



**THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY**

TB 43-PS-603, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders.

**ISSUE 603 FEBRUARY 2003**

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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  
PS, the Preventive Maintenance Monthly  
USAMC LOGSA (AMXLS-AM)  
5307 Sparkman Circle  
Redstone Arsenal, AL 35898-5000

Or e-mail to:

psmag@logsa.redstone.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:

*Joel B. Hudson*

**JOEL B. HUDSON**

Administrative Assistant to the Secretary of the Army  
0235202

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Redstone Arsenal, AL 35898-5000. Periodical postage is paid at the Huntsville, AL post office and at additional mailing offices. Postmaster: Send address changes to PS, The Preventive Maintenance Monthly, USAMC LOGSA (AMXLS-AM), 5307 Sparkman Circle, Redstone Arsenal, AL 35898-5000.

Issue 603

PS

February  
2003

THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY

TB 43-PS-603

Approved for  
Public Release;  
Distribution is  
Unlimited

THIS DOZER  
IS STUCK!

WE CAN'T MOVE  
IT UNTIL THE  
MOLDBOARD  
DEFROSTS!

WHAT'S  
CAUSING  
ALL THESE  
PROBLEMS!?

CAMP  
STUCK-A-LOT  
SEE PAGE 27



# FILL OUT MAINTENANCE FORM RIGHT



I HATE FILLING OUT THESE 5988s!

I NEVER KNOW WHAT TO PUT IN THE BLANKS.

I NEVER FILL THOSE OUT! THERE'S NOTHING WRONG WITH MY BRADLEY!

There's not much difference between not doing something and not doing something right. Take filling out the DA Form 5988-E, *Equipment Maintenance and Inspection Worksheet*, for example.

Some operators never fill out one. When asked, they say, "There's not a thing wrong with my vehicle!" Unfortunately, the perfect vehicle still hasn't been invented. So little equipment faults that should have been reported turn into big ones. Pretty soon the vehicle is NMC.

Then there are those operators who do fill out the 5988-E, but don't do it right. They're not specific about a fault or don't use the correct nomenclature from the TM to list an item. They don't write down the PMCS item number or circle it when the item is a deadline fault.

When the mechanic gets the form, he can't figure out the problem. At best, he'll waste time troubleshooting. At worst, the fault never gets fixed at all.



SO MAKE A POINT OF FILLING OUT THE DA FORM 5988-E EVERY DAY.

CHECK OUT DA PAM 738-750, THE ULLS-G USER MANUAL AND YOUR TECH MANUALS FOR INFO ON HOW TO FILL THE FORM OUT RIGHT!

YOUR MECHANIC— AND YOUR VEHICLE— WILL THANK YOU.





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**ISSUE 603 FEBRUARY 2003**

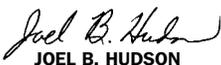
<p> <b>COMBAT VEHICLES</b> <span style="float: right;">2</span></p> <p>M1-Series Tank Impact Wrench MLRS Carrier ESPAR Personnel Heater M992A2 and M109 Mounting Bracket Bolt M992A2 and M109 Fan Blade Screens M109A6 Paladin Cradle Mount Lubing A-20 Global Personnel Heater Repair</p> <p> <b>WHEELED VEHICLES</b> <span style="float: right;">10</span></p> <p>RAWLS Information for Convoys M1070 HET Mode of Operation Decal HEMTT Fuel System Priming 2½-ton Truck TM's Needed S-280 Shelter Lockpins LUMES (M-GATOR) Cargo Netting</p> <p> <b>SOLDIER SUPPORT</b> <span style="float: right;">14</span></p> <p>600-GPH ROWPU Load Plan 600-GPH ROWPU Maintenance Cleaner HAZMAT Concerns Labelling Confusion</p> <p> <b>MISSILES</b> <span style="float: right;">18</span></p> <p>Avenger Missile System Coverings Avenger Missile System Protection Tips</p> <p> <b>SMALL ARMS</b> <span style="float: right;">20</span></p> <p>Machine Gun Mount Cost Savings Small Arms Gauging Requirements</p>	<p> <b>NBC</b> <span style="float: right;">22</span></p> <p>2-3 JSLIST Chemical Protective Suit Q&amp;A <span style="float: right;">22-24</span> 4-5 Body Armor Cleaning <span style="float: right;">25-26</span> 6 Safety Goggle NSN <span style="float: right;">26</span> 7 8-9 9</p> <p> <b>AVIATION</b> <span style="float: right;">35</span></p> <p>Searchlight Repair <span style="float: right;">35</span> OH-58D FOD Preventing Cover <span style="float: right;">36-37</span> UH-60 Engine Oil Cap <span style="float: right;">38</span> CH-47D Non-skid Walkways <span style="float: right;">39</span></p> <p> <b>COMMUNICATIONS</b> <span style="float: right;">40</span></p> <p>OE-254 Antenna Cable Relief <span style="float: right;">40-41</span> PLGR Packaging for Repair <span style="float: right;">42-43</span> Radio Mounting Kits for 5-ton Trucks <span style="float: right;">44-45</span> RL-207 Reel Engine Replacement <span style="float: right;">46</span> Electrostatic Discharge Kit Information <span style="float: right;">47</span></p> <p> <b>COMBAT ENGINEERING</b> <span style="float: right;">48</span></p> <p>15 16 SEE Alcohol Reservoir <span style="float: right;">48</span> 17 D7G Tractor Hydraulic Hoses Clamp <span style="float: right;">49</span> 250 CFM Air Compressor <span style="float: right;">50-51</span> 18 MK-155 MICLIC Rail Positive Stop <span style="float: right;">51</span> M9 ACE Hot Spots <span style="float: right;">52-53</span> 18 M9 ACE Florida Plate Removal <span style="float: right;">54</span> 19 M9 ACE Cylinder Rod Caution <span style="float: right;">55</span></p> <p> <b>LOGISTICS MANAGEMENT</b> <span style="float: right;">56</span></p> <p>20 DA Form 5988-E Maintenance Record <span style="float: right;">IFC</span> 21 DA Form 2028 Change Recommendations <span style="float: right;">56-59</span></p>
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By order of the Secretary of the Army:  
**ERIC K. SHINSEKI**  
 General, United States Army Chief of Staff

Official:  
  
**JOEL B. HUDSON**  
 Administrative Assistant to the Secretary of the Army  
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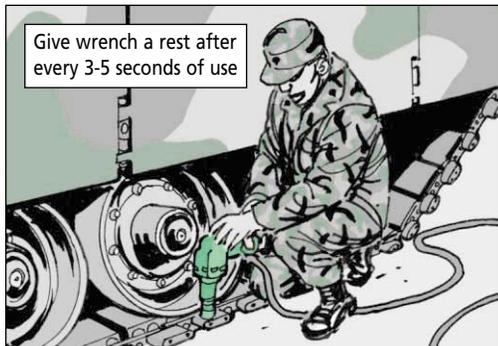
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# PM Makes an Impact



## Operation

- The impact wrench is a powerful tool that generates a lot of heat, even during normal operations. The manufacturer recommends a duty cycle of three to five seconds on and five to 10 seconds off.



