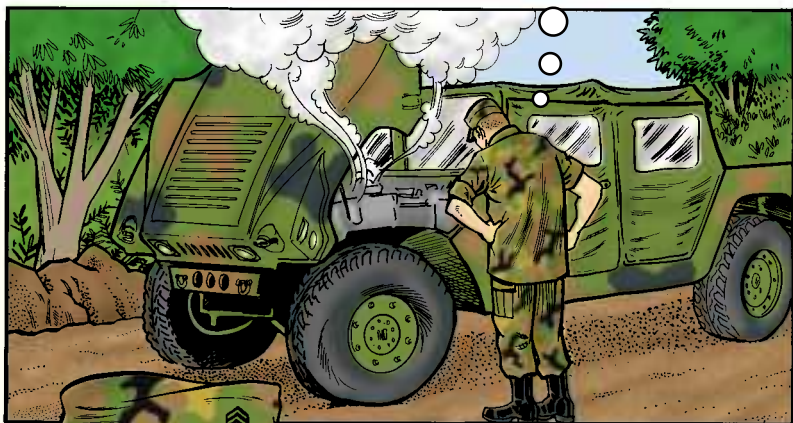
WITH MAKE-BELIEVE, WHAT LOOKS GOOD IS FINE,  
BEHIND THE SCENES IS A WASTE OF TIME,  
BUT HERE'S THE REAL STORY,  
A FALSE FRONT'S NO GLORY,  
AND PM COUNTS WITH LIVES ON THE LINE.

**WE HAVE THE WORLD'S BEST EQUIPMENT ...***Take care of it*



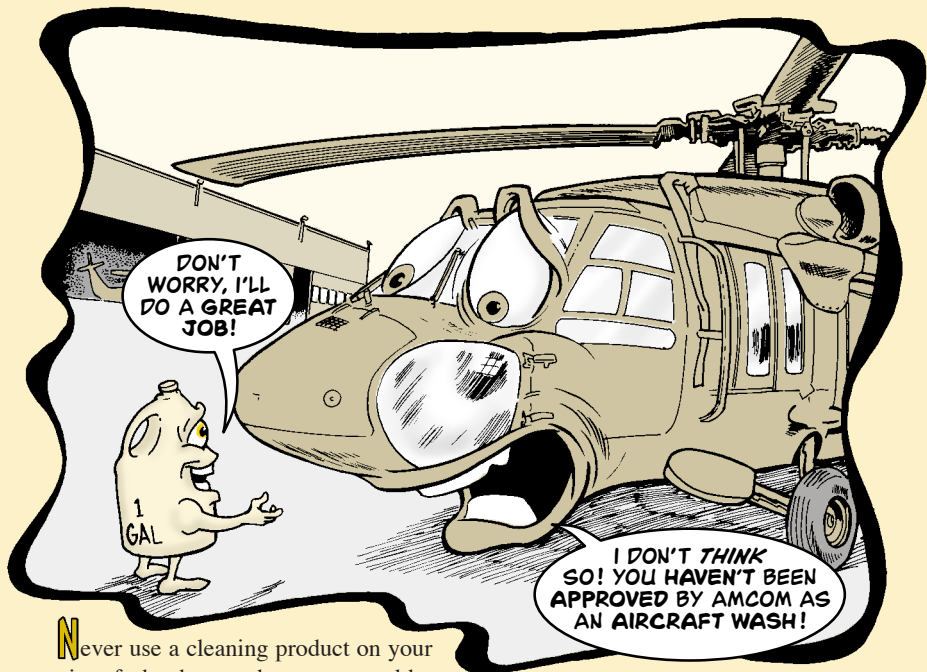


1315 AT THE AIRFIELD



SPIT-AND-POLISH  
IS PRETTY, BUT PREVENTIVE  
MAINTENANCE MOVES THE ARMY.  
**NEVER SACRIFICE PM  
TO PAINT ROCKS.**

# SIMPLE GREEN: An Aircraft Washout



**N**ever use a cleaning product on your aircraft that has not been approved by the Army. SIMPLE GREEN has not been approved and is not authorized for use as an aircraft wash.

It is highly corrosive on aircraft aluminum. It also makes high-strength aircraft alloys brittle. If your unit is using SIMPLE GREEN as an aircraft wash, **STOP!**

If you have already used it, thoroughly wash your aircraft with fresh water and an approved Army aircraft cleaning agent. Your airframe maintenance manuals list them. Follow that cleaning with a corrosion inspection

and treatment and an application of approved corrosion preventive compounds as identified in your aircraft -23 TMs and Chap 3 and App D of TM 1-1500-344-23, Aircraft Weapon System Cleaning and Corrosion Control (May 96).

Finally, always make sure that all cleaning, lubricating and preserving products used on your aircraft are listed in your TMs or are otherwise approved by the Army. If you aren't sure about a product, contact your local AMCOM logistics assistance rep at the LAO.



# Wipe Out Windshield Wiper Blues

**S**ervicing the windshield wiper converter on UH-1 and UH-60 helicopters is a chore. You have to take apart the whole wiper converter to do it. That's why many of you put off the service until the helicopter goes into phase maintenance.

Don't wait. A delay could cause problems when the wipers are not used for long periods of time. The longer the delay in using the wipers, the greater the potential that the grease will harden and freeze the converter gears. That would lead to burned out wiper motors in both aircraft—and broken flex shafts in the UH-60.

The Aviation and Missile Command (AMCOM) has approved a unit-level modification that turns the wiper service into a semiannual lube service. With your general aircraft mechanic's toolbox in hand and ready access to the AVUM Shop Set No. 2, here's what to do:

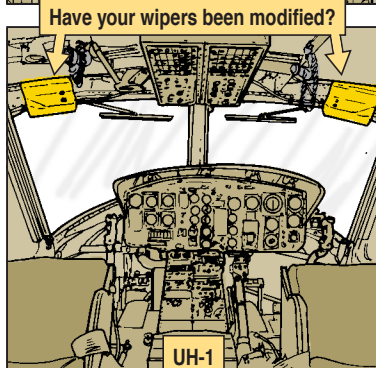
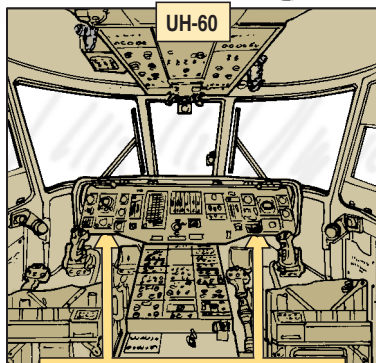
**1.** Disassemble the windshield wiper converter per Para 12-13 of TM 55-1520-210-23-2 (Sep 87), for the UH-1, or Para 12-4-36 of TM 1-1520-237-23-7 (May 98) for the UH-60.

**2.** Clean out the grease and inspect the wiper gears for cracks, chips or missing teeth. Replace gears that are damaged.

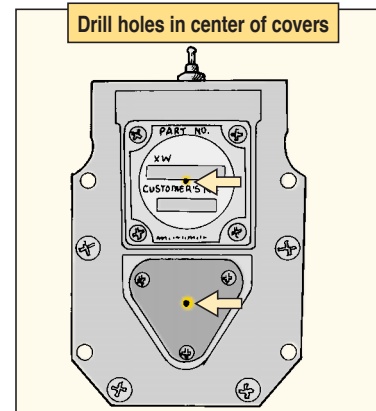
PS 573

36

AUG 00



**3.** Once the converter is cleaned and the gears either pass inspection or are replaced, drill holes in the center of the converter nameplate and idler cover plate using a number 59 drill bit. This lets the air out and allows the grease to completely cover the gears.

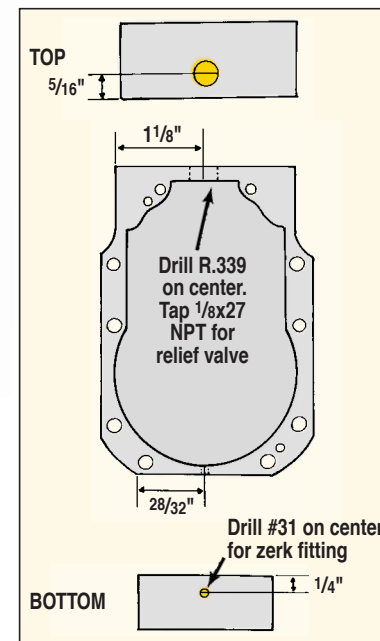


**4.** Drill a third hole in the top center of the converter body using drill bit size R .339.

PS 573

**5.** Make threads for the relief valve, NSN 4820-00-826-6465, using a 1/8 x 27 NPT tap.

**6.** Install the relief valve.



**7.** Drill a fourth hole in the bottom center of the converter body with a number 31 drill bit. Then, press the grease fitting, NSN 4730-01-077-4893, into place.

**8.** Reassemble and reinstall the windshield wiper converter assembly.

**9.** Lube the converter using aircraft grease, NSN 9150-00-944-8953, until new grease comes out of the relief valve. Be sure to wipe off the excess grease. Do this lube service semi-annually.

Keep this procedure handy until you see it in the tech manuals.

