

Issue 575

PS

October  
2000

# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-575

Approved for  
Public Release;  
Distribution Is  
Unlimited



*Did you do your PM before  
you left the motorpool?*

... See Page 27

# Take Your Time

**T**ime seems to rule our lives. Hurry up and wait. Wait and then hurry up.

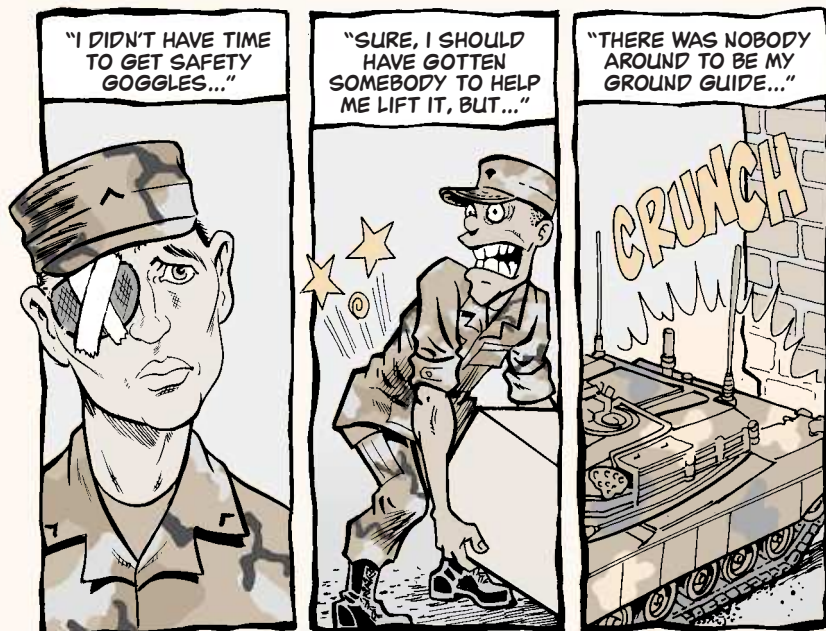
Well, sure, some things—like PT tests—are **supposed** to be governed by time.

But other things should not be governed by time. Maintenance, for example.

Maintenance is done when it's done. It's done when the right tools are used in the right way with the right result.

That doesn't mean you can't work fast. It just means you have to work smart. Follow the procedures in your TMs and the SOPs of your unit.

Students in the hurry-up school of maintenance have to learn phrases like:



The hurry-up school of maintenance is what leads to a split ring putting a big dent in somebody's head. It leads to trucks breaking down during a mission, or runaway .50-cal machine guns, or generator sets that won't start.

Never cut corners. Don't try to save time by ignoring safety or using the wrong tool.

No amount of **saved** time can undo an injury or death.



## THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-575, 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:

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

Or E-mail to:

[psmag@logsa.army.mil](mailto: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

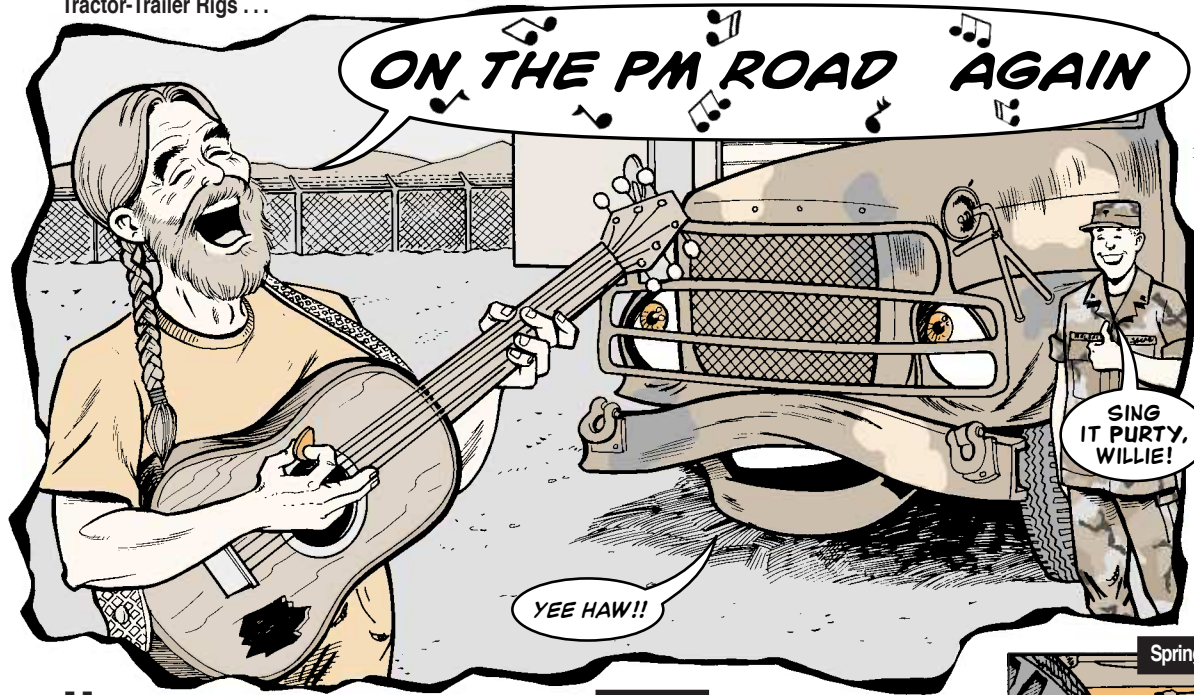
Official:

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JOEL B. HUDSON

Administrative Assistant to the Secretary of the Army  
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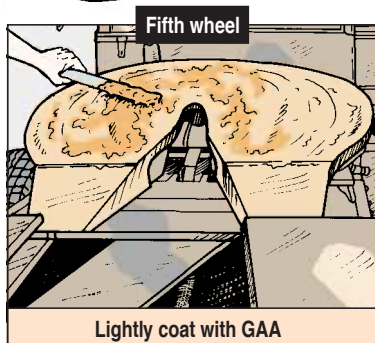
**H**eavy haulers need heavy doses of preventive maintenance, especially in times of heavy use. Tractors generally get the big end of maintenance, 'cause if they can't pull, the load doesn't go!

However, if the trailer's not maintained just as well, what's that tractor got to pull? Zip, zero, zilch!

Here are several tractor-trailer PM tips that'll come in handy for keeping your rig on the road and haulin':

### Frame/Suspension

For the tractor to pull any trailer, the fifth wheel's got to be in good PM condition. A light coat of GAA is all that's needed on the fifth wheel base plate and approach plate. Lube them



Lightly coat with GAA

according to the vehicle's LO, usually every 1,000 miles or monthly. A 1/4-in coating will do.

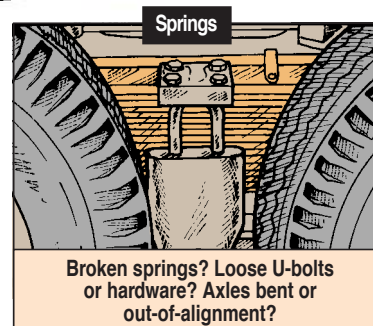
Too much lube attracts dirt and crud and can damage the fifth wheel or the trailer's kingpin.

On trailers, look for cracks around welds, bolts and rivets at these sites:

Crossmembers, tiedown points, side rails, upper coupler, subframe and rear bumper.

Get under the trailer and eyeball the springs for cracks or breaks. Kick the

U-bolts to see if they're loose. Take a look at the axles for bending or alignment problems.

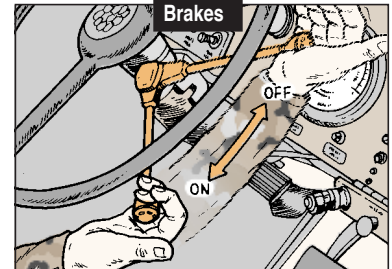


Broken springs? Loose U-bolts or hardware? Axles bent or out-of-alignment?

### Brakes/Air System

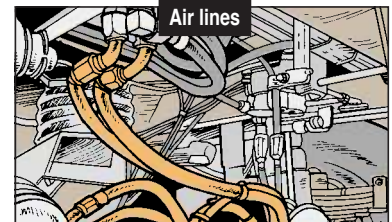
To check the trailer's brakes and air system, you'll need the tractor. Set the trailer's brakes with the tractor's trailer brake hand control. Move the tractor slightly ahead to make sure the brakes hold—then release them. Note: Make sure you completely release the brakes.

If the brakes remain on the least bit, they'll heat up and maybe catch fire.



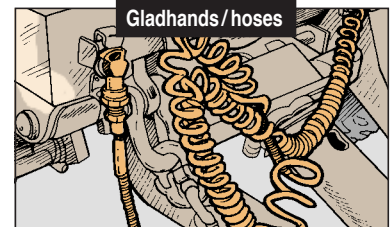
Test trailer brakes with hand control

Eyeball the air lines from the air tanks to the brake diaphragm. Make sure there are no cut or pinched lines.



Eyeball air lines at brake diaphragms for bent or pinched lines

Eyeball the gladhands. Take a look at their air lines for chafing, bending or crimping.



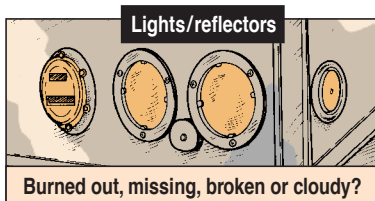
Test trailer brakes with hand control



## Lights/Reflectors

Walk around the trailer and look at the taillights, clearance lights and reflectors. Lenses should be clean and undamaged.

Make sure the trailer's lights work. If they don't, let your mechanic know about it.

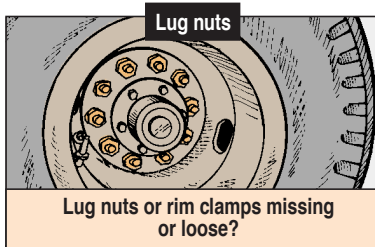


## Tires/Wheels

Tires and wheels on trailers take a beating from highway and cross-country travel.

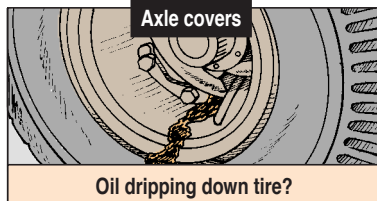
Always make sure the tires are inflated to -10 TM levels. Overinflated or underinflated tires wear out early.

Wheel nuts can loosen by themselves from vibration, so take a look at the nuts on every wheel. Look for chipped paint, shiny spots or rust flakes around a nut. That's a clue to loose fasteners.

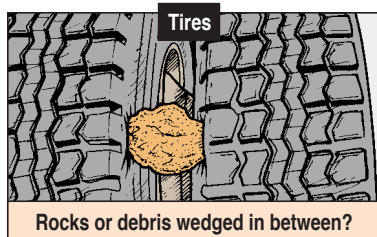


Axle covers on M870-series trailers are born leakers. When covers leak enough oil, axle bearings go dry and burn out. If you see oil dripping down

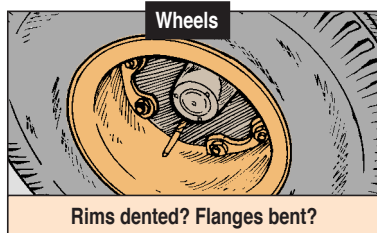
the tire, report it. Also, eyeball the hub's oil level. Make sure it's up to the mark.



Eyeball the space between dual tires. Remove any rocks wedged between them.



Eyeball the wheel rims for dented or bent rim flanges.



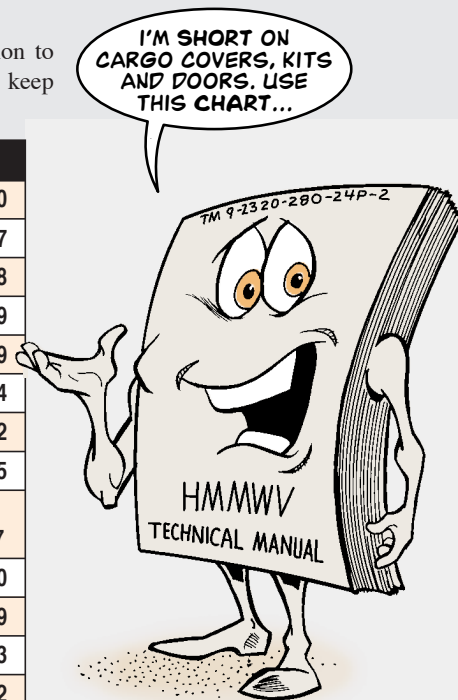
HMMWVs ...

## CAMO COVERS AND KITS

The HMMWV parts TM is real good for info on tan and green vinyl covers and doors for the cab and cargo areas, but it's real short on info on woodland camouflage covers and doors.

That'll be changed with the next revision to the TMs, but until then, use this info to keep everything under cover:

Item	NSN
2-man crew soft-top kit	2540-01-434-8600
2-man crew soft top only	2540-01-450-4017
4-man crew soft-top kit	2540-01-434-8598
4-man crew soft top only	2540-01-450-4019
Cargo area soft-top kit	2540-01-434-8599
Cargo area soft top only	2540-01-450-4024
Troop area soft-top kit	2540-01-434-8602
Troop area soft top only	2540-01-450-4015
4-man crew curtain assembly	254001-450-5477
Front door, left hand	2510-01-450-5480
Front door, right hand	2510-01-450-5479
Rear door, left hand	2510-01-450-5483
Rear door, right hand	2510-01-450-5482



Wheeled Vehicles ...

## Match Lenses to Bodies

A few mechanics have found out the hard way that you can't use a plastic and aluminum taillight lens on a plastic taillight body. Neither can you use an all-plastic lens on a metal taillight body. The lens assemblies are interchangeable, but the parts are not.

So use NSN 6220-00-179-4324 to get a plastic and aluminum lens. It carries part number 11639535. Use NSN 6220-01-359-2870 to get an all-plastic lens. It carries part number 12375841.

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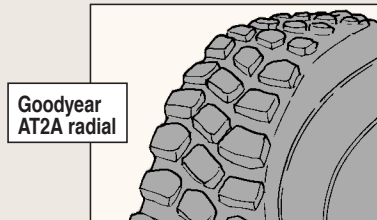
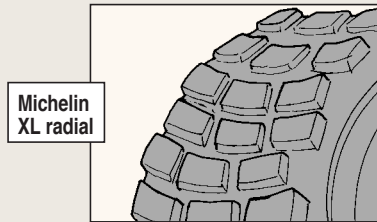
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PS END

# Timely Tire Talk

**T**hree different tires are approved for use on HEMTT vehicles. Two of them work well with each other, but the other one is a loner. Here are the details:

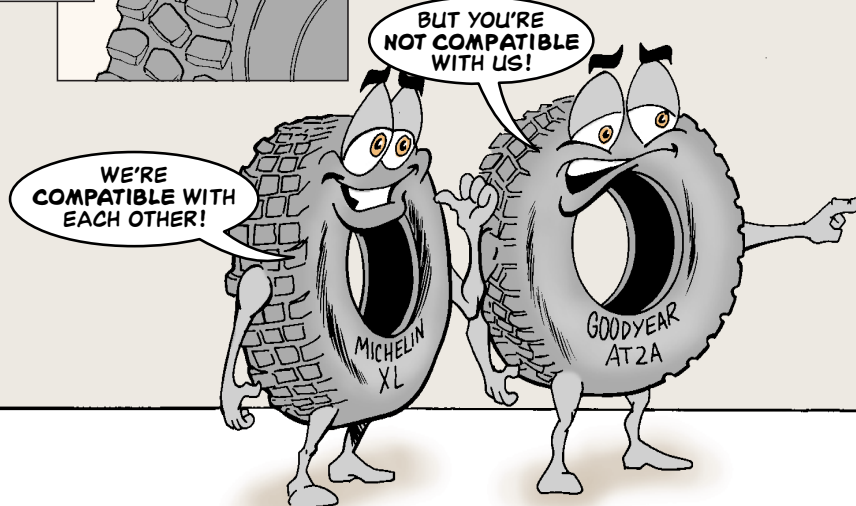
► When you order a replacement tire using NSN 2610-01-126-1576 from



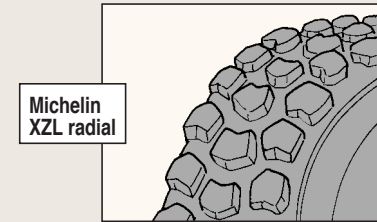
TM 9-2320-279-24P, you get either a Michelin XL (16.00R20, load range J) or a Goodyear AT2A (16.00R20, load range M).

Both tires can be used on the same truck without damage to the tires or the truck. It's a common practice to use all the same tires on a single axle, but it is not necessary. Both tires were tested together and are compatible on the same axle.

Here's the word from Para 2-7 of TM 9-2610-200-14, *Care, Maintenance, Repair, and Inspection of Pneumatic Tires and Inner Tubes*: "Minor variations of tread designs, as encountered from one manufacturer to another, may be used providing the sizes and tire constructions (bias or radial) are compatible."



► There is another NSN shown in the HEMTT parts TM: NSN 2610-01-334-2694. This tire, a Michelin XZL (16.00R20, load range M), can be used on the truck only in a full set of eight tires. It cannot be mixed with the other tires, however, because its tread is not compatible.



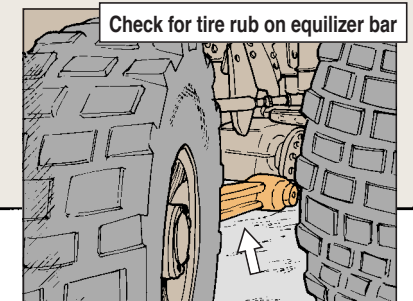
Note that the XZL is used on the M1070 heavy equipment transporter and the M1074/M1075 palletized loading system tractor. Just because the XZL can be used on the HEMTT does not mean that the XL or AT2A can be

used on the HET or PLS. They cannot! The XL is not large enough for either vehicle, and the AT2A did not pass the use test for either truck.

► All three tires have non-directional tread, so it does not matter how they are mounted on the wheels. The tread can point forward or backward, even though the XL tread appears to be directional.

► Some or all of these tires may rub against the HEMTT's front axle equalizer beam during a hard left or hard right turn. Eyeball the beam for evidence of rubbing. There must be at least 1 inch of clearance between the tread and the beam when the wheel is turned as far as possible to the left and right.

If you find evidence of rubbing, report it. Your DS shop must adjust the steering stop bolts to the correct clearance. The adjustment information is found in TM 9-2320-279-34-2. DS should note that TACOM has increased the clearance from 3/4 inch to 1 inch since the TM was printed.