- Run the wrench with no load for about 30 seconds after hard use. That will help get rid of excess heat.
- Always use the side handle to avoid covering the air vents with a hand or glove.
- Keep the wrench square with the fastener being removed or installed.
- Never let the wrench hang free from a fastener or use a pry bar to get it loose.

IF YOUR ELECTRIC IMPACT WRENCH, NSN 5130-01-363-0964, ISN'T IN GOOD SHAPE, TRACK MAINTENANCE WILL SUFFER, CREWMEN.

PROPER USE AND GOOD PM WILL ENSURE THE WRENCH IS READY NEXT TIME YOU NEED IT. HERE ARE A FEW THINGS TO REMEMBER...



PS 603

- If the wrench won't break the hardware loose within five seconds, **stop!** The wrench will burn up if you force it to loosen nuts and bolts that are too tight. Use an extension handle, socket, and socket wrench from the tank's basic issue items (BII) to break the hardware loose, then use the impact wrench to finish the job.
- When installing hardware, always thread it with your fingers first, then tighten with the impact wrench. Using the wrench to start nuts and bolts could cross-thread them and jam the hardware.

If the TM requires a specific torque for the hardware, use a torque wrench to finish tightening, not the impact wrench.

- Check the vents on the wrench's dust cover before operation. Clean away dust or other obstructions. Clogged vents will overheat the motor and burn it out, so keep the wrench out of dirt, sand and mud as much as possible.
- Always wear safety glasses and use the blue retainer rings when operating the impact wrench.



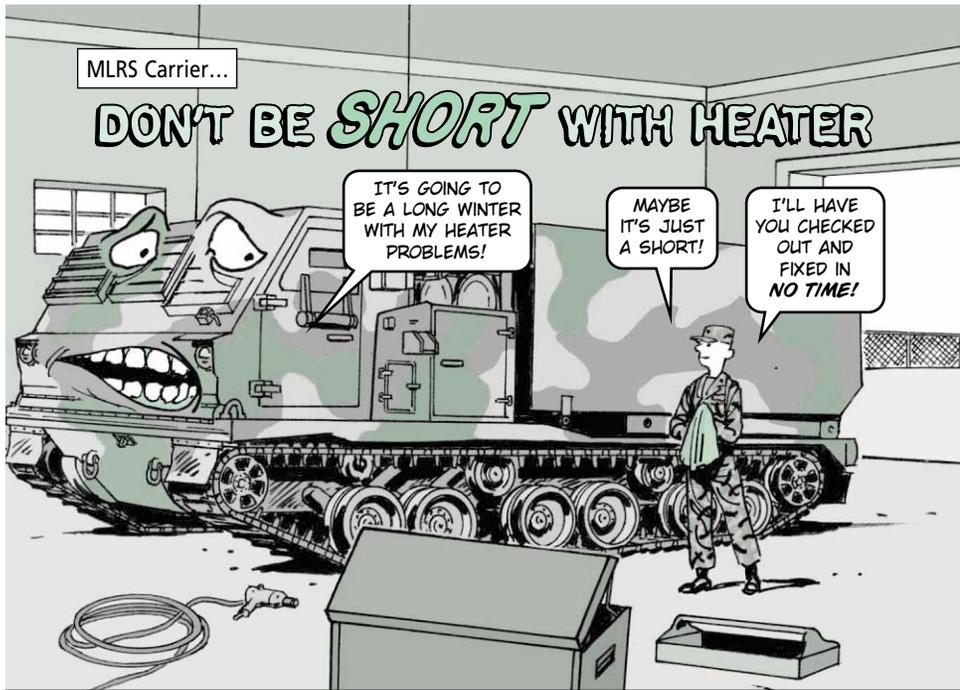
## Repair

Call in your mechanic to repair an impact wrench that's damaged or not functioning properly. He'll follow the procedures in Appendix F of the -20-1-5 TMs.

The most common problems are worn brushes or a bad switch. The brushes can be fixed with the brush repair kit, NSN 5977-01-384-4862.

After installing a new brush kit, free run the wrench for 15 minutes in both directions. That seats the brushes and improves the electrical contact.

Replace a bad switch with NSN 5930-01-386-0531. Other repair parts are listed in Group 3100 of the -24P-1 TMs.



MLRS Carrier...

# DON'T BE *SHORT* WITH HEATER

IT'S GOING TO BE A LONG WINTER WITH MY HEATER PROBLEMS!

MAYBE IT'S JUST A SHORT!

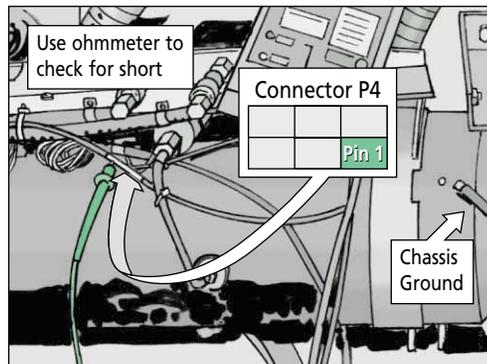
I'LL HAVE YOU CHECKED OUT AND FIXED IN NO TIME!

PERFORMANCE PROBLEMS WITH THE MLRS' ESPAR PERSONNEL HEATER COULD BE THE RESULT OF A SHORT BETWEEN THE CONTROL BOX COVER AND THE TWO WIRES THAT ATTACH TO THE GLOW PLUG RESISTOR, MECHANICS.

## How to Tell

If you suspect a short, use an ohmmeter to test for it like this:

1. Connect the positive lead to Pin 1 of the P4 terminal and the negative lead to ground on the heater chassis.
2. If the ohmmeter reads less than 1 megohm, remove the knurled nut that holds the control box cover in place and remove the cover.
3. If resistance increases to above 1 megohm and remains steady at high impedance, you've got a short.