37

AUG 00

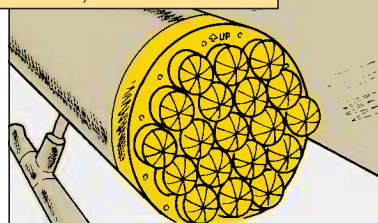
# Cover the

Ice, sand or dirt can clog the M260 or M261 rocket launcher tubes. Once they do, your Cobra, Apache or Kiowa rockets aren't going anywhere.

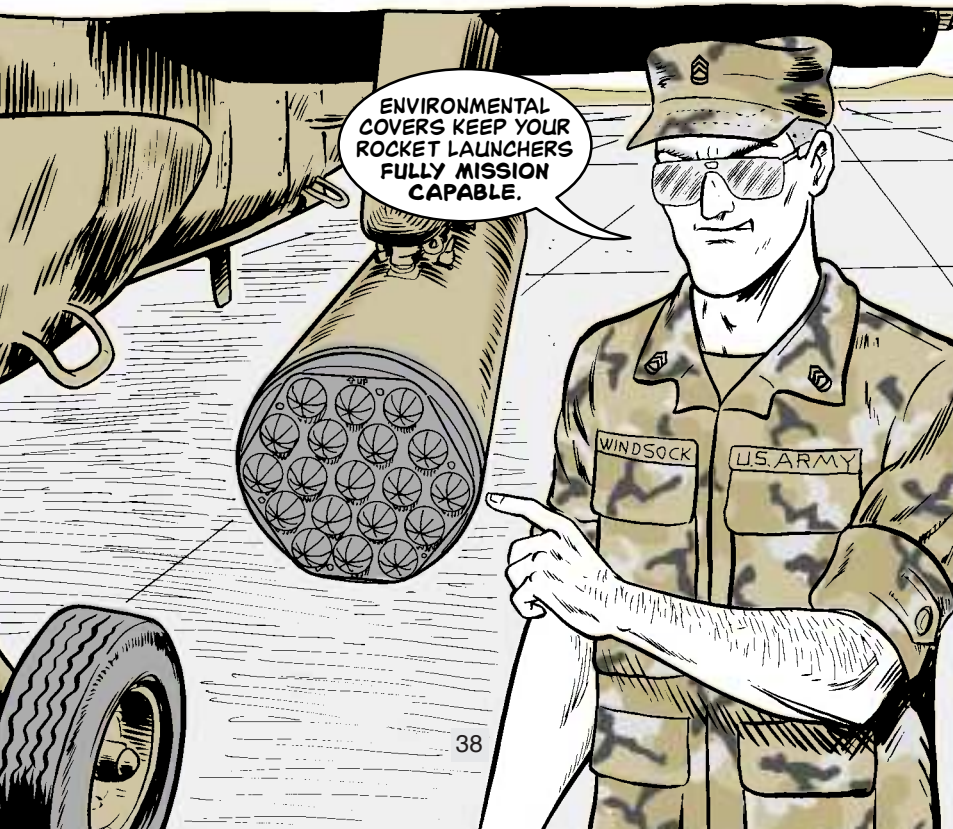
Stop this misfiring by using environmental protection covers on the rocket launchers. NSN 1055-01-449-9642 gets the protective cover for the M260 launcher (seven tube). NSN 1055-01-241-1049 gets the protective cover for the M261 launcher (19 tube).

The protective covers not only keep ice, sand or dirt out of the launchers,

Covers protect your launchers from dirt, sand and ice/snow



but they also help prevent warping of the bulkhead from the flame and heat of a launched rocket.

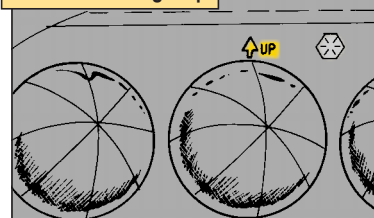


# Rocket Launcher

When the covers come in, make sure you install them right. Here's how:

➡ Make sure the arrow on the outer surface points straight up.

Point arrow straight up

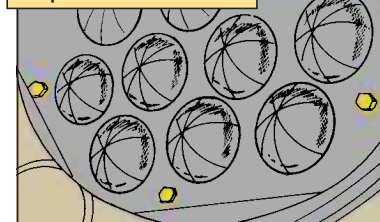


➡ Align the cover bolts with the launcher's captive nuts and bolt them in place.

➡ Torque the bolts to 50 to 75 lb-in.

Covers not correctly torqued allow ice, sand and dirt to get into the tubes and also prevent the cover from breaking apart correctly when a rocket is fired. Instead of the individual rocket cover breaking apart just for the fired rocket, the whole cover can break up—there goes the other tubes' protection.

Torque bolts to 50–70 lb-in



All Aircraft ...

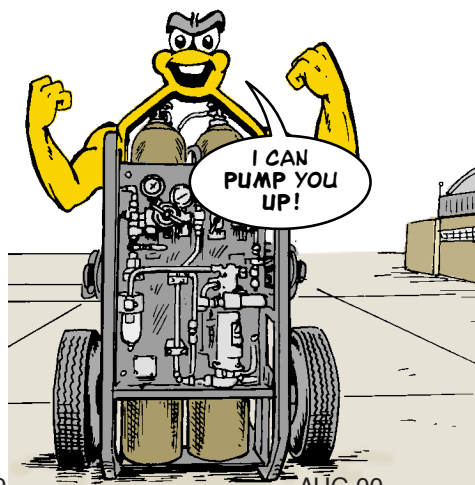
## Service Cart Inflates Tires and More

The tire inflation kit, NSN 6685-00-124-4336, in your AVUM Shop Set No. 2 has been replaced by the high-pressure nitrogen servicing cart, NSN 1740-01-327-6831.

This cart offers more accurate and safer pressure regulation because of its dual-pressure inflation capability. Its low-pressure side inflates tires to 175 psi. Its high-pressure side boosts strut and accumulator bottle pressure from 300 psi to a maximum pressure of 4,000 psi.

The cart meets the tire, accumulator and strut inflation requirements of all Army helicopters.

PS 573





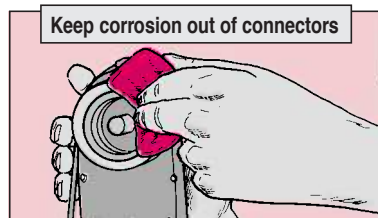
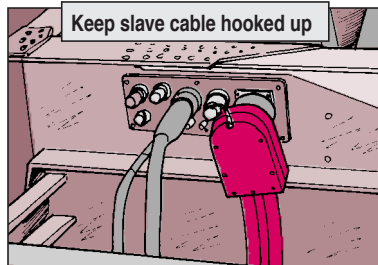
# Be a Slave to Cable PM

Dear Editor,

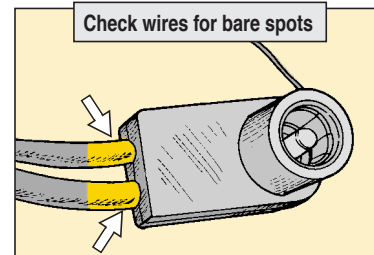
An Avenger slave cable that can't do its job stops an Avenger in its tracks. The vehicle batteries can't charge the missile system batteries. Once system batteries die, the system dies. But there are a few simple things you can do to prevent that from happening:

\* Keep both ends of the slave cable hooked up all the time. Some Avenger crews think that drains the batteries. Not true! But unhooking either slave cable connector leaves the connector vulnerable to feet, corrosion and dirt.

\* Clean corrosion out of slave cable connectors before you go to the field. Even a slight amount of corrosion can cause the Avenger to show a CHARGE BATTERY fault message on the control display terminal (CDT). This is an especially big problem in humid areas. Just use a plastic cleaning pad or fine sandpaper to clean out the connectors.



\* Eyeball the slave cable wiring insulation for bare spots where the wiring goes in the connector. Check for a loose connector back cover. Bare wiring can give you a bad shock. A loose cover lets water in the connector, which



corrodes or shorts out the cables.