# Peel 'em and Stick 'em

Lusterless White Letters: NSN 7690-00-

Letter	1-in	1½-in	2-in	3-in	4-in
A	857-9664	857-9615	858-3367	310-9617	329-0212
B	857-9665	857-9616	858-3368	310-9619	329-0215
C	857-9666	857-9617	858-3369	310-9632	329-0216
D	857-9667	857-9618	858-3370	310-9750	329-0217*
E	857-9668	857-9619	858-3371	310-9751	329-0218
F	857-9669	857-9620	858-3372*	311-0639	329-0219*
G	857-9670	857-9621	858-3373	311-2088	329-0220
H	857-9671	857-9622	858-3374	311-2365	329-0221
I	857-9672	857-9623	858-3375	311-2368	329-0222
J	857-9673	857-9624	858-3376	311-3249	329-0226
K	857-9674	857-9625	858-3377	311-3593	329-0228
L	857-9675	857-9626	858-3378	311-3937	329-0231
M	857-9676	857-9627	858-3379	311-5760	329-0232
N	857-9677	857-9628	858-3380	311-5768	329-0236*
O	857-9678	857-9629	858-3381	311-6923	329-0239
P	857-9679	857-9630	858-3382	311-6929	329-0243
Q	857-9680	857-9631	858-3383	311-6941	329-0252*
R	857-9681	857-9632	858-3384	311-6954	329-0257
S	857-9682	857-9633	858-3385	311-6955	329-0262
T	857-9683	857-9634	858-3386	311-6956	329-0265
U	022-9764	857-9635	858-3387	311-6964	329-0309
V	857-9684	857-9636	858-3388	311-6966	329-0311*
W	857-9685	857-9637	858-3389	311-6973	329-0346
X	857-9686	857-9638	858-3390	311-6981	329-0353
Y	857-9687	857-9639	858-3391	311-6992	329-0363
Z	022-9768	857-9640	858-3392	311-6995	329-0364

PAINTING  
NAMES AND  
RANKS ON  
THE WINDOWS  
OF YOUR  
TACTICAL  
VEHICLES  
IS A REAL  
PAIN-  
ESPECIALLY  
WHEN IT'S  
TIME TO  
REMOVE  
'EM.

*\*A limited supply of  
these decals are  
still in stock. Once  
exhausted, they will  
no longer be  
available.*

END THAT  
PROBLEM BY  
USING PRESSURE-  
SENSITIVE DECALS  
ON THE WINDOWS  
INSTEAD OF  
PAINT.

THE DECALS  
COME IN BLACK AND  
WHITE AND MOST ARE  
AVAILABLE IN  
PACKAGES OF 10  
OR 20.

Lusterless White Numerals: NSN 7690-00-

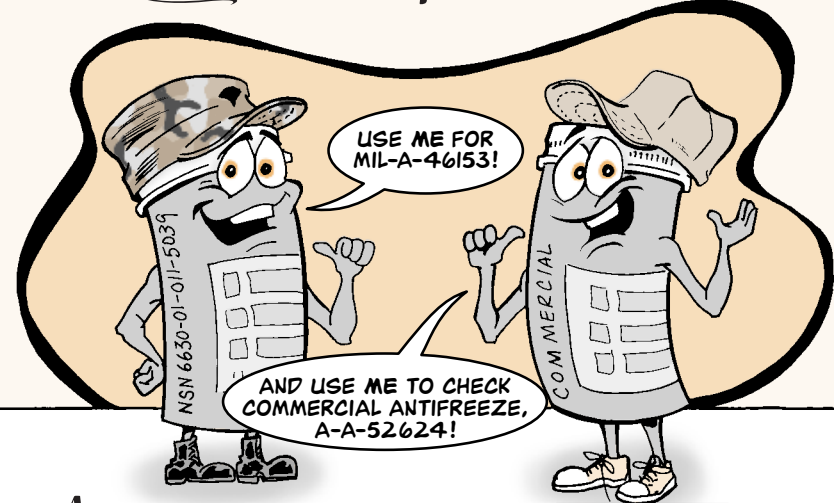
Number	1-in	1½-in	2-in	3-in	4-in
1	857-9688	857-9641	858-3393	311-7002	329-0365
2	857-9689	857-9642	858-3394	311-7032	329-0371
3	857-9690	857-9643	858-3395	311-7088	329-0396
4	857-9691	857-9644	858-3396	311-7089	329-0397
5	857-9692	857-9645	858-3397	311-7128	329-0400
6	857-9693	857-9646	858-3398	311-7140	329-0403
7	857-9694	857-9647	858-3399	311-7148	329-0442
8	857-9695	857-9648	858-3400	311-7149	329-0443
9	857-9696	857-9649	858-3401	311-7164	329-0445
0	857-9697	310-6605	858-3402	311-6923	329-0456

Lusterless Black Numerals: NSN 7690-01-

Number	1-in	1½-in	2-in	3-in	4-in
1	030-8556	031-4673	032-0728	031-9559	032-4595
2	030-8557	031-4674	032-0729	031-9560	032-4596
3	030-8558	031-4675	032-2421	031-9561	032-4597
4	030-8559	031-4676	032-2422	031-9562	032-4598
5	030-8560	031-4677	032-1401	031-9563	032-4599
6	030-8561	031-5534	032-2423	031-9564	032-4600*
7	030-8562	031-4678	032-2424	031-9565	032-4601
8	030-8563	031-4679	032-2425	031-9566	032-2452
9	030-8561	031-4680	032-0730	031-9567	032-2453
0	030-8545	031-4681	032-0731	031-9568	032-2454



# Quick Antifreeze Check



Antifreeze test kit, NSN 6630-01-011-5039, is used to check the corrosion protection level of ethylene glycol antifreeze, MIL-A-46153, only.

Details on how to use the kit's test strips are in TB 750-651, *Use of Antifreeze Solutions, Antifreeze Extender, Cleaning Compounds and Test Kit in Engine Cooling Systems*.

If you need to check the corrosion protection level of commercial antifreeze, A-A-52624, use commercial test strips that test for the nitrite level in engine coolant.

Some available test strips include Penray part number TS-100, Fleetguard part number CC2602 and Detroit Diesel Powertrac part number 23522774. The strips come with information on how to use them.

Here is the toll-free number or web site for each manufacturer:

**Penray:** (800) 322-2143

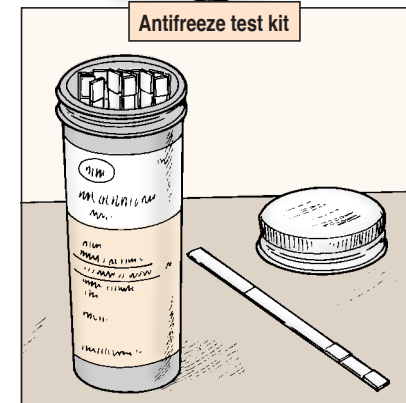
[www.penray.com](http://www.penray.com)

**Fleetguard:** (800) 22FILTER

[www.fleetguard.com](http://www.fleetguard.com)

**Detroit Diesel:**

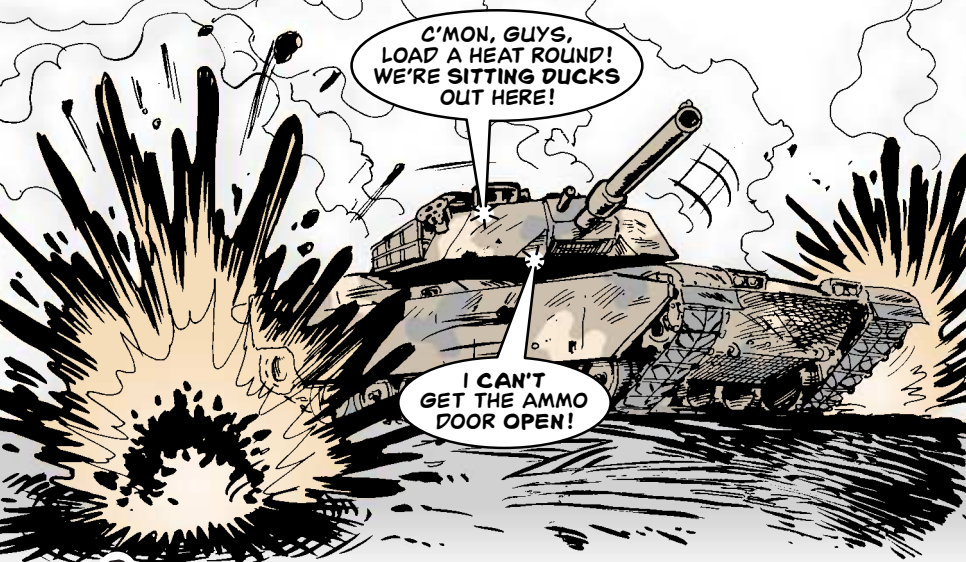
[www.detroitdiesel.com](http://www.detroitdiesel.com)



Lusterless Black Letters: NSN 7690-01-					
Letter	1-in	1½-in	2-in	3-in	4-in
A	030-7126	031-4660	031-9543	032-0732	032-0741
B	030-5778	031-4661	031-5535	032-0733	032-0742
C	030-5779	031-5521	031-5536	032-2428	032-0743
D	030-5780	031-5522	031-6394	032-2430	032-2434
E	030-5781	031-5523	031-9544	032-2432	032-2436
F	030-5782	031-5524	031-5537	032-0734	032-2437
G	030-5783	031-4662	031-5538	032-0735	032-0744
H	030-5784	031-4663	031-5539	032-0736	032-0745
I	030-8542	031-4664	031-5540	032-0737	032-1402
J	030-5785	031-4665	031-5541	032-0738	032-1403
K	030-5786	031-4666	031-5542	032-0739	032-1404
L	030-8543	031-4667	031-5543	032-0740	032-1405
M	030-7816	031-4668	031-5544	031-9545	032-2438
N	030-8544	031-4669	031-5545	031-9546	032-1406
O	030-8545	031-4670	031-5546	031-9547	032-3712
P	031-6395	031-5525	031-5547	031-9548	032-2439
Q	030-8546	031-5526	031-5548	031-9549	032-2441
R	030-8547	031-5527	031-5549	031-9550	032-1407
S	030-8548	031-5528	031-5550	031-9551	032-2443
T	030-8549	031-5529	031-5551	031-9552	032-2445
U	030-8550	031-5530	031-5552	031-9553	032-2447
V	030-8551	031-5531	031-5553	031-9554	032-2449
W	030-8552	031-5532	031-5554	031-9555	032-1408
X	030-8553	031-5533	031-5555	031-9556	032-2451
Y	030-8554	031-4671	032-1400	031-9557	032-4593
Z	030-8555	031-4672	032-0727	031-9558	032-4594

CHECK THE FED LOG BEFORE YOU ORDER TO FIND OUT HOW MANY YOU'LL GET WITH EACH NSN.

# Give Ammo Doors a Break



Crewmen, it only takes a couple of loose screws to ruin your day, especially when it comes to your tank's ammo door.

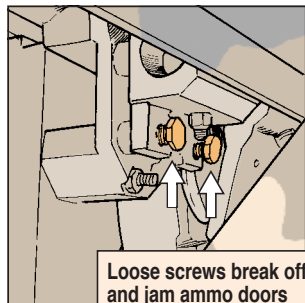
The hook and housing assembly mounts to the top left of the ammo door with two screws.

Vibration loosens those screws, but you won't know about it until it's too late—when the screws break and the door gets jammed as you try to open or close it.

When that happens, you're stuck with an open door you can't close, or a closed door you can't open. Either way, you won't be doing any firing.

Make a point to eyeball those screw heads with a flashlight every time you check out the ammo doors and racks. If they've backed out or if they're loose enough to turn with your fingers, sing out to your mechanic.

He'll add a dab of locking compound, NSN 8030-01-025-1692, to the screws before re-tightening 'em.



# Keep Bearing Surfaces Clean

Dear Half-Mast,

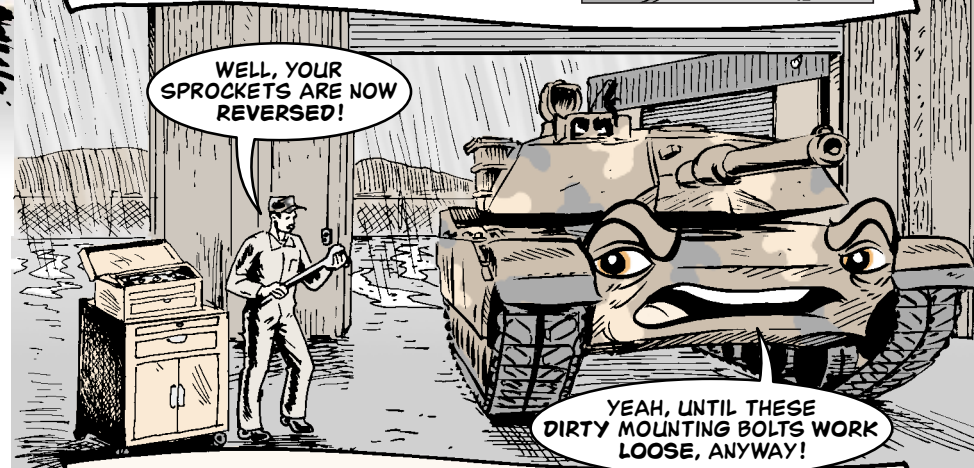
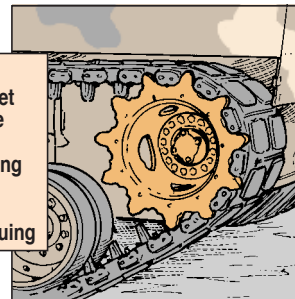
We try to take good care of the track and suspension systems on our M1-series tanks. That includes the annual reversal of sprockets to prevent uneven wear and lengthen sprocket life.

Even though we're careful to properly re-torque all the bolts when reversing the sprockets, we inevitably run into trouble a few hundred miles later. On most of our tanks, the sprocket mounting bolts start coming loose or shear off entirely.

Any idea what we're doing wrong?

SSG K.W.D.

Clean sprocket surface and mounting bolts before re-torquing



Dear Sergeant K.W.D.,

Your problem is likely caused by dirt getting between the bearing surfaces of the bolt and sprocket. It is very important that these two surfaces be clean **before** you tighten the bolt.

It's also a good idea to lubricate the threads and bearing faces before tightening the bolt. Either lubricating oil, NSN 9150-00-231-2361, or WTA grease, NSN 9150-01-262-3358, is ok, but WTA is best.

Half-Mast



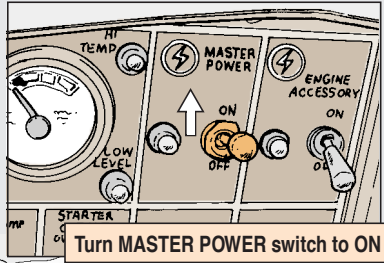
# Wishful Thinking-PM

**D**rivers, here's hoping you never have to use the NBC system on your M2/M3-series Bradley.

Here's also hoping that you continue to check out the system before every operation—just in case.

Here's how:

1. Turn MASTER POWER switch to ON.

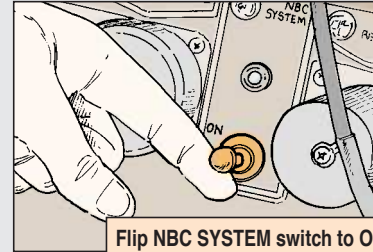


Turn MASTER POWER switch to ON



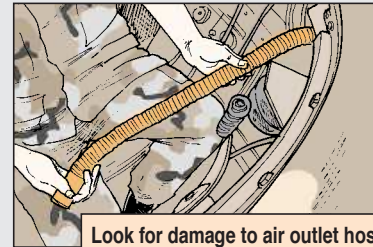
# =Problems

2. Flip the NBC SYSTEM switch to ON. Let the system run for 5 minutes.



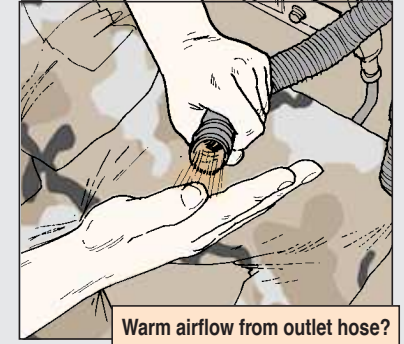
Flip NBC SYSTEM switch to ON

3. Eyeball the entire length of the air outlet hose for cuts, tears or pinches.



Look for damage to air outlet hose

4. Check for warm airflow from the outlet hose.



Warm airflow from outlet hose?

5. Test communications between yourself and the commander with the NBC mask on.
6. Turn the NBC SYSTEM switch to OFF.

If you find any problems, don't wait. Tell your mechanic now so they can be fixed ASAP.

MLRS Carrier ...

## Check the Ground

**D**rivers, sudden electrical problems with the instrument panel on your MLRS might be caused by a bad ground.

Vibration can loosen the ground on the instrument panel's utility outlet. When that happens, gauges and lights on the panel stop working.

Call in your mechanic to clean and tighten the utility outlet ground.

ONCE THE GROUND IS RECONNECTED, YOUR ELECTRICAL PROBLEMS SHOULD DISAPPEAR IN A FLASH.

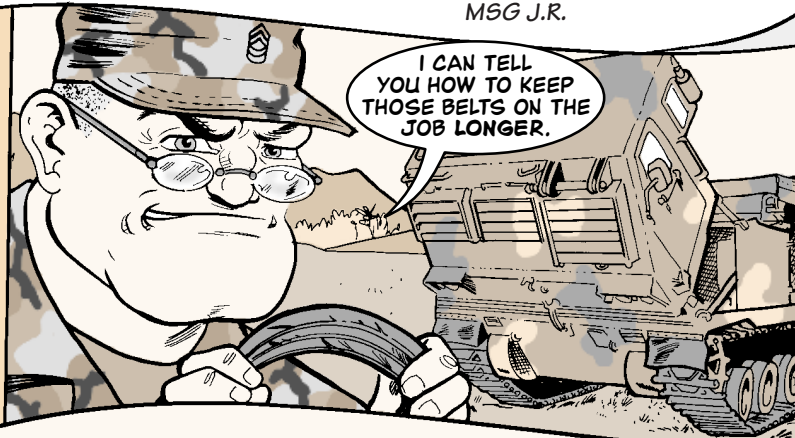


# Take the Bite Out of Pulleys

Dear Half-Mast,

We have to change the belts on our MLRS second generators often. Even brand-new belts don't last very long. Any idea why this is happening?

MSG J.R.



Dear Master Sergeant J.R.,

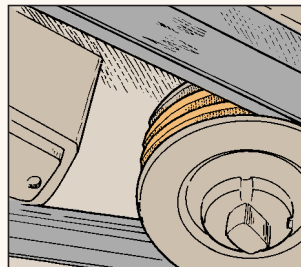
Friction is the likely culprit.

The belt passes over the second generator's pulleys at high speed. That builds up a lot of friction between the belt and the grooves on each of the pulleys.

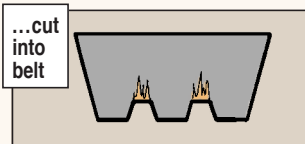
Over time, the pulley grooves are sharpened by the friction. Those sharp edges then cut into the belt and ruin it. That's why a new belt fares no better.

The best quick fix is to file the tips of the pulley grooves slightly until they are flat again. Eventually, though, you'll have to replace the pulleys.