Use ohmmeter to check for short

Connector P4

Pin 1

Chassis Ground

4

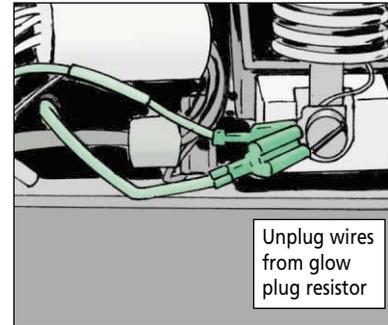
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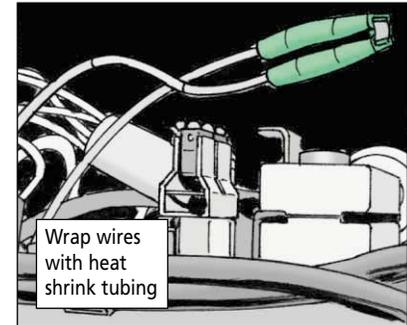
## What To Do

To fix the short follow these steps:

1. Unplug the two wires from the connector on the glow plug resistor. Wrap each of the wires and their connectors with heat shrink tubing, NSN 5970-00-815-1295. Then use a heat gun or blow dryer to shrink the tubing in place.

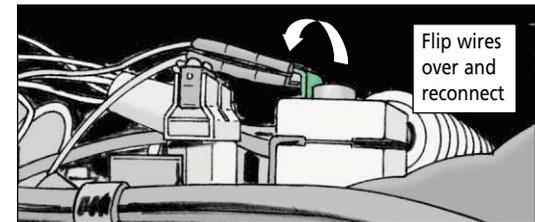


Unplug wires from glow plug resistor



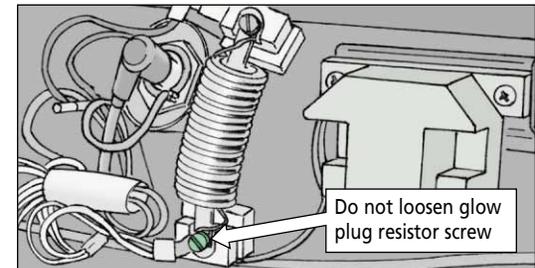
Wrap wires with heat shrink tubing

2. Flip the two wires over and reconnect them to the glow plug resistor terminal. That puts a little more space between the wires and the control box cover.



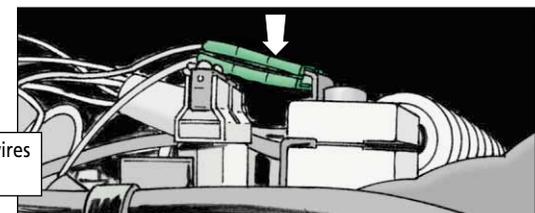
Flip wires over and reconnect

It's very important to avoid loosening or removing the glow plug resistor screw when flipping the wires. The screw goes all the way through the ceramic insulator and is used to hold several other parts in place. Loosening the screw could result in a short to ground.



Do not loosen glow plug resistor screw

3. Push down on the wires to provide as much space as possible between them and the control box cover. Reinstall the cover.



Push wires down

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FEB 03

M992A2 Ammo Carrier,  
M109-Series SP Howitzer...

# The Long and the Short of It



OWWWW!  
SOMETHING'S  
POKING MY  
STARTER!

IT'S NOTHING  
THAT A COUPLE  
OF WASHERS  
WON'T FIX!

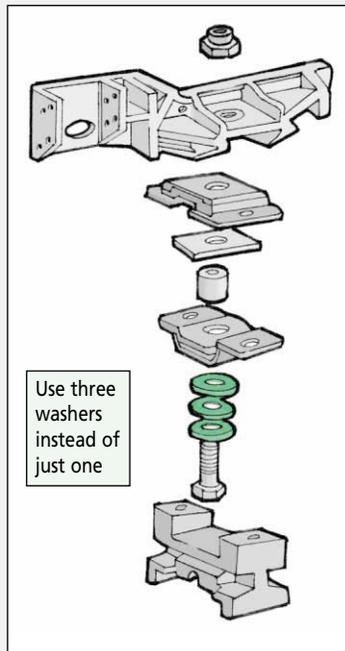
PS 603

6

The bolt connecting the two engine mounting brackets, NSN 2510-00-570-9715 and NSN 2920-00-226-1984, together on your ammo carrier is a bit too long for its own good.

When installed as shown in Fig 2 of TM 9-2350-293-24P, the end of the bolt sticks up enough to rub against the starter housing.

Stop the rub by adding two extra washers, NSN 5310-00-809-8540, between the head of the bolt and the bottom of the resilient mount, NSN 5342-00-080-3496. Three washers take up the extra length and protect the starter housing.

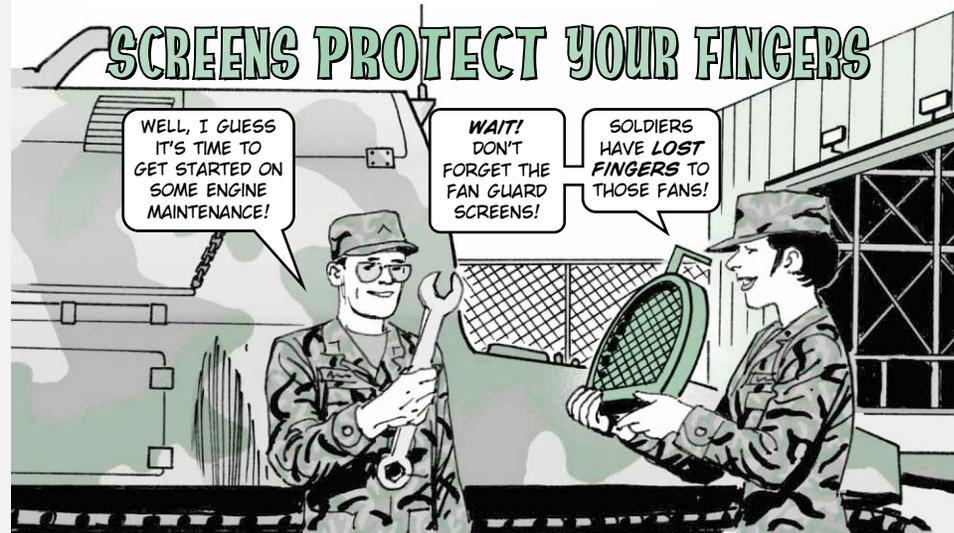


Use three  
washers  
instead of  
just one

FEB 03

M109-Series SP Howitzers, M992A2 Ammo Carrier...