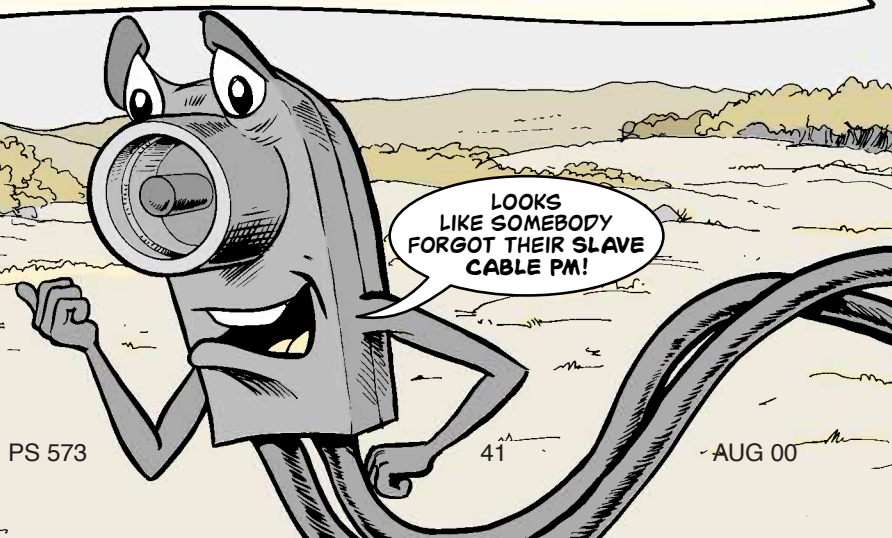
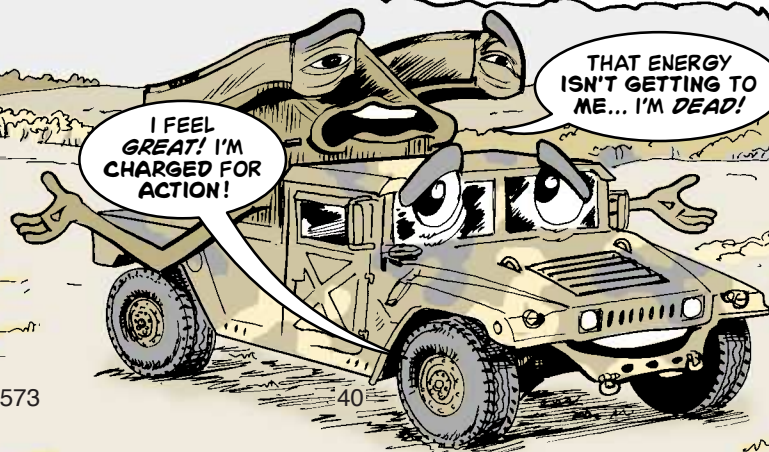


Pages 20-21 in PS 566 (Jan 00) had fixes for both of these problems.

Johnny Johnson  
AMCOM Logistics  
Assistance Representative  
Ft Stewart, GA

FROM THE DESK OF THE Editor

Thanks for the good info. If any reader needs a copy of the PS 566 slave cable story, find it on the PS homepage (<http://www.logsa.army.mil/psmag/archive1.htm>) by clicking on 566. Or write us at the address on Page 1 and we'll mail you a copy.





MLRS ...

# Be 'Adaptable'

MLRS mechanics, connector adapters on W19 and W20 cables are the best investment your unit can make.

With the adapters screwed on the cables' connectors, the cable connector pins can't be broken when the cables are hooked up. That means expensive cables don't have to be replaced.

Cost savings: The W19 cable costs more than \$700. Its adapter, NSN 5935-01-155-9847, costs \$130. The W20 cable costs more than \$900. Its adapter, NSN 5935-01-238-5896, costs \$130.

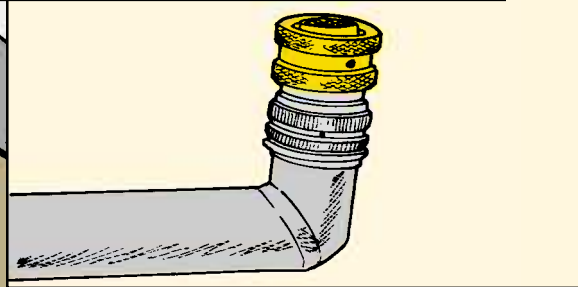
Most MLRS units are missing many of the W19 and W20 adapters. Check your MLRSs and order replacements

your unit leaves them on. Check that adapters are still on before and after field exercises. Replace missing adapters.

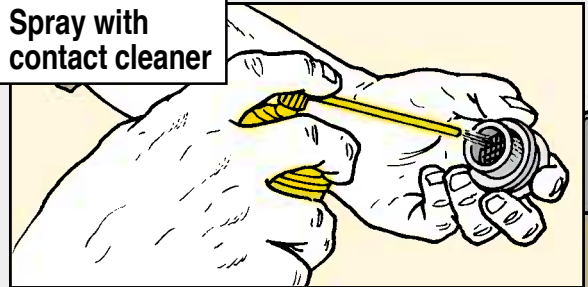
One other adapter tip: Because the W19 and W20 cables are hooked up and unhooked repeatedly during a mission, the adapters can get dirty. That leads to UMBILICAL CONNECTOR NOT CONNECTED or SNVT (short/no-voltage tester) faults. Repairmen often think it's a cable problem and replace the cables, which is an expensive fix.

When you get those faults, take off the adapters and clean them with electrical contact cleaner, NSN 6850-01-371-8048. That usually erases faults. Circuit board contact cleaner works, too.

W19 and W20 cables have adapters?



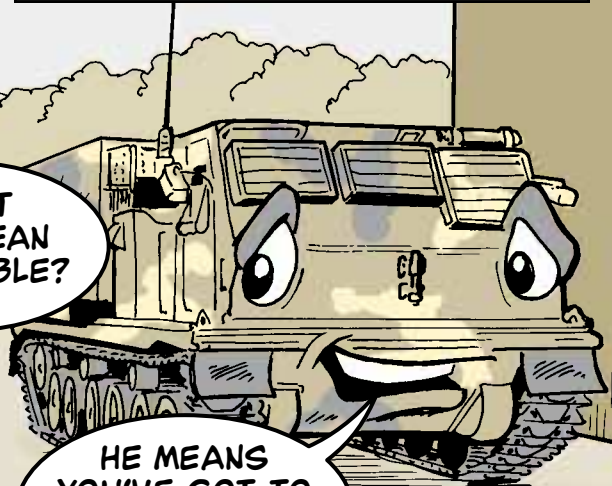
Spray with contact cleaner



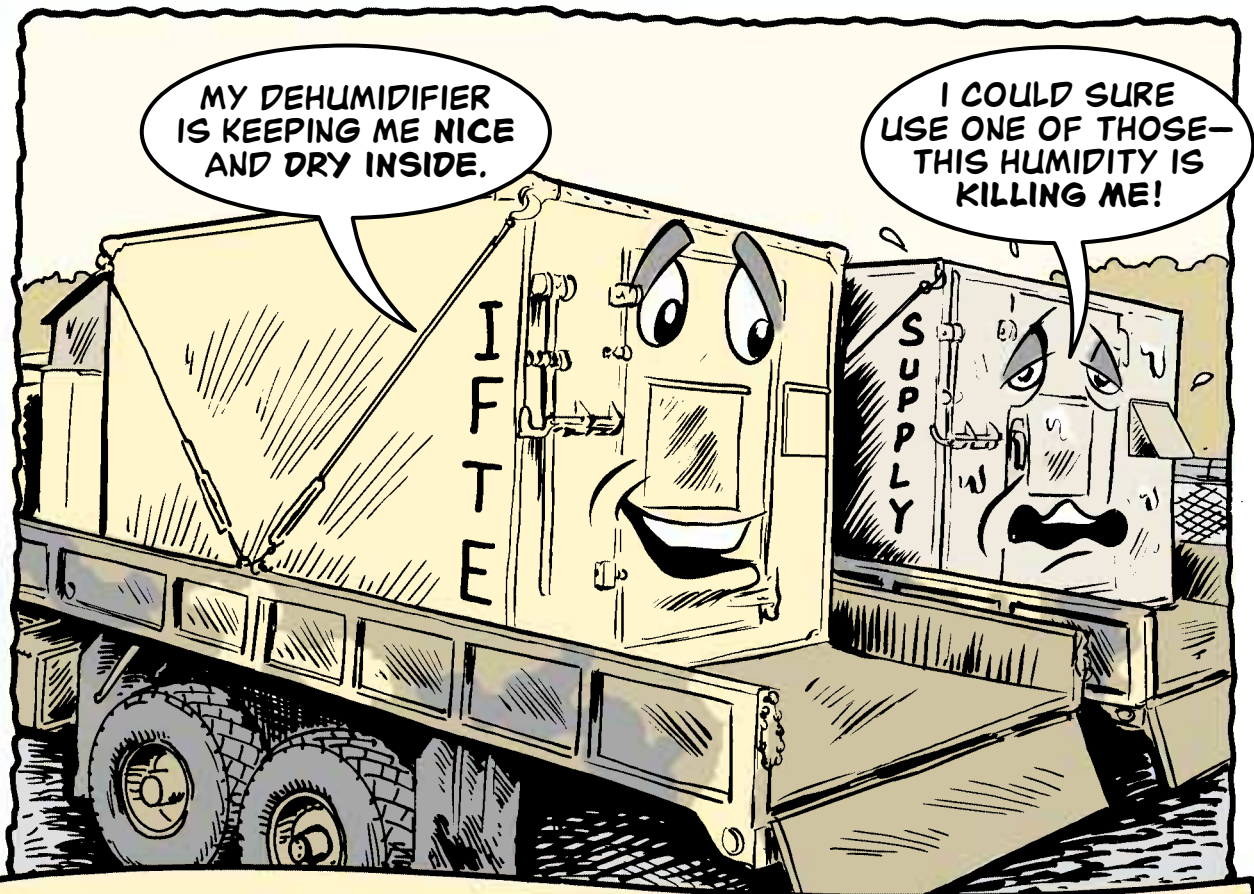
YOU'VE GOT TO BE ADAPTERABLE WITH YOUR MLRS.