*Half-Mast*

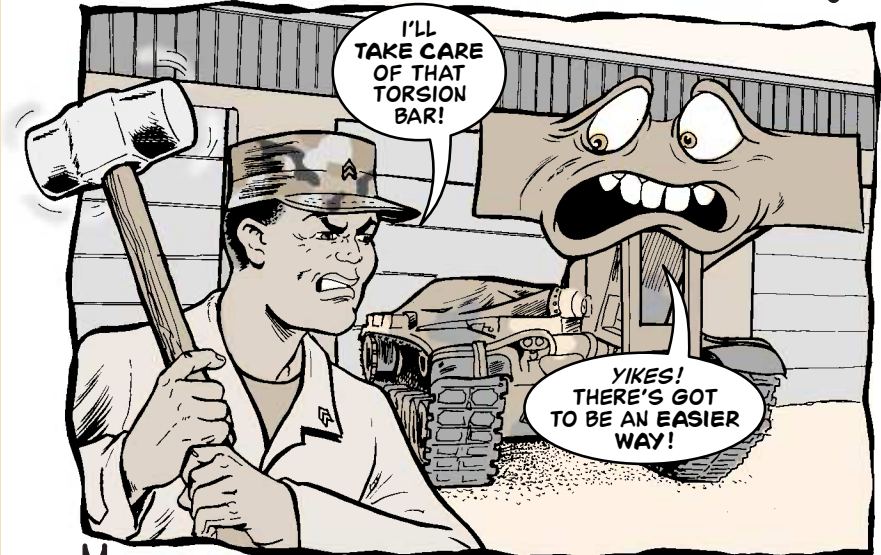


Sharpened grooves on pulley...



...cut into belt

# Torsion Bar Removal Made Easy

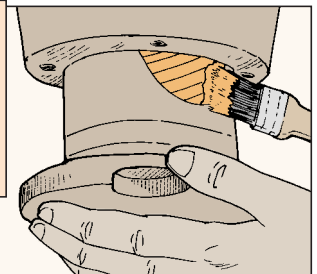


Mechanics, removing a corroded torsion bar is no picnic—unless you normally take a sledgehammer or cutting torch along on your summer outings!

Keep torsion bars from getting stuck in the first place by installing them the right way. Here's how:

1. Clean the torsion bar surface, including the splines and anchor, with dry cleaning solvent.
2. Wipe off the splines, anchor and the rest of the torsion bar with a clean, dry rag.
3. Apply a coat of corrosion preventive compound, NSN 8030-00-231-2345, to the splined surface of the torsion bar anchor, using brush, NSN 8020-00-297-6657.
4. Put a thin coat of dry film lube, NSN 9150-00-948-6912, on the outside surface of the anchor just before you install it in the roadwheel housing.

Clean torsion bar, then brush corrosion preventive compound on splines



Next time you have to remove a torsion bar, it'll come out slick as a whistle.

## Scan the Span

**B**ad rivets, corrosion and cracks are big trouble for your AVLB.

Rivets can snap like toothpicks when corrosion sets in. At the bridge's high stress areas, corroded rivets will break, causing the bridge to collapse.

Protect yourself and others by following the PMCS in TM 5-5420-203-14.

Then go one step further. Before each operation, take a close look at the center panel hinges and the upper and lower connectors on the center and end panels. If you see a broken or missing rivet, look for white powder in the rivet hole or on the remaining portion of the rivet—that's corrosion.

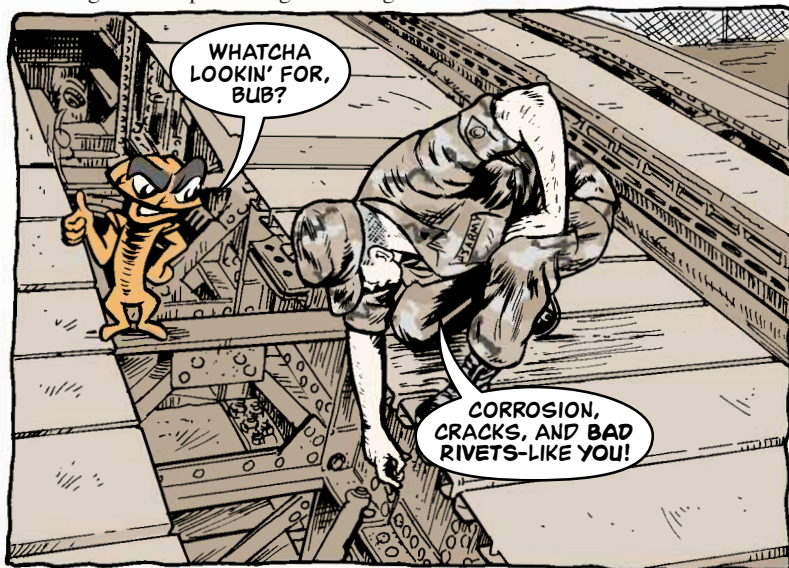
If you find any corrosion, the AVLB is NMC until the panel is repaired or replaced.

If you find a loose rivet, a rivet whose head has been sheared off, or a missing rivet with no sign of corrosion, tell your support folks. They'll replace the bad hardware.

### Make No Welds

If you find a crack on the bridge, get support to replace the bad parts.

You may be tempted to weld that spot. **Don't.** The bridge is made of a special high-strength, heat-treated aluminum. Welding will weaken it. That could cause the bridge to collapse during a crossing.



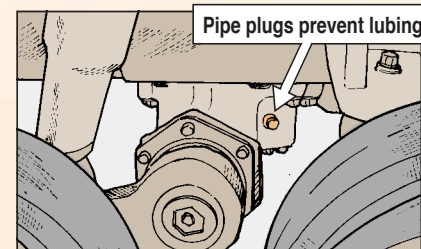
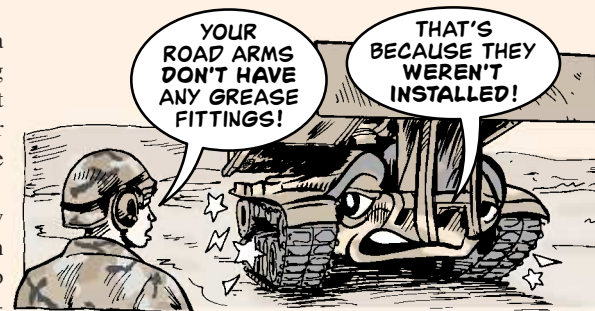
## Pull the Plugs

**M**echanics, installing a new torsion bar housing on an AVLB will just create a new problem for crewmen if you don't give them a way to lube it.

That's because new housings come with pipe plugs installed to keep out dirt during storage and transportation. If you don't replace the plugs with a relief valve and grease fitting, you'll have to replace the new torsion bar housing again real soon.

Crewmen can't lube a housing with no grease fitting. With no grease, the bearings burn out.

So, whenever you put on a new torsion bar housing, pull the plugs and put in a safety relief valve, NSN 4820-01-070-7670, and lube fitting, NSN 4730-00-172-0028.



### Combat Vehicles ...

## Help Engine Keep Its Cool

**M**echanics, putting a new or rebuilt powerpack into a combat vehicle is a big job. So testing the powerpack to make sure it works before you install it is a pretty smart idea.

**Just don't forget to hook the engine up to the cooling system before you run the test!**

Even a minute or two without coolant circulating through the engine will cause major problems. Combustion chamber temperatures get so high that gas-kets, O-rings and seals begin to melt. Piston rings and valves warp and burn.

When that happens, a perfectly good engine has to be repaired or rebuilt and your unit is out a whole lot of money.

So don't take shortcuts. If you want to test the engine before installing it, hook it up to the cooling system first.



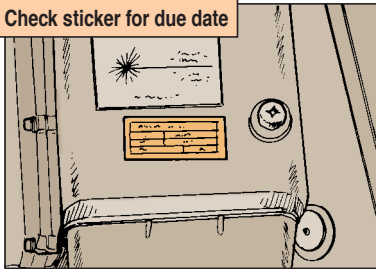
# Targeting G/VLLD PM

Your ground/vehicular laser locator designator (G/VLLD) will help you stay on target if you target this PM:

**Stay current on verification and purging.** There's no give on this, repairmen. If the G/VLLD hasn't been purged and verified by support in the last 180 days, the nitrogen pressure can leak enough to damage the laser rod's transceiver—a \$70,000 item.

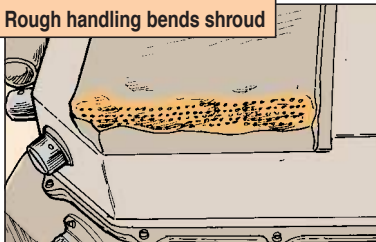
To see when your G/VLLD's due for purging and verification, check its verification sticker for the due date. It's a good idea to give support a few days to do the job. Don't wait until right before you go to the field to get it done.

Check sticker for due date



**Be gentle.** Most G/VLLD damage happens during transport and installa-

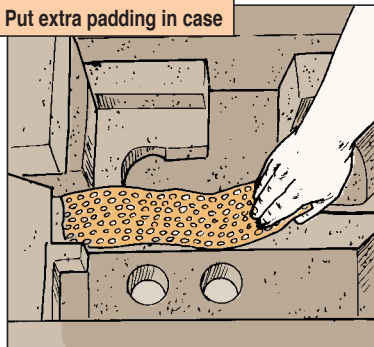
Rough handling bends shroud



tion. A little damage can add up to big bucks.

Operators, when the G/VLLD's not in use, **keep it in its case**. If you're going to be carrying the case through rough country, put extra padding in the bottom of the case. If the G/VLLD is going to be riding in a truck or track, tie it down. Even packed in its case, a G/VLLD bouncing around will be damaged.

Put extra padding in case

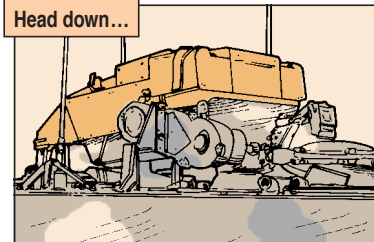


When installing or removing the G/VLLD, maneuver it carefully. Once you have the G/VLLD in place, make sure it's completely locked down.

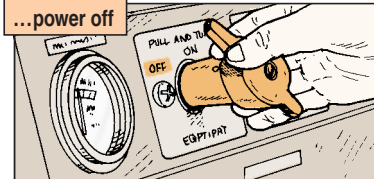
Remember, when installing the G/VLLD, it's **head down, power off**.

It's easier to install the G/VLLD with the head up. But for the head to be up,

Head down...



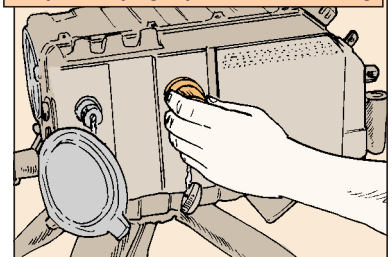
...power off



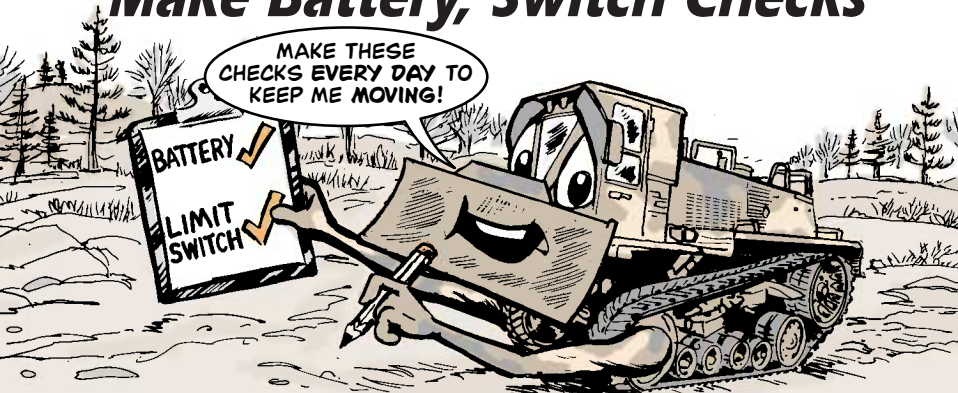
the power has to be on and that's a no-no. If the turret power's on when you connect the inhibit plug or G/VLLD cables, the 1J1 connector pins short out.

**Be safe.** If you're not lasing, keep the inhibit plug plugged in. That's the only way to guarantee there's no accidental lasing that could blind someone. Make sure the G/VLLD's turned off before plugging in or removing the inhibit plug. Otherwise, you burn out the 1J1 connector pins.

Keep inhibit plug in place when not lasing



# Make Battery, Switch Checks



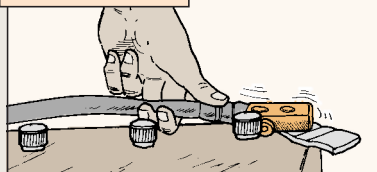
Operating in rough terrain causes wear and tear on your DEUCE. But if you make quick checks every day, you'll stay on the move.

## Battery Clamp

Bouncing around in the rough stuff loosens battery clamps. A loose connection keeps your battery from recharging and your dozer from starting.

So play it safe. Before each day's operation, gently test the tightness of the battery clamps. Using your thumb and two fingers, try to move cable-to-clamp connections.

### Connections loose?

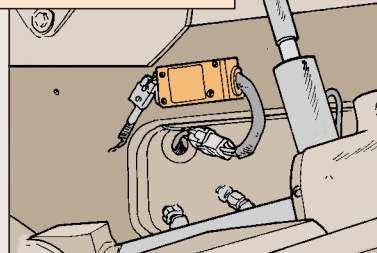


Then make sure the battery indicator and ammeter gauge are in the CHARGE range before you go.

## Blade Switch Brush-Off

Bulldozing through heavy brush can damage the blade down limit switch that's mounted below the cab door. Limbs disconnect the switch or tear it off the vehicle's frame.

### Heavy brush can damage blade down limit switch



Without the switch, the DEUCE can't run in the EARTH-MOVING mode. Then your construction operations come to a halt.

So eyeball the switch to make sure it's in place and not damaged or disconnected. Call in your mechanic if it's damaged or dangling.

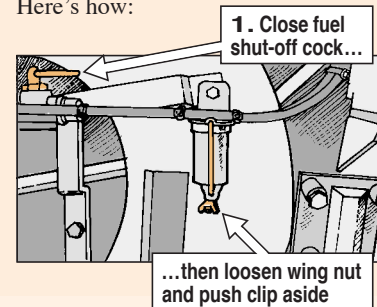
SEE ...

# Prefilter Strainer Reminder

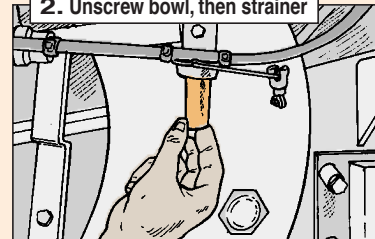
Operators, the strainer that fits into the SEE's fuel prefilter bowl helps filter out crud before it gets into the vehicle's fuel system.

Never, **ever**, run the vehicle without that fuel prefilter strainer in place. If you do, crud can get into the fuel system, clog the engine's fuel injectors and make the engine run rough, or not at all.

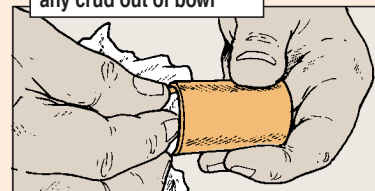
To keep things running smoothly, clean the prefilter at least once a week. Here's how:



### 2. Unscrew bowl, then strainer



### 3. Use clean rag to wipe any crud out of bowl

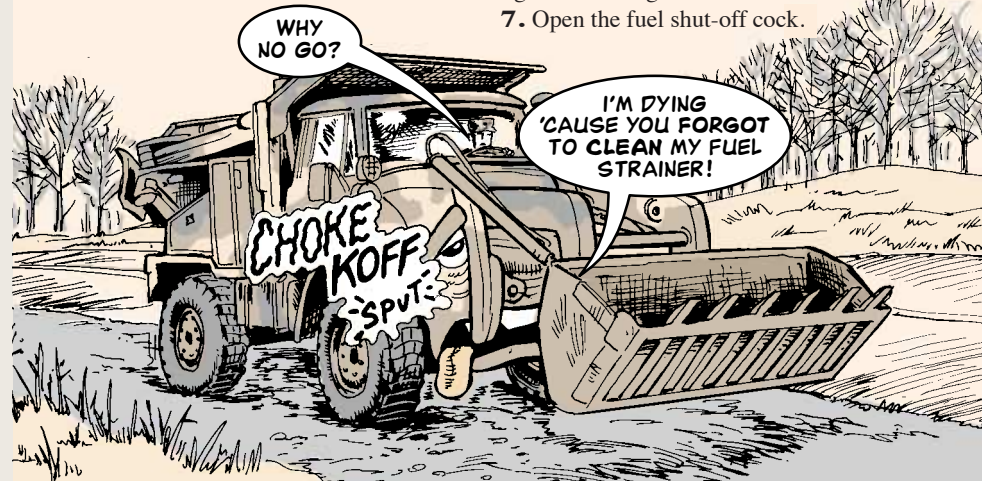


4. Wash the strainer in clean diesel fuel.

5. Screw the strainer and bowl back into place.

6. Push the clip back in place and tighten the wing nut.

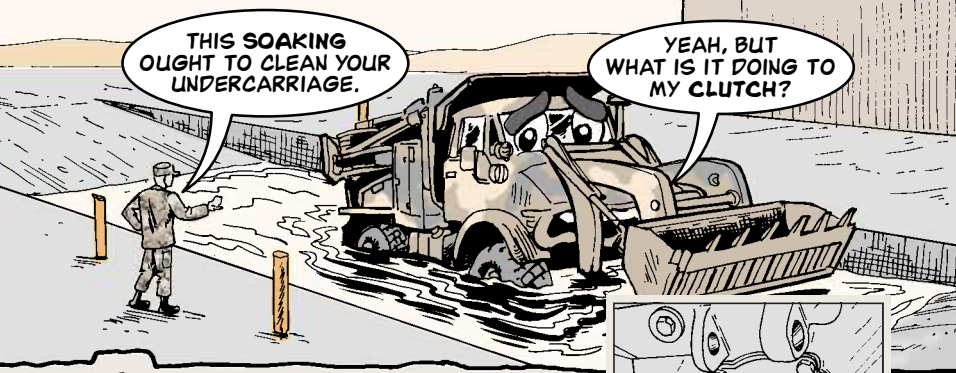
7. Open the fuel shut-off cock.





SEE ...

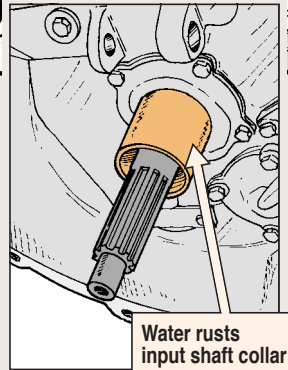
## WATER LEVEL LOWDOWN



Operators, after the day's run, do your SEE a big favor. **Do not** run it through the birdbath.

Any water above the hubs seeps into the transmission housing. When water sits in the clutch group, it rusts the collar on the input shaft. Eventually the throwout bearing seizes and you're stuck with a vehicle that won't shift gears.