# SCREENS PROTECT YOUR FINGERS



WELL, I GUESS  
IT'S TIME TO  
GET STARTED ON  
SOME ENGINE  
MAINTENANCE!

WAIT!  
DON'T  
FORGET THE  
FAN GUARD  
SCREENS!

SOLDIERS  
HAVE LOST  
FINGERS TO  
THOSE FANS!

Get too close to the cooling fan blades on your howitzer or ammo carrier and they'll make finger food out of your hands. That's why fan blade screens should **always** be used during maintenance on a running engine.

The screens, NSN 2510-01-247-2976, keep fingers, hands and anything else from being pulled into the blades as you check for leaky hoses, pipes and fittings.

Each screen has hooks and a thumb-screw and locknut to secure it to the fan shroud. The screens should only be used during scheduled maintenance, though. Remove them before regular vehicle operation or the engine will overheat.

As a reminder to use the screens, put a warning decal, NSN 7690-01-244-9849, on both fan tower shrouds. You'll need general purpose cleaner, NSN 7930-00-515-2477, to clean the shrouds before applying the decals.



Screens keep  
fingers out  
of fans



Put warning decal  
on fan shroud

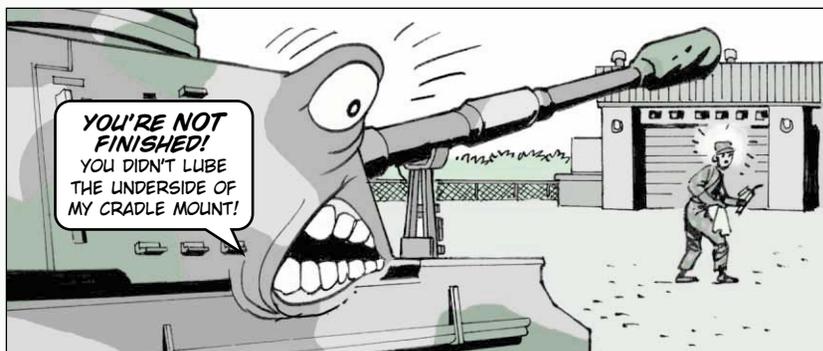
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FEB 03

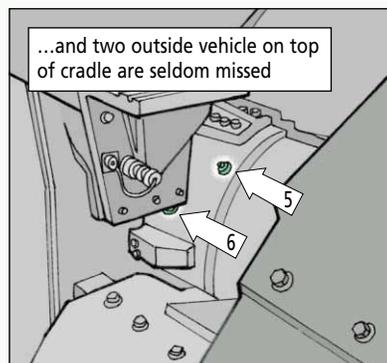
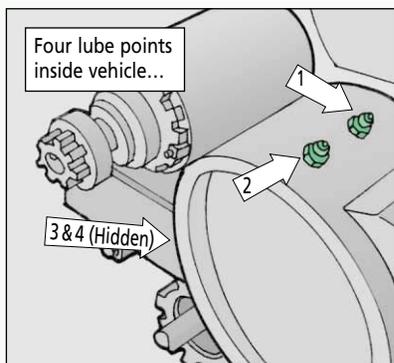
M109A6 Paladin...

# Bearings Take a Beating



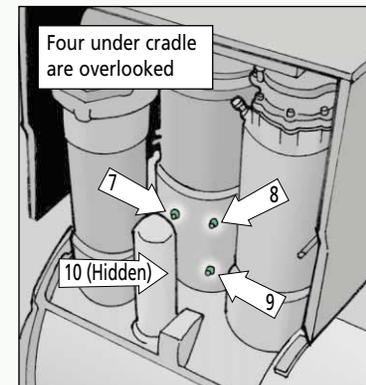
It's inevitable. Lube points that are hidden or hard to reach are usually forgotten. The cradle mount bearings on your M109A6 Paladin are a good case in point.

There are 10 lube points on the cradle mount—four inside and six outside the vehicle. The inside lube points and the two exterior lube points on top of the cradle mount usually get lubed regularly.



The four on the bottom of the cradle mount are another story. To get to those lube points, you must raise the gun tube. If you forget—or just don't go to the trouble of raising the gun—the cradle mount bearings go dry. Whenever the cannon is fired, the tube is scored during recoil.

To protect the bearings, you'll need to lube **all 10** cradle mount lube points quarterly with molybdenum disulfide grease (GMD) or general purpose grease (GGP). GMD comes in a 14-oz cartridge, NSN 9150-00-935-4018, or 1¼-lb can, NSN 9150-00-754-2595. A 1¼-lb can of GGP comes with NSN 9150-00-985-7316.



Personnel Heaters...

# WHO REPAIRS A-20?



Don't be confused about who can repair what on the A-20 Global personnel heater. Here's the straight scoop:

**Unit-level maintenance:** Limited to replacement of ignitors and removal and replacement of the entire heater.

**DS/GS-level maintenance:** All troubleshooting and repair with the exception of vent sensor replacement, which is a depot-level maintenance task.

Keep in mind that this heater has sensitive electronics on board, mechanics. You must be grounded when working on the heater. Also, the heater should be removed or disconnected from the vehicle before doing any welding.

TM 9-2540-207-14&P covers all heater troubleshooting and repair procedures.

Wheeled Vehicles...

# Use RAWLS for Convoys

ROTATING AMBER WARNING LIGHT SETS CAN SOLVE CONVOY VEHICLE LIGHTING REQUIREMENTS LISTED IN PARA 2-16G OF AR 385-55.

IF YOU DRIVE A BIG TRUCK OR RECOVERY VEHICLE, YOUR TMS MAY LIST WARNING LIGHT KITS.

IF THEY DON'T, YOUR CO CAN AUTHORIZE THE KIT FOR YOUR VEHICLE. HERE'S WHAT YOU NEED...



- For older model 2½-ton and 5-ton dump trucks, use NSN 6220-01-219-7620.
- For the 5-ton expansible van, use NSN 6220-01-219-7621.
- For all other 2½-ton and 5-ton trucks (including M816 and M936 wreckers), use NSN 6220-01-195-1791. FMTV models use NSN 6220-01-423-2337.
- For HMMWVs, CUCVs and all M747, M871 and M872 semitrailers, use NSN 2590-01-107-9696.

EACH KIT GETS YOU EVERYTHING YOU NEED TO MOUNT A LIGHT SET EXCEPT THE AMBER BUBBLE LIGHT. TO GET ONE, USE NSN 6220-00-947-7570.