DON'T YOU MEAN ADAPTABLE?

HE MEANS YOU'VE GOT TO USE MY CABLE ADAPTERS.



# **SUCK UP MOISTURE**



Dear Editor,

The IFTE has a dehumidifier that sucks up moisture before it can hurt sensitive electronics.

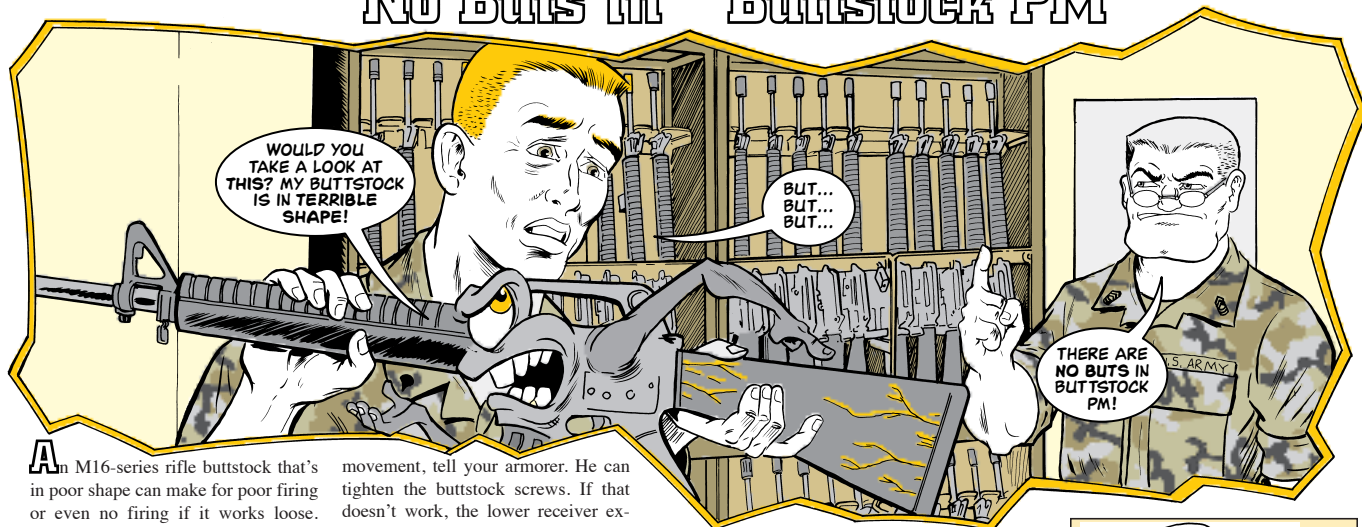
Unfortunately, the IFTE storage van does not have a dehumidifier. And it's the storage van where replacement circuit cards and test sets are stored. Moisture can corrode and ruin circuit cards, some of which cost more than \$20,000.

So we recommend that IFTE units get a dehumidifier and use it in the storage van, especially if they're operating in very humid areas like Ft Polk or Ft Stewart. NSN 4440-00-566-0616 gets a dehumidifier for less than \$200, or you can probably find an even cheaper one locally. A few dollars spent now can save thousands later.

SSG Robert White  
546th Maint Co  
Ft Polk, LA



# No Buts in Buttstock PM



**A**n M16-series rifle buttstock that's in poor shape can make for poor firing or even no firing if it works loose. Keeping buttstocks in fighting shape takes teamwork by both gunners and armorers.

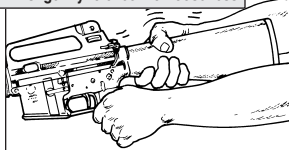
## Gunners

Gunners, as part of your before-operation PMCS, gently twist the buttstock clockwise. There should be almost no movement. If there is much

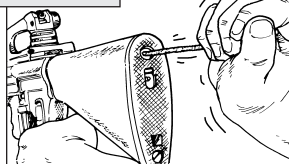
movement, tell your armorer. He can tighten the buttstock screws. If that doesn't work, the lower receiver extension probably needs to be tightened by support.

When you're cleaning your rifle, run a pipe cleaner through the buttstock drain hole to clear it. If the hole plugs up, moisture can collect in the buttstock and corrode the lower receiver extension.

Twist gently to check for looseness



Clear drain hole

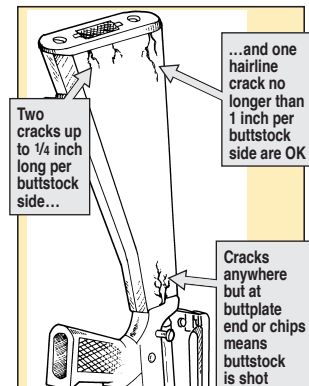


Look for cracks and chips in the buttstock. Any cracks starting from the front of the buttstock or chipped-away areas anywhere on the buttstock mean you need a new buttstock. Cracks elsewhere may not mean your buttstock is shot, but your armorer needs to check them.

## Armorers

Buttstocks are OK with up to three hairline cracks on each side:

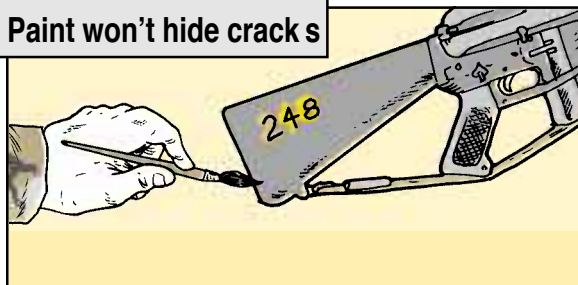
- if they start from the buttplate end,
- if none of the cracks are longer than 1 inch,
- and if two out of three cracks are no longer than 1/4 inch each.



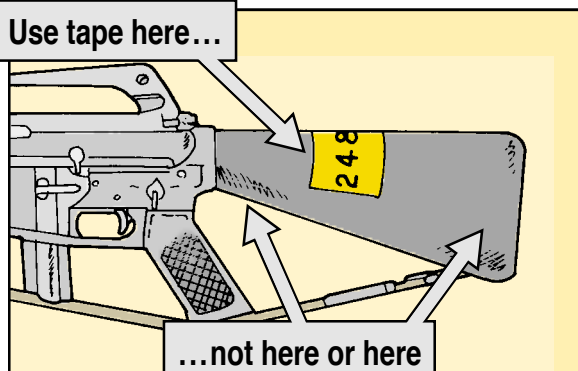


The best way to ID rifles is to paint the number on the buttstock. Paint doesn't hide cracks, but tape does. If you use tape to ID rifles, put it on the middle of the buttstock where cracks are rare.

Paint won't hide crack s



Use tape here...



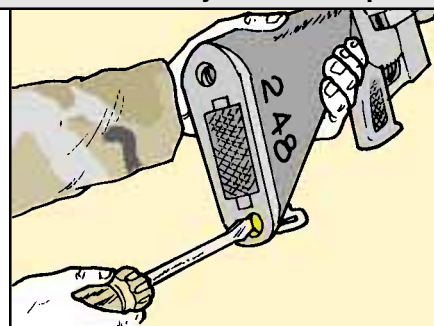
...not here or here

When you replace a buttstock, take it easy with the buttplate screws. If

you give them too many turns, you can crack the buttplate or distort the liner.

Turn the screws until you feel resistance. Make one more quarter turn and stop. Remember, any time the buttcap screw, NSN 5305-01-147-8585, is removed, its nylon insert is ruined and the screw must be replaced.

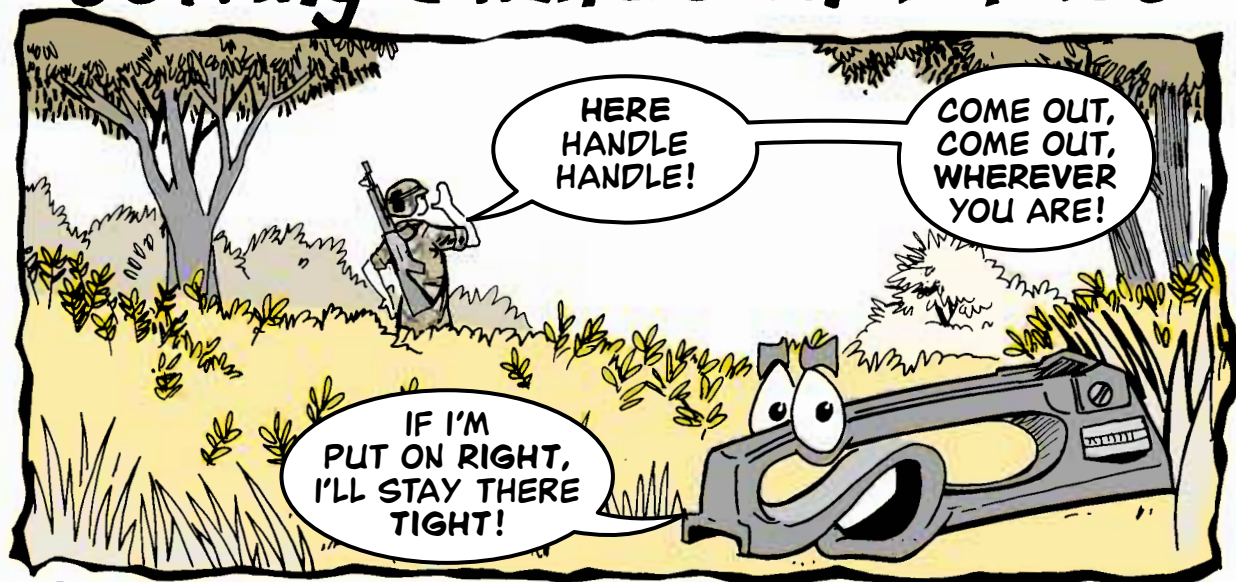
Turn screws until resistance is felt, then make only one more quarter turn



Save your unit money and yourself trouble by convincing your CO not to conduct drills on concrete. Slamming rifle buttstocks on concrete breaks them for sure.