So next time your excavator needs a bath, spray it with a high-pressure hose instead. It'll save you some headaches in the long run.



D7G Tractor ...

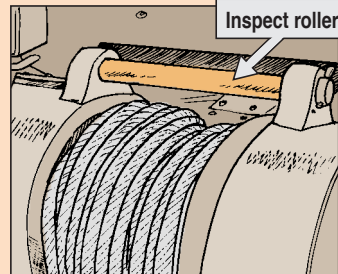
## Able Cable Roller

Operators, before using the dozer's winch, make sure the cable roller is in place and working.

Without a working roller, cable winds unevenly on the winch drum, pinching and breaking strands.

Number one, that's a safety hazard. Number two, the cable will have to be replaced—an expensive and time-consuming job.

So before a mission, eyeball the cable roller. If the roller is missing or bent out of place, report it to your mechanic.



D7G Tractor ...

## FILTER INDICATOR COVERUP

A clean air filter element is crucial to smooth operation and a long engine life.

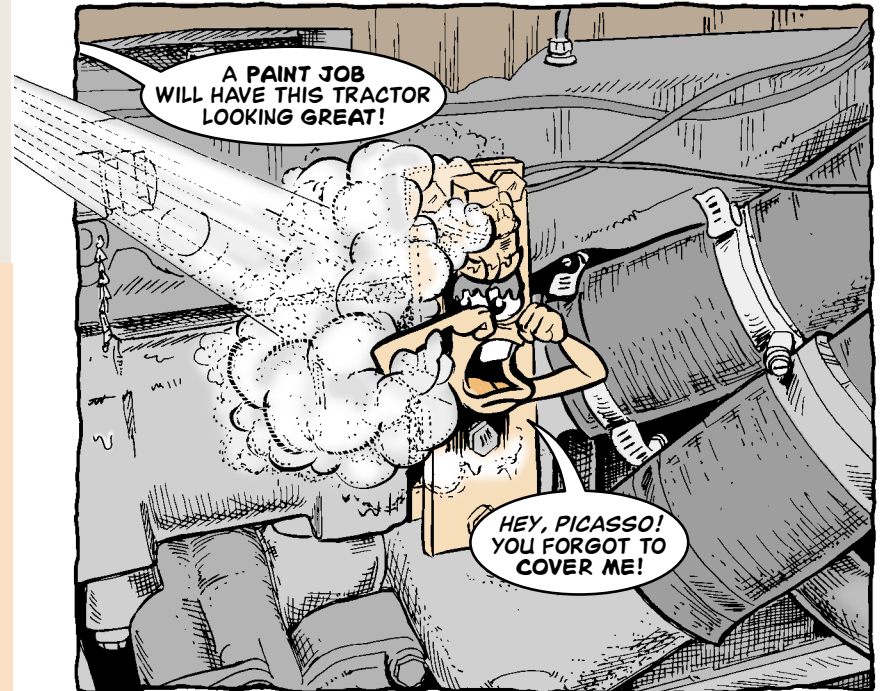
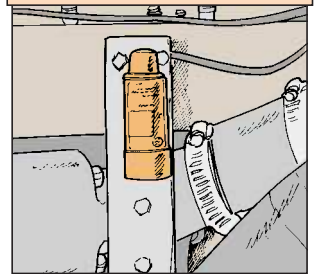
So it's in your best interest to keep an eye on the air cleaner restriction indicator located below the air cleaner canister. When the indicator moves from green to red, you know it's time to pop the canister's lid and pull out the air filters for a good cleaning.

Problem is, some paint shops spray over the restriction indicator. Sprayed over, the indicator is no longer a quick reference on the condition of the air filter elements.

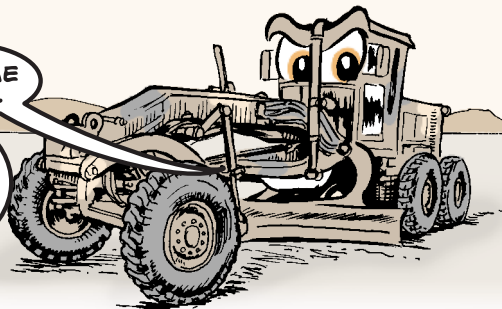
So keep the indicator clear. Use duct tape or masking tape to cover the indicator before the dozer goes off to the paint booth.

If the indicator is covered with paint, your mechanic will have to replace it.

Tape off indicator before painting





IT'S TIME  
FOR...**BATTERY  
BOX  
CLEANUP!**

**B**attery and battery box maintenance on 130G graders is a team effort.

Operators, your job is to keep an eye on the tops of the batteries. Sand and dirt that collect there turn into mud in wet weather. Mud holds moisture that can close the circuit between the positive and negative terminals and discharge the batteries.

So take the time during battery checks to clean off any dirt or mud.

Mechanics, any time you take the batteries out, eyeball the condition of the battery box. Water in the bottom of the box causes rust.

Use a wire brush to scrape off rust and old paint. After cleaning, protect bare metal inside the box with bituminous coating compound, NSN 8030-00-290-5141.



**Brush on compound to protect box**

**M917A1 Dump Truck ...****Clean Out Wheel Rims**

**O**perators, wheel rim openings on the M917A1 dump truck are havens for packed mud, sand, small rocks and dirt.

All that crud breaks down the rubber on the CTIS hoses that pass through the wheel openings.

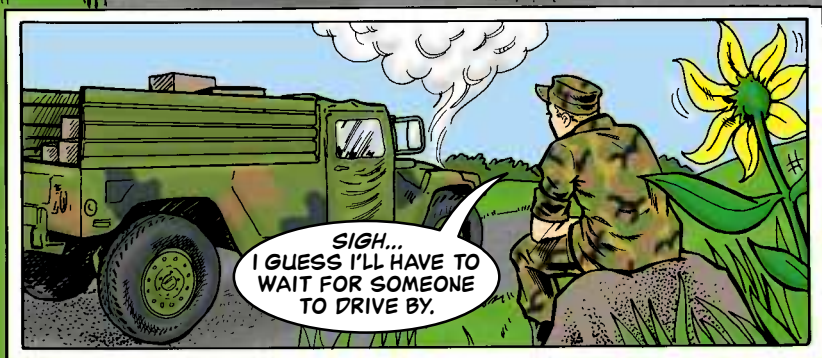
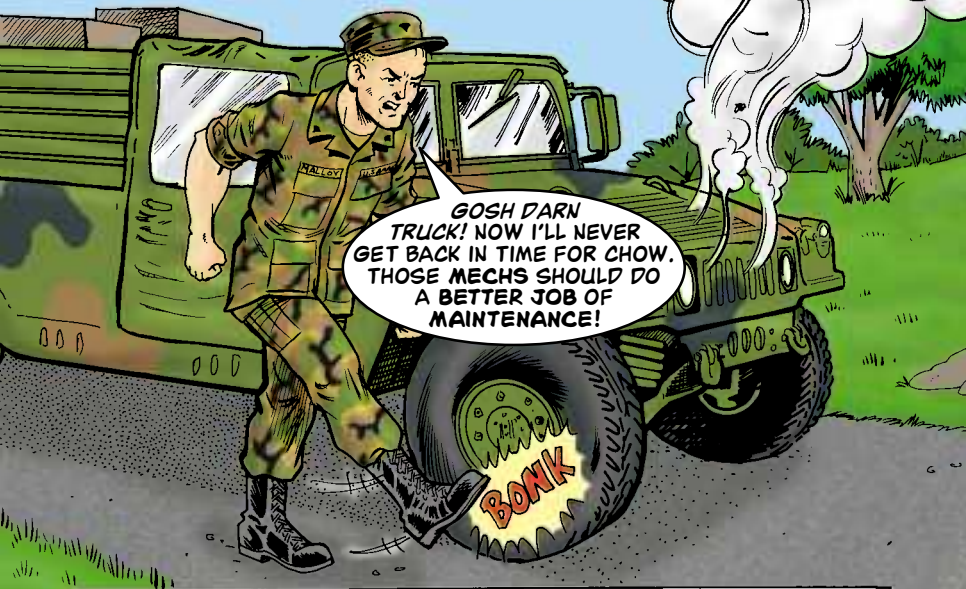
When the hoses start to rot, they leak. Then the CTIS can't inflate or deflate the tires during operation. You could end up stuck in the mud at a worksite.

So when you're cleaning the vehicle, make sure you clean out the wheel openings with high-pressure water. It'll save on maintenance repairs down the road.

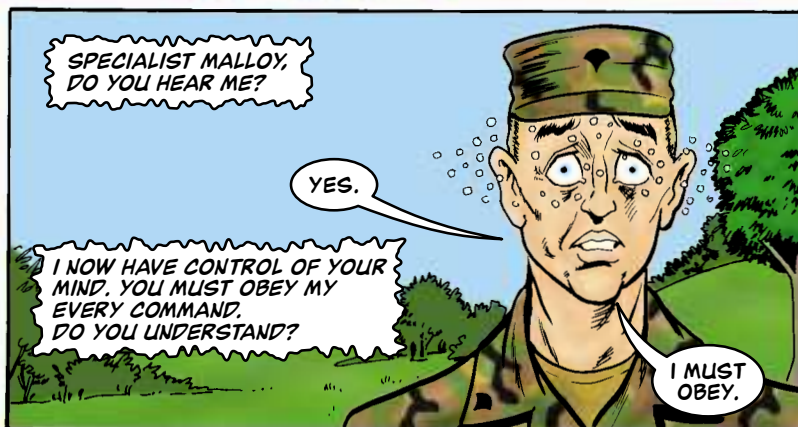
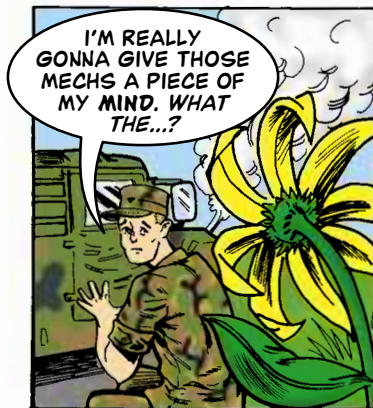


**Use high-pressure water to clean out rims**

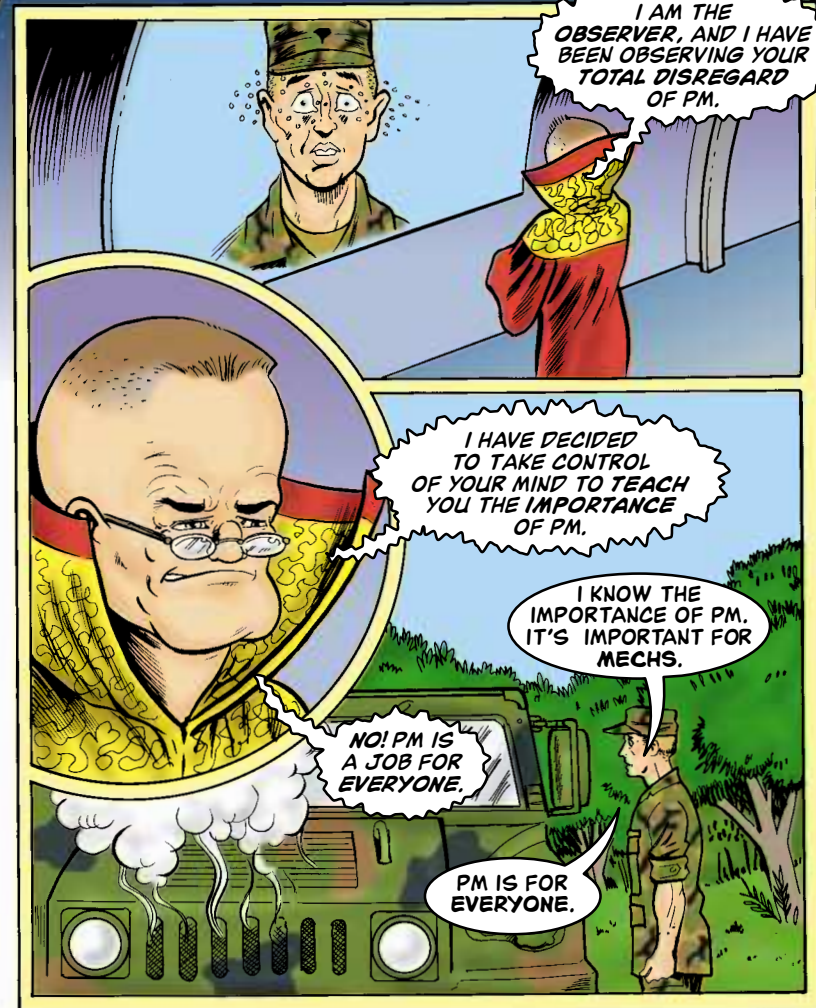
# The EYES of PM Are Upon YOU!



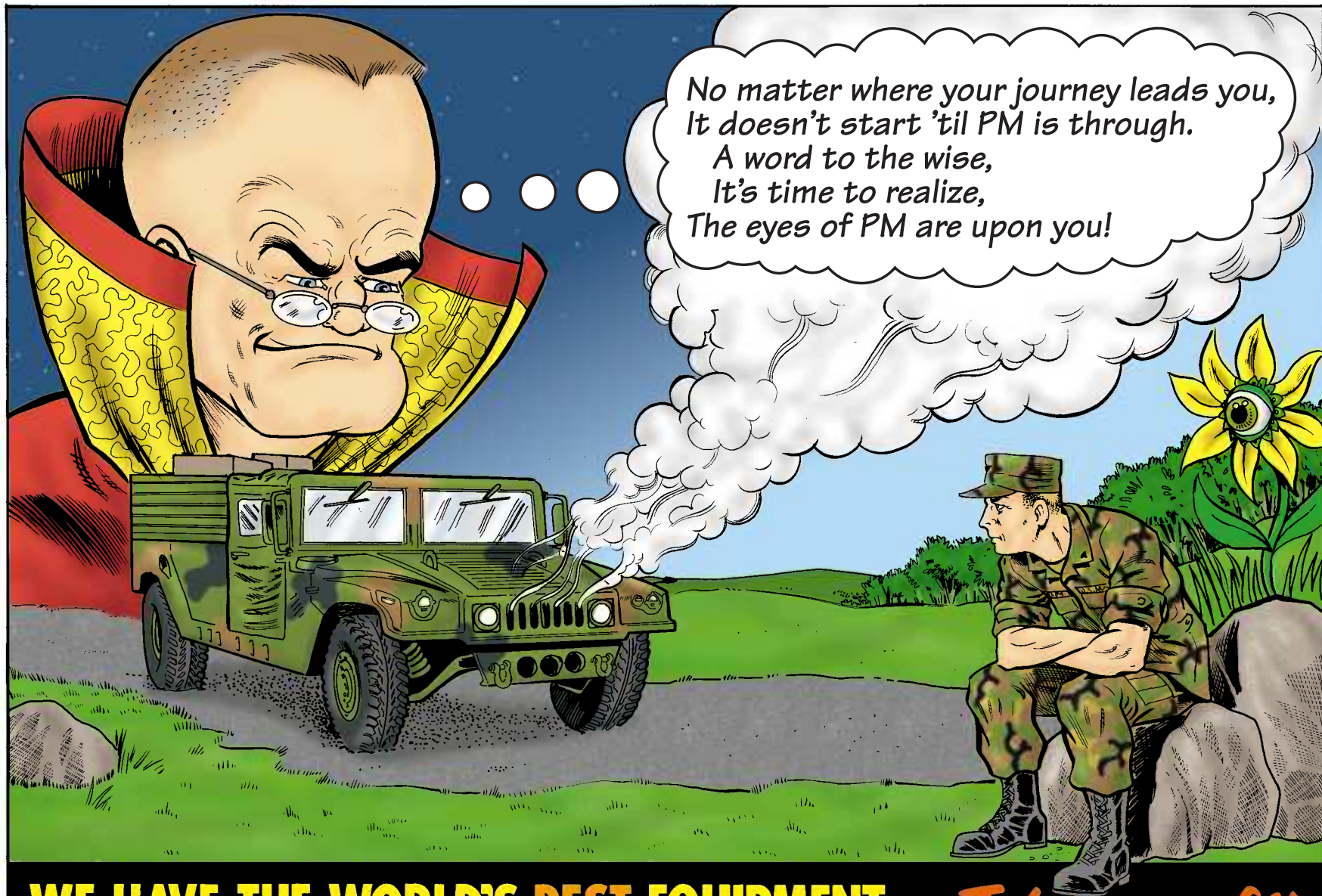




WITHIN AN ASTEROID, FAR OFF IN THE DEEPEST REACHES OF SPACE, RESIDES THE INTERGALACTIC HALL OF PM, WHERE WE FIND THE OBSERVER...

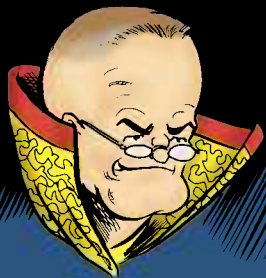






**WE HAVE THE WORLD'S BEST EQUIPMENT ...*Take care of it***



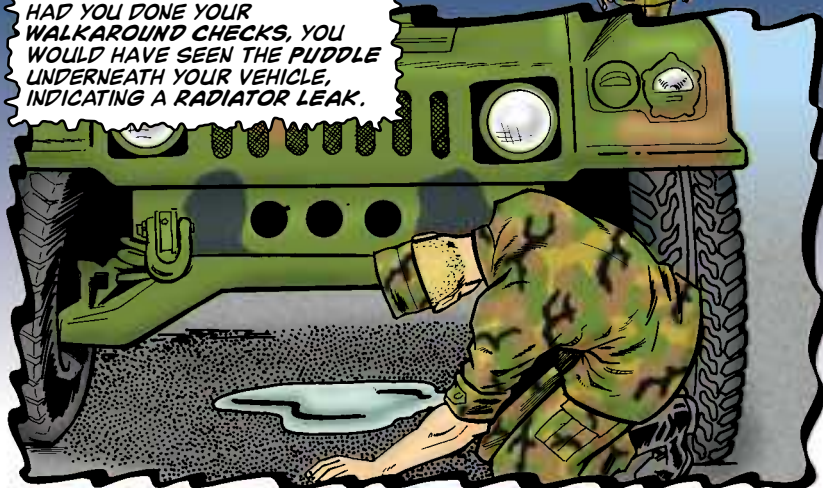


YES, INCLUDING OPERATORS. IF YOU WOULD'VE DONE YOUR PREVENTIVE MAINTENANCE AND OPERATIONAL CHECKS, YOU WOULDN'T BE STRANDED.

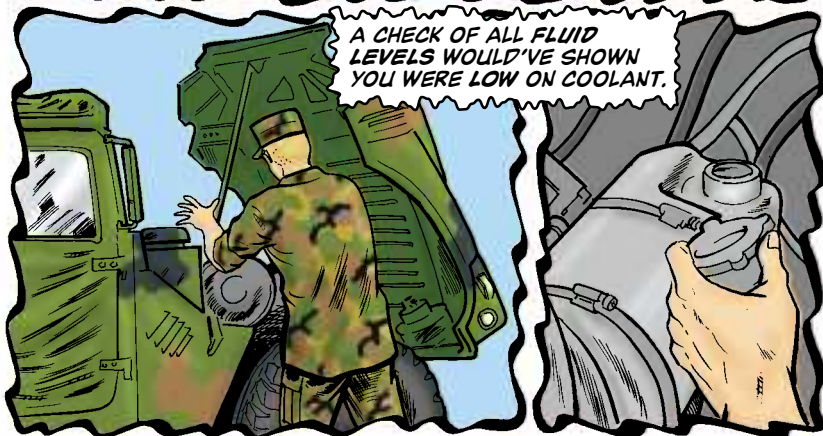
TELL ME... MORE.



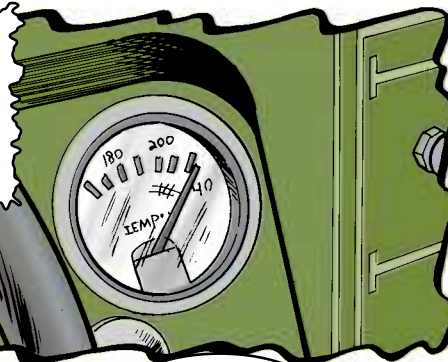
HAD YOU DONE YOUR WALKAROUND CHECKS, YOU WOULD HAVE SEEN THE PUDDLE UNDERNEATH YOUR VEHICLE, INDICATING A RADIATOR LEAK.



A CHECK OF ALL FLUID LEVELS WOULD'VE SHOWN YOU WERE LOW ON COOLANT.

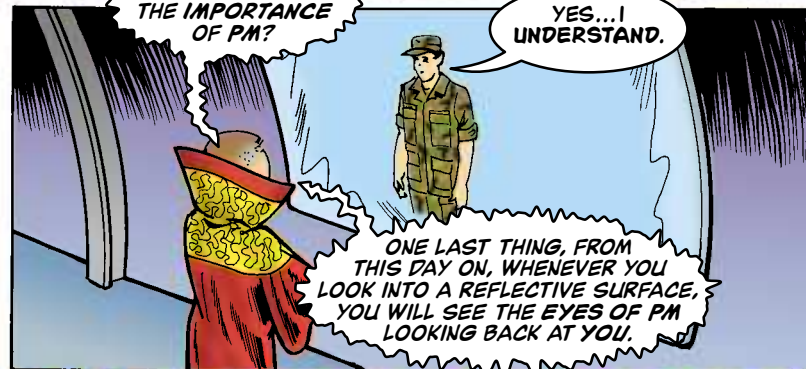


KEEPING AN EYE ON THE TEMPERATURE GAUGE ON THE DASH WOULD HAVE ALERTED YOU TO PROBLEMS WITH THE COOLING SYSTEM. THEN YOU COULD'VE TAKEN CARE OF IT, BEFORE IT BECAME A BIG PROBLEM.



NOW DO YOU UNDERSTAND THE IMPORTANCE OF PM?

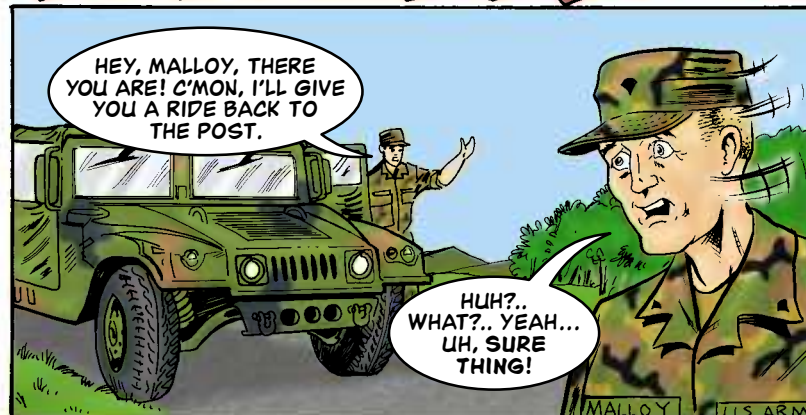
YES... I UNDERSTAND.



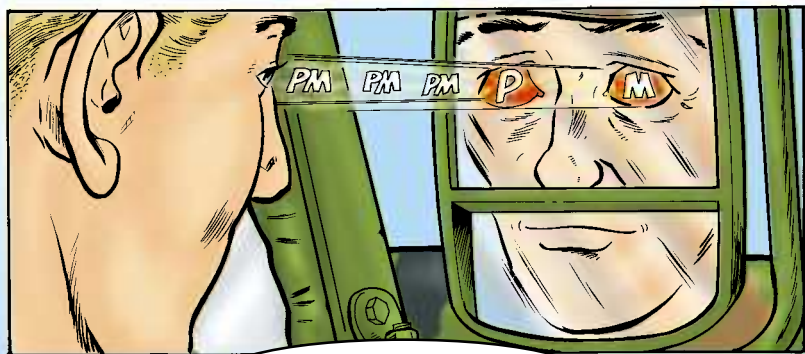
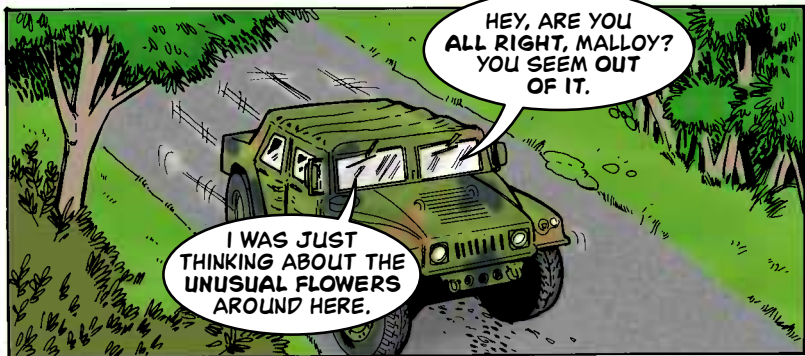
ONE LAST THING, FROM THIS DAY ON, WHENEVER YOU LOOK INTO A REFLECTIVE SURFACE, YOU WILL SEE THE EYES OF PM LOOKING BACK AT YOU.

**BEEP-BEEP!!**

HEY, MALLOY, THERE YOU ARE! C'MON, I'LL GIVE YOU A RIDE BACK TO THE POST.

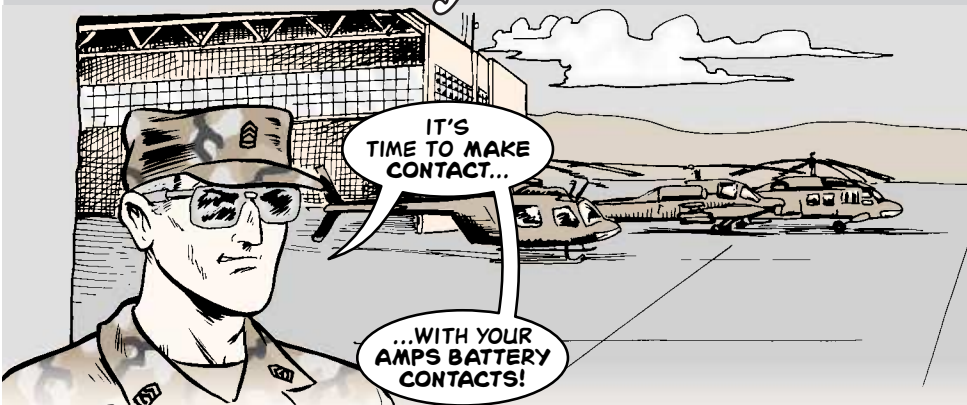


HUH?... WHAT?... YEAH... UH, SURE THING!





# DTC Battery Contact TLC



Aviation mission planning system (AMPS) users, if an AMPS error message tells you that the batteries in the Rockwell Collins data transfer cartridge (DTC), NSN 5895-01-339-5215, are dead, wait one before you replace them.

First, check out the battery contacts. The DTC gives the same error message for bent or broken contacts.

The contacts in the DTC battery compartment are fragile and can be easily broken—especially since the AAA batteries are changed every 30 days.

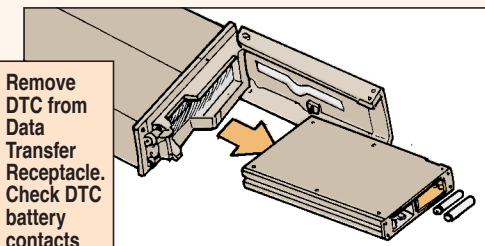
When you pull the DTC and open the battery compartment, eyeball the battery contacts to see if they are bent or broken. If they are OK, then replace the batteries. Use TLC when you do. Do **not** force them into place.

Make sure the batteries are seated properly. After you replace the batteries, eyeball the contacts again to make sure they are not damaged.

Bent or broken contacts make the DTC NMC. You can keep the aircraft FMC by using the DTC from

another aircraft to meet mission needs. Since you are not authorized to repair broken DTC units—only Rockwell Collins is authorized to repair them—expedite the exchange of the broken DTC for a new one at support.

The headshed is working to make the contacts more durable. Until they do, TLC is the key when replacing the batteries in the DTC.



## Extra Holes Save Bowls

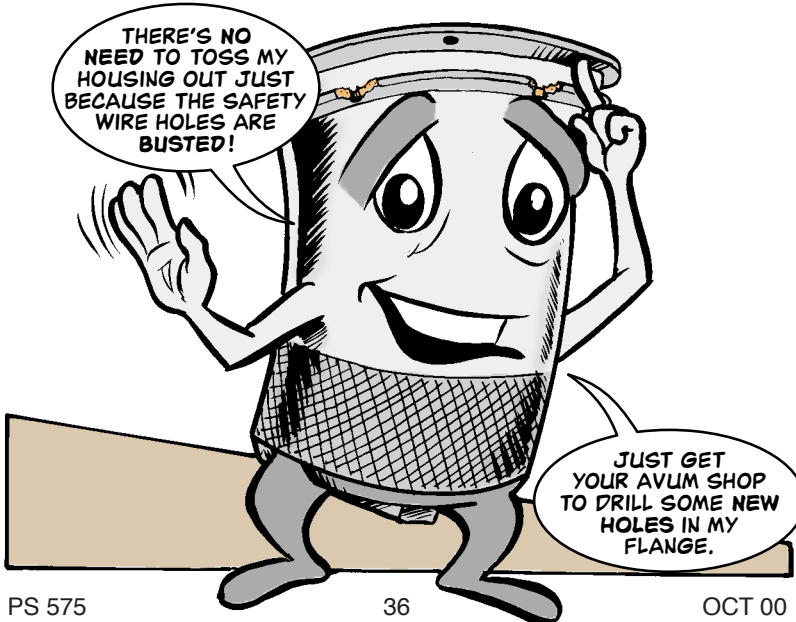
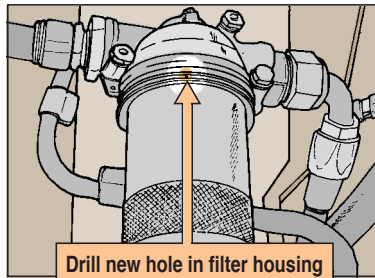
The metal around the safety wire holes on the external oil filter bowl of your Kiowa Warrior is easily broken. When that happens, TM 1-1520-248-23 says to replace the whole bowl.

But instead of replacing a bowl because it can't be safety-wired, you can now just make new holes.

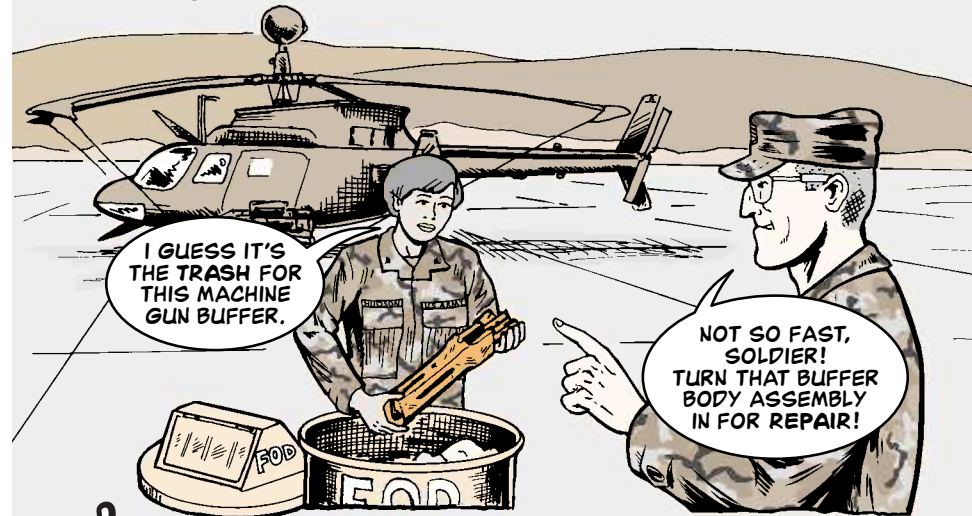
An upcoming change to the TM will let AVUM shops drill additional holes in the housing flange instead of replacing the bowl.

Each new hole should be 0.048 to 0.057 inch in diameter and should be drilled at a point on the bowl that's 30 to 45 degrees from the damaged hole.

Treat the edge of the new hole with alodine conversion coating to prevent corrosion. The coating is listed in your TM's expendable supplies and materials list as Item 57, NSN 8030-00-057-2354.



## Turn In Gun Buffer



If you're throwing away bad XM296 .50-cal machine gun oil buffer body assemblies, NSN 1005-00-550-3941—**stop!** The supply system is out of those OH-58D machine gun buffers and is having problems buying new ones. So turn in those bad assemblies instead of tossing them.

A change to TM 9-1090-214-23&P will modify the buffer body's SMR code from PAODZ to PAODD which means you turn in the body for repair. The recoverability code in FED LOG-AMDF already requires turn-in.

For turn-in instructions, contact TACOM-Rock Island, at DSN 793-1935 or (309) 782-1935, or send an e-mail to:

[maug@ria.army.mil](mailto:maug@ria.army.mil)

### Aircraft Pubs ...

## Where to Find Cold Weather Info

Aviators, your aircraft –10 TMs often refer you to FM 1-202, *Environmental Flight*, for additional info on cold weather operations.

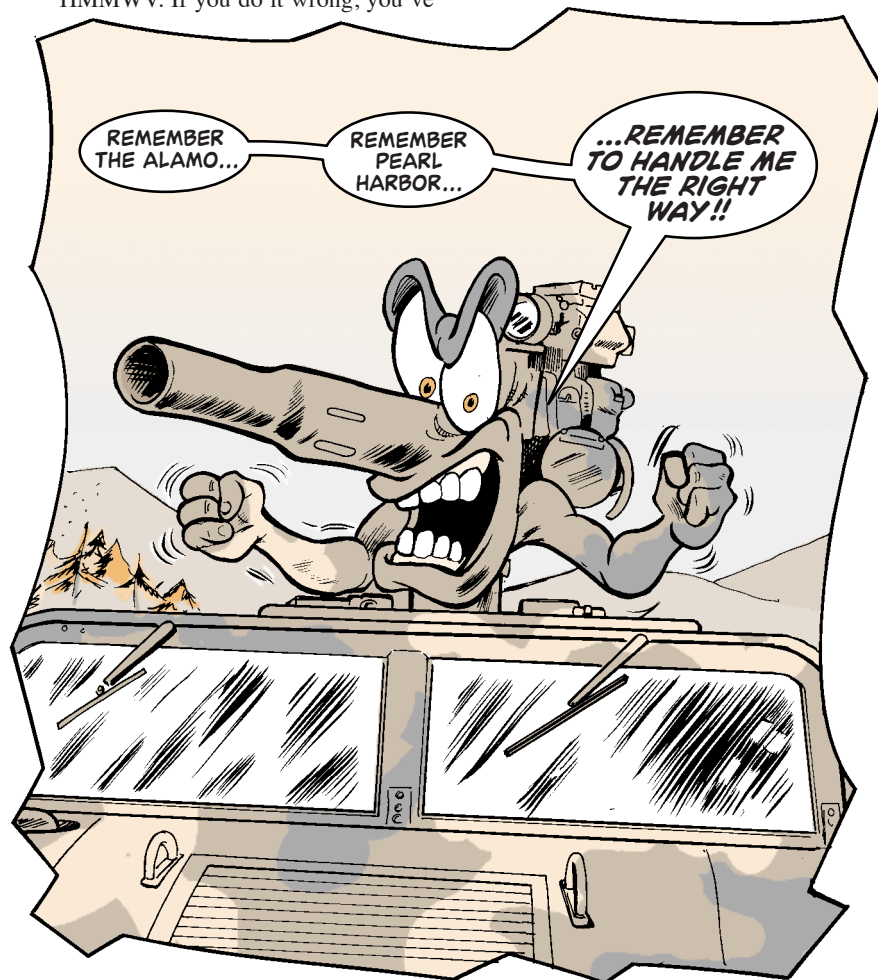
Forget that! FM 1-201, *Fundamentals of Flight*, has replaced the old FM 1-202. The new pub has updated cold weather info and includes the info from FM 1-203, *Fundamentals of Flight*; TC 1-201, *Tactical Flight Procedures*; and TC 1-204, *Night Flight Techniques and Procedures*.

# A Good A-mount

The TOW needs a stable base to fire from since it's a line-of-sight system. It's important to remember that when it comes to mounting the TOW on a HMMWV. If you do it wrong, you've

crippled the TOW.

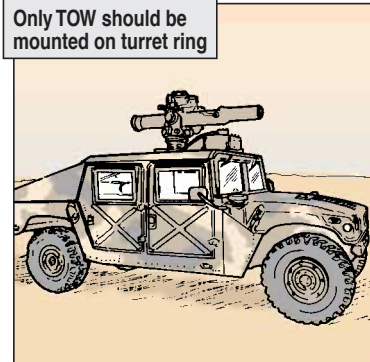
Many units have started mounting the TOW **and** a machine gun on the HMMWV's turret ring. That much



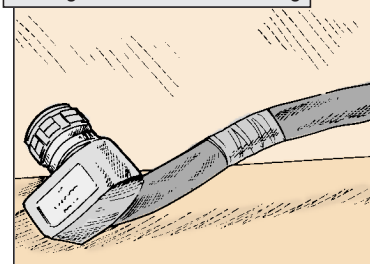
# of Advice

weight on the ring will eventually cause it to bind. And because the missile guidance set (MGS) has to sit on the truck floor instead of on its tray on the ring, the MGS cable is stretched too far. When the turret is traversed or somebody accidentally steps on the cable, cable wiring gets ripped out.

Only TOW should be mounted on turret ring



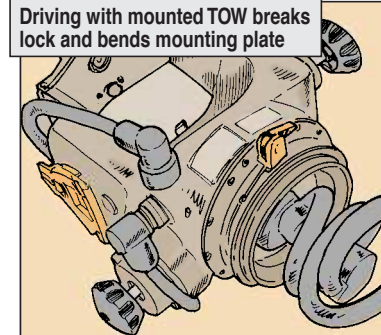
Placing MGS on floor tears wiring



The TOW should be mounted on the ring only when you're ready to fire. If you ride around with the TOW mounted, the bouncing can snap the azimuth lock and azimuth damper and bend the op sight mounting plate. That

leaves your TOW a no-go. You'll need a whole new traversing unit (TU).

Driving with mounted TOW breaks lock and bends mounting plate

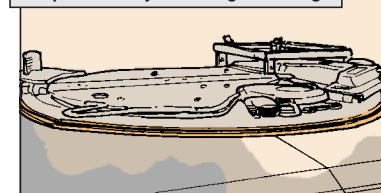


Keep Ring Clean

If the ring binds because it's dirty or out of alignment, your repairman should adjust and clean the ring bearings like it says in Paras 11-112 and 11-113 in TM 9-2320-280-20-3. Para 3-10 in TB 43-0001-39-2 (Sep 96) has a fix that allows you to clean the ring bearings with low-pressure water. See your TACOM logistics assistance representative for a copy or write Half-Mast.

Never squirt lube on the ring's bearings. Lube attracts dirt and sand, which makes it harder for the ring to move.

Keep lube away from ring's bearings



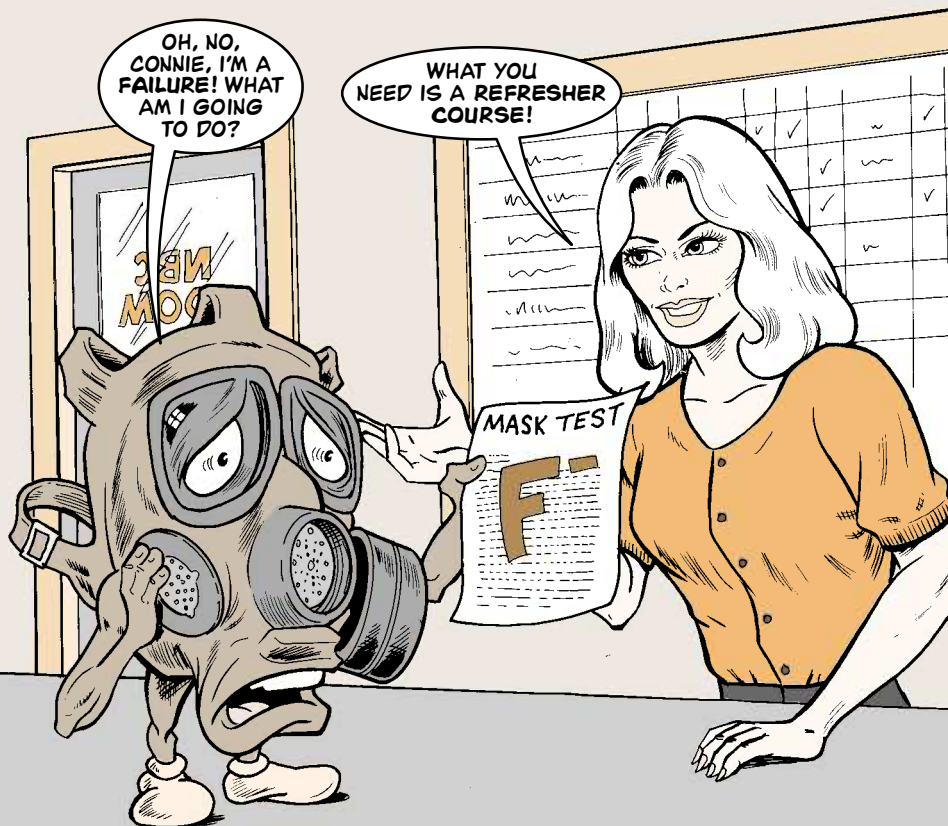


# Breathe Easier

The Army did some checking after news stories reported that 50 percent of its M40-series and M42-series masks were defective. Turns out the masks weren't defective—it was lack of PM that was causing the problems. Too many soldiers and NBC NCOs weren't cleaning and checking their masks.

When it came time for inspection, the masks flunked.

Do you want your mask to be ready, whether it's for an inspection or for a chemical emergency? It's simple. First, do all the PMCS in your mask's -10 TM. Second, remember these pointers:



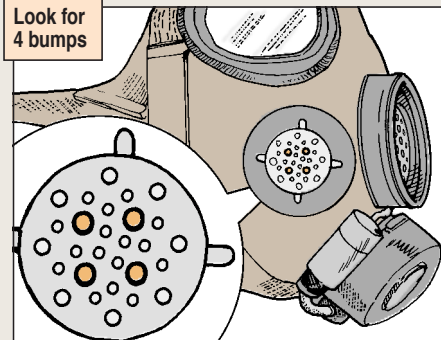
# with Better PM

**Side voicemitter:** Look for the four bumps. If you do not see the bumps, the voicemitter is installed incorrectly. No bumps mean the voicemitter's in backwards and the mask can't protect you. Reverse the voicemitter.

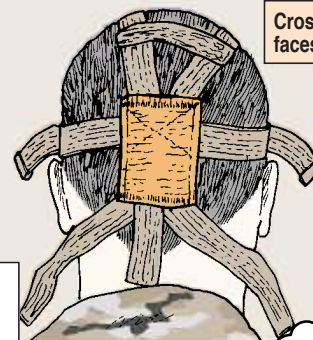
Try tightening the voice-mitter's retaining ring. A loose ring can cause leaks. Tell your NBC NCO about a loose ring.

**Headharness:** The crosspiece should face out. If it's reversed, it rubs your head raw. Gently stretch the headharness straps to see if they snap back. If they don't, tell your NBC NCO. The headharness won't keep your mask snug.

Look for 4 bumps



Crosspiece faces out

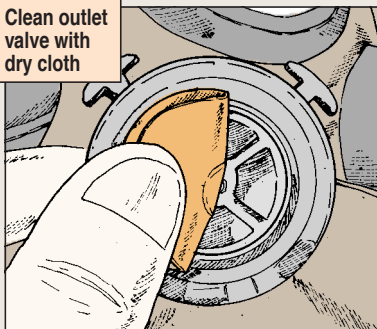


HMMM... INTERESTING.



**Outlet valve cover:** Take it off and check the disc for dirt that can cause leaks or make it hard to breathe. Wipe out dirt with clean cheesecloth and make sure the valve seat and disc are clean and not damaged. **This is critical for a good seal.** In the field, check the cover for looseness periodically. When the hood's pulled up, it can unseat the valve cover.

Clean outlet valve with dry cloth

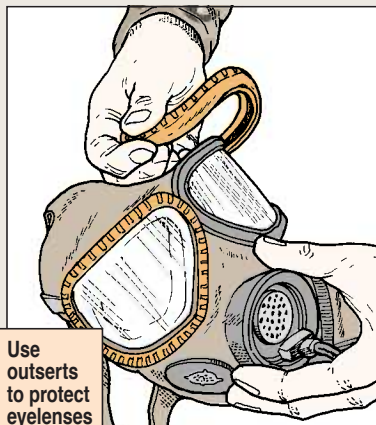


**Canister:** It's OK for the canister to have dents as long as they're no deeper than 1/4 inch. If they're deeper or cross a seam or threads, you need a new canister.

Dents deeper than 1/4 inch?



**Outserts:** Make sure both outserts are in place. If the outserts are scratched, replace them. If they're missing and the lenses are scratched, the whole facepiece must be replaced. Outserts also keep the mask from fogging.



Use outserts to protect eyelenses

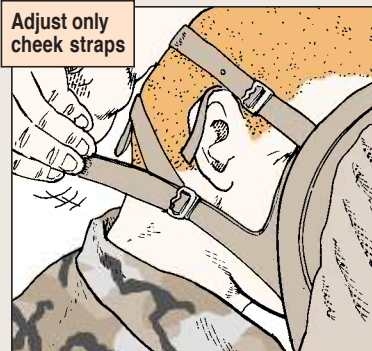
### In the Field

Loosen the hood straps as much as possible before you put on or take off your mask. Loosen the straps gently, don't jerk them. That makes it less likely the hood will be torn.

Remember, snug is fine for the mask headharness. If you tighten the headharness as much as possible, you'll give yourself a tremendous headache, plus you'll wear out the harness.

Once you get the harness adjusted correctly, loosen or tighten only the cheek straps when removing or putting on the mask. The other straps don't need to be adjusted again once they're set.

Adjust only cheek straps



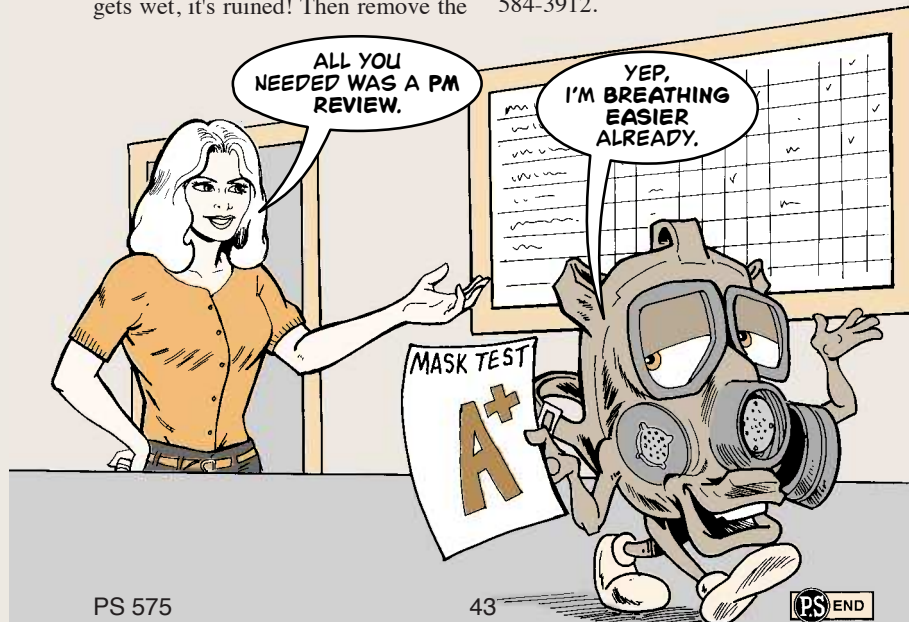
Don't use your mask as a cushion. Your weight can break stuff like the drink tube. If you must climb in a tank hatch, take off your mask carrier and hand it through. Then you won't scrape it against the side of the hatch. Washing your mask in soap and water is a great way to clean it. But remember to first remove the cannister. If it gets wet, it's ruined! Then remove the

outlet valve cover and disc, quick doff hood, universal second skin, and outserts. Now you're ready to dunk and wash your mask. Clean the other items separately.

Remove discs before washing mask



If you have questions about any of the masks, call the Chemical/Biological Maintenance Hotline at (800) 831-4408 or fax (410) 436-3912, DSN 584-3912.



# Timing (and Headspace)

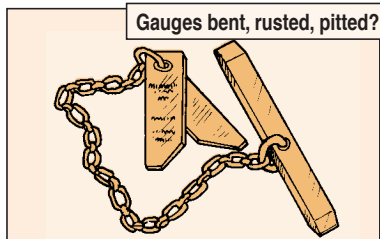
**T**iming and headspacing are everything when it comes to firing your M2 machine gun. If you don't headspace and time your M2 **every time** before you fire or after you change the barrel, a round can go off inside the gun. That could injure you and damage the gun.

## Pre-check Checks

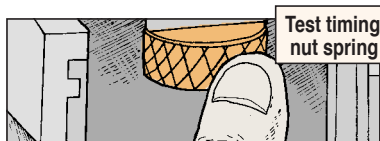
If your M2's in bad shape now, you won't be able to headspace and time it later. So before you go to the field, do these checks:

**Gauges.** If the headspace and timing gauges are bent, rusted or pitted, you can't accurately gauge, so tell your

armorer. He can order new gauges with NSN 5250-00-535-1217.

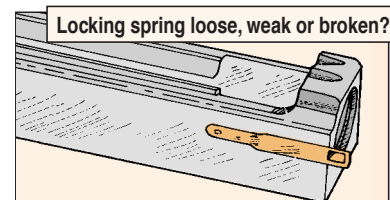


**Timing nut.** If the timing nut can be moved with one finger or it doesn't click as you move it, its spring is weak and it won't hold timing. Tell your armorer.

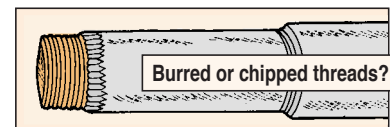


# Is Everything

**Barrel locking spring.** If the spring can't hold the barrel in place, the barrel can turn during firing and headspace is lost. So test the spring by getting the correct headspace and then trying to unscrew the barrel. If the barrel turns, the spring is weak or loose. Tell your armorer.

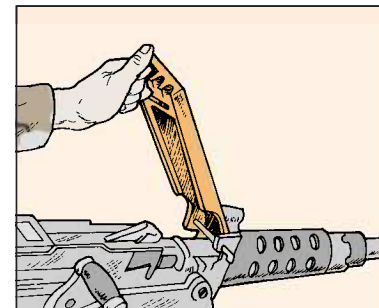


**Barrel and barrel extension threads.** If the threads are chipped or burred, it will be difficult to screw in the barrel. What's worse, you may think you've screwed in the barrel, but you haven't. Result: bad headspace. Your armorer can usually stone chips and burrs smooth.

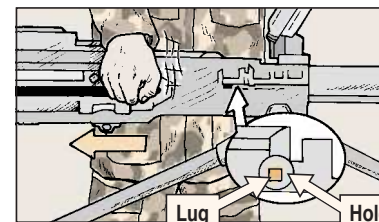


## How to Headspace

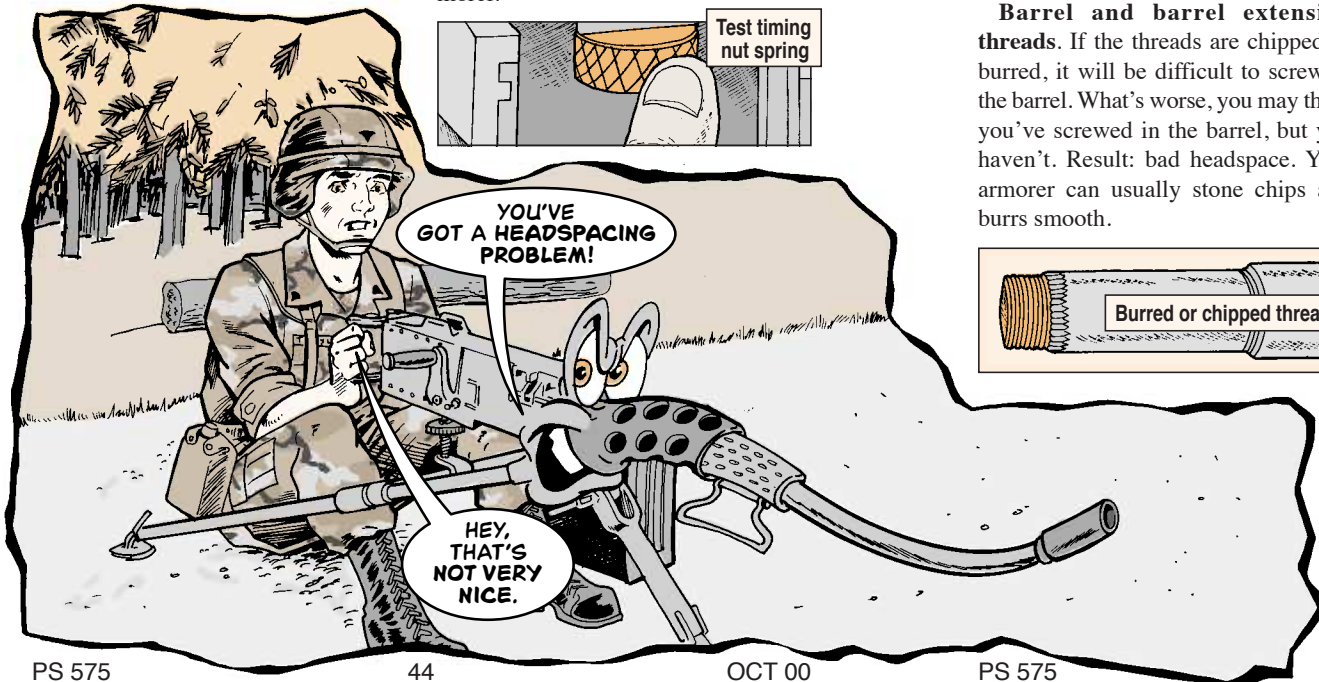
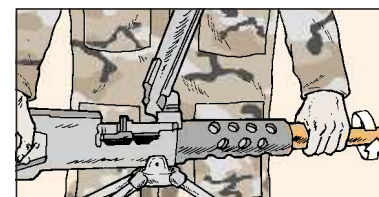
1. Raise cover completely.



2. Pull the charging handle back until the barrel-locking spring lug is aligned with the 3/8-in hole on the receiver's right side. To keep the bolt back, insert the small loop of an M2 ammo link between the trunnion block and barrel extension.



3. Screw barrel all the way into barrel extension.





4. Unscrew the barrel two clicks, remove the link and let the bolt go forward.

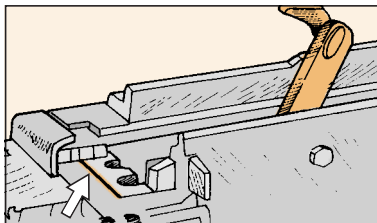
To see if the barrel is locked with the bolt in the forward position, try to turn the barrel in either direction. If it turns, something's wrong. Tell your armorer.

5. Pull charging handle back to cock weapon.

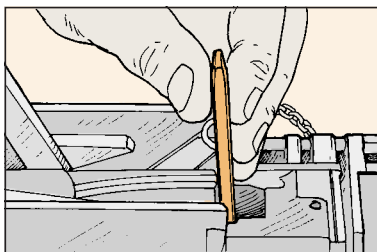


6. Ease the bolt forward.

7. Pull the charging handle back until the barrel extension and trunnion block are no more than 1/16 inch apart.

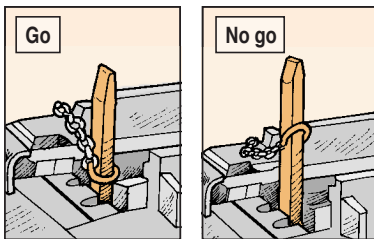


8. Keep the charging handle back to maintain the 1/16-in separation. Raise



the extractor and try to insert the GO/NO GO gauge all the way up to the ring into the T-slot between the bolt face and rear of the barrel.

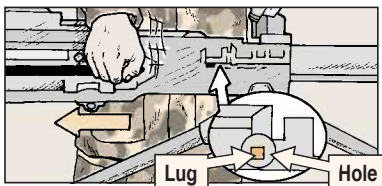
If the GO end goes down the T-slot to the center ring and the NO GO won't go in, headspace is OK.