SOME OF THE WORD ON LIGHT KITS IS FOUND IN TB 9-2590-510-23.

HOWEVER, NO HEAVY TACTICAL VEHICLES ARE LISTED. HERE'S THAT INFO...



- M1070 HET uses NSN 6220-01-449-1239
- M915-series trucks use NSN 6220-01-495-2851
- M1062 fuel tankers use NSN 6220-01-355-4371
- PLS uses NSN 6220-00-947-7535
- HEMTTs use NSN 6220-01-250-5190
- M1000 HET trailer uses NSN 6220-01-107-9696. The light only is NSN 6220-01-442-2652

M1070 HET...

# MODE OF OPERATION DECAL

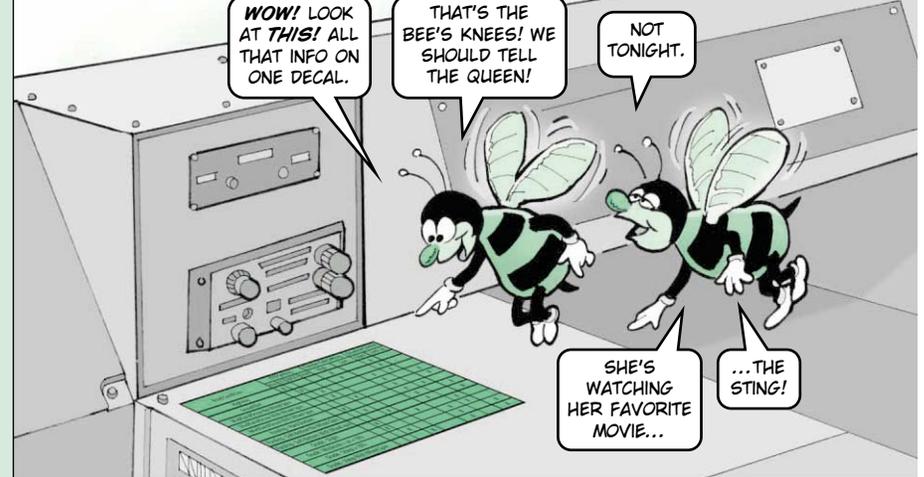
WOW! LOOK AT THIS! ALL THAT INFO ON ONE DECAL.

THAT'S THE BEE'S KNEES! WE SHOULD TELL THE QUEEN!

NOT TONIGHT.

SHE'S WATCHING HER FAVORITE MOVIE...

...THE STING!



There's an operation decal for the asking that goes inside the M1070's cab.

The decal shows the recommended modes of operation for different road conditions. It mounts on top of the doghouse (upper left corner). Just use a clean rag to clean or dust off the doghouse's surface before applying the decal.

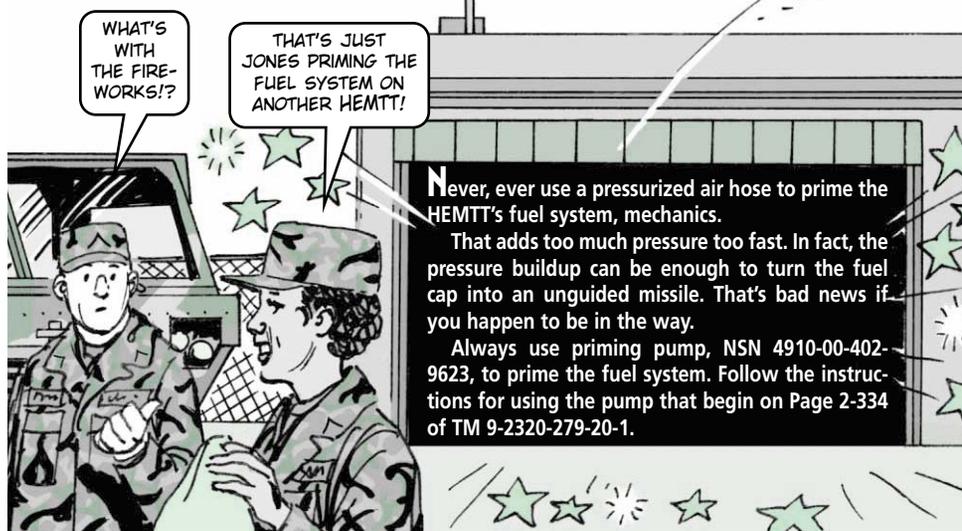
To get the decal, call Ron Papiernik (TACOM) at DSN 786-5359 or (586) 574-5359. Or write to him at this e-mail address:

[papierro@tacom.army.mil](mailto:papierro@tacom.army.mil)

Road Condition	CTIS Setting				Transfer Case Setting		Driveline Control	
	Hwy	CC	M/S/S	Emer	High	Low	Open	Lock up
Highway	X				X		X	
Gravel/Dirt		X			X		X	
Mud/Sand/Snow No Wheel Spin			X			X	X	
Mud/Sand/Snow With Wheel Spin			X			X		X
Mud/Sand/Snow With Wheel Spin				X		X		X
Fording - Hard Bottom	X					X	X	
Fording - Soft Bottom No Wheel Spin			X			X		X
Fording - Soft Bottom With Wheel Spin				X		X		X
Grade - Slight	X				X		X	
Grade - Moderate < or = 10%	X					X	X	
Grade - Steep > 10%			X			X		X
Grade - Steep With Wheel Spin				X		X		X

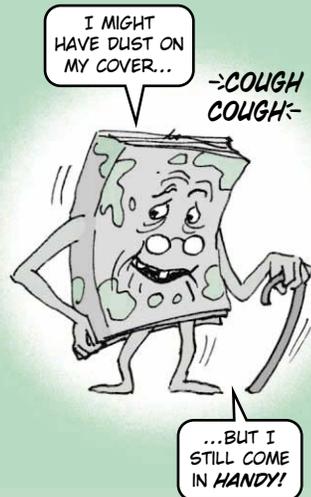
HEMTTs...

# THAR' SHE BLOWS!



2½-Ton Trucks...

## Keep Deuce TMs Handy



Drivers, operators and mechanics need to hang on to all TMs that cover the M44-series deuces. It does not matter what the vehicle's model number is, or the age of the vehicle. Don't toss out the old TMs!

There are three different series of TMs for the M44-series vehicles. Information on maintaining components unique to M44A2-series trucks is found only in the TM 9-2320-361-series.

Info on maintaining components common to both M44A2-series and M44A1-series trucks is found in 9-2320-209-series TMs.