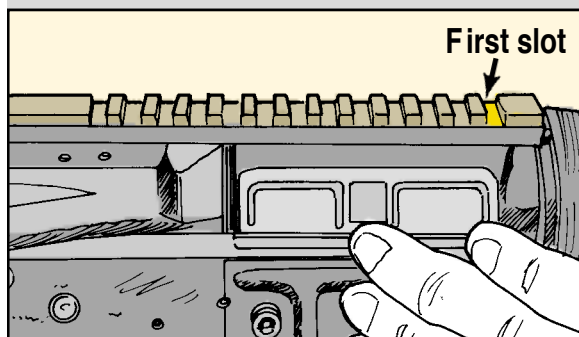
# Getting a Handle on Handles



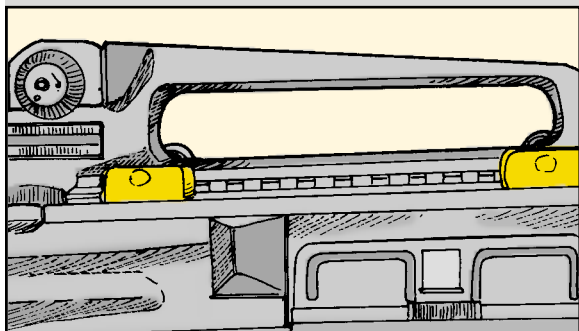
**G**etting a handle on disappearing M4/M4A1 carbine carrying handles has been a real problem for some units. If the handle isn't put on right, its nuts work loose and pretty soon the handle is a goner.

The handle will stick around if you put it on like this:

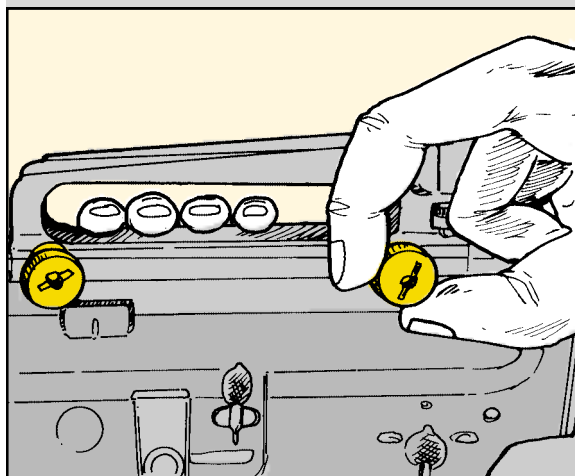
Seat the handle's front tab in the first slot on the receiver rail. Then fit the handle's rear tab in place.



Make sure the handle is fully seated on both sides of the rail.



Put your fingers inside the handle, center the studs in the slots and hold the handle while you tighten both handle nuts hand-tight.



Check the handle nuts every day for tightness and re-tighten them if necessary.

Armors, remember, to store a carbine in the rack, you will need to move the carrying handle back one slot.

# Make Terminal

# Safety Clips



You won't find ready-made safety clips for the load and ground terminal nuts on 10-KW and smaller generators in the TM. But you can make your own.

Why should you? Because without the clips, the terminal nuts get lost! That can let load lines come loose, touch another line and short out the load.

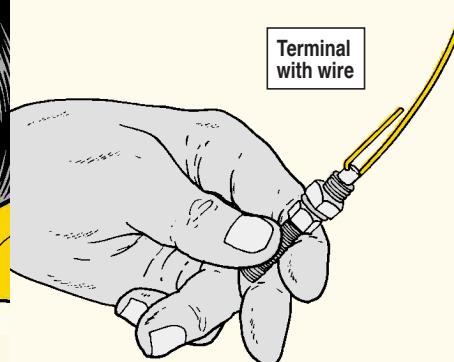
Here's how to make the clips:

First, pick the wire you need from this chart:

Wire NSN 9505-	MEP Generator Models											
	002A	003A	015A	016A	017A	018A	021A	022A	023A	025A	026A	112A
00-804-3814 .042 inch	G	G	L-G	L-G			L-G			G	G	
01-049-0144 .050 inch	L	L				L			L	L	L	L
00-596-1668 .051 inch					L-G	G		L-G	G			
L=Load Terminal      G=Ground Terminal												

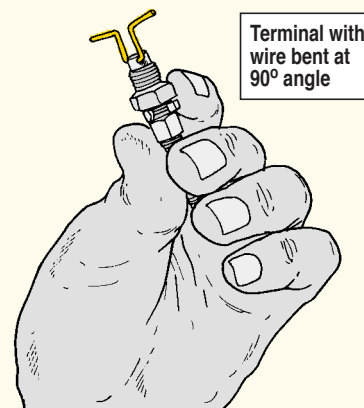
Now, cut off about 3 inches of the wire. Be sure the wire is short enough to keep the clips from touching another terminal or the generator frame in the open or closed position. Put the wire through the hole in the terminal.

Hold the terminal so you can bend both ends of the wire straight up. Try to keep the wire in as straight a line as you can with the terminal body.



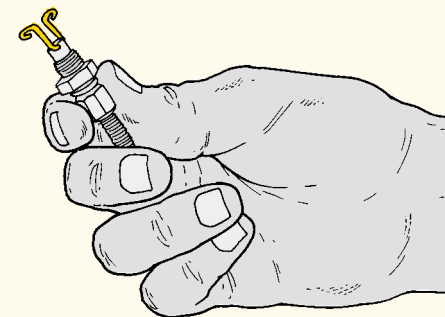
Terminal  
with wire

Next, bend the wire into back-to-back 90° angles. The legs of both angles should be about 1/2 inch long.



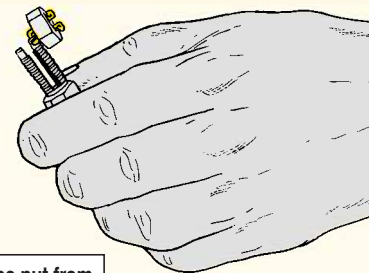
Terminal with  
wire bent at  
90° angle

Bend the ends of each 90° angle down and around into a U-shape.



Terminal with  
wire ends bent  
into U-shape

The homemade clip should hold the nut when you unscrew it to install the cable.



Wire keeps nut from  
falling off terminal

To make safety clips on larger generators, use wire, NSN 9505-00-596-1662.

No wire available? As a temporary fix, you can straighten an ordinary paper clip to make the safety clip.

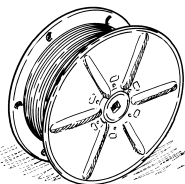


# YOU CAN CALL ME WIRE

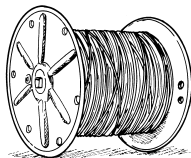
HEY, MACK.  
NICE TO MEET YA.  
I'M MR. TELEPHONE CABLE.  
YOU PROBABLY KNOW ME BY MY  
NICKNAME, FIELD WIRE. I'M THE  
TOUGH GUY THAT CARRIES  
YOUR TELEPHONE  
MESSAGES.  
MOST OF YOU COMMO  
TYPES HAVE MET ME, BUT  
VERY FEW OF YOU KNOW  
ALL YOU SHOULD  
ABOUT ME.

BEFORE YOU  
HANDLE ME, THOUGH,  
YOU'VE GOT TO ORDER ME  
AND MY REEL BUDDIES.  
HERE ARE THE NSNs  
YOU NEED...

Item	NSN
RL-159 (reel only)	8130-00-174-0812



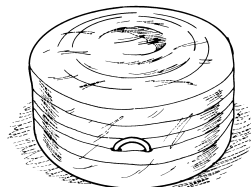
DR-5 (reel only)	8130-00-253-0106
DR-7 (reel only)	8130-00-634-7984
DR-8 (reel only)	8130-00-407-7859
WD-1A on DR-8 (1640 feet)	6145-01-155-4258



# ME WIRE

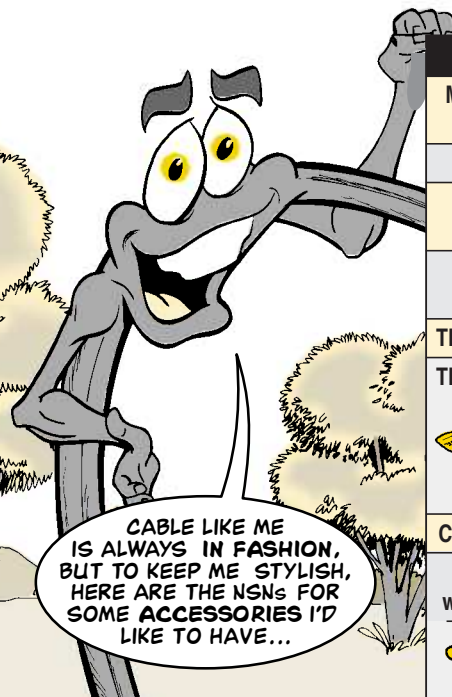
SOME OF YOU GUYS  
HAVE BEEN ASKING ABOUT  
MY WEIGHT FOR TURN-IN AND  
STUFF LIKE THAT. WELL, I'M NOT  
SENSITIVE. HERE'S WHAT  
I WEIGH PER MILE...

Item	NSN
WD-1A on DR-5 (1 mile)	6145-00-220-9933
WD-1A on RL-159 (1 mile)	6145-01-155-4256
WD-1A on MX-306 (1/2 mile)	6145-01-155-4257



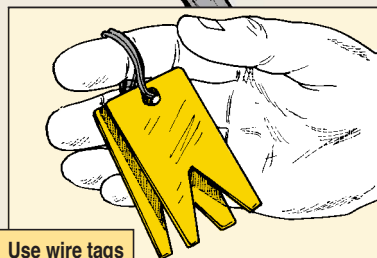
WD-15 (1,000 feet)	6145-00-284-1499
WF-9 (1 foot)	6145-00-112-8581
WF-16 on DR-5 (1 mile)	6145-00-910-8847
WF-16 on DR-8 (1,000 feet)	6145-01-259-9203

Item	Lbs
WD-1	47.5
WD-1A	38.72
WF-16	62

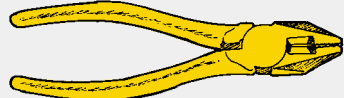


CABLE LIKE ME IS ALWAYS IN FASHION, BUT TO KEEP ME STYLISH, HERE ARE THE NSNs FOR SOME ACCESSORIES I'D LIKE TO HAVE...

Wire Tags (50)	NSN 9905-00-537-
red	8954
yellow	8955
green	8956
white	8957



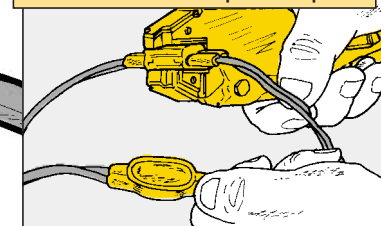
Use wire tags

Item	NSN
MK-356 splicing sleeve kit	5940-00-818-1774
Lance pole	5975-00-407-6371
TL-636 black electrical tape	5970-00-685-9059
TL-600 white electrical tape	5970-00-240-0620
TL-83 friction tape	5970-00-644-3167
TL-29 pocket knife	5110-00-240-5943
	
CS-34 tool carrier	5140-00-498-8898
TL-13 pliers without skinners	5120-00-239-8254
	
	
TL-13 pliers with skinners	5120-00-247-2063

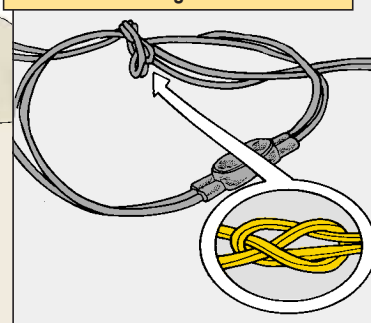
AS TOUGH AS I AM, SOMETIMES I BREAK. THAT MEANS YOU'VE GOT TO SPLICE ME. THE U1R SPLICE, NSN 5940-00-935-8262, WILL HELP YOU DO THE JOB QUICK AND EASY ON WD-1, WD-1A AND WF-16 WIRE.

JUST MAKE SURE YOU USE THE RIGHT CRIMPER WITH THE SPLICE BECAUSE ANY OLD CRIMPER WON'T DO. USE THE E9BM CRIMPER, NSN 5120-01-421-3979.

Center U1R in E9B crimper and squeeze



Tie ends with a single sheet bend knot

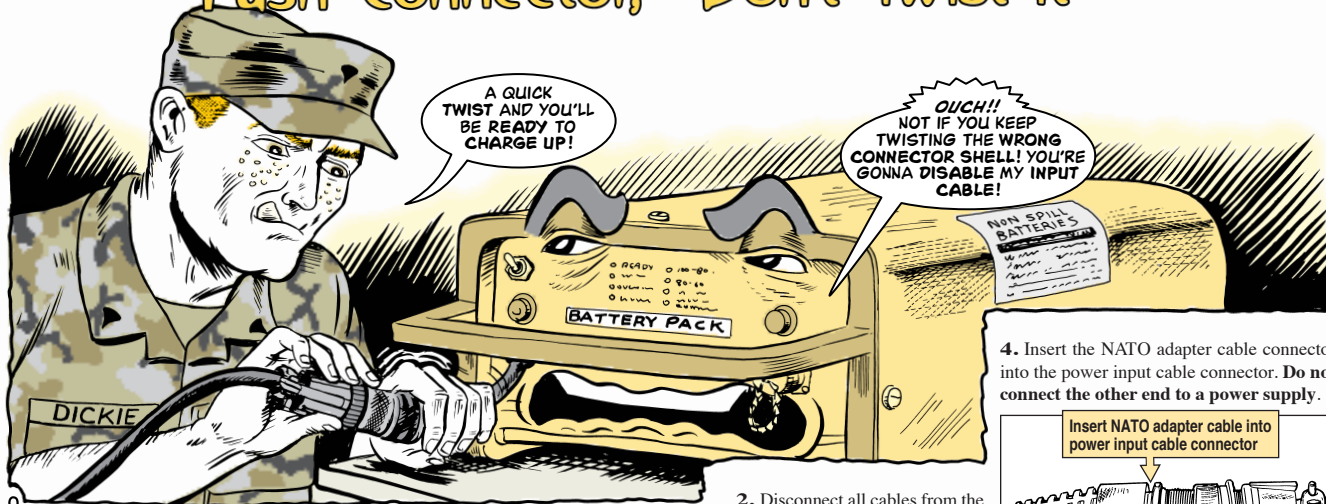


FOR SOME GOOD TIPS ON HOW TO LAY, RECOVER AND REPAIR ALL WIRE, SEE FM 24-20, FIELD WIRE AND FIELD CABLE TECHNIQUES.



NOW THAT WE'RE FRIENDS, ONE MORE WORD—DON'T ABUSE ME. I'M TOUGH, BUT I'M NOT INDESTRUCTIBLE. I'LL LAST LONGER AND CAUSE YOU A LOT LESS WORK IF YOU TAKE CARE OF ME WITH PREVENTIVE MAINTENANCE AND BY-THE-BOOK HANDLING.

# Push Connector, Don't Twist It



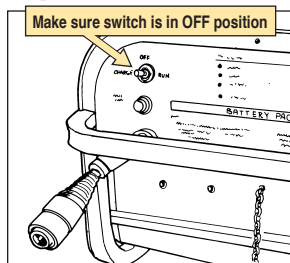
If your unit has a company-level field feeding kitchen kit, NSN 7310-01-455-5710, you could have an electrical cable problem.

When using the modern burner unit's (MBU) NATO adapter cable, NSN 7310-01-454-1241, to recharge the MBU's battery pack, NSN 7310-01-453-6565, some units have melted the cable casing or shorted out the connector on the battery box power input cable—or both.

Why? Because they twisted the shell of the cable connector on the battery box input cable instead of the locking ring. If you have a molded connector on your battery box, you are good

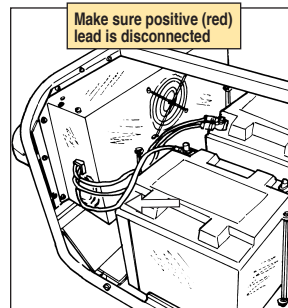
to go. If not, before you use that cable again, make sure the connector's not shorted. Here's how:

1. Turn the toggle switch on the battery pack to OFF.

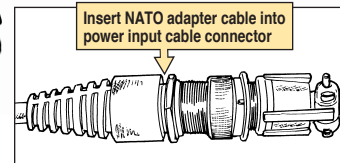


2. Disconnect all cables from the battery pack.

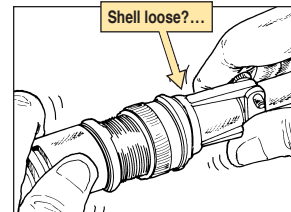
3. Open the battery pack and disconnect the positive (red) lead.



4. Insert the NATO adapter cable connector into the power input cable connector. Do not connect the other end to a power supply.

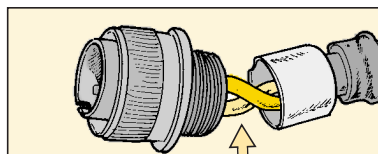
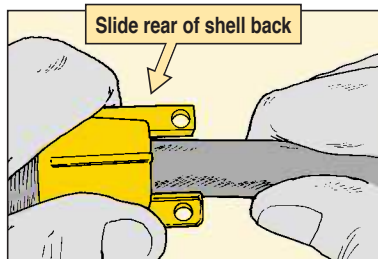
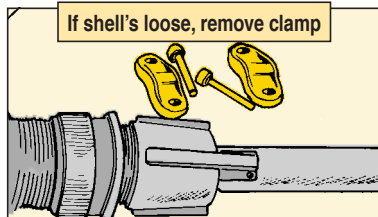


5. Hold the end connector of the NATO adapter, then check to see if the rear shell of the power input cable connector is loose.



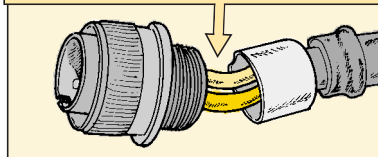


6. If the rear shell is loose, remove the cable clamp, completely loosen the shell by holding the cable housing and rear shell of the connector and slide the rear shell back, exposing the wires under the shell. Check the wires to see if they are twisted. If they are, remove the battery pack from service. If they're not twisted, reassemble the connector and you're good to go.

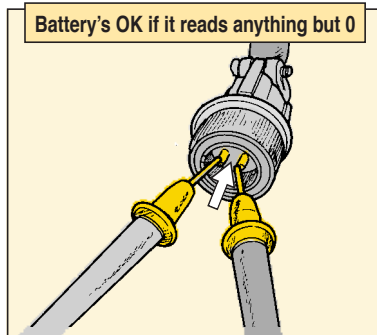


Wires twisted? Battery pack's out of service

Wires straight? Battery pack is good to go



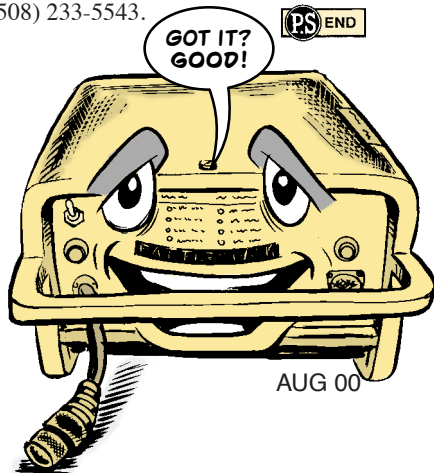
7. If the connection is tight, connect an ohmmeter across the pins of the power input connector. A zero reading means there is a short circuit. Don't use the battery pack. If the ohmmeter reads anything else, the battery is OK.



These actions are temporary fixes and will not prevent the connector from shorting or the shell from twisting. Arrangements are being made to have a manufacturer's representative permanently repair all fielded battery packs.

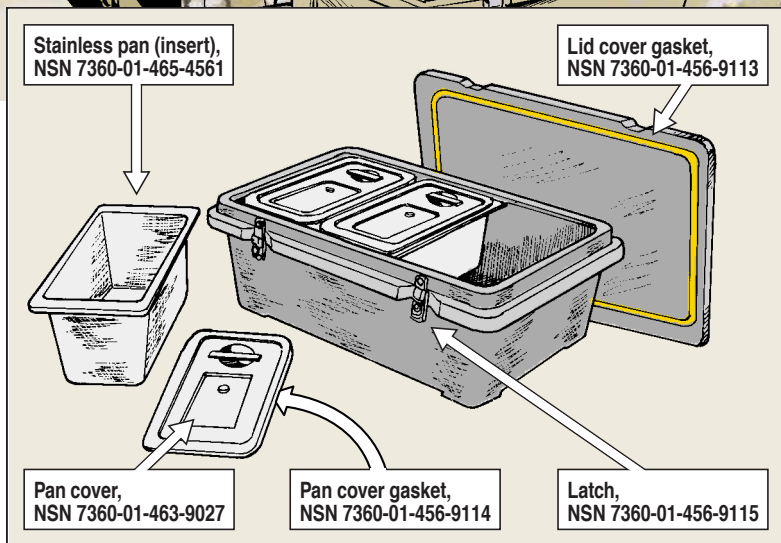
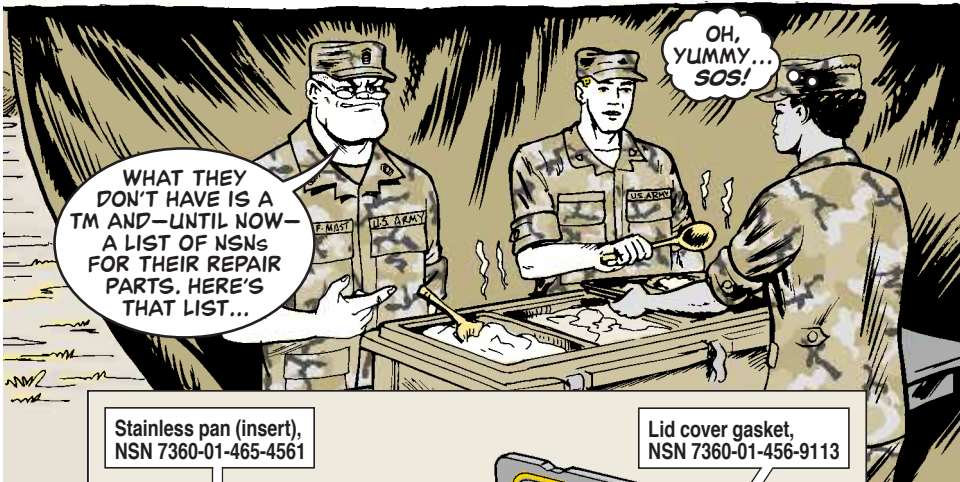
Got more questions? Contact the folks at Soldier and Biological Chemical Command. Call Glenn Doucet, DSN 256-4058 or (508) 233-4058 or Timothy Benson, DSN 256-5543 or (508) 233-5543.

PS END



# Fresh Parts

**T**he Army's new insulated food containers, NSNs 7360-01-408-4911, -452-0686, -419-6261 and -419-8500, are a great improvement over the old model. The new containers serve the same number of soldiers, are easily sanitized, and never need painting. They're also more durable and designed for easy stacking.



Unlike the old containers, no adhesive is needed to hold the gaskets in place.

# High 'n Dry

YOUR WATER STORAGE TANK IS A KEY INGREDIENT IN YOUR RECIPE FOR CLEAN WATER. SO BEFORE YOU STORE IT AWAY, MAKE SURE IT'S DRY AND CLEAN OR IT WILL MILDEW. HERE'S HOW TO GET THE WATER OUT...



Drain the tank through the filler (1) or discharge fitting (2) or both.

Leave the dust caps (3) on the fittings until you're ready to drain the water.

Water starts to drain as soon as you take off the caps.

After the water drains, take off the 10 handles (4) around the edge of the cover from the 10 handle toggles (5). Then take off the cover (6).

If the atmospheric pressure changes during a move, the tank collar (7) and cover float (8) could get damaged. To avoid damage, leave the inflation valves (9) open for movement and storage.

To deflate the cover float, turn the center part of the inflation valve clockwise to open it. Leave it open.

Then deflate the tank collar by turning the center part of the three inflation valves clockwise. Leave them open, too.

To clean the outside of the tank and cover, use a solution of water and mild detergent, NSN 7930-00-880-4454. Rinse the detergent solution off completely with clean water.

Before moving the tank with the lift handles, make sure all the water is drained, or the water's weight could damage the handles or the tank fabric.

If you do damage the tank, repair it with repair outfit, collapsible tanks and drums (ROCTAD), NSN 5430-01-359-1078.