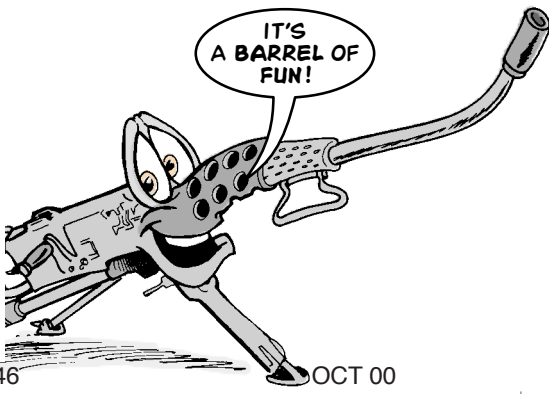
### Headspace Too Tight

If the GO end won't fit, headspace is too tight. Do this:

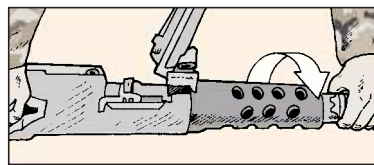
1. Pull back the charging handle until the barrel-locking spring lug is centered in the 3/8-in hole.



IT'S A BARREL OF FUN!

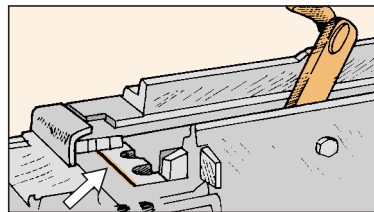


2. Unscrew the barrel one click.

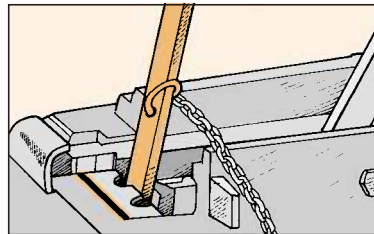


3. Ease the bolt forward.

4. Pull back on the charging handle until the barrel extension and trunnion block are about 1/16 inch apart..



5. Insert GO/NO GO gauge again.



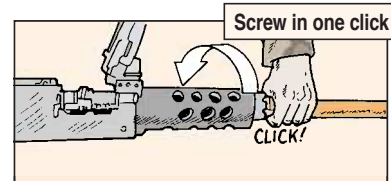
If the GO end fits and the NO GO end doesn't, the headspace is OK. If the GO end still won't fit, repeat these last five steps until it does.

Do not unscrew the barrel more than five clicks beyond the first two clicks in steps 1-5. If you have to turn the barrel more than seven clicks, something's wrong. Tell your armorer.

### Headspace Too Loose

If the NO GO end of the gauge fits into the T-slot, the headspace is too

loose. To fix loose headspace, do the same five steps you did for too tight headspace, except screw **in** the barrel one click.



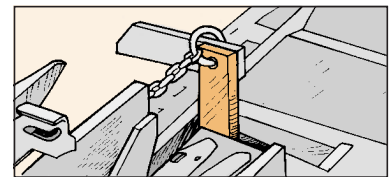
Repeat the five steps until the GO end fits, but the NO GO end doesn't.

### How to Time

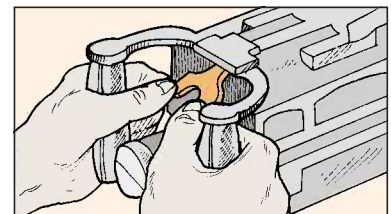
After headspacing comes timing.

1. Pull the charging handle all the way back and cock the weapon. Ease the bolt forward.

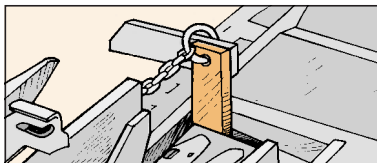
2. Pull the bolt back far enough to insert the NO FIRE gauge between the barrel extension and trunnion block. Insert the beveled edge of the timing gauge against the barrel notches. Slowly release the charging handle.



3. Press the trigger. If the gun doesn't fire, go to the next step. If it does fire, you've got early timing.



4. Pull the bolt back just far enough to take out the NO FIRE gauge and put in the FIRE gauge with the beveled edge against the barrel notches. Slowly release the charging handle.

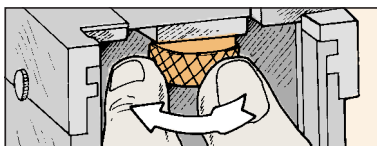


5. Press the trigger. If the M2 fires, timing is OK. If it doesn't fire, you have late timing.

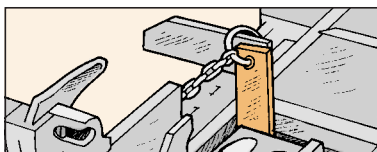
### Early/Late Timing

Never cock your M2 with the back plate off. The driving spring rod could go through your chest. The bolt must be **forward** before you take off the back plate.

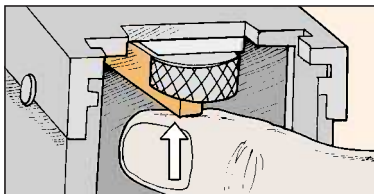
1. Take the gauge out of the receiver. Cock the M2, then ease the bolt forward.
2. Take off the back plate.
3. Turn timing nut all the way down to the left.



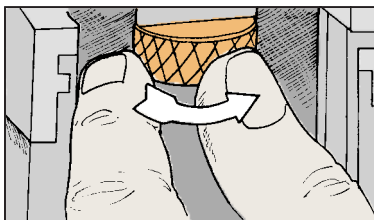
4. Pull the bolt back only far enough to insert the FIRE gauge, and slowly release the charging handle.



5. Push up on trigger bar. Gun shouldn't fire.



6. Turn the timing adjustment nut one click to the right. Push up on the trigger bar. Continue to alternate turning the timing adjustment nut one click right and pushing up on the trigger bar until the M2 fires.



7. After the gun fires, turn the nut to the right two more clicks and **stop**.
8. Take out the gauge and put on the back plate. Cock the gun, then ease the bolt forward.
9. Recheck the timing two more times with the back plate on. If the timing still isn't right, do the early/late timing procedure one more time.

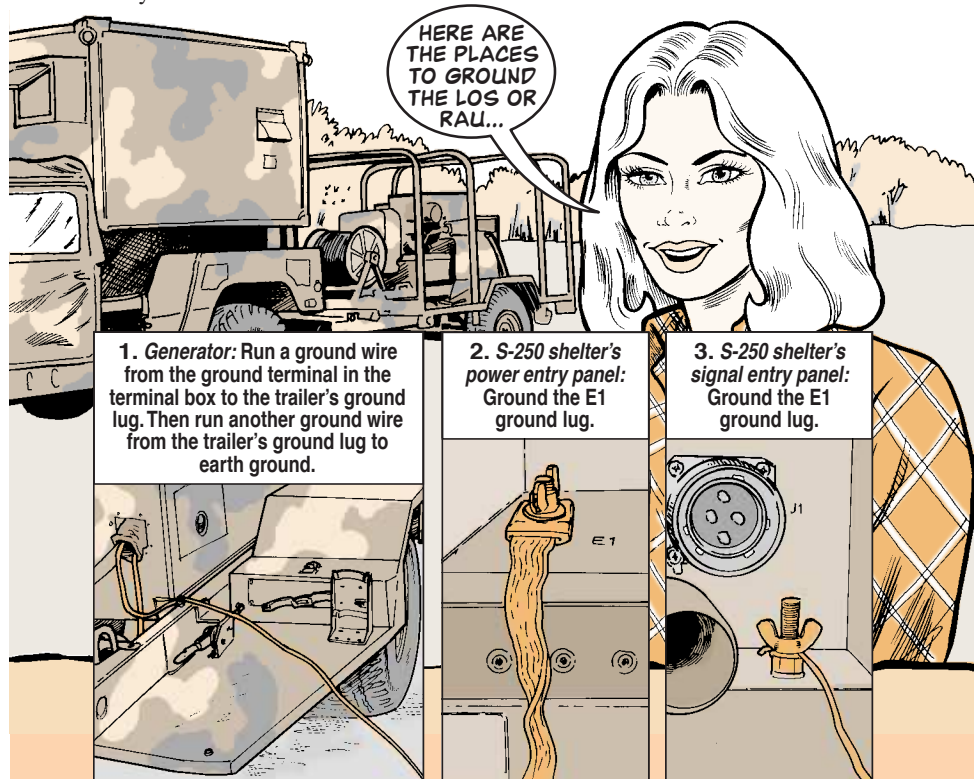
Still no luck? Tell your armorer. Something's wrong.

Armors, if you have M2s in your arms room, copy this article and use it to train your M2 gunners. It will help protect your unit and your M2s.

### Mobile Subscriber Equipment . . .

## Ground the LOS and RAU

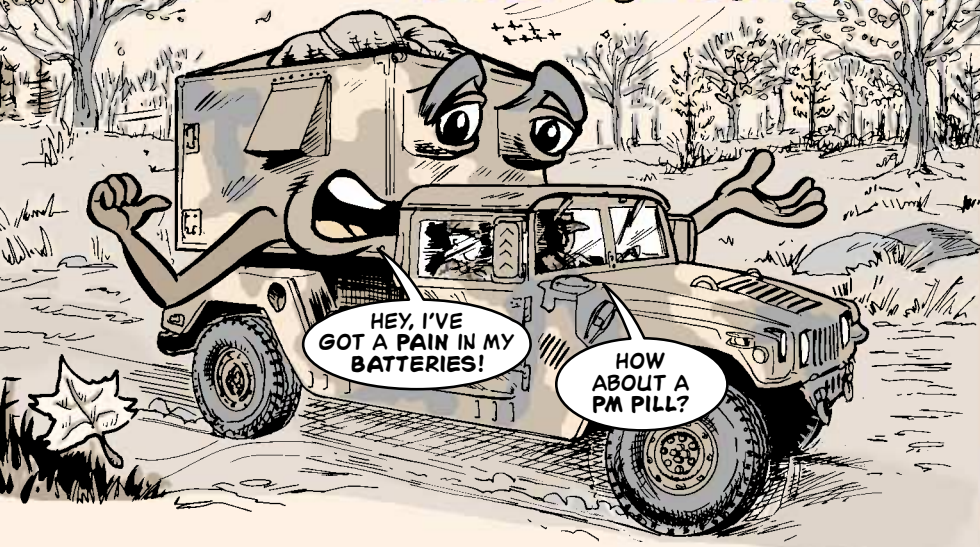
If your mobile subscriber equipment (MSE) line-of-sight (LOS) radio terminal or radio access unit (RAU) is not grounded in **three** places, it's not grounded safely.



You must ground all three with separate ground wires and rods to avoid a possible shock. Not grounding the signal entry panel can create an additional problem: signal interference.

And while you're at it, look at the terminals and ground lugs for dirt, grease, corrosion and paint. They can kill a good ground connection. Remove dirt and grease with solvent, NSN 6850-00-281-1985. Use fine sandpaper or a wire brush to get rid of any corrosion or paint. But be careful using these abrasives. You could do more damage than you do good!

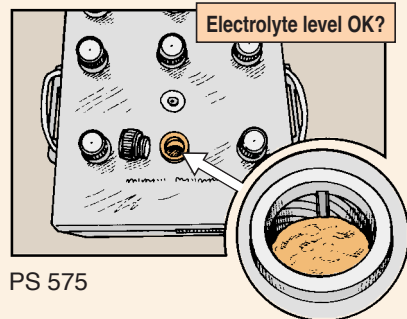
# It's About Batteries



MSE operator/maintainers, pulling PM on your shelter's two lead-acid backup batteries is your job. And from the looks of some of those batteries, more than a few of you should be fired!

Here are five things you should always do:

**1.** Make sure battery plates are covered with electrolyte by adding distilled water when needed. It must be



PS 575

1/2 inch above the top of the plates. Some batteries have lips inside or indicators to show where the electrolyte level should be. If yours don't, you'll have to eyeball them.

The chemical action between the electrolyte and the cell plates produces electricity. Without it, batteries discharge and die.

But remember, more is not better. Too much water—like filling cells to the top—is just as bad as too little. When the cell is too full, electrolyte is flushed out during charging. Since the battery can't recharge itself, it dies.

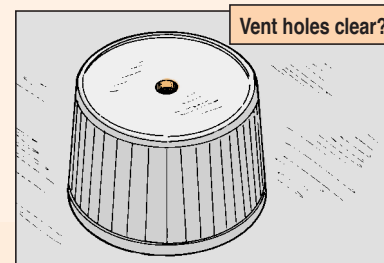
You can get six 1-gal bottles of distilled water with NSN 6810-00-682-6867. Get one 5-gal bottle with NSN 6810-00-356-4936.

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In a pinch—to save the battery—rainwater, air conditioner condensation or even tap water will do. But, filter it through a clean cloth before using it.

**2.** Always make sure the vent holes in vent caps are open to let gases escape. Also, make sure the caps are screwed down tight. If you have clogged caps that can't be cleaned, or missing caps, replace them with NSN 6140-01-387-5045.



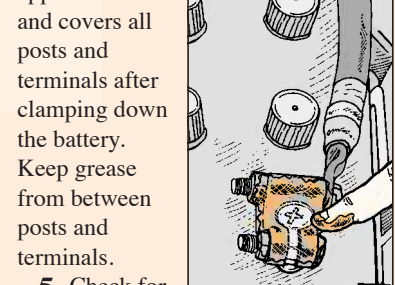
**3.** Check terminal posts, clamps, cables, battery hold-downs and the battery box for dirt or corrosion. Corrosion eats up metal parts on and around batteries. Dirt and corrosion on the tips of the batteries can hold moisture that can close the circuit between the positive and negative terminals and discharge your battery.

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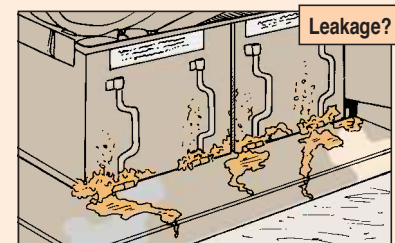
Wipe off light dirt and corrosion with a cloth. To fight heavy corrosion, take out the battery and any metal parts that can be removed. Scrub the battery with water and baking soda.

After cleaning, rinse with lots of clean water and dry well. Protect bare metal with bituminous coating compound, NSN 8030-00-290-5141. Shine up battery posts and clamps with battery terminal brush, NSN 5120-00-926-5175.

**4.** Make sure a light coat of GAA grease is applied and covers all posts and terminals after clamping down the battery. Keep grease from between posts and terminals.



**5.** Check for cracks or bulges in the battery and any signs of leaking electrolyte. If you see any of these signs, get your support on the job.



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## Too Much Pressure?

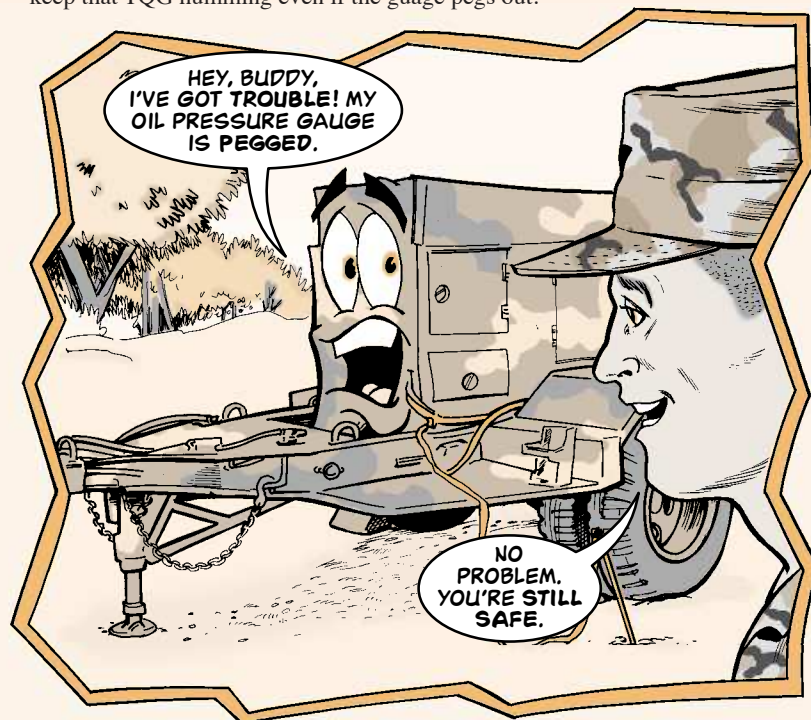
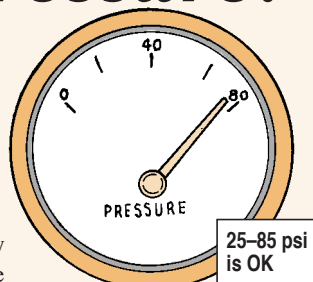
If the oil pressure gauge on your tactical quiet generator (TQG) shows 70 psi, is that too much oil pressure? What about 80?

According to your operator's TM, it is too much. Right there in Table 1-1 it tells you that the right oil pressure is between 25–60 psi.

But there's a problem. It seems your oil pressure gauge and the sending unit are not very accurate. Also, the engine manufacturers say the TQGs can safely operate at oil pressures over the gauge's top end—80 psi.

The tolerances and this new information are bringing a change. Table 1-1 in TM 9-6115-643-10, TM 9-6115-644-10 and TM 9-6115-645-10 will eventually be changed from "25–60" to "25–85 psi."

But you can make the change now. Just pencil the new psi into your TM and keep that TQG humming even if the guage pegs out.



## Retrofit to Diesel

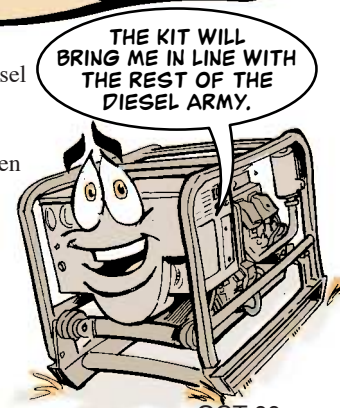


The handwriting is on the wall and it says that diesel fuel now moves the Army.

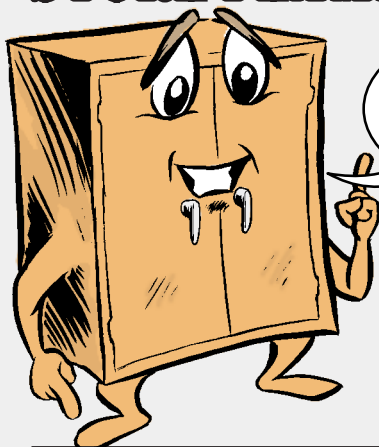
So should you scrap all those 3-KW gasoline-engine MEP-16A and -21A generators that have been workhorses for your unit?

No way! That's like chucking nine grand down a rathole. Here's a \$2,500 alternative.

Order retrofit kit, NSN 2815-01-440-4426, that will exchange your gasoline engine for a diesel engine. The kit has 53 parts, including a 7-HP engine.

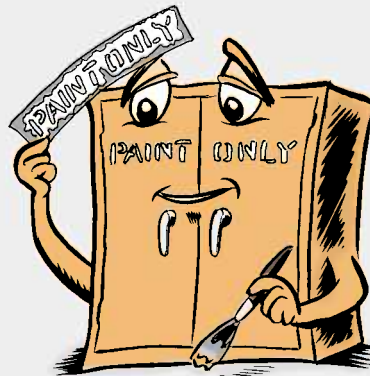


# STORE FLAMMABLES SAFELY

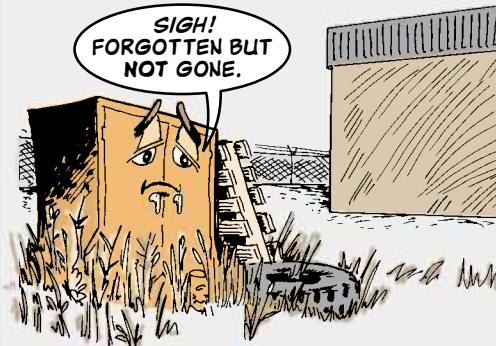


MAKE SAFETY  
YOUR PRIORITY IN  
STORING FLAMMABLES  
SUCH AS PETROLEUM,  
OIL, LUBRICANTS  
AND PAINTS.

YOU ARE  
AUTHORIZED STORAGE  
CABINETS UNDER CTA 50-909. FED  
LOG HAS CABINETS IN ALL SHAPES,  
SIZES, AND COLORS. BUT HERE ARE  
TWO THAT SHOULD FIT MOST  
OF YOUR NEEDS.



□ Outdoor cabinets **must** be 50 feet from combustible structures. If possible, keep cabinets under protective cover from weather. Make sure “No Smoking” signs are in place and strictly enforced. Don’t allow weeds and debris to build up around the cabinet.



□ Never exceed the maximum storage capacity of your cabinet. To determine storage capacity and the type of material you can store in your cabinet, check with your local safety office, fire department or the installation HAZMAT office.

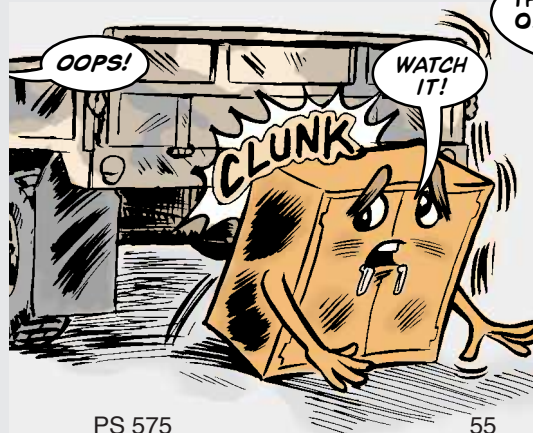
□ Store combustible item in one cabinet, flammable liquids in another.

□ Cabinets used indoors **must** be kept away from areas where spark-producing tools and equipment are used. Keep them away from areas where heat, fumes and gases can build. Don’t put cabinets where they will be in the way.

□ Keep cabinets locked and issue keys only to personnel who need them.

□ You will find valuable information in the National Fire Code 30, *Flammable and Combustible Liquids*, and AR 420-90, *Fire Protection*.

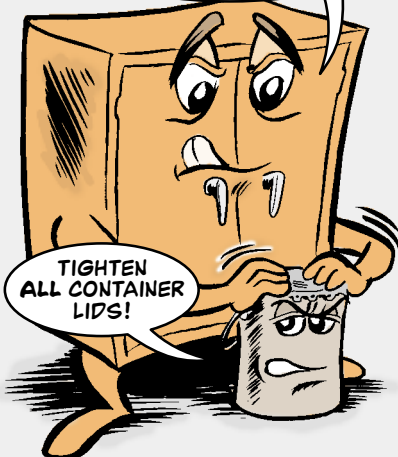
IF YOU DON'T HAVE  
THESE PUBS, CALL YOUR SAFETY  
OFFICE. THEY CAN FILL YOU IN ON  
ANY LOCAL REGULATIONS.



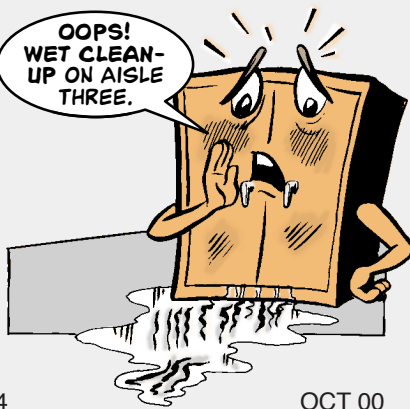
PS 575

55

ONCE YOU HAVE  
THE CABINET YOU NEED FOR  
STORING FLAMMABLES, FOLLOW  
THESE STEPS TO MAKE SURE  
YOU DO IT SAFELY.



54



OCT 00

□ Remove any leaking containers immediately. If there are any spills, clean them up immediately following your unit’s HAZMAT SOP.



## Tent Pole Locking Pins

If you've lost the locking pins that keep the aluminum poles extended on your GP small tents, don't go looking for replacements in TM 10-8340-211-24P. They're not listed. Look here instead:

	Pin Size (inches)	NSN 8340-01-036-
Center pole	3/8 x 1 1/2	3781
	3/8 x 2	3782
	3/8 x 2 1/2	3783
Eave pole	1/4 x 1	3779
	1/4 x 1 1/2	3780

Hang on to the pins by wrapping electrical straps, NSN 5975-00-570-9598, over the pin's wire and around the tent pole. That'll keep the pins with the poles.



## Sites to Get Your PAWS On

Got a question or need info on the Army's petroleum and water systems (PAWS)? Check out these web sites:

Program manager, PAWS—Petroleum and water equipment, with POCs, at the Tank-automotive and Armaments Command (TACOM):

[http://www.tacom.army.mil/dsa/pmtaws/pm\\_paws](http://www.tacom.army.mil/dsa/pmtaws/pm_paws)

49th Quartermaster Group—the Army's only active duty petroleum and water equipment QM group:

<http://www.lee.army.mil/quartermaster/49thgrp/>

Petroleum and Water Department at the Quartermaster School:

<http://www.quartermaster.army.mil/pwd/>

## On-line Supply Info

Looking for requisition status, shipping info, on-hand stock, weapons system data or general supply info for items managed by the Defense Logistics Agency (DLA)?

DLA's Web-based Customer Account Tracking System (WebCATS) provides one-stop shopping for supply info on DLA-managed items.

It doesn't matter where the DLA manager is located—the Defense Supply Center(DSC)—Columbus (S9C/S9E), DSC-Philadelphia (S9I) or DSC-Richmond (S9G)—WebCATS gets the supply info you need.

Just input your query by NSN/NIIN, weapon system designator code or requisition document number.

Since WebCATS is password-controlled, you need to go to its website and follow the instructions:

<http://www.dscr.dla.mil/procurement/cats/catlogon.htm>

When you get your logon ID and password, access WebCATS at:

<http://www.dscr.dla.mil/procurement/cats/cr.htm>

Once there, click on: "Registered Users: Please click [here](#) to enter" and the login screen will appear.

If it doesn't, call the DCSR IT Helpline at 804-279-HELP (4357) or at DSN 695-HELP (4357). You may e-mail them at:

[dscrithelp@dscr.dla.mil](mailto:dscrithelp@dscr.dla.mil)







**H**ave all applicable modification work orders (MWOs) been applied to your unit's equipment? If you're not sure, then you need to visit the modification management information system (MMIS) web site at:

<http://208.242.67.250/mwo>

The MWO file is password protected so the first thing you need to do is click on the logon request form field and apply for a password.

With your password, you can query MMIS by equipment model number, UIC or serial number. You can limit your search to emergency, urgent or routine MWOs.

So far, the only MWOs loaded are those confirmed as being applied by the equipment program manager (PM),

an AMC major subordinate command (MSC) or a MACOM MWO coordinator. So, your equipment may not be there.

If it's not, then its MWO data was not reported. You can submit MWO information on your equipment through the MMIS on-line reporting module or e-mail it to:

[MMIS@calibresys.com](mailto:MMIS@calibresys.com)

If you have questions about MMIS, contact David Coomes, HQDA, at (703) 614-7051, DSN 224-7051 or via e-mail it at:

[David.Coomes@hqda.army.mil](mailto:David.Coomes@hqda.army.mil)

The MMIS has been established as the official Army MWO database by the new AR 750-10, *Army Modification Program*.

## Cut Out the Zs

**Y**our unit's total package fielding (TPF) will be less than "total" if the TPF team issues your equipment with only its developmental line item number (Z-LIN).

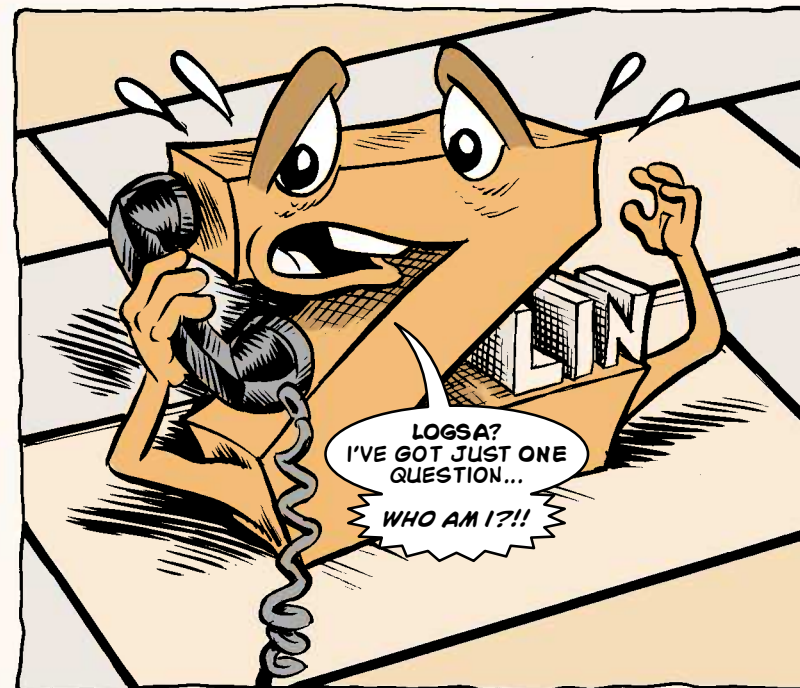
TPF is great at getting new equipment into the hands of the user quickly. But the fielding's not complete until the equipment gets its standard LIN.

That's because your unit can't account for the equipment or order repair parts with a Z-LIN. Z-LINs are only used during the development of the weapon or end item.

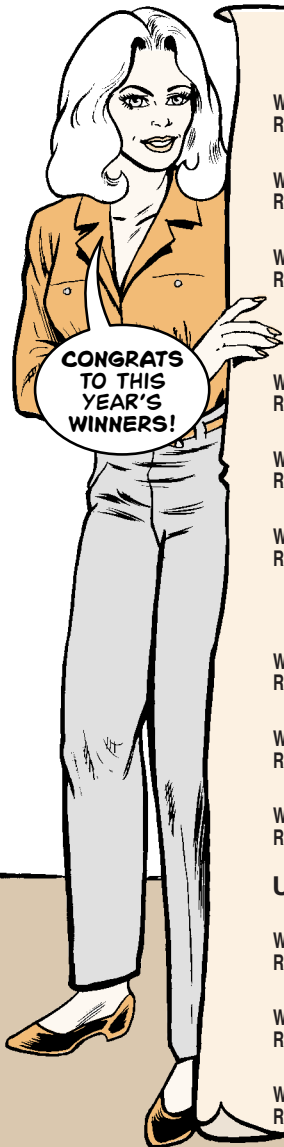
So make sure you're not a victim of not-so-total fielding. Check out the LIN block on each property book page and report every LIN beginning with a Z to the USAMC Logistics Support Activity (LOGSA) SB 700-20 Team.

This team maintains the SB 700-20, *Army Adopted/Other Items Selected for Authorization; List of Reportable Items*, and will work to resolve your Z-LIN problem before it bites you. Call them at (800) 878-2869, (256) 955-0499, DSN 645-0499 or e-mail at:

[sb70020@logsa.army.mil](mailto:sb70020@logsa.army.mil)



# Maintenance Excellence Awards



## ACTIVE ARMY MTOE ORGANIZATIONS

### LIGHT CATEGORY

Winner: A Co, 202nd MI Bn (Ft Gordon, GA)  
 Runner-up: HHC, 7th Sig Bde (Mannheim, Germany)

### INTERMEDIATE CATEGORY

Winner: 268th Sig Co (Mannheim, Germany)  
 Runner-up: 201st MI Bn (Ft Gordon, GA)

### HEAVY CATEGORY

Winner: 230th MP Co (Kaiserslautern, Germany)  
 Runner-up: 532nd MI Bn (Yongsan, Korea)

## ACTIVE ARMY TDA UNITS

### LIGHT CATEGORY

Winner: Ground Mobility Division, 1st Bn, 81st Armor (Ft Knox, KY)  
 Runner-up: AMSA 121(G) (Charleston, SC)

### INTERMEDIATE CATEGORY

Winner: 58th Trans Bn (Ft Leonard Wood, MO)  
 Runner-up: 721st MI Bn (Ft. Gordon, GA)

### HEAVY CATEGORY

Winner: 751st MI Bn (Camp Humphries, Korea)  
 Runner-up: 1st Bn, 29th Inf Regt (Ft Benning, GA)

## U.S. ARMY RESERVE MTOE UNITS

### LIGHT CATEGORY

Winner: HHD, 349th Spt Bn (Ames, IA)  
 Runner-up: 125th Trans Co (Lexington, KY)

### INTERMEDIATE CATEGORY

Winner: 737th Trans Co (Yakima, WA)  
 Runner-up: A Co, 321st Engr Bn (Boise, ID)

### HEAVY CATEGORY

Winner: 1007th Maint Co (Hagerstown, MD)  
 Runner-up: HHC, 489th Engr Bn (North Little Rock, AR)

## U.S. ARMY NATIONAL GUARD MTOE UNITS

### LIGHT CATEGORY

Winner: 540th QM Bn (Lenoir, NC)  
 Runner-up: None selected

### INTERMEDIATE CATEGORY

Winner: HHB, 113th FA Bde (Greensboro, NC)  
 Runner-up: Svc Btry, 1st Bn, 161st FA (Appleton, MN)

### HEAVY CATEGORY

Winner: 842nd Engr Co (Spearfish, SD)  
 Runner-up: 691th Maint Co (Fremont, NC)



## HEMTT Transmission Filter

Get a replacement transmission oil filter housing and element for your HEMTTs with NSN 2910-01-167-2932. Make a note for Item 4, Fig 158, in TM 9-2320-279-24P-1 until it's updated to change the part number to 25010975.

## FMTV Seat Covers

You can get covers for the bottom and back of FMTV seats without having to order the entire seat. Get a bottom cover with NSN 2540-01-460-8048 and a back cover with NSN 2540-01-463-8394. These numbers are shown in the Jun 98 editions of your -24Ps.

## HMMWV Blackout Light

Item numbers for the HMMWV's blackout lamp door and lens retainer are reversed in Fig 55 of TM 9-2320-280-24P-1. To get the lamp door, Item 4, order part number DC8217 (NSN 6220-01-128-0087), which is shown as Item 2. To get the lens retainer, order part number DC8218 (NSN 6220-01-107-2613), which is shown as Item 4.

## M35A3 CTIS NSNs

Fig 117 of TM 9-2320-386-24P gives you wrong info on part numbers for Items 11 and 12, the grommet and the nut for the CTIS valve. Use part number (PN) RG22, NSN 5325-01-437-5810, for Item 11 and PN HN80, NSN 5310-01-445-6872, for Item 12. Make a note until the TM is updated.

## M2 Breech Locks

Not all M2 machine gun breech locks need to be tested for hardness. New breech locks manufactured by UNI-Star with a CAGE code of 054Q8 and a contract number of SP075099MJ178 meet the hardness requirements called for in TACOM-Rock Island Safety-of-Use message (SOUN) 99-03. All other breech locks should be tested per the SOUN. See your TACOM-Rock Island logistics assistance representative for a copy of the SOUN.

## MWO Adds Clamp to Mask

MWO 3-4240-347-20-1 added a retaining clamp to all M40-series masks' outlet valve assemblies. The clamp helps prevent the valve housing from separating. NBC NCOs, if your masks haven't been modified, contact your local MWO coordinator or SBCCOM logistics assistance representative.

## M88A2 Transmission Oil

The transmission in your M88A2 recovery vehicle uses CAT 10 oil, not OE/HDO-10 like the M88A1. The wrong oil could cause the transmission to seize up. A quart of CAT 10 comes with NSN 9150-01-424-7696, 5 gallons with NSN 9150-01-424-7692, and 55 gallons with NSN 9150-01-424-7698. The transmission holds 17 gallons.

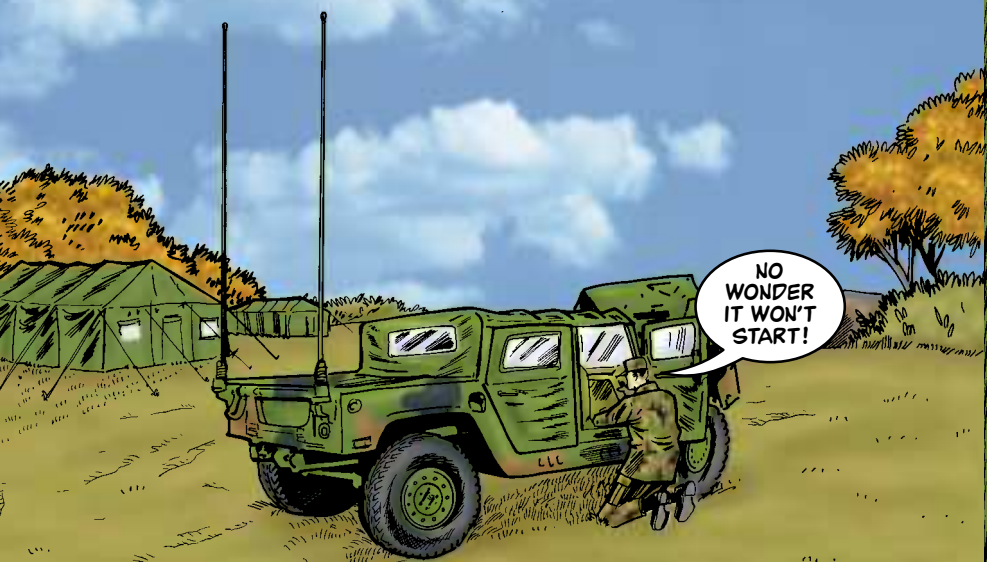
## FMTV Air Pressure Buzzer

Get the low air pressure buzzer for FMTVs by using NSN 6350-01-455-9287. It buzzes to let you know when there's not enough air pressure to safely operate the vehicle. The NSN was not available when TM 9-2320-365-24P and TM 9-2320-366-24P were printed. Make a note for Item 7 in Fig 50 of both TMs 'til the next update.

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

**Would You Stake Your Life <sup>right now</sup> on the Condition of Your Equipment?**

**Don't get stuck in the  
middle of nowhere!  
Always check batteries  
before you hit the road!**



**Clamps tight? Water level OK?  
Clamps and posts free of corrosion?  
Filler caps missing or damaged?**