Info on maintenance unique to the new M35A3 trucks is found only in 9-2320-386-series TMs.

Bottom line—keep all of the TMs that cover your deuces. They will come in handy.

S-280 Shelters...

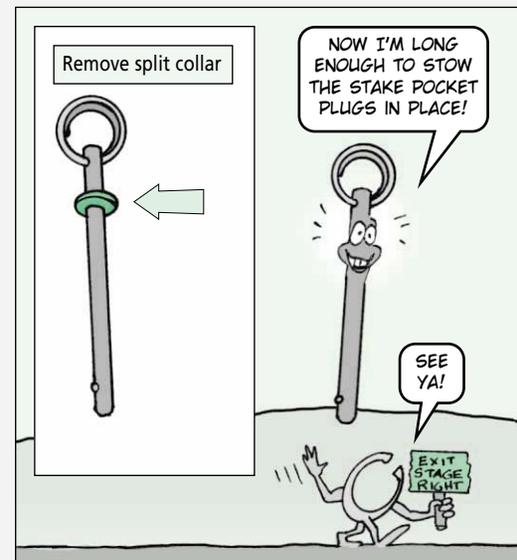
## Lockpin Lowdown

Lockpins used to install the S-280 shelter tiedown kit on FMTVs are coming up short—they're not long enough to lock the stake pocket plugs in place. So what you really need is a longer pin.

No problem—here's the fix.

Just use the same pins without their split collar. Get a screwdriver and pliers from the No. 1 Common shop set to remove the split collar.

Without its collar, the lockpin is long enough to do its job.

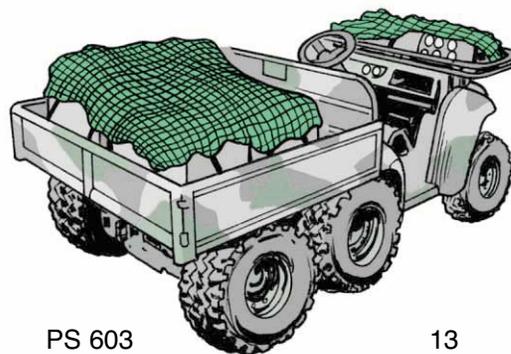


LUMES...

## HOLD THAT CARGO LOAD!

Rear  
NSN 3940-01-477-6758

Front  
NSN 3940-01-477-7095



Back-tracking for lost cargo while driving the lightweight utility mobility enhancement system (LUMES, often referred to as an M-GATOR) isn't anyone's idea of a good time.

To keep cargo in place, use cargo net, NSN 3940-01-477-6758, for the rear, and net, NSN 3940-01-477-7095, for the front of the vehicle. That way you won't end up with a lost load!

600-GPH ROWPU...

# FOLLOW THE LOAD PLAN

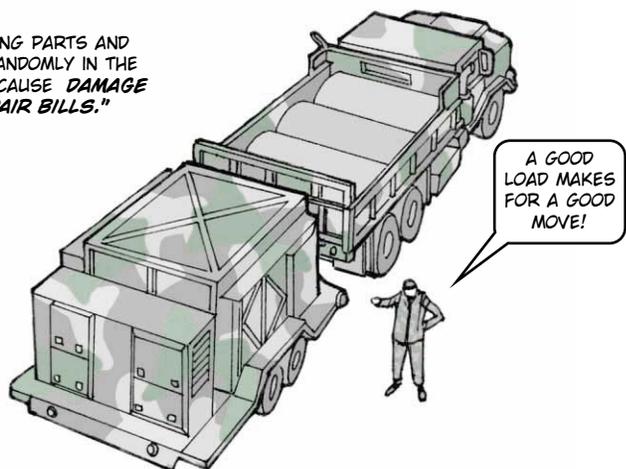


WHEN IT'S TIME TO GO HOME AFTER A GOOD WATER PURIFICATION JOB, COMPLETE THE JOB WITH A GOOD LOADOUT!

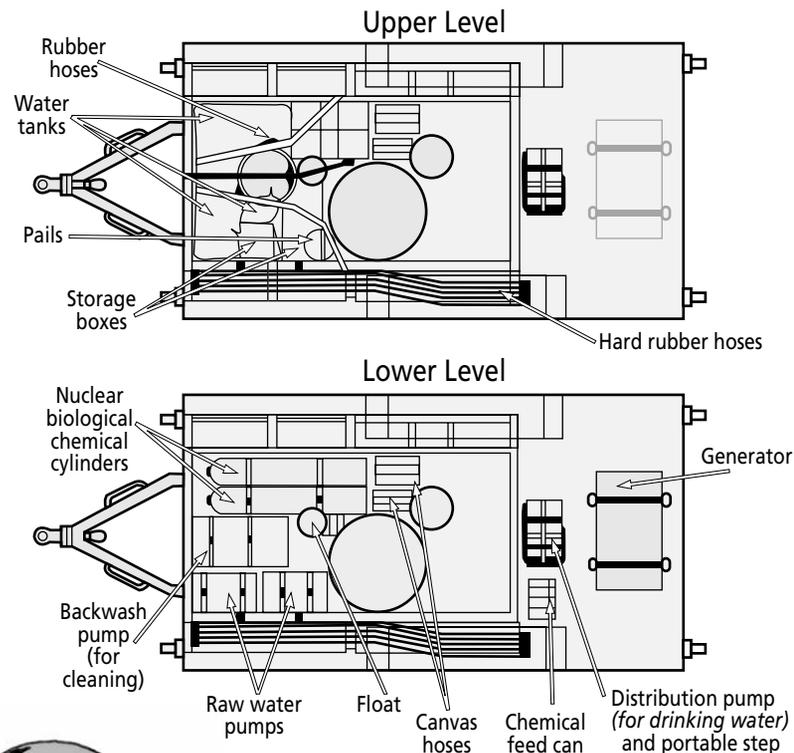


OPERATORS, A LITTLE HOUSE-KEEPING AND FOLLOWING YOUR ROWPU'S LOAD PLAN CAN MEAN THE DIFFERENCE BETWEEN PRODUCING POTABLE WATER AND PRODUCING MAINTENANCE HEADACHES.

"JUST STACKING PARTS AND EQUIPMENT RANDOMLY IN THE VEHICLE CAN CAUSE DAMAGE AND BIG REPAIR BILLS."



A GOOD LOAD MAKES FOR A GOOD MOVE!



FOLLOW THE LOAD PLAN IN TM 10-4610-239-10 AND KEEP THESE POINTERS IN MIND.

- The spare tire for the trailer goes in its carrier under the rear of the trailer—not tossed inside the ROWPU itself. Toss the spare inside and you might break off the equipment's sight glass and breathers.
- There are only two storage boxes, but they are labeled Storage Box 2 and Storage Box 3. They hold chemicals, tools and installation items. App B of TM 10-4610-239-10 has the load plans for both boxes.

- The two storage boxes should be fastened with a strap under the tanks. If the boxes aren't strapped down, they can shift and damage the ROWPU during travel.
- The bottom layer of storage space is where the two raw water pumps and backwash pump are stowed. Cover the pumps with canvas and strap 'em down.
- On the back of the ROWPU, next to the generator, strap the distribution pump down with the portable step.
- Store the raw water float in the center of the ROWPU next to the two NBC cylinders.
- Stow the rolled-up discharge hoses on the right side of the ROWPU. If they're just tossed in, the hoses will break breathers, connectors and sight glasses.

HAZMAT...

# WHAT'S YOUR REASON?



## Reason #1

You never know what effect an off-the-shelf cleaner or solvent will have on your equipment. Many biodegradable solvents are water-based and can cause pitting and corrosion. Some cleaners may remove your equipment's protective finish.

Sure, a few off-the-shelf cleaners and solvents have been approved for use. But just because a cleaner is okay to use on TACOM equipment doesn't mean it's been okayed for use on AMCOC or CECOM equipment. Check it out first.

Your best bet is to use the cleaners and solvents called for in your equipment TMs. Those cleaners are specifically designed for your equipment and won't cause unintended problems.

## Reason #2

Some off-the-shelf cleaners and solvents contain chemicals your installation is not permitted to use. The wastewater treatment plant may not be set up to remove these chemicals and water contamination is the result.

Get approval from your local environmental coordinator first. He'll know if there are any state or local environmental concerns with using the product.

Finally, make sure you have a material safety data sheet (MSDS) for the cleaner or solvent. You must have this on hand if you are going to use the product.

# A Label Fable





Avenger Missile System...

**GOOD  
COVERAGE  
FOR  
AVENGERS**

Dear Half-Mast,

In extremely wet areas, it's a good idea to completely cover the Avenger missile system, instead of just the canopy. That helps prevent corrosion and electrical problems. Where can I get a tarp that would do a good job of protecting the Avenger?

SGT J.K.

Dear Sergeant J.K.,

Most Avenger units that cover the entire missile system use a Bradley tarp. If you can't get one from your Bradley folks, you can order a green one with NSN 2540-00-587-2532 or a tan one with NSN 2540-01-330-8062. The tarp costs a little more than \$100. Of course, you could save money just by having your canvas shop make a tarp 12x17 feet.

As we've told you before in PS, don't tie off the tarp inside the truck. That ruins the doors' seals. The best way to tie down the tarp is to use bungee cords attached to the tarp's ropes and to the underside of the HMMWV. Or you can tie off the ropes in the HMMWV's two half doors.

The canopy cover itself doesn't have an NSN. Order it with PN 13265043 and a CAGE code of 18876 and RIC of B64 on a DD Form 1348-6.

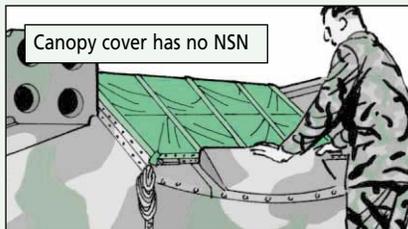
*Half-Mast*



Bradley tarp covers whole Avenger



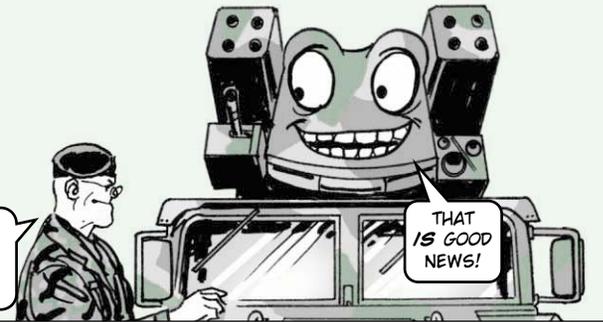
Tie tarp to underside of truck



Canopy cover has no NSN

## STEPS FOR PROTECTION

**GOOD NEWS!** THESE SOLDIERS IN GERMANY HAVE COME UP WITH THREE GOOD WAYS TO KEEP YOU AVENGING!



Dear Editor,

These Avenger suggestions are cheap and easy.

**Get a step ladder and keep it in the Avenger maintenance truck.** That way, in the field operators and repairmen can use the ladder for bore-sighting and general maintenance and not have to hang on the side of the Avenger, where they risk a fall or damage to Avenger components.

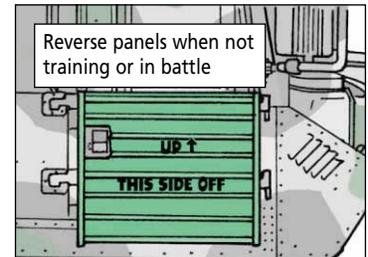
**Turn the combat identification panels so that the OFF side faces out.** If you leave the panels with the working side facing out, they often are damaged by trees or other object slamming into them. Keeping that side facing in gives the panel protection. In a training or battle situation, you can quickly slide the panels out of their brackets, reverse them, and be ready to operate.

**Store the M3P machine gun feed chutes in a cool, dry place with a light coat of CLP.** Most units leave the chute either hooked up to the Avenger or stored in the bustle box. Moisture corrodes the chute and then you have feeding problems.

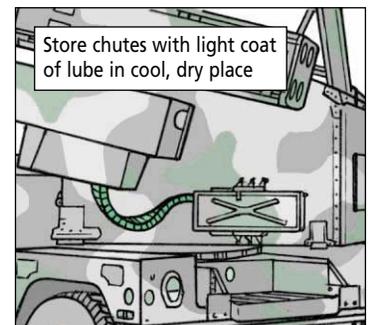
SSG Clifford March  
SGT Lester Richmond  
SGT Ronnie Washington  
SPC Timothy Price  
SPC Patrick Hagood  
D Btry, 4/3d ADA  
Larson Barracks  
Kitzingen, Germany



Use ladder for bore-sighting and maintenance



Reverse panels when not training or in battle



Store chutes with light coat of lube in cool, dry place

Machine Gun Mounts...

# Check Total Price First

A NEW PLATFORM ASSEMBLY COSTS \$1,400!!! WE CAN GET A **WHOLE NEW MOUNT** FOR JUST \$200!!



HE'S RIGHT. **ALWAYS CHECK** TO SEE IF IT'S CHEAPER JUST TO BUY A **WHOLE NEW MOUNT** INSTEAD OF A PART.

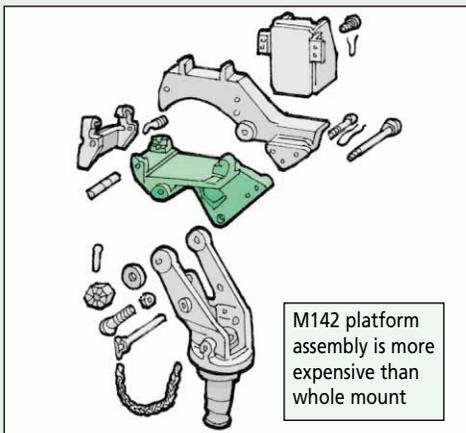
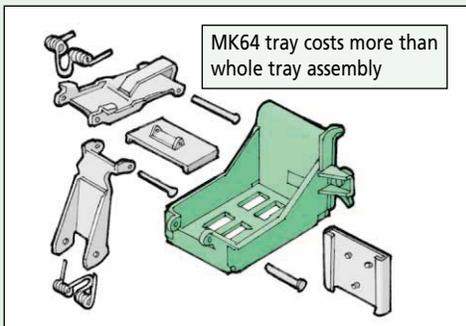


**S**ometimes it's cheaper to replace your whole TV or VCR rather than just replace a defective part. That's sometimes the case with machine gun mounts, too.

For instance, the MK64 ammo box tray assembly, NSN 1010-01-151-6242, is a repair part for the ammo box mounting tray assembly, NSN 8140-01-156-7371. If you want just the box tray assembly, it costs more than \$900, while you can get the whole ammo box mounting tray for a bit more than \$200.

Or look at the M142 mount, NSN 1005-00-854-4463. Its platform assembly, NSN 1005-00-121-0779, costs more than \$1,400. But you can get the whole mount for around \$200.

The moral of the story is check the price of the entire assembly before you order a repair part for it. Sometimes you'll get a better deal just ordering a whole new mount.



Small Arms...

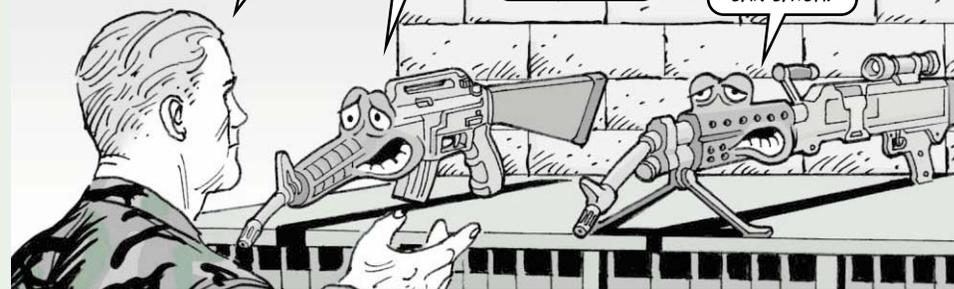
# GAUGE GAUGING BY USE, NOT UNIT

SINCE WE'RE A RESERVE UNIT, WE DON'T NEED TO HAVE YOU GUYS GAUGED FOR **AT LEAST** ANOTHER YEAR!

WE DON'T CARE WHAT KIND OF UNIT THIS IS!

YOU'VE FIRED THE HECK OUT OF US AND WE NEED GAUGING **NOW!**

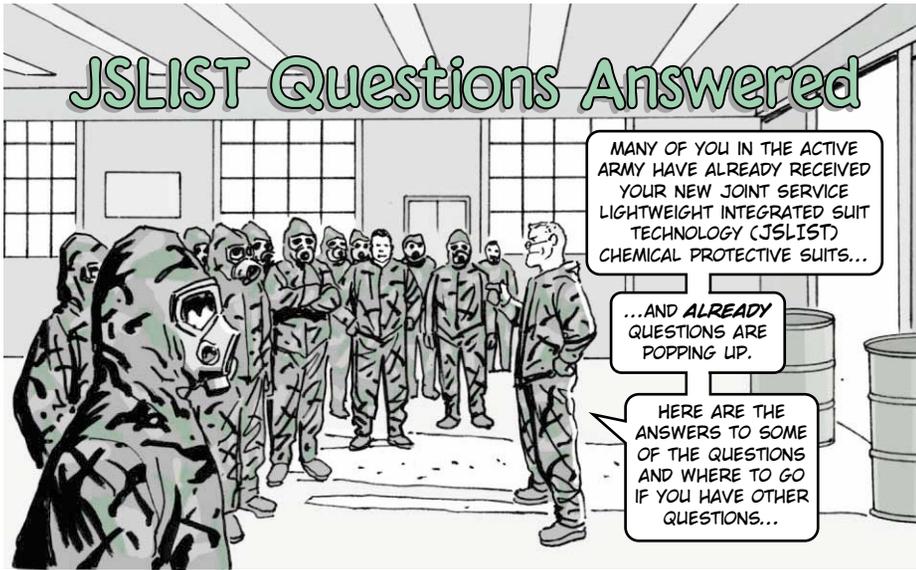
**YEAH!** WE'VE GOT PROBLEMS ONLY GAUGING CAN CATCH!



Dear Editor,  
As you noted in PS 592, active duty Army units are supposed to have their rifles and machine guns gauged annually, while Army Reserve and National Guard are required to have theirs gauged every 2 years.  
That's fine under normal conditions, but since 9/11 many Reserve and Guard units are doing much more training with their weapons. All of that additional firing means more wear and tear on the weapons. Problems develop that only gauging can catch in the early stages.  
If that gauging has to wait 2 years, those problems aren't going to be caught in time to prevent damage to the weapon and possible injury to the soldier. So I suggest that Guard and Reserve units consider more frequent gauging if they do much firing.  
James Secord  
Equipment Concentration Site 125  
Ft Bragg, NC

**From the desk of the Editor**  
*The small arms experts at TACOM-Rock Island agree with you totally. The 1-year gauging requirement for active Army and two-year requirement for Reserves and Guard is the **minimum** gauging required. Ideally, a unit should get their weapons gauged and inspected after every firing/training cycle and **must** do so before being deployed.*

# JSLIST Questions Answered



MANY OF YOU IN THE ACTIVE ARMY HAVE ALREADