



**THE
PREVENTIVE
MAINTENANCE
MONTHLY**

TB 43-PS-577, 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:

ERIC K. SHINSEKI

General, United States Army Chief of Staff

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Administrative Assistant to the Secretary of the Army
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THE PREVENTIVE MAINTENANCE MONTHLY

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How PVT Grinch Stole PM
... See Page 27

Exercise Good PM



NCOs, you already set aside a big chunk of each workday to make sure your soldiers get the PT they need to do their job.

But make sure you set aside another chunk of time to make sure the equipment they'll use gets the exercise it needs, too.

It's not PT then—it's PM.

Equipment can wear out just by sitting too long. Without regular exercise:

*Hoses get soft and mushy or dry rot

*Polished surfaces—like cylinder rods—corrode, then cut seals the next time you operate, causing leaks

*Seals dry rot

So keep equipment fit. Set up a schedule for your operators to run their equipment for 20 minutes or so at least once a month.

While they're at it, have 'em look for leaks under equipment and shiny spots or rust around nuts and bolt heads. Have 'em listen for unusual noises, too. In short, they should fix or report anything that doesn't look, feel, smell or sound right.

Make this monthly exercise part of your unit's PM program. Then your unit's equipment will be as ready for duty as your soldiers are.



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HMMWV ...

Serpentine Belt Tool Plans

Checking the alignment of the serpentine belt used on M998A2-series and M1113 and M1114 trucks is a whole lot easier if you have a tool specially designed for the task.

With the tool, you can tell if the belt pulleys and brackets are aligned right. If they're not, the belt gets chewed up and thrown off.

Plans for the homemade tool are found in TB 43-0001-62-2 (Jul 99) on Pages 9-22 through 9-24. Info on how to use the tool and make any necessary adjustments is also found in the TB, starting on Page 9-25.



All this info is also in Change 2 (Jun 99) to TM 9-2320-280-20-2.

If you don't have the change or the TB, contact your local TACOM logistics assistance representative. Still no go? Send Half-Mast your mailing address and he'll get you the info.



Straight Fins Are Cool

YEAH, BABY!

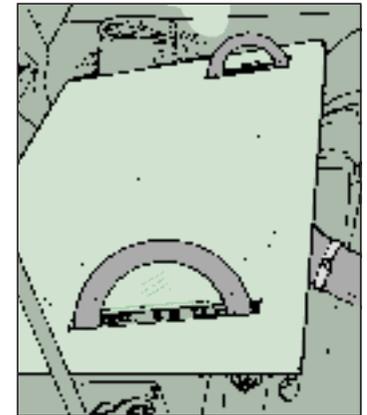
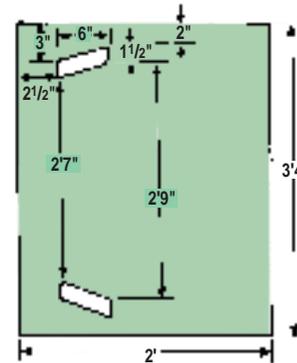


Raise the hood on any 10 HMMWVs and you'll find bent radiator and oil cooler fins on at least 7 of them. Why? Because the fins get bent by feet, tools and other heavy stuff during PMCS and repair work.

OK, so the fins get bent. So what? So, when enough of them are bent, the flow of air through the cooler and radiator is restricted. That leads to engine and transmission overheating.

What can be done about it? Plenty. Make and use a fin protector for all those times you've got to get up close and personal with the engine area. Here's how:

Cut a piece of 3/4-in plywood like so:



After you've finished your PMCS or repair work, remove the protector, replace the eye hook seals and check the cooler and radiator for bent fins. Line 'em up with the fin straightening tool, NSN 5120-00-157-2180, in the Common shop sets.

HMMWV ...

Halfshaft Retaining Screw Tight?



THESE CAPSCREWS ARE TIGHT... HUH?

HOLD IT! YOUR INSPECTION IS ONLY HALF DONE IF YOU DON'T CHECK INSIDE THE HUB!

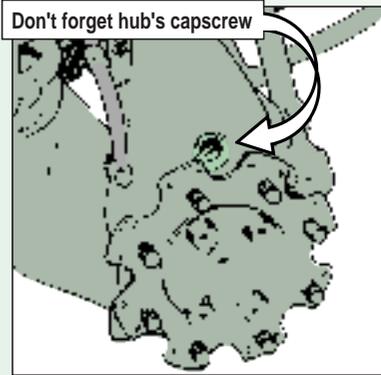
Vibration loosens the halfshaft capscrews on HMMWVs, making an occasional tightness inspection in your own best interest.

Make sure that you check **all** hardware holding the halfshafts in place, but especially the retaining capscrew **inside** each geared hub.

It's relatively easy to see if the capscrews at the differential end of the shaft are loose. Look for shiny spots around the screws.

If you see a loose screw, replace both the lock washer and the screw. Remember to dip the screw in sealing compound, NSN 8030-01-171-7628, before installing it. That'll help keep the screw tight. Then torque it to 48 lb-ft.

It's not so easy to check the capscrew in the hub. You must remove an access plug to get to the screw, then you must use a torque wrench to tell if the screw is loose.



If the screw shows 37 lb-ft torque, it's tight. If the screw shows less, get rid of it and the lock washer. Install a new lock washer and screw, remembering to dip the screw in sealing compound. Torque the screw to 37 lb-ft.

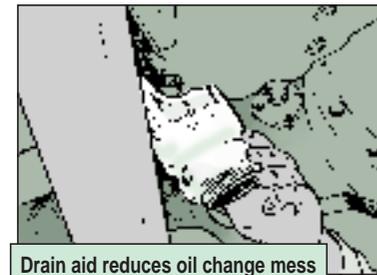
Check both ends of the halfshaft for tightness at every 6-month service.

FMTV ...

Transmission Draining Aid

One way to reduce the mess made in draining oil from an FMTV's transmission is to make yourself a draining aid.

Cut a quart-size sports plastic drink bottle to fit around the drain hole and part of the oil pan, so that most of the oil goes through the bottle into your drain pan.



Drain aid reduces oil change mess

The only mess comes when you remove the drain plug and put the bottle in place. The quicker you are, the less oil gets on the exhaust pipe, where most of it usually goes, or on the ground.



HERE'S A CHEAP AND SIMPLE WAY TO KEEP TRANSMISSION OIL FROM MAKING A MESS OF YOUR FMTV AND MAINTENANCE AREA!

Lube the Cab Hydraulic

You may not know it, but the pivot points for the cab hydraulic cylinders on your FMTV get no lube. You got it—**none, nada!** But that's going to change because they need lube!

New versions of cab cylinders with grease fittings to lube between the cylinder eye and the pivot pin are in the works. But here's what you need to do now to prevent damage that could let the cab fall.

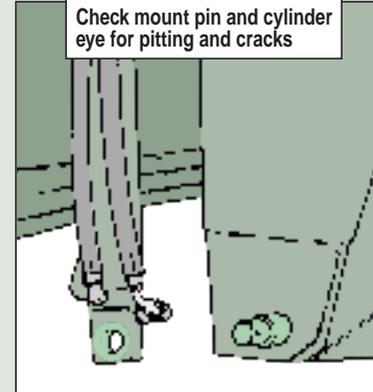
The next time you raise the cab, get out the oil can and squirt some OE/HDO on the eye and pin as the cab is lowered back into place. Do this at least monthly as part of regular PMCS. Make a note of the service in your -10 TMs until they are updated.

If you have not inspected the lift cylinder according to TACOM Ground Precautionary Message 00-007 (May 00), get a copy and do the inspection **now**. You'll need to remove the cylinder, clean up the inner mounting surface of the cylinder eye and the mounting pin, and apply some molibdenum disulfide grease.

Turn to Para 19-10 of TM 9-2320-365-20-4 or Para 19-11 of TM 9-2320-366-20-5 for details on removing and installing the cab hydraulic cylinder. You'll need to make and use a cab support tool, too. Plans for it are found as Item E-4 in Appendix E.

Once you've got the cylinder off, clean the cylinder eye and mounting pin. Look for pitting and cracks on all surfaces. If the pivot pin has any cracks or is severely pitted, it must be replaced. See the GPM for details on all pivot pin damage.

Cylinder



Once the surfaces are clean, apply a film of molybdenum disulfide, NSN 9150-00-935-4018, to them. Reinstall the cylinders, and you're good to go. Then, every month put OE/HDO on the eye and pin locations.

Winch Slow, Save MHE Control

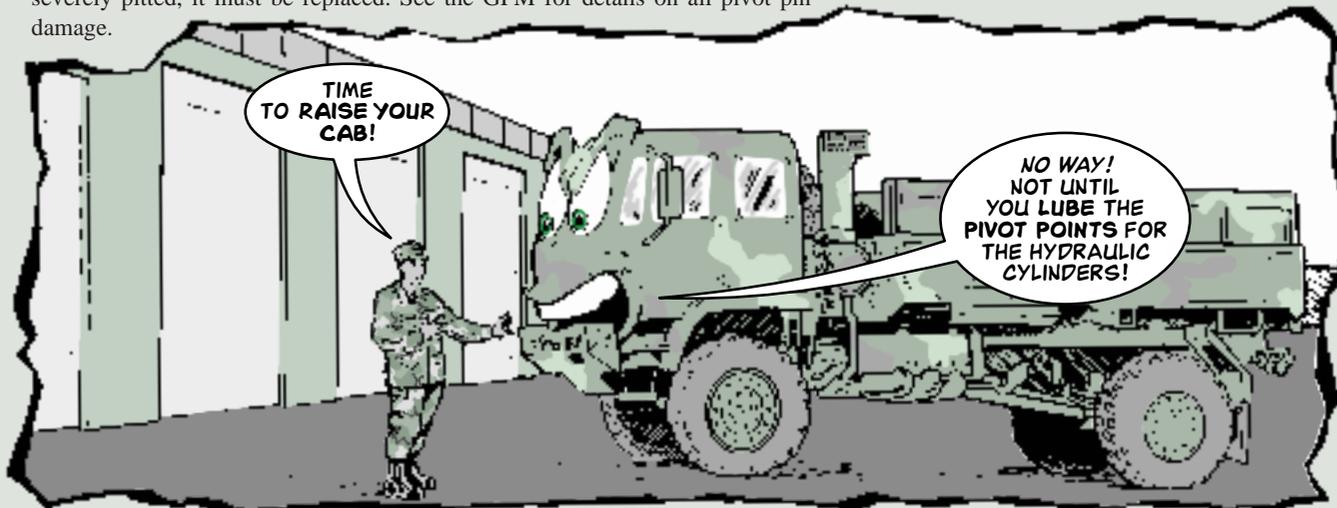
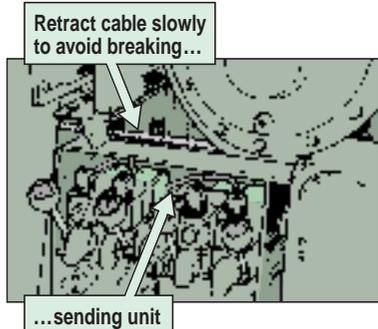


There's a sure-fire way to prevent damage to the material-handling equipment controls on FMTVs.

Do not reel in the winch cable too fast. Left loose and reeled in at full speed, the cable can whip—move sideways—with a lot of force.

The MHE controls are in the way and unprotected. The whipping cable breaks off sending units.

Prevent damage by simply bringing in the cable slowly.



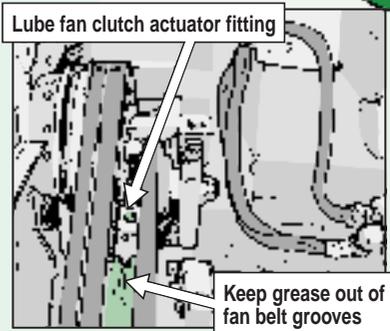
Lubing Forget-me-nots

Tie a string around a finger or write yourself a note, operators, but don't overlook a few often overlooked grease fittings on M915-series and M915A1-series tractor trucks.

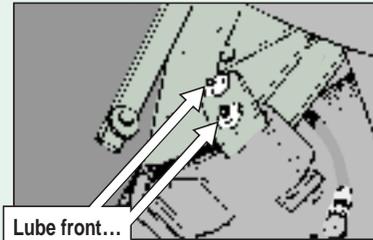
First of all, make sure you lube fan clutch actuators that have grease fittings. Some actuators are sealed and cannot be lubed. Look right behind the top fan belt pulley—a spot that's easy to overlook—for a grease fitting.

Without lube, the actuator burns out. Then the fan won't cool off the engine, the engine overheats and your truck is NMC.

When pumping grease into the fitting, make sure **not** to get any grease in the fan belt grooves. Greasy grooves cause the belt to slip.



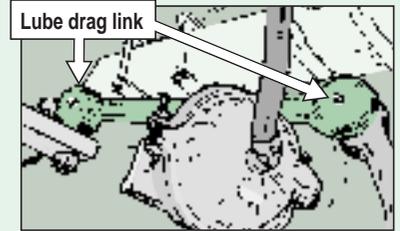
Second, make sure you lube the leaf spring bushings at the hanger brackets. Lubed bushings keep the springs riding freely up and down. Give them four or five pumps of grease during scheduled services.



ing area. Be careful, though, not to damage the rubber bushing insert ends.

Also, grease may go in easier if you jack up the truck to take the load off the springs.

While you're at it, make sure the fittings for the drag link are lubed, too. All these fittings keep suspension parts lubed for a better ride and longer life.



If the fittings will not accept grease because the old grease inside is too hard, try warming the fitting and bush-

Before you pump the gun, be sure to wipe off the fittings so you don't shoot dirt into them.



M915, M915A1, HEMTT . . .

Air Dryer Service

You don't have to spend a mint to service the air dryer on your big trucks.

Some mechanics clean the dryer by replacing the entire cartridge, but that's not necessary and it costs a lot of money.

Smart mechanics know to clean the dryer by using desiccant parts kit, NSN 4440-01-081-1391. The kit has everything you need, including instructions, to make the cartridge as good as new.



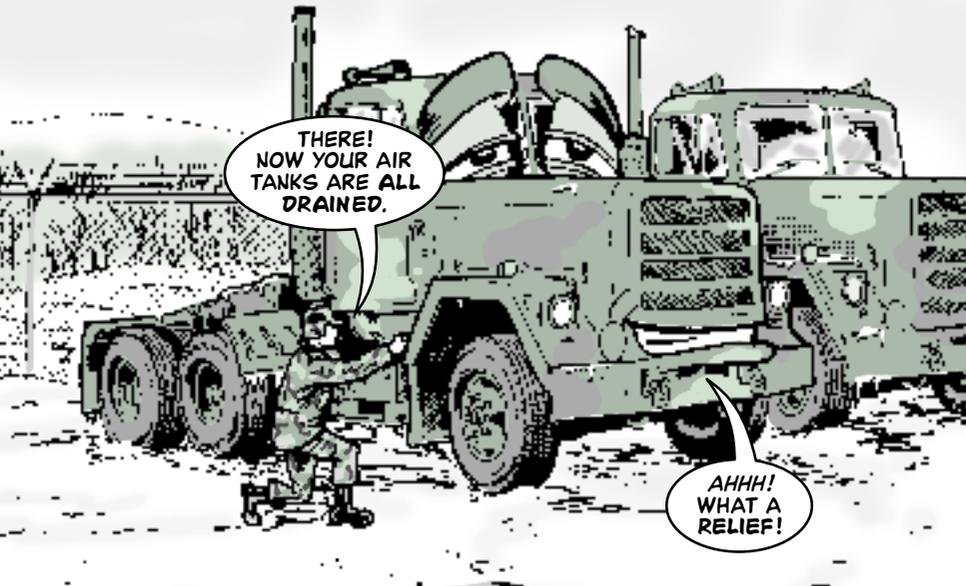
Leave No Water in Air Tanks

Leaving water in the air tanks of any truck is bad news in freezing weather, but it's really bad news for M915-series trucks.

Not only do you get the usual braking problems, but the water gets into the air lines and ends up in the transmission control group. That causes the transmission to grind and miss gears.

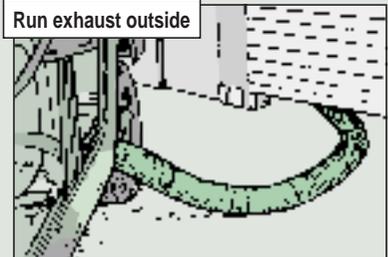
Draining the air tanks just once may not get all the moisture out. To make sure, let the air pressure build up again after you've drained the water out once. Then drain the air tanks again. Keep doing this until no more water comes out of the tanks.

Drain the air tanks every day the temperature is below freezing, whether you drive the truck or not. Be sure to service the air dryer desiccant filter, too, when scheduled.



Running vehicles indoors without ventilation is asking for trouble and courting death. But that's what happens in many motor pools during cold weather.

You can fix the problem by running exhaust fumes safely outside with flexible exhaust extensions.

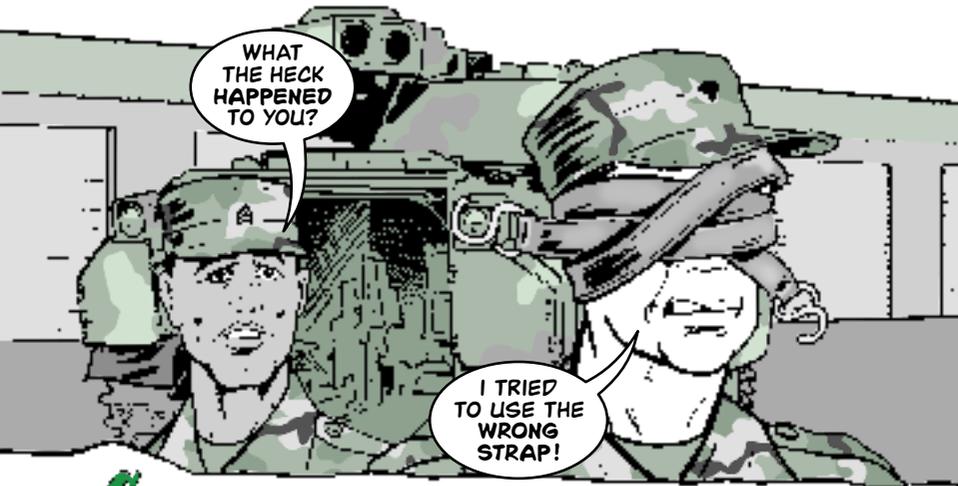


You need a snug fit of extension-to-exhaust pipe to prevent leaks, so eyeball this list of extensions that fit common tailpipe sizes:

NSN 4720-00-	Inside diameter
174-4668	1 inch
278-8030	1½ inches
278-8027	1¾ inches
278-8031	2 inches
174-6818	2½ inches
174-4664	3 inches
174-4671	4 inches

The unit of issue is feet, so order the length you need.

Don't Use the Wrong Straps



Crewmen, always use the elastic strap called for in your TM when stowing equipment in your Bradley.

A strap used in the wrong place or for the wrong purpose can snap or slip loose. You could lose an eye if that happens.

Here's a list of the authorized straps and where to use them on all Bradleys.

Even the right straps can be dangerous if you don't use them safely:

- ❖ Keep your face away from the release path when putting a strap in place. If the strap breaks, it can fly up and hit you in the face.

Vehicle	Use	Strap NSN 5340-01-
M2, M2A1	Ball port weapons	196-4677
M2, M2A1, M2A2	Missiles (vertically)	312-9553
M3, M3A1, M3A3	25mm ammo box	196-4677
M3, M3A1, M3A2 M3A2 ODS, M3A3	Missile rack	198-0508
M2A2, M2A2 ODS	Right squad bench seat	461-3805
M2A2, M2A2 ODS	Left squad bench seat	457-0202
M3A2, M3A2 ODS, M3A3	Bench seat	459-7941
M7 BFIST	NBC decontamination box	196-4677

Software Updated



It lets you test the latest Bradley ODS variant, which is the M7 Bradley Fire Support Team Vehicle (BFIST). It also improves the tests on all other Bradley versions except the M2A3 and M3A3, and allows testing of all M1-series tanks except the M1A2 System Enhancement Package (SEP).

Updated sets will have blue and white stickers that say, THIS UNIT IS EQUIPPED WITH C14 PROGRAMMING on the vehicle test meter (VTM) and controllable interface box (CIB), as well as on their carrying cases.

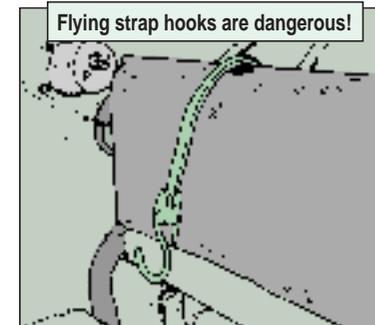
If you're not sure your set has been updated, or if you have questions about test procedures, contact your local TMDE support center or call the STE-M1/FVS tech line:

**(800) 882-7287 (CONUS)
0-9662-9630 (Germany)**

- ❖ Properly secure the strap. When stretching an elastic strap, make sure you secure it to the attachment point shown in the TM. Then bend the strap hook slightly to keep it from coming free. Double check to make sure the hook can't be knocked loose accidentally.

- ❖ Never use damaged straps. Damaged straps can snap suddenly and send one end flying. Eyeball the straps for cuts and cracks. If you find one, remove it and order a new strap.

- ❖ Never use a commercially available strap. They may snap or slip loose unexpectedly. Even authorized straps don't have part numbers marked on them, so it's easy to use them in the wrong place.



Double check the part number or NSN on the package and make sure you use it where the TM says. You may also want to etch the part number or NSN on the strap hook so you can readily identify where the strap is supposed to be used.

PM on the Range



P-M ON THE RANGE!
 WHERE THE RECOVERY
 VEHICLES PLAY!
 AND SELDOM YOU'LL SEE,
 ANYTHING NMC,
 AND YOUR SERGEANT'S NOT
 SCREAMING ALL DAY!

The M88A1 recovery vehicle is a workhorse. But it'll still pull up lame if you abuse it.

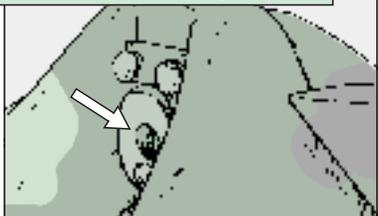
Ride your workhorse into the sunset by following these helpful hints:

Lots to Lube

Always lube and exercise your M88A1's components step-by-step like the TMs tell you. If you don't, out-of-the-way spots like the boom pins and blade latch will be missed.

If corrosion gets to either, your vehicle is out of business until support can replace the parts.

Remember to lube boom pivot pins...



...and blade latch



The buildup is often bad enough to clog the hull drain plugs. When that happens, you'll have to pull the floor panels and shovel out the muck.

Trash builds up under floor panels



If you don't, the oily mess eventually damages wiring harnesses, hydraulic lines, fire extinguisher tubes and other parts in the hull. And if a fire should start, that muck will only feed it.

You can prevent these problems by storing trash in a plastic bag for later disposal. Then make sure you clean under the floor panels at least once a year.

Where'd They Go?

When you take off rigger seats, pioneer equipment racks, and auxiliary power unit covers for PMCS, repairs, or training, make sure you put them back on when you're through. They get lost if you forget. Then you'll have to replace them with new ones.

Don't leave off components such as pioneer equipment racks



Too **much** lube is a problem, too. Take the engine oil level, for instance.

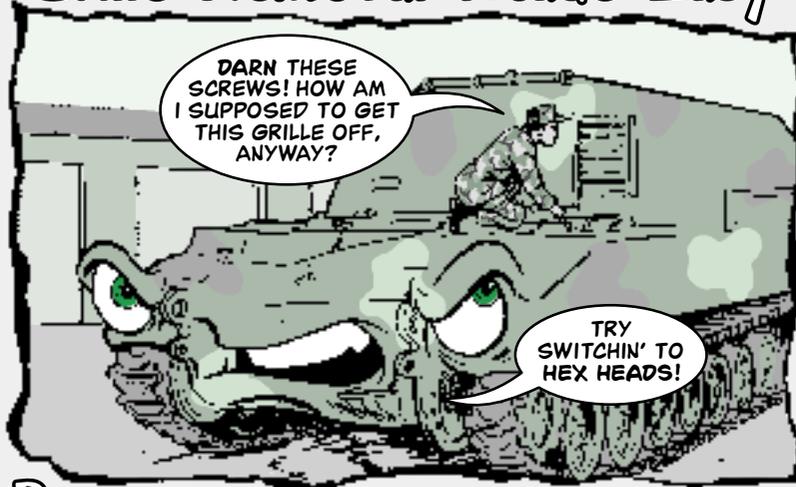
Since the powerpack is set at a slight angle, overfilling the crankcase can cause oil to blow out the filler tube and onto the hot powerpack—especially when you're driving on a slope. That's a real fire hazard.

So check your TM and add only the amount of oil indicated by the dipstick.

Mr. Clean

Dirt and oil have a habit of building up under the crew compartment floor panels. And when you combine them with MRE wrappers, cans, paper and other trash, you've got a mess that causes all kinds of problems.

Grille Removal Made Easy



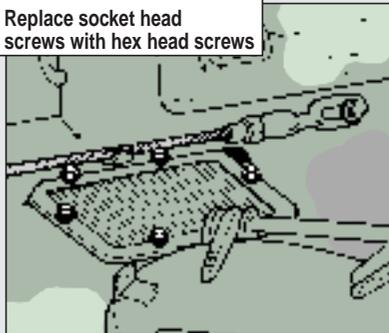
Drivers, the personnel ventilator on your M992A2 ammo carrier has an important job. It pulls in cool, outside air to help keep you comfortable and vents dangerous fumes from the crew compartment—like when the automatic fire extinguisher system (AFES) is activated.

That's why it's important to keep dirt, leaves and other debris cleaned out of the ventilator exhaust. If the exhaust is clogged, there's no airflow and your vehicle is NMC.

At least monthly, remove the grille covering the exhaust and clean out any debris that has collected. You may have some problems with the grille's rear socket head screws, though. Because the screw sits just under the tow cable, you'll have a hard time getting your socket wrench in place to remove them.

Once the grille is finally off, save yourself aggravation next time by replacing the socket head screws with regular hex head screws, NSN 5305-00-719-5219. You can remove them without having to move the tow cable.

Replace socket head screws with hex head screws



Are You Covered?

Dear Half-Mast,

The cover on my Paladin's engine impeller fan is dinged and banged up to the point that the fan vibrates too much. I've looked in the parts TM, but can't find a replacement cover.

It seems a shame to order a new fan just because of a bad cover. Should I try to find one through my cannibalization point?

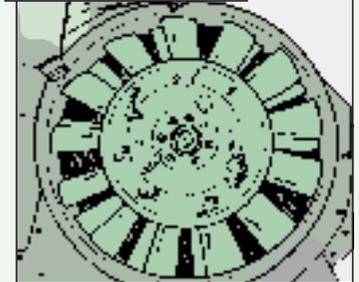
SGT J.W.C.

Dear Sergeant J.W.C.,

The fan cover is not stocked because impeller fans are high-speed balanced at the factory with the covers in place. Exchanging a damaged cover for another one will result in an unbalanced fan that will vibrate enough to eventually fail.

Always replace the entire fan, NSN 4140-01-284-5722, whenever the cover is damaged enough to cause noise or excessive vibration.

Cover damaged? Replace engine impeller fan



Half-Mast



Locking Nut Locked?

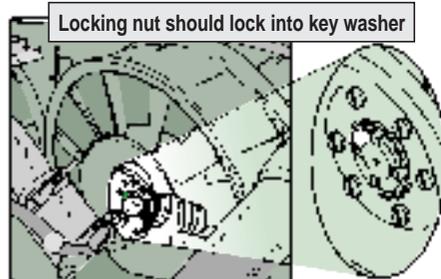
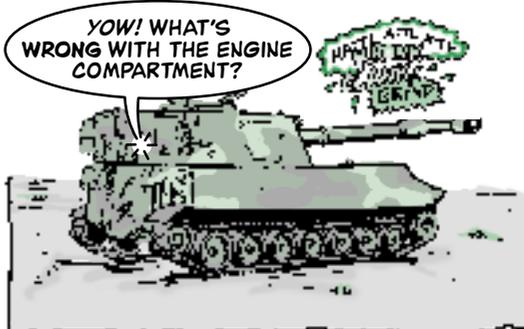
Crewmen, an impeller fan that gets loose in the engine compartment of your howitzer or ammo carrier can cause a lot of damage.

That's why it's a good idea to check the locking nut, NSN 5310-00-059-2831, on both of your vehicle's impeller fans before each operation. Here's how:

Make sure the locking tab of the key washer, NSN 5310-00-045-3812, is locked into one of the slots on the locking nut. Then try to turn the locking nut by hand.

If the nut is loose or missing, your vehicle is NMC. Call in your mechanic.

Make a note of this new before-operation check until the TM can be updated.

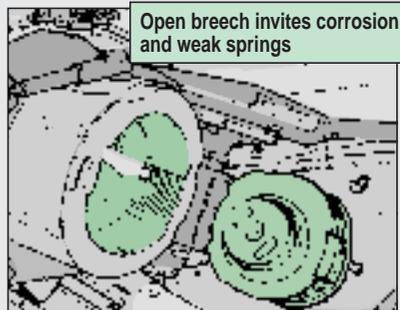


An Open and Shut Case

Before you locked up your M109-series howitzer for the night, did you remember to close the breech?

Leaving the breech open puts a lot of extra stress on the leafsprings. Pretty soon those leafsprings lose their spring and you'll have a hard time closing the breech.

Keeping the breech closed also helps keep condensation from forming. That keeps corrosion problems to a minimum.



Silence Is the Best Sound



Scree-e-ech!

If that's the sound the driver's hatch stop makes on your M109A6 Paladin, then you've got a corrosion problem.

On some older Paladins, the shoulder pin inside the hatch stop is made of carbon steel. It corrodes easily, making it hard to lock open the hatch.

If the hatch isn't properly secured, you'll also be hearing bells—right after the hatch swings closed on your head.

Stop **all** the sound effects by lubing the pin monthly with OE/HDO. Just a few drops where the pin attaches to the stop does the trick. Then exercise the stop to spread the oil along the length of the pin.

Put a few drops of OE/HDO here



If the pin is already corroded, notify your mechanic. He'll have to replace it with NSN 5315-00-133-7968.

Check the driver's hatch stop as part of your before-operation PMCS. Then make a note of the new check until TM 9-2350-314-10 can be updated.

Safe Sling Loading

Dear Editor,

Sling loading an M119A1 howitzer can be tricky and dangerous business, especially when it comes to locking the sling chains in place on the wheel hubs.

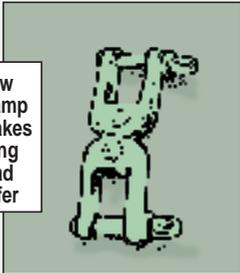
FM 10-450-4, Multiservice Helicopter Sling Load: Single-Point Load Rigging Procedures, tells you to lock the chains in place by tying the links together with 1/2-in tubular nylon rope.

Unfortunately, the rope can come untied. It can also stretch and let the chains slip off the hub. Then it's raining howitzers!

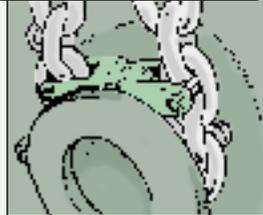
We found a clamp that works much better than nylon rope. It's made of steel so there's no stretching and it locks into the hub groove, eliminating any chance of slippage. The clamp can be used for both 10,000-lb and 25,000-lb sling loads.

There is no NSN for the clamp yet, so you have to order it on a DD Form 1348-6 using CAGE code 1CXX6 and part number (PN) 50156-HD08.

New clamp makes sling load safer



Steel clamp won't stretch and locks inside hub groove



Each clamp costs about \$22, but you get a discount by ordering larger quantities. For details, contact the manufacturer, Suncor Stainless, at (781) 829-8899 or e-mail them at:

sales@suncorstainless.com

You can also buy the clamps over the Internet using a government credit card. Go to:

<http://www.suncorstainless.com>

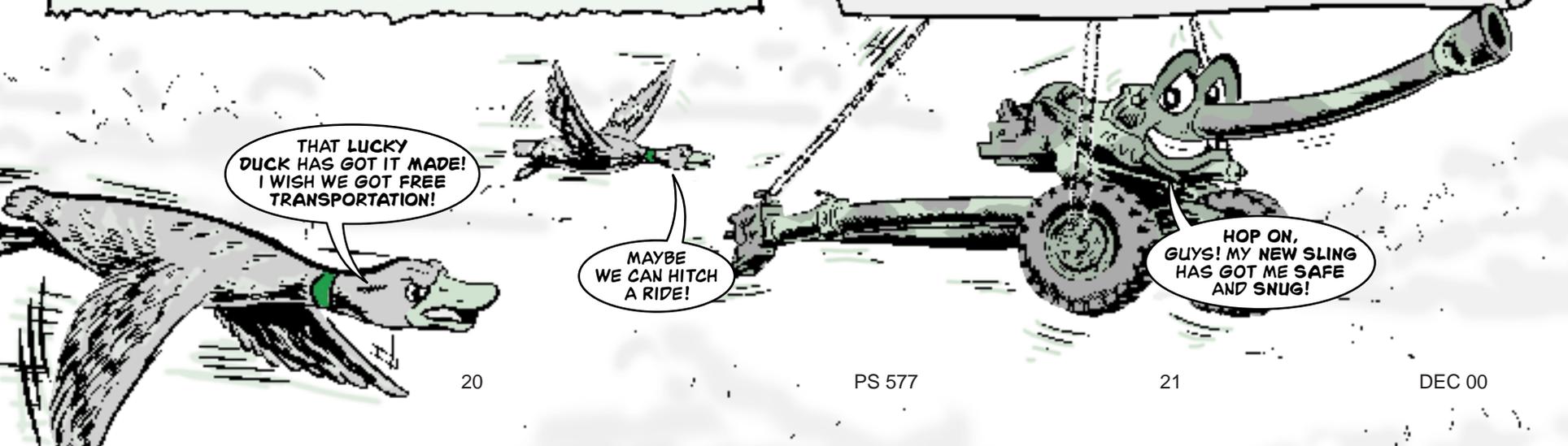
and click on Rigging. Then click on Heavy Duty Jaw & Jaw Swivel.

Enter the quantity of clamps you want under PN 50156-HD08, click on CLICK TO BUY, and follow the rest of the instructions.

SFC Mark A. Lee
HSB, 3/320th FA
Ft Campbell, KY

FROM THE DEER OF THE 

Good job! The clamp has been approved for use by the US Army Soldier Systems Center (Natick), the Quartermaster School and Tank-automotive and Armaments Command-Rock Island. It will eventually be added to FM 10-450-4 and the M119A1's TM 9-1015-252-20.

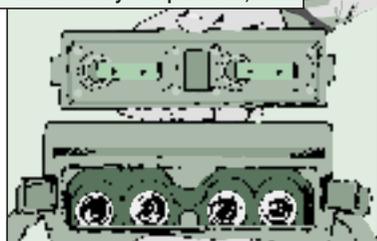


Detection Begins

Your AN/PSS-12 mine detector won't be leading you safely through mine fields if you haven't yet detected the best ways to operate and maintain it. Good detecting begins with PMCS.

So, eyeball the battery compartment, the compartment lid and the headphone cable connector for dirt and corrosion. If either the compartment, lid, or connector are dirty or corroded, the detector won't work or you won't hear its warning. Usually you can tap out or gently shake out most of the dirt. If you can't get out all of the dirt, tell your repairman. Clean off any corrosion with a pencil eraser.

Check battery compartment, lid...

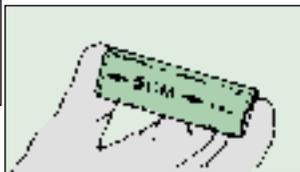


...and headphone cable connector for dirt and corrosion

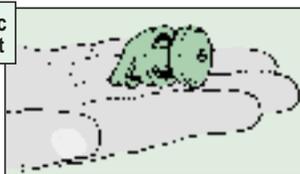


Make sure you have the test piece and the extra plastic wing nut for the search head. Without the test piece, you can't check the detector's sensitivity. If the test piece is missing, get a new one with NSN 6665-21-907-1022. The NSN listed on Page A-2 in TM 5-6665-298-10 is wrong.

Check for test piece and...



...plastic wing nut



with PMCS

Without the extra wing nut, you can't replace a broken nut in the field. Then your detector is out of business. The new nut is NSN 5306-21-907-8384.

In the Field

Set the volume to the lowest level that you can hear comfortably. If the volume is too high, you're less likely to notice sound fluctuations, plus you can damage your hearing.

Set volume low



Secure the headset strap **under** your chin, not **on** your chin. With the strap under your chin, the headset will stay glued to your ears and you won't miss a warning signal.

Put strap under chin



Shutdown

Take out the batteries at shutdown.

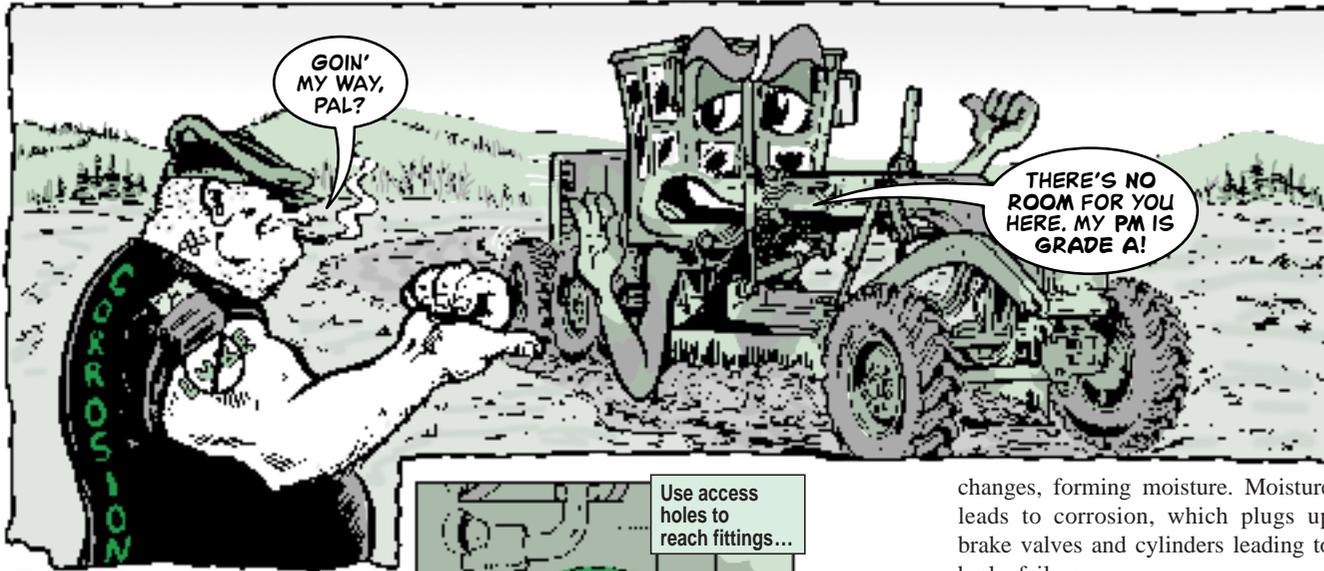
If the batteries are left in the detector, they can leak and damage or ruin the detector.

Remove batteries



If the corrosion has eaten away metal on the contacts or lid, tell your repairman. They need to be replaced.

Two for the Road



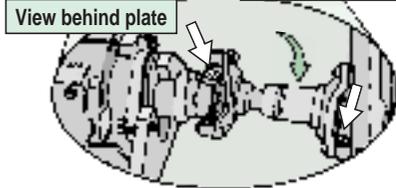
Operators, here are two PM reminders that'll help keep your road-grading operations corrosion-free.

Lube Hydraulic Pump

Three grease fittings on the grader's hydraulic pump are often missed during scheduled maintenance.

Without lube, the U-joints on the pump's drive shaft shake loose from vibration and excessive wear. Also, the shaft's bearings rust and burn out.

Eventually, the drive shaft and pump stop working. Then, no hydraulic fluid gets pumped to the grader's blade, circle drive, scarifier or front wheel tilt. End result: an NMC grader. So always give each fitting 4-5 pumps of grease during scheduled services.



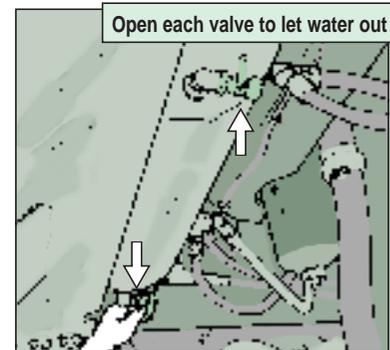
Bleed the Brakes

It doesn't matter if you're at the worksite or in the motor pool, you must bleed your grader's air brakes after each use.

That's because air in the brake system will condense due to temperature

changes, forming moisture. Moisture leads to corrosion, which plugs up brake valves and cylinders leading to brake failure.

So drain the water from the air tank after each day's run. Just open the drain cocks on each side of the tank and leave them open until no more water comes out. Close the valve tightly when you're done.



Let the Water Out

Operators, you've got to drain the M917A1 dump truck's fuel/water separator after operation.

Not draining the separator leaves water and crud in the vehicle's fuel system. Then the engine runs rough...or not at all.

Open the separator—located under the engine on the roadside of the vehicle—by turning its drain cock counterclockwise. Store drained fuel in an approved hazardous waste container. Never dump it down a drain or on the ground.

If the fuel is clear, you're OK. If the fuel doesn't run clear, close the valve and report it to your mechanic.

Also, make sure your mechanic replaces the fuel filter twice a year.



Drain fuel/water separator after each use

SEE ...

Expansion Tank Markup



Some operators forget to check the coolant level in the SEE's expansion tank because the tank is under the doghouse inside the vehicle's cab. Out of sight, out of mind!

When coolant gets low, the engine overheats. Eventually, it will seize up.

To keep that from happening, TM 5-2420-224-10's PMCS says to keep the expansion tank at least half full, but no more than three-quarters full. Problem is, there are no markings on the tank that show half full.

So mark the tank yourself. Use a permanent marker and label the expansion tank at one-half and three-quarters full.

Then there's no more guesswork. Just add coolant when the tank's below half full.

MW24C Scoop Loader ...

Air Out the Brakes

Operators, make sure you bleed your scoop loader's brakes when warm days start turning into cool nights.

That's the time of year when condensation forms in the vehicle's air brake system. Not draining that condensation leads to corrosion. Corrosion leads to brake failure.

So drain the water from the air tank before and after the day's run. Leave the valve open until no more water comes out. Close the valve tightly when you're done.



HOW PVT Grinch Stole PM!

EVERY SOLDIER IN CAMP WHO-VILLE LIKED PM A LOT...



...BUT PRIVATE GRINCH, WHO LIVED NORTH OF CAMP, MOST DEFINITELY DID NOT!

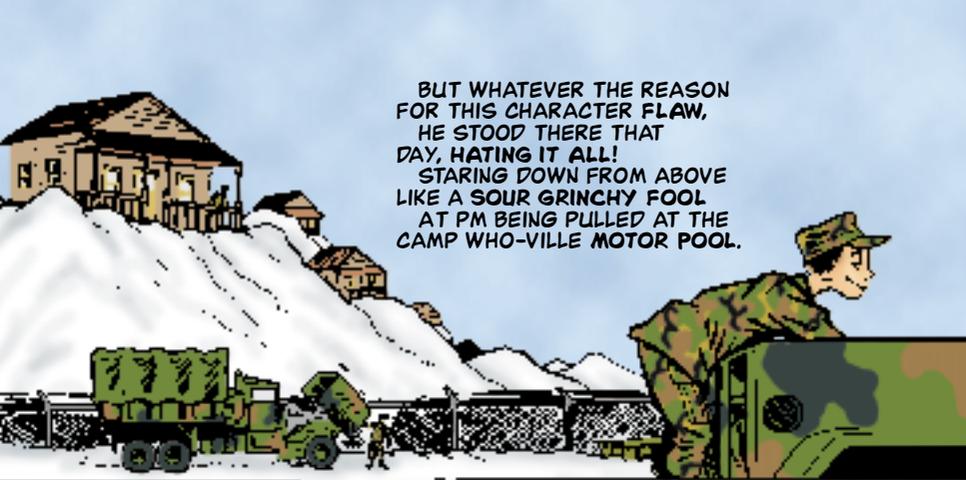


PRIVATE GRINCH HATED PM! HE HATED EVERY BIT. ASK HIM TO PULL PM AND HE'D THROW QUITE A FIT!

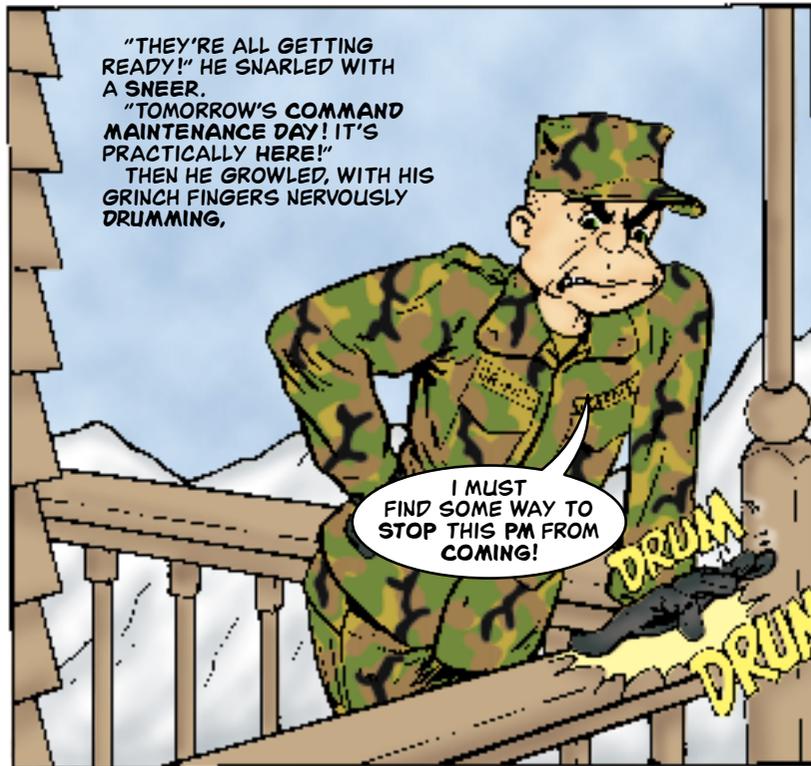
DON'T BOTHER TO ASK, 'CAUSE NO ONE REALLY KNOWS WHY. IF YOU TRY, HE'D JUST SAY,

MY EQUIPMENT GETS BY!





BUT WHATEVER THE REASON FOR THIS CHARACTER FLAW, HE STOOD THERE THAT DAY, HATING IT ALL! STARING DOWN FROM ABOVE LIKE A SOUR GRINCHY FOOL AT PM BEING PULLED AT THE CAMP WHO-VILLE MOTOR POOL.



"THEY'RE ALL GETTING READY!" HE SNARLED WITH A SNEER. "TOMORROW'S COMMAND MAINTENANCE DAY! IT'S PRACTICALLY HERE!" THEN HE GROWLED, WITH HIS GRINCH FINGERS NERVOUSLY DRUMMING,

I MUST FIND SOME WAY TO STOP THIS PM FROM COMING!

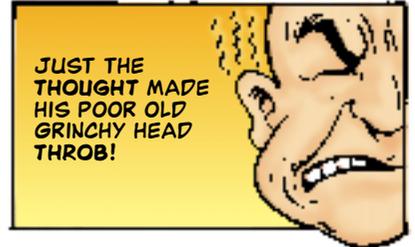
DRUM
DRUM



FOR TOMORROW, HE KNEW ... ALL THE SOLDIERS BELOW BRIGHT AND EARLY WOULD WAKE AND TO THE MOTOR POOL GO!

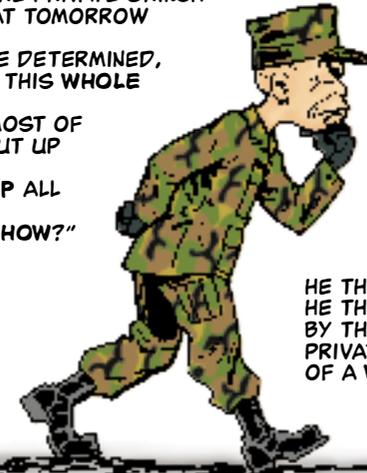


THEN EACH SOLDIER, YOUNG AND OLD, WOULD SIT DOWN TO HIS JOB.



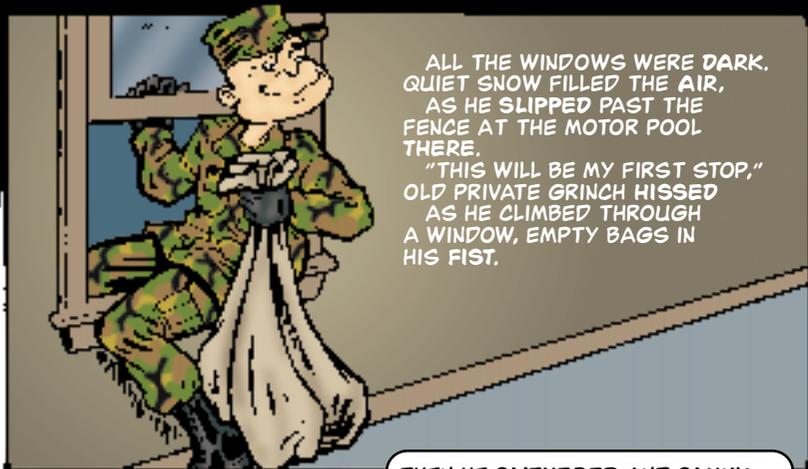
JUST THE THOUGHT MADE HIS POOR OLD GRINCHY HEAD THROB!

AND THE MORE PRIVATE GRINCH THOUGHT WHAT TOMORROW WOULD BRING, THE MORE HE DETERMINED, "I MUST STOP THIS WHOLE THING!" "WHY, FOR MOST OF MY LIFE I'VE PUT UP WITH IT NOW!" "I MUST STOP ALL THIS PM FROM COMING...BUT HOW?"



HE THOUGHT FOR AN HOUR, HE THOUGHT FOR A DAY. BY THE TIME THE SUN SET PRIVATE GRINCH THOUGHT OF A WAY!

HE LOADED SOME BAGS
AND AN OLD BOX OR TWO
ON HIS RAMSHACKLE TRUCK
AND TOWARD CAMP WHO-VILLE
HE FLEW!



ALL THE WINDOWS WERE DARK.
QUIET SNOW FILLED THE AIR,
AS HE SLIPPED PAST THE
FENCE AT THE MOTOR POOL
THERE.

"THIS WILL BE MY FIRST STOP,"
OLD PRIVATE GRINCH HISSED
AS HE CLIMBED THROUGH
A WINDOW, EMPTY BAGS IN
HIS FIST.

THEN HE SLITHERED AND SLUNK,
AS HE GRINNED LIKE A FOOL,
'ROUND THE MOTOR POOL BUILDING,
AND HE TOOK EVERY TOOL!

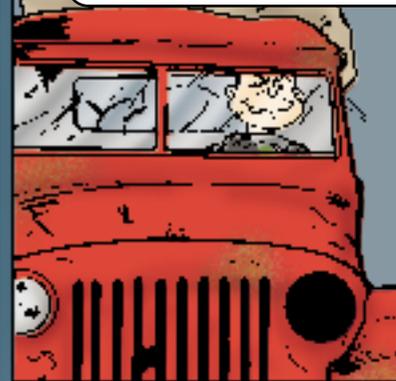


LUBE ORDERS! GREASE GUNS!
WRENCHES AND PLIERS!
TMS! SPARE PARTS! OIL CANS
AND TIRES!

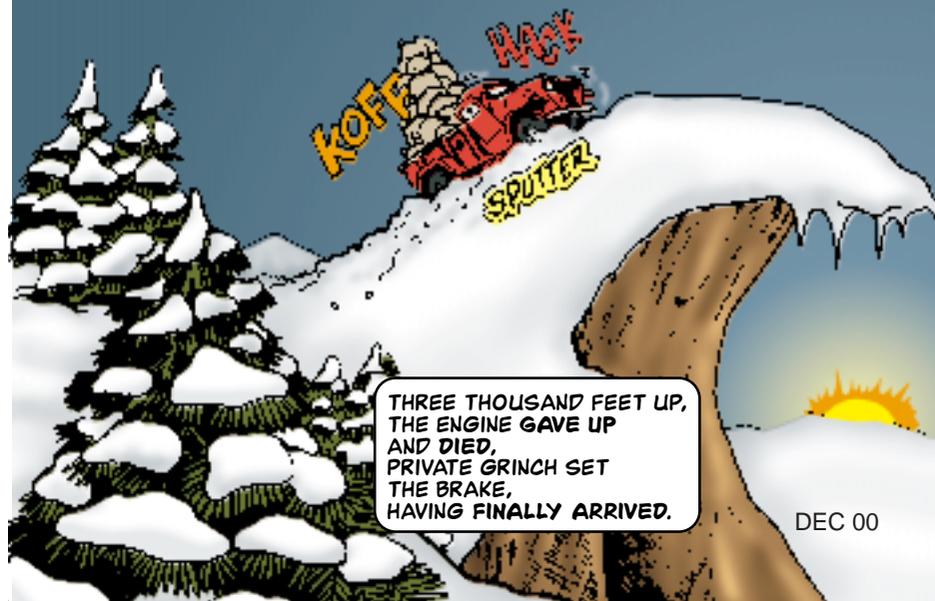
HE STUFFED THEM IN BAGS,
AND WOULDN'T YOU KNOW!
RIGHT INTO THE BACK OF HIS
OLD TRUCK DID THEY GO!



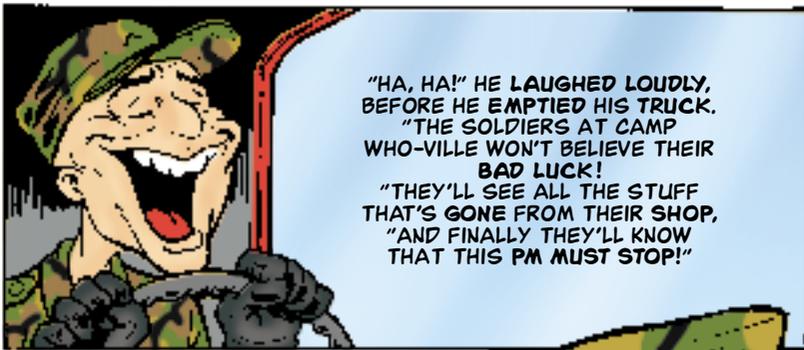
AT A QUARTER PAST DAWN...
WITH HIS BACK IN SAD SHAPE,
PRIVATE GRINCH CLIMBED
IN HIS TRUCK, AND MADE
HIS ESCAPE.



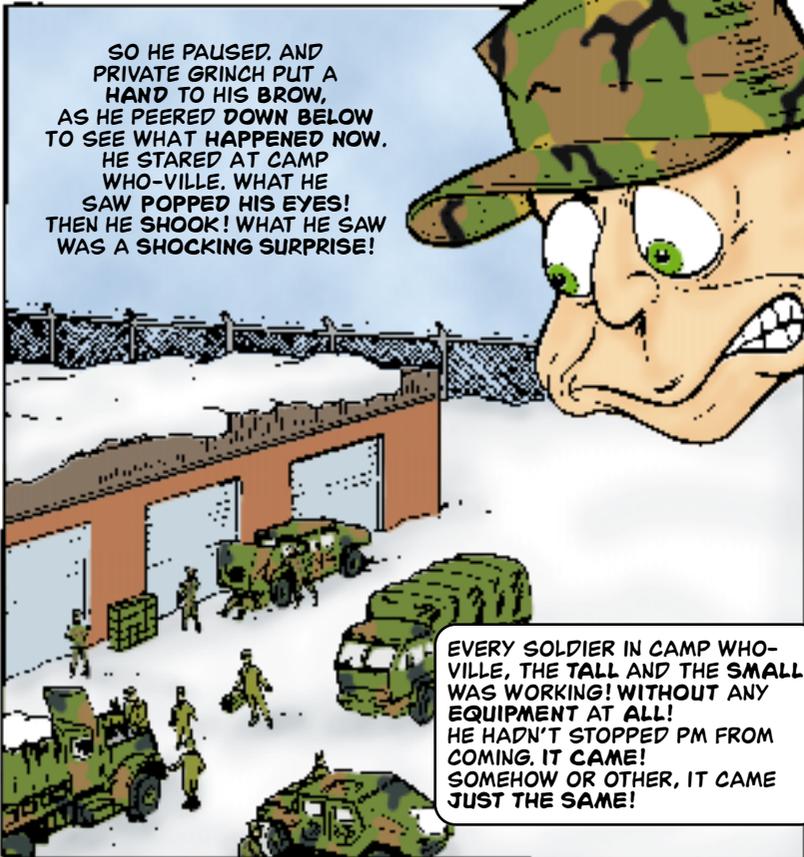
PAST THE GATE AND UP THE
SIDE OF A MOUNTAIN HE DROVE,
AS HE LOOKED FOR A PLACE
TO DUMP THE
PM TREASURE TROVE.



THREE THOUSAND FEET UP,
THE ENGINE GAVE UP
AND DIED,
PRIVATE GRINCH SET
THE BRAKE,
HAVING FINALLY ARRIVED.

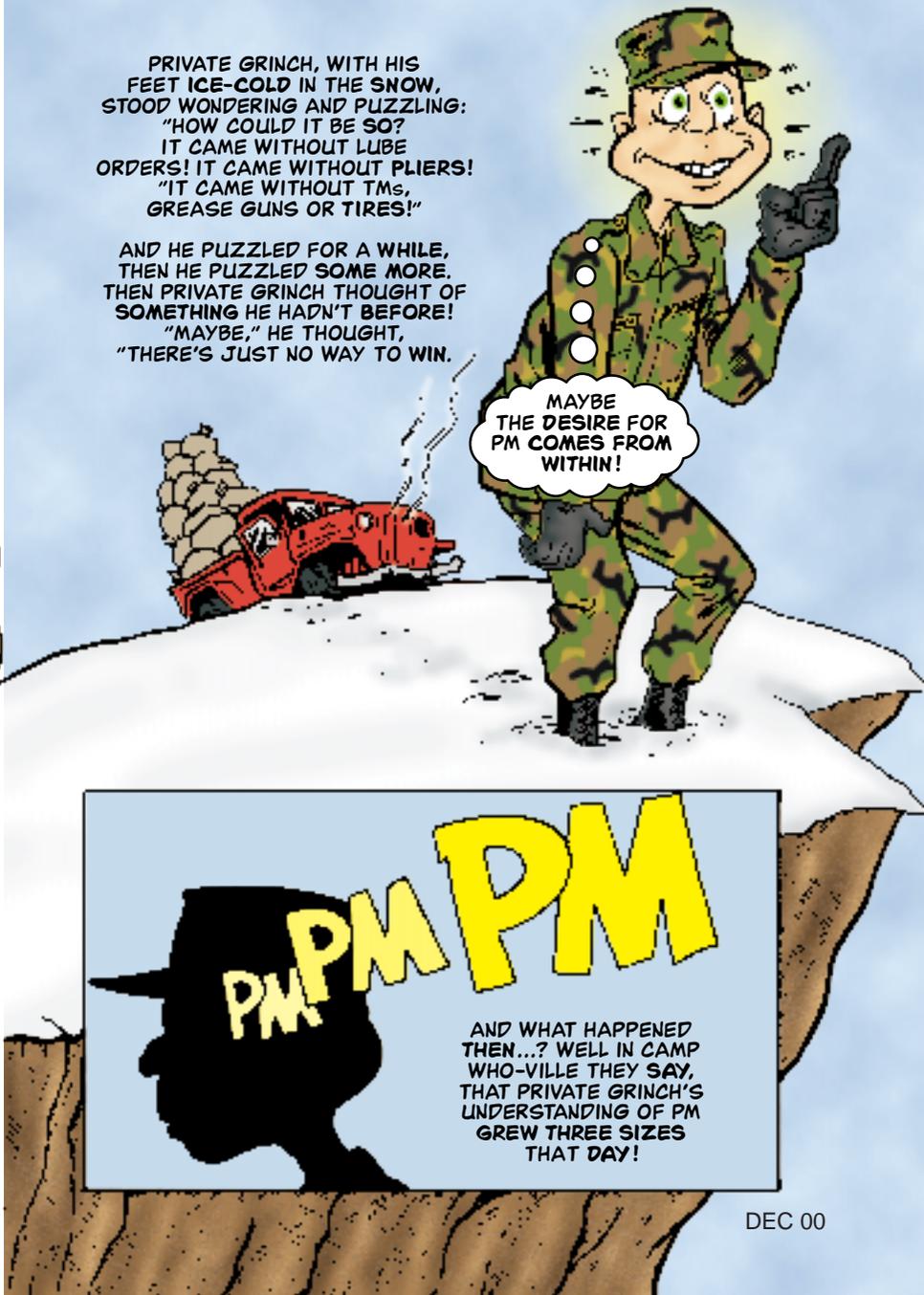


"HA, HA!" HE LAUGHED LOUDLY,
BEFORE HE EMPTIED HIS TRUCK.
"THE SOLDIERS AT CAMP
WHO-VILLE WON'T BELIEVE THEIR
BAD LUCK!
"THEY'LL SEE ALL THE STUFF
THAT'S GONE FROM THEIR SHOP,
"AND FINALLY THEY'LL KNOW
THAT THIS PM MUST STOP!"



SO HE PAUSED, AND
PRIVATE GRINCH PUT A
HAND TO HIS BROW,
AS HE PEERED DOWN BELOW
TO SEE WHAT HAPPENED NOW.
HE STARED AT CAMP
WHO-VILLE. WHAT HE
SAW POPPED HIS EYES!
THEN HE SHOOK! WHAT HE SAW
WAS A SHOCKING SURPRISE!

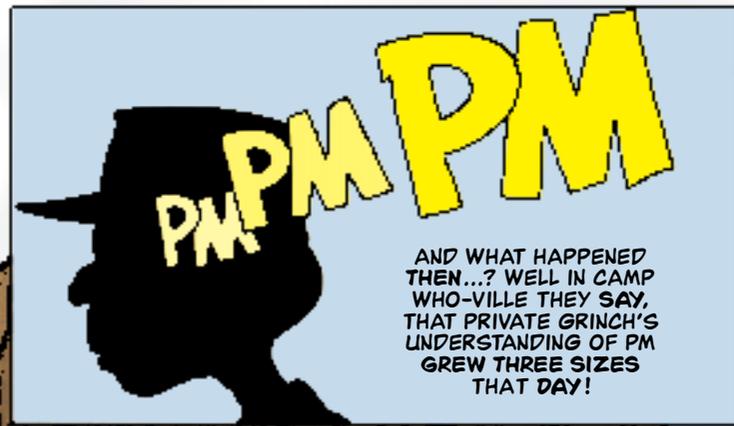
EVERY SOLDIER IN CAMP WHO-
VILLE, THE TALL AND THE SMALL,
WAS WORKING! WITHOUT ANY
EQUIPMENT AT ALL!
HE HADN'T STOPPED PM FROM
COMING. IT CAME!
SOMEHOW OR OTHER, IT CAME
JUST THE SAME!



PRIVATE GRINCH, WITH HIS
FEET ICE-COLD IN THE SNOW,
STOOD WONDERING AND PUZZLING:
"HOW COULD IT BE SO?
IT CAME WITHOUT LUBE
ORDERS! IT CAME WITHOUT PLIERS!
"IT CAME WITHOUT TMs,
GREASE GUNS OR TIRES!"

AND HE PUZZLED FOR A WHILE,
THEN HE PUZZLED SOME MORE.
THEN PRIVATE GRINCH THOUGHT OF
SOMETHING HE HADN'T BEFORE!
"MAYBE," HE THOUGHT,
"THERE'S JUST NO WAY TO WIN.

MAYBE
THE DESIRE FOR
PM COMES FROM
WITHIN!



AND WHAT HAPPENED
THEN...? WELL IN CAMP
WHO-VILLE THEY SAY,
THAT PRIVATE GRINCH'S
UNDERSTANDING OF PM
GREW THREE SIZES
THAT DAY!



AND THE MINUTE HE REALIZED
HIS TERRIBLE MISTAKE,
HE PUT THE TRUCK IN NEUTRAL
AND POPPED THE
EMERGENCY BRAKE!

HE COASTED BACK TO
CAMP WITH THE TOOLS
AND THE TENTS,



AND HE...HE HIMSELF...PRIVATE
GRINCH TURNED THE FIRST WRENCH!

Hammers Kill Quick Release

If you have ever installed the M139 mine dispenser on your UH-60A or UH-60L helicopter, then you know that its launcher rack mounts don't always line up with the support panel mounts.

But don't touch that hammer! Hammered-in pins won't let you quickly release the mine dispenser in an emergency. You will even have trouble getting the pins out manually. Save yourself the trouble by correctly installing the pins. Here's how:

- * Apply DC-4 lubricant, NSN 6850-00-880-7616, or any other similar lubricant, to the inside of the pin holes.

- * Shift and lift the support panel until its mount holes match those on the launcher rack.

- * Insert each quick release pin all the way into the mount holes, then release it.



Never hammer pins

Keep this procedure handy until TM 9-1095-208-23-2&P is updated.



Winning the Cold War

I WONDER IF THAT FLOCK OF BIRDS IS READY FOR A BREATH OF WINTER?



Mr Freeze is always looking for an opportunity to put your bird and you on ice while you're on the flight line doing maintenance. Here are some tips to help you fight the freeze.

Tip One: When the hawk is whipping up, dress like a 5-minute maint-

nance job will take an hour. Bundle up and wear gloves. If you don't—and you dress like you're going to get the mail—you'll rush the job, pull poor maintenance and risk exposure. Sure, winter clothing is bulky. So allow yourself more time to do the job.

Tip Two: Cover your bird. If it's covered, you've won half the cold war against Mr. Freeze. If you can't cover your aircraft, follow the ice and snow clearing tips on Page 43 of PS 576.



Keep aircraft covered



Tip Three: For a long maintenance job, bring the bird inside or rig a shelter around it. Make one that will work

for you. Some units use various kinds of canvas and tentage.

Warm the enclosed area and the aircraft with a ground heater. Preheating a cold-soaked bird brings frozen metal and seals back to shape. Preheating also warms cold lubricants and hydraulic fluids. Preheating aircraft reduces the strain on engines and transmissions and improves engine start-up.

Keep a fire extinguisher handy when you're using the ground heater and keep the heater away from fuel and oil drains, vents and supply tanks and tentage.

Tip Four: Resist the urge to use shortcuts. If Mr. Freeze gets to you, break your maintenance task into small portions or use the buddy system where one mechanic works while the other comes in from the cold.



Tip Five: Always ground your bird. The colder the weather, the drier the air; the drier the air, the more static electricity is generated. To beef up your knowledge on grounding, check out Page 2-11 in FM 10-67-1.



Help for Your IFTE

For your IFTE to test true, you must be true to PM, especially these checks and services:

■ **Do weekly and monthly checks.** Do the weekly self-test in FAULT DETECTION mode like it says in Para 2-30 in TM 11-6625-3173-12-1 and the monthly self-alignment spelled out in Para 2-31. Without these two basic steps, the IFTE won't test accurately.

■ **Test the spare circuit cards.** It won't do any good to replace a faulty circuit card with another faulty circuit card. Every quarter, test all 20 spare circuit cards and replace any that have become defective.

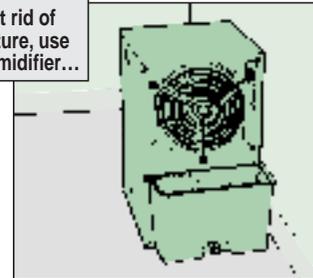
Test spare circuit cards quarterly



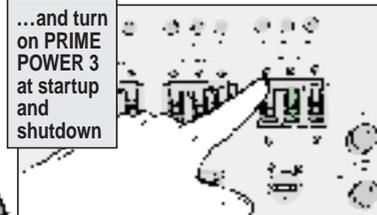
■ **Before you test each circuit card, it must be calibrated in the IFTE.** The calibration procedure lets the IFTE adjust to that card. If you don't calibrate, the IFTE may flunk a good card.

■ **Avoid moisture.** Moisture can build up in the van and cause electrical shorts and corrosion. The best way to stay dry is to run the IFTE's dehumidifier during rainy or humid weather. But

To get rid of moisture, use dehumidifier...



...and turn on PRIME POWER 3 at startup and shutdown

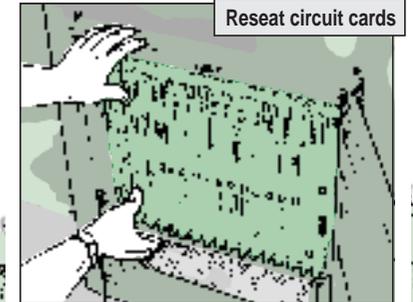


even if you've run the dehumidifier, it's still a good idea to turn on the PRIME POWER 3 switch at start-up, shift the ECU to COOL, and let the ECU run for 45 minutes. That will remove any remaining moisture.

Then at shutdown, shift the ECU to VENT and let it run 5 minutes to get rid of any moisture that's collected during operation.

■ **If the IFTE fails to self-test after it's been moved or been left sitting for weeks, reseat its circuit cards.** Movement or lack of use can hurt the cards' connections. Often just reseating the cards cures the problem.

Reseat circuit cards

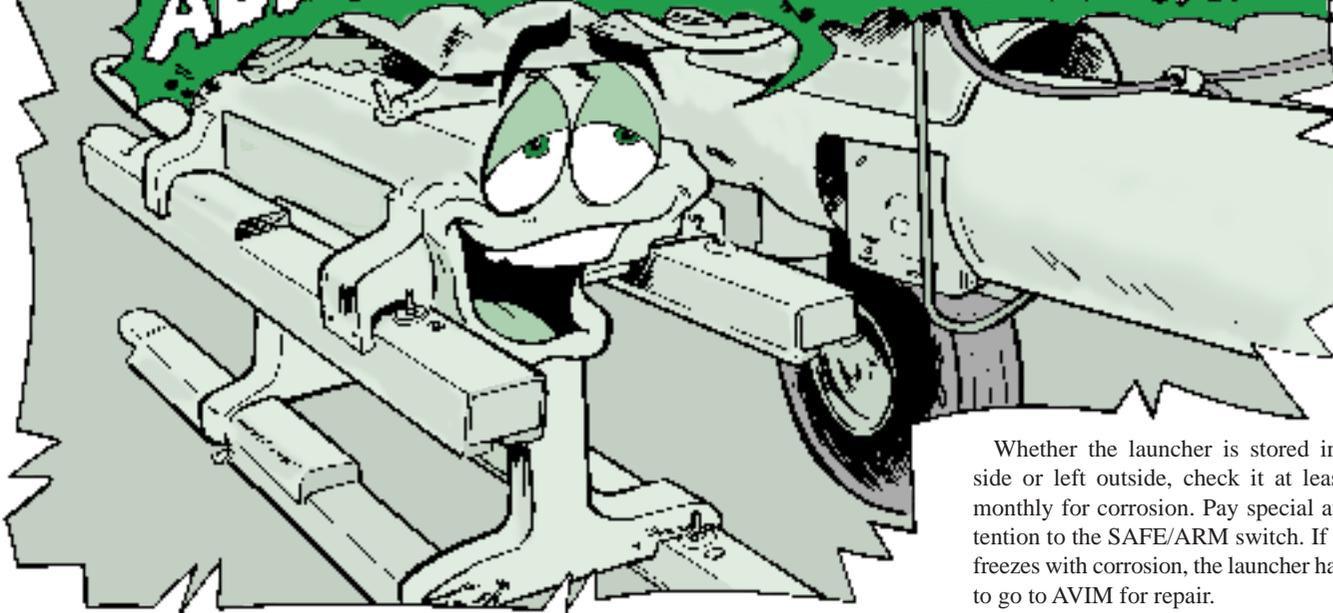


BEFORE YOU DO ANY TESTING, YOU'VE GOT TO PASS SOME TESTS YOURSELF, MISTER!

TEST? I HOPE IT'S MULTIPLE CHOICE!



ALL YOU NEED IS LUBE

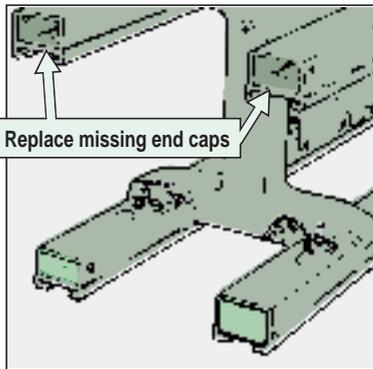


A rusted launcher can doom Hellfire missile launches. But just a little lube and careful handling can keep the launcher ready to fire away.

The best thing you can do for the launcher is to remove it from the Apache when it's not being used and store it inside, out of the rain.

When you remove the launcher, don't stand it on end. That breaks the end caps. If the caps disappear or break, order more with NSN 1055-01-262-1775.

Remember, removing the launcher is a four-person job. If you use fewer



than four, you risk dropping the launcher and damaging it.

Whether the launcher is stored inside or left outside, check it at least monthly for corrosion. Pay special attention to the SAFE/ARM switch. If it freezes with corrosion, the launcher has to go to AVIM for repair.

Take off the knob and coat its metal parts with solid film lubricant (SFL).

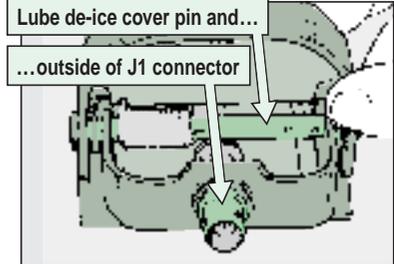
Disassemble knob and coat with SFL



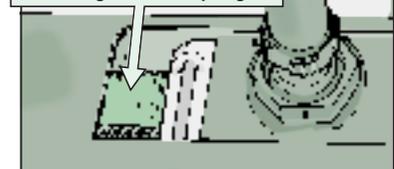
If corrosion has already formed, remove it by using the cleaning procedures that are going to be added to TM 1-1520-238-23-1 by Change 9. See your AMCOM logistics assistance

representative for an advance copy. **Do not file or sand the launcher.** The launcher's plating can be hazardous if it gets in your lungs.

Other launcher parts you need to check for corrosion are shotgun connector springs, launcher bolts, de-ice cover pins, and the outside of the J1 connector. Clean off corrosion the same way you did the SAFE/ARM switch and then coat those parts with SFL.



Don't forget to lube springs...



...and bolts



Catching Loose

HEY!
COME BACK
HERE!



Dear Editor,

As an arms room inspector, I see too many M16 rifles with loose receiver extensions or buttstocks. Some extensions have actually come off during firing, damaging the lower receiver.

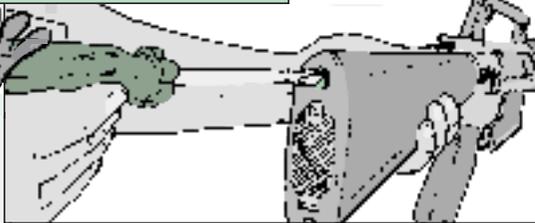
If armorers carefully do the checks from Page 2-17 in TM 9-1005-319-23&P during their quarterly PMCS, they will catch loose extensions and buttstocks before they come completely loose.

For instance, can you move the buttstock forward or backward? Is there a gap of 1/32 inch or more between the buttstock and lower receiver? If there is movement or a gap, replace the buttplate's self-locking screw.

Is there buttstock movement or a 1/32-in gap?



If so, replace self-locking screw

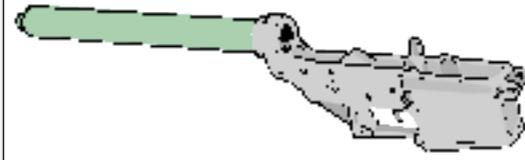


Buttstocks

If that doesn't eliminate the movement or gap, take off the buttstock and check the lower receiver extension for looseness.

If the extension is loose, don't try to tighten it. Support has the right tool and needs to tighten it to 35-39 lb-ft.

If buttstock is still loose, check lower receiver extension



If the extension's not loose, try replacing the buttplate. If the buttstock still moves forward or backward or there's still a gap, support needs to check it out. The rifle probably needs a new buttstock.

It's also a good idea to check the buttplate self-locking screws when rifles come back from the field. If it looks like a screw has been removed and screwed back in, replace the screw. It's a one-time use fastener and can no longer hold the buttstock tight.

SSG Gerald Knipe
HHC 1ST AD, MAIT
Bad Kreuznach, Germany



NYAH!
NYAH! CATCH
ME IF YOU
CAN!



Don't Let Finish Finish Weapons

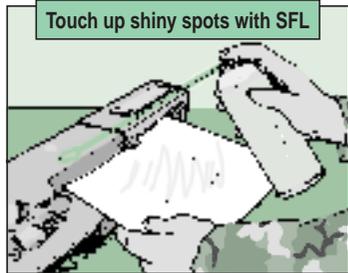
If too much of your weapons' finish wears off, your weapons are finished, period, armorers. The exterior finish protects your rifles, machine guns, pistols, and mortars against the ravages of corrosion. If just a few small areas on a weapon are left unprotected, corrosion can soon ruin it.

But that's easy to prevent. And you should have the means right in your arms room.

Solid film lubricant (SFL), NSN 9150-01-260-2534, is a spray that restores the protective finish. It's authorized by all small arms TMs.

When you do your quarterly inspections, look for shiny spots. They indicate the finish has worn off. Spray the spots with SFL, let it dry, and you're back in business.

If you spot any corrosion, wipe it off with a rag or steel wool and CLP. Wipe the area with a clean cloth and solvent. Let it dry and then spray it with SFL.



If too much of a weapon's protective finish has worn off, it may need to go to depot maintenance for refinishing. See the weapon's -20 TM for how much of it you can touch up yourself.



Controlling Bad Control Levers

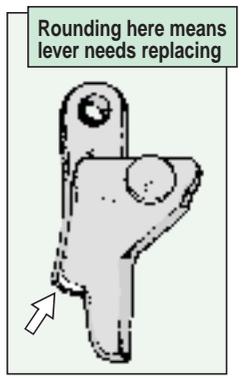


Defective manual control levers can let your M2 machine gun fire continuously in the single shot mode when you want to fire only one round. That's dangerous and that's why armorers need to inspect their M2 levers now.

Remove the barrel, backplate, bolt, buffer, and barrel extension. Use a flashlight to look at the manual control lever inside the receiver. If the lever has rounded edges or shows signs of wear, get support to replace it with a new lever, NSN 3040-00-550-4060.

If the manual control lever is not worn, but has rounded edges, submit a quality deficiency report (QDR) either by faxing an SF 368 to (309) 782-6653, DSN 793-6653 or e-mail the information to:

QAWQDRS@ria.army.mil



LIGHT UP WITH SMOKE PM

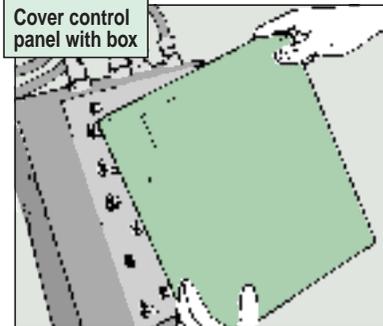


PM will light up your M157-series smoke generator and keep it belching smoke. Here's how:

Protection

A control panel with broken bulbs and switches means no smoking. The bulbs and switches are damaged when smoke crews toss helmets and rifles into the truck cab.

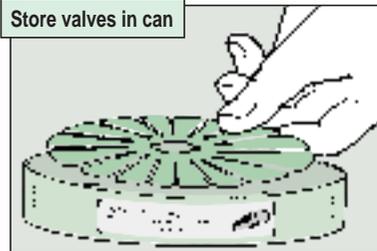
The solution is to find a box that fits over the face of the control panel. When



Cover control panel with box

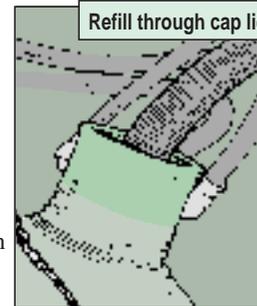
you're not smoking, keep the box on the panel to protect switches and bulbs. When you are smoking, lay the box on the floor and out of the way.

The spare engine valves will certainly be bent if they're stuck in the tool bag. A bent valve is unusable. Protect the spare valves by keeping them in an old shoe polish can that's been cleaned or CD holder or anything similar.



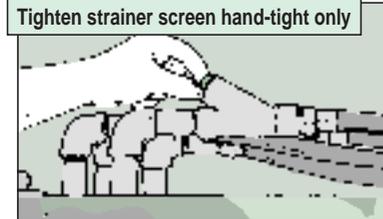
Store valves in can

Never unscrew the metal fuel cap from the plastic fuel can. It is very easy to strip the can's threads. Refill the can through the cap's lid.



Refill through cap lid

Hand-tight is tight enough for the fog oil strainer screens. If you use a



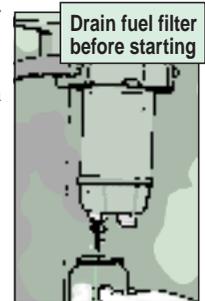
Tighten strainer screen hand-tight only

wrench to tighten down the screens, you ruin the gasket. A damaged gasket causes a fog oil leak. Order a new strainer screen gasket with NSN 5330-00-542-1586.

Starting

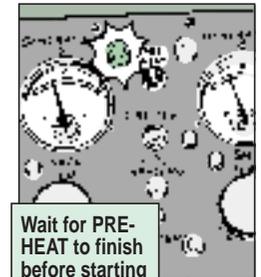
Save yourself starting problems by draining the fuel filter before you crank up your generator.

Big temperature changes, rain or high humidity can lead to water in the fuel, which makes for difficult or no starting.



Drain fuel filter before starting

The correct procedure for the M157A2 is to start the vehicle engine, turn on the MAIN POWER switch, turn on the PREHEAT switch and let the M157A2 go through one or two PREHEAT cycles, depending on how cold it is. Once the preheating is finished, and the green light goes off it's OK to start the M157A2. Turn off the PREHEAT switch and start the M157A2.



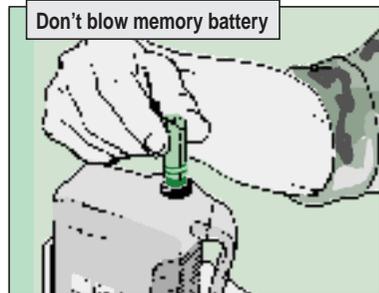
Wait for PREHEAT to finish before starting

Don't Blow It!

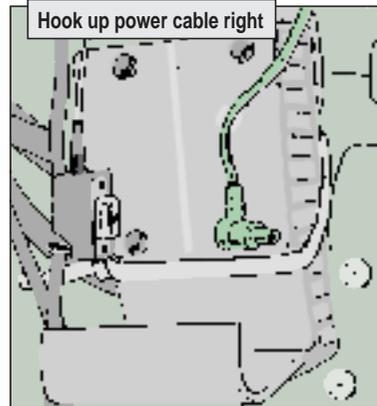


Did you hear about the AN/PSN-11 precision lightweight global positioning receiver that blew up? If you did, you're better off than the vehicle operator! When the PLGR blew, he temporarily lost his hearing. The PLGR was destroyed, of course.

What blew was the PLGR's 3.6-volt memory battery. Why it blew was because the external power source was hooked up wrong.

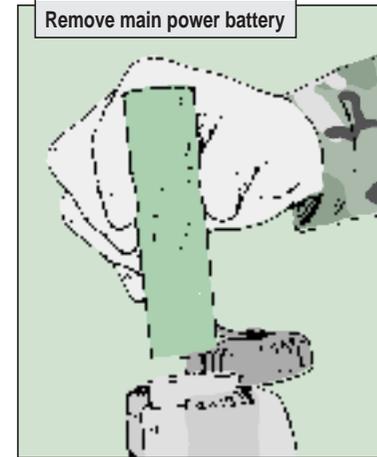


You can power The PLGR from an external power source using cable, NSN 6150-01-375-8661. But you must hook up the cable right or you could lose more than your hearing.



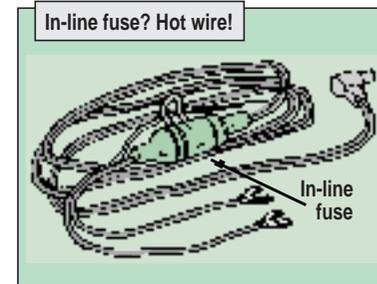
You may remember a Ground Precautionary Message (GPM 97-005) that

advised PLGR users to always remove the main power battery when connecting the PLGR to external power to avoid exploding the main power battery due to a reverse charging situation. That advice still holds.



But this time around the discussion is about preventing an electrical charge from finding its way to the memory battery as a result of the wrong power or grounding connections.

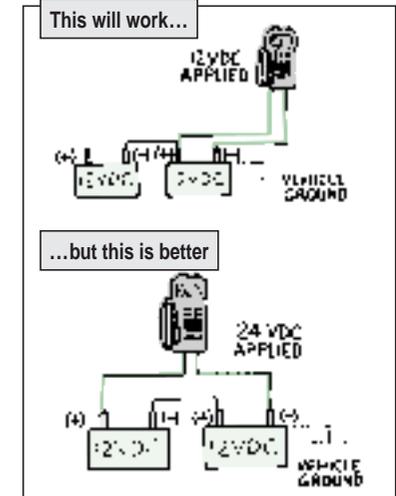
Step one in the hookup process is to make sure you don't reverse polarity when attaching the PLGR cable to vehicle power. A good way to make sure



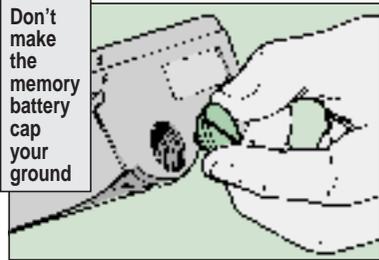
is to remember that the cable wire with the in-line fuse is always the positive, or hot wire. It is always connected to a positive terminal!

Step two is to make sure the PLGR ground is the same as the vehicle ground. This can be confusing since most vehicles have batteries connected in series.

The PLGR grounding wire should be attached to the same battery post as the ground wire that runs from the vehicle to the vehicle's battery. This avoids the risk of an inadequate ground that might occur due to paint or other insulating affects if you attach the grounding wire directly to the vehicle's body.

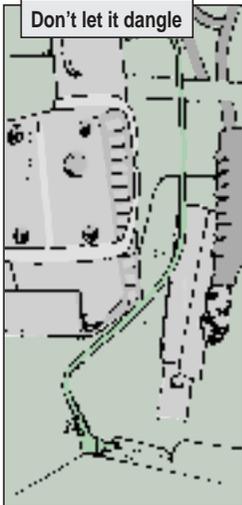


A wrong grounding wire hookup can cause the memory battery to get a charge from the vehicle battery and explode. This happens when the memory battery cap touches a grounded metal object—like any part of the vehicle—while the PLGR is connected to the vehicle's power.



Also, remember that when the external power cable is disconnected from the PLGR, but still connected to the vehicle's power source, the tip of your cable is still "hot" and you could get a shock from touching it!

So when you remove the PLGR from its external power source after your mission is complete, remove the cable, too.



For those times you can't remove the cable, make sure the plug-in is secured and not allowed to swing around and make contact with metal. A solution as simple as a wrap of duct tape around the connector end may prevent metal-to-metal contact that will blow the in-line fuse.



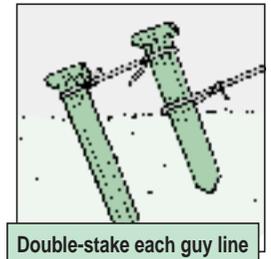
Mast Antennas ...



Explaining why your mast antenna is crumpled up on the ground is no way to start a mission. The explanation is even harder when you find out the falling antenna just missed your commander.

An antenna erected on soft ground, such as sand or shale, can collapse. Soft ground does not hold guy stakes tight. One stiff breeze and down comes the antenna and mast, then you're looking for a hole to hide in.

But, there's a way to strengthen the mast antenna—even in soft ground. Use two guy stakes to anchor each guy line. Drive the stakes deep into the ground and tie them in tandem. This double-staking method can handle more stress than a single stake. It increases the holding power of the stakes and lessens the risk of the antenna collapsing.



If you need extra guy stakes, you'll find the NSNs in the COMPONENTS OF END ITEM list in the antenna's -10 TM or parts manual.

Price Challenges Go On-line

Resource cutbacks have forced the USAMC Logistics Support Activity (LOGSA) to stop taking price challenges over the phone, by mail, fax or by e-mail. Now, all Army price challenges must be submitted on-line through the Logistics Integrated Data Base (LIDB) or Weblog.

Either way, the price challenge forms will be similar.

Before you can access the price challenge form in LIDB, you must have the Netscape browser version 4.73 (128-bit), a LOGONID and password, and version 1.1 of LIDB on CD-DOM.

You can download the Netscape

browser by going to the LOGSA web site at:

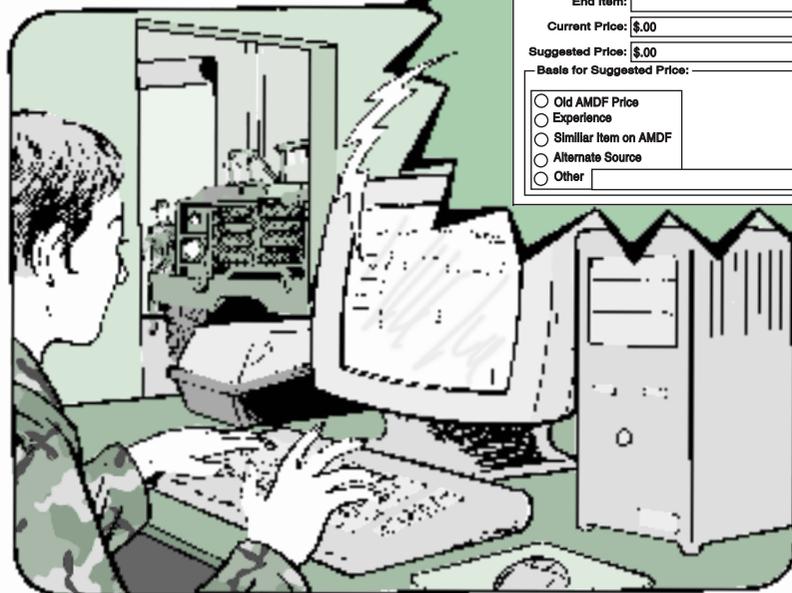
<http://www.logsa.army.mil>

Then click on DOD licensed download site under the Netscape Communicator v 4.73 section of the page.

To get a LOGONID and password, go to the System Access Request (SAR) located at the top of the screen



U.S. Army Price Challenge Program		2000-06-26
Challenge NIIN: <input type="text"/>	Part Number: <input type="text"/>	
FSC: <input type="text"/>	Cage Code: <input type="text"/>	Source of Supply: <input type="text"/>
Nomenclature: <input type="text"/>		
End Item: <input type="text"/>		
Current Price: <input type="text" value="\$0.00"/>		
Suggested Price: <input type="text" value="\$0.00"/>		
Basis for Suggested Price:		
<input type="radio"/> Old AMDF Price <input type="radio"/> Experience <input type="radio"/> Similar Item on AMDF <input type="radio"/> Alternate Source <input type="radio"/> Other <input type="text"/>		



on the LOGSA web site. Click on the SAR button and follow the instructions.

It also gets you the CD needed to gain access to the LIDB. You won't get the CD if you don't ask for LIDB access on the SAR! Now you're ready to use LIDB.

Weblog access to the Price Challenge Form doesn't require a logon ID. Just go to:

<http://weblog.logsa.army.mil/index.shtml>

Click on Weblog. Then, select Price Challenge Form under the Logistics Data Management Section. Complete the form and submit it.

Whether you submit your price challenge through LIDB or Weblog, you need to periodically go into the Price Challenge Program to check on the status of your challenge until action is completed.

The LOGSA help desk is ready to help if you have problems getting into the system. Call them at (256) 955-7716, DSN 645-7716 or e-mail:

help.desk@logsa.army.mil

LOGSA System Access Request

Most AMC Logistics Support Activity (LOGSA) products and services are designated as sensitive but unclassified (SBU). To access them, you need a unique systems access account. To get access, just follow the System Access Request (SAR) instructions at:

<http://www.logsa.army.mil/sar/sarprep.htm>

The SAR replaces LOGSA Form 23 which is no longer used. Problems or questions? Send e-mail to: amxsis@logsa.army.mil

USE YOUR NOGGIN!



Your Kevlar® helmet is your first line of defense on the battlefield. Make sure it's a strong defense by wearing it and caring for it properly.

First, make sure you have the right fit. Your helmet shouldn't be so big that it blocks your vision, or so small that ventilation, comfort and safety suffer.

Your issuing facility should measure your head before issuing the helmet. They can get the calipers with NSN 5210-01-434-9493 and measuring tape with NSN 8315-00-782-3520. A properly fitted helmet should leave a 1/2-in space between your head and the helmet. You can find more about sizing

MEASURE YOUR HEAD FOR A PROPER FIT.



procedures in Natick Pam 70-2, *This is Your Ballistic Helmet*, on-line at:

<http://www.sbccom.army.mil>

First, click on Products, then Clothing and Individual Equipment, then Ballistic/Personal Protection, then Helmet, Kevlar® PASGT fitting instructions.

Helmet NSNs

TM 10-8400-203-23 lists X-small, small, medium and large helmets, but you can also get X-large.

Here are the the NSNs for the helmet shell with suspension, headband and chin strap:

Size	NSN 8470-01-
X-small	092-7525
Small	092-7526
Medium	092-7527
Large	092-7528
X-large	300-3819

Keeping Helmets Clean

The suspension assembly, headband, chin strap, parachutist retention strap,

parachutist pad, parachutist impact liner, helmet cover, and helmet shell should be washed with mild soap and warm water and then air dried.

Replacement Parts

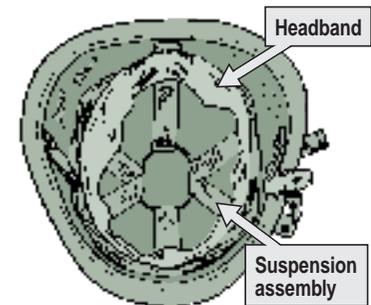
KEEP ME IN FIGHTING SHAPE WITH THESE PARTS.



Item	NSN
Camouflage band	8415-01-110-9981
Cover, woodland pattern	
X-small/small	8415-01-092-7514
Medium /large	8415-01-092-7515
X-large	8415-01-303-8945
Cover, desert pattern	
X-small/small	8415-01-327-4824
Medium /large	8415-01-327-4825
X-large	8415-01-327-4826
Cover, white	
X-small/small	8415-01-144-1860
Medium /large	8415-01-144-1861
Cover, chemical protective	8415-01-111-9028
Post, chin strap	8470-01-144-5367
Screw, chin strap	8470-01-144-2811
Washer, chin strap	8470-01-144-2812

Item	NSN
Chin strap	8470-01-092-7534
Headband, improved *	
X-small	8470-01-442-1434
Small/med/large	8470-01-442-1429
X-large	8470-01-442-1430
Screw, suspension mounting	8470-01-144-2813
A-nut, suspension mounting	8470-01-144-5368
Suspension assembly, improved *	
X-small	8470-01-442-2969
Small	8470-01-442-2990
Medium	8470-01-442-2995
Large	8470-01-442-3001
X-large	8470-01-442-3021

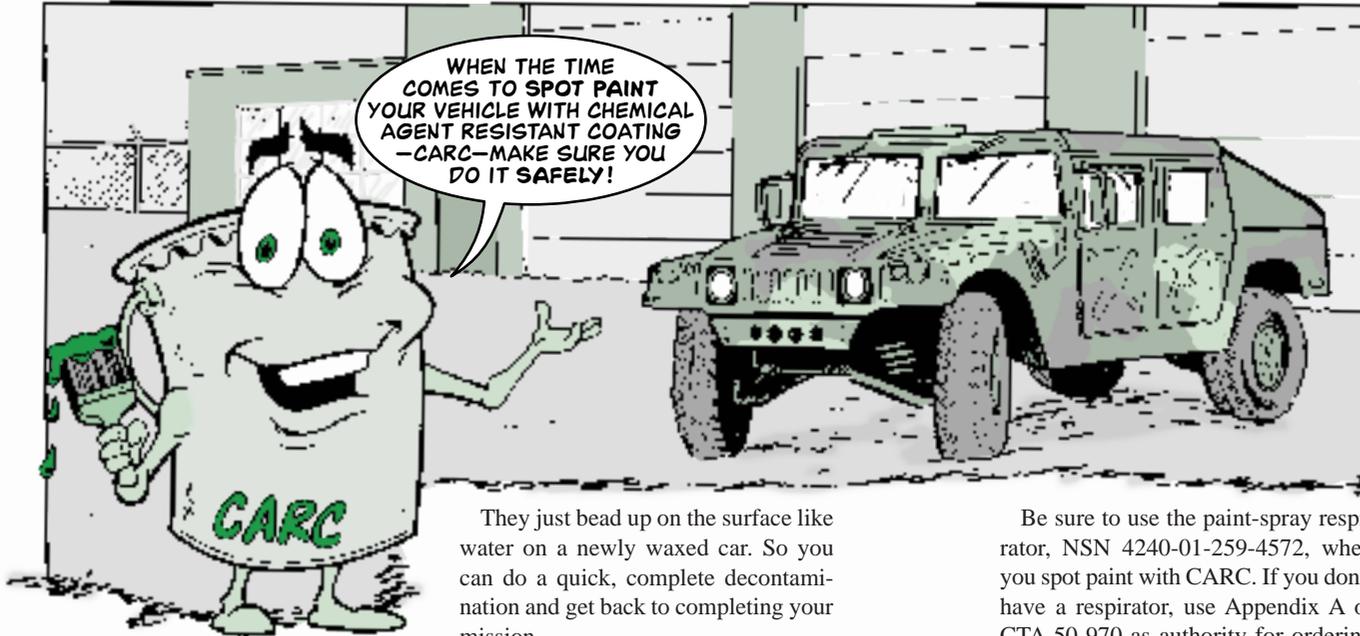
* The improved headband and the improved suspension assembly should be used together.



You can get the parachutist pad using NSN 8470-01-092-8494, the retention strap with NSN 8470-01-092-7524, and the parachutist impact liner with NSN 8465-01-420-4920.

Need more information on repair and maintenance procedures? Check out Chap 19 of TM 10-8400-203-23.

Be Safe, Not Sorry



Paint Is Paint

No matter what type of paint is used, OSHA's safety standards for spot painting are the same. CARC is as safe to use as any other paint when you take the necessary precautions.

Most of the confusion about CARC comes when people latch onto the word "chemical," as in dangerous to use. The key word in CARC is "resistant," as in resistant to chemical attack. Once properly applied to your vehicle, CARC doesn't soak up chemical agents the way some other paint does. It resists the penetration of those chemical agents.

They just bead up on the surface like water on a newly waxed car. So you can do a quick, complete decontamination and get back to completing your mission.

Breathing Easy

Respiratory protection is required in the use of **all** paints, not just CARC. Your local industrial hygienist can help you identify the needed equipment.



Be sure to use the paint-spray respirator, NSN 4240-01-259-4572, when you spot paint with CARC. If you don't have a respirator, use Appendix A of CTA 50-970 as authority for ordering one.

NSN 4240-01-	Item
246-5399	Facepiece
235-0823	Cartridge retainer
246-5407	Organic vapor cartridge
246-5413	Spray paint prefilter

Don't Stop There

You also need to follow these important safety measures:

- Cover as much of your skin as possible. That means wearing coveralls and rubber gloves from the No.1 Common shop set.
- Wear chemical splash goggles, NSN 4240-00-052-3776, not safety glasses, to protect your eyes from paint or thinner.
- Keep thinner or paint away from an open flame, welding torch or fuel-burning heater.



● Grind CARC off the front and back of any area that needs welding. CARC releases toxic gases and fumes when it burns. Breathing these fumes can cause lung damage and severe eye and skin irritation. Make sure you use respiratory protection with a HEPA filter.



● If you use an electric drill accessory to mix paint in a metal container, ground both the container and the drill first. The paint fumes are flammable, so static electricity can be dangerous.

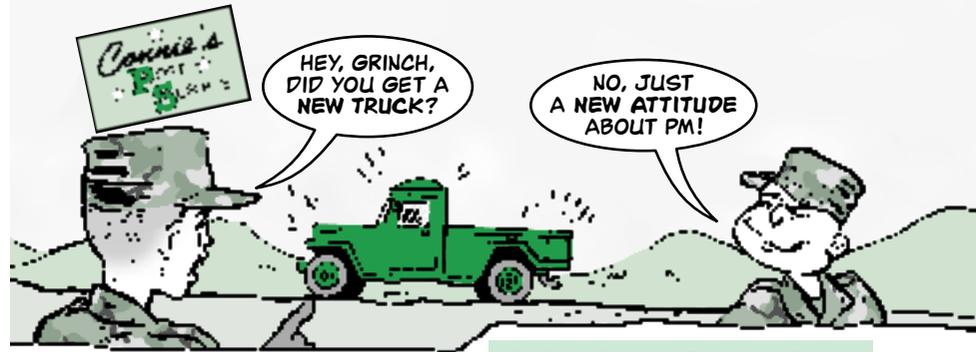
Make sure all electrical equipment is grounded before starting any painting.



More Help

For more CARC safety and health precautions, see the following pubs:

- TM 43-0139, *Painting Instructions for Army Materiel*
- TB 43-0242, *CARC Spot Painting*
- TB 43-0209, *Color Marking and Camouflage Painting of Military Vehicles, Construction Equipment, and Materials Handling Equipment*
- TM 55-1500-345-23, *Painting and Marking of Army Aircraft*
- TB 43-0118, *Field Instructions for Painting and Preserving Communications-Electronics Equipment*



HMMWV Battery Terminal Covers

Once those grease-filled battery terminal boots and their caps wear out on your HMMWVs, replace them with NSN 2530-01-089-4992. You'll save time and mess doing your PMCS, since the replacement is a simple rubber boot. Make a note for Items 16 and 17 in Fig 62 of TM 9-2320-280-24P-1 and in Fig 66 of TM 9-2320-387-24P until they are updated.

Brushguard for M998A2s

Use NSN 2510-01-461-7075 to get the brushguard for M998A2-series HMMWVs. The NSN shown in Fig 400 of TM 9-2320-280-24P-2 works only on M998/M998A1-series trucks. Make a note until the TM is updated.

M88A1 Night Sights

You need only one night vision device on your M88A1 recovery vehicle, not two. Page B-7 of TM 9-2350-256-10 says you need either the M24 or M24A1 periscope and the AN/VVS-2(V)1A night vision viewer. But only one night viewer is authorized for each M88A1. Add an "OR" between Items 24 and 25 until the TM is corrected.

Heavy-duty Chains for M939s

Looking for tougher, longer-lasting and easier-to-install tire chains for 14.00 x 20 radial tires on M939-series trucks? Try PEWAG part number A08SV, CAGE S5239. The cost is around \$330 a pair. Here's the ordering info:

OCONUS—PEWAG Austria Gmbh (ATTN: Susan Hartmann), Theodor Koerner Strasse 59, A-8010 Graz, Austria Telephone 43 316 6070, Ext 244; fax 43 316 6070 209; e-mail hs@pewag.com

CONUS—PEWAG, Inc. (ATTN: Peter Brettner), 281 C Shore Dr, Burr Ridge, IL 60521. Telephone (800) 526-3924; (630) 323-4342; fax (630) 323-2292; e-mail PeterB@pewagchain.com

Generator Conversion

The gas-to-diesel conversion kit listed on Page 53 of PS 575 is for the 3-KW generator only. No modification to the M577-series command post carrier's 4.2-KW is authorized. Some carriers are being converted to the M1068, which has a 5-KW diesel generator. Those vehicles not being converted will be replaced when they are no longer serviceable.

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



Issue 577

PS

December
2000

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-577

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How PVT Grinch Stole PM
... See Page 27