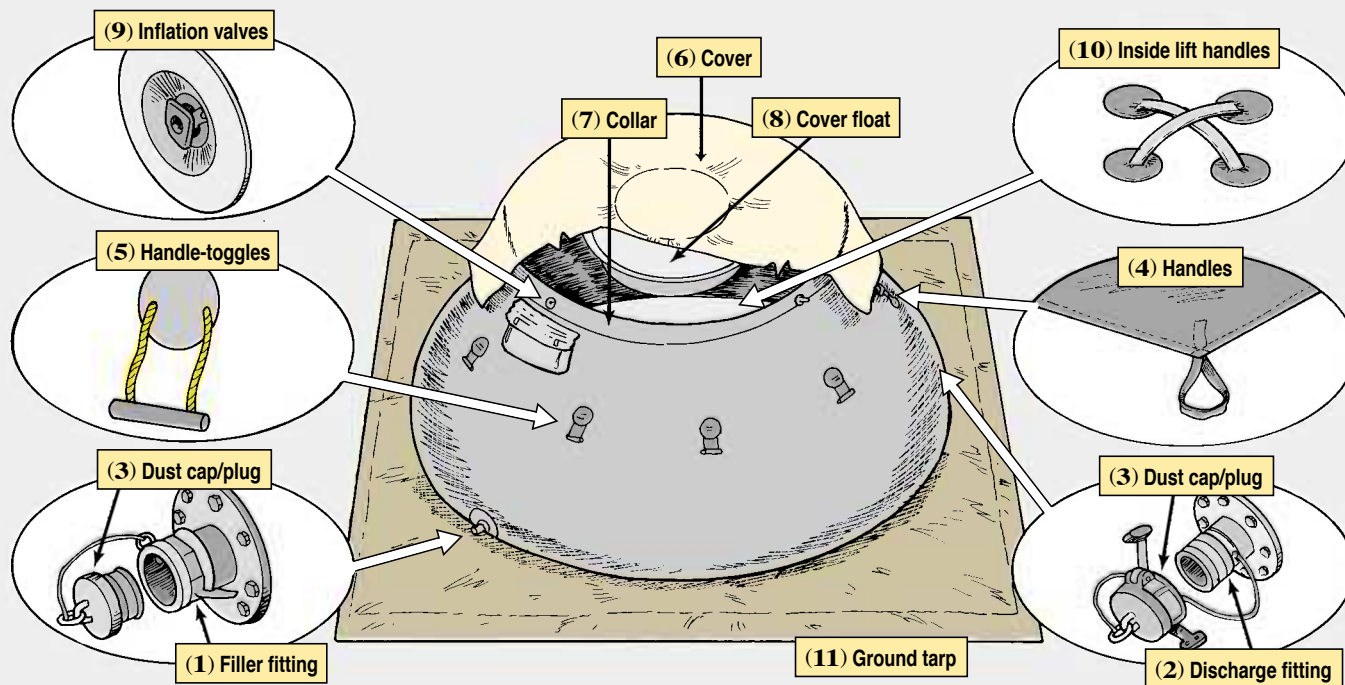
If the inside of the tank is dirty, clean it with the same detergent and water solution. Rinse it **completely**, or you'll taste soap when you drink the water. Hang the tank inside out by the inside lift handles (10) and let the cover and

tank dry completely before folding it.

After the tank is dry, fold and store it like it says in TM 5-5430-225-12&P.

Finally, when you're ready to set the tank back up, make sure you lay down the ground tarp (11) first. That'll keep objects on the ground from puncturing the tank.

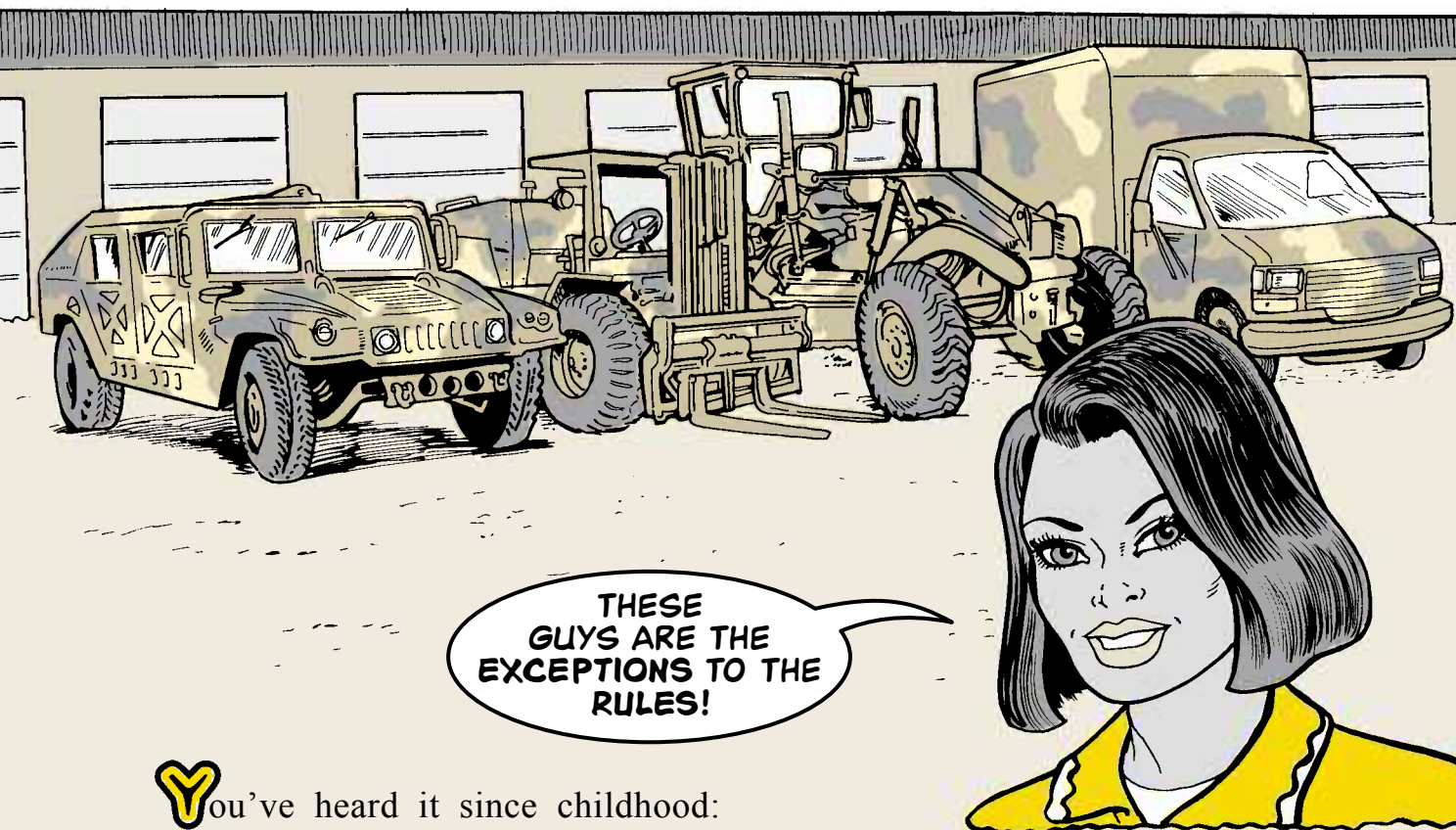
If possible, sweep off the ground before you lay the tarp on it. A full bladder presses down on the ground with a lot of pressure—enough to push a sharp stick or a rock through the tarp and into the bladder.





Supply . . .

# Exceptional Repair Parts



**Y**ou've heard it since childhood: there's an exception to every rule. Well, Army supply rules are no exception to that exception rule.

The exception to the exception data request procedure is ordering repair parts by CAGE code and part number for commercial construction equipment (CCE), material handling equipment (MHE), commercial vehicles or commercial design tactical vehicles.

You handle these part number requests a little differently than routine exception data requests. You don't send the request to the end item manager—in this case the Tank-automotive and Armaments Command (TACOM)—like you do for other exception data requests.

Instead, Para 3-27 of AR 725-50 gives CONUS units the option of going local purchase or sending their DD Form 1348-6 to RIC S9C using these projects codes in card columns 57-59:

Equipment	Project Code
CCE	JZC
MHE	JZM
Commercial vehicles/ commercial design tactical vehicles	JZO

OCONUS units must submit **all** their part number requisitions for this equipment to RIC S9C using the project code cited above.



### FMTV Hydraulic Fluid

Don't be tempted to use the same hydraulic fluid in your FMTV's air-hydraulic power unit that you use in the hydraulic reservoir for the winch or crane. Use only MIL-H-5606 OHA in the air-hydraulic power unit. OE/ HDO-10 or OEA cannot be used. They will cause system check valves to lock up. See Page F-3 of TM 9-2320-365-10 or TM 9-2320-366-10.

### AS-39 16 Antenna Nut

NSN 1560-01-435-8079 gets a collet—retaining nut—for connecting antenna elements to the base unit of your SINCGARS AS-39 16/ VRC antenna. Until TM 11-5820-89 0-20P is changed, pencil in this NSN next to Item 15 in Fig 108A.

### “Fuel Sample Buddy” Correction

One NSN got switched and another was omitted in our chart on Page 37 of PS 569. NSN 59 35-00-572-5174 gets the ground connector tip plug. NSN 59 40-00-143-479 4 gets 100 No. 10-32 connectors.

### LOGSA Data on the Web

LOGSA has put links to its Army logistics information on one Internet site: WebLOG. Need information on maintenance, supply, assets or readiness, for example? Get it at [http:// webLOG.army.mil](http://webLOG.army.mil)

You will need a password for all report queries, but it's easy to apply on-line, just click on SAR at the bottom of the page. LOGSA plans to add more products as they are developed.

### HMMWV Power Steering Pump

When the power steering pump, NSN 2530-01-168-7876, for basic and A1-series HMMWVs goes bad, you'll have to replace it with the pump used on the A2-series vehicles, NSN 2530-01-460-2439. The old pump is obsolete. Make a note of the new NSN for Items 5 and 21 in Fig 146 in TM 9-2320-280-24P-1. The part number is RCSK18330.

### M43 Mask Battery

The mask blower for M43 aircraft protective masks won't be doing much blowing if NBC NCOs aren't careful storing the blower's BA-509 3/ U batteries, NSN 6135-01-216-9771. Batteries stored in unventilated, hot sheds or vans quickly lose their power. Store the batteries in a cool area if possible, or at least in an area that is ventilated.

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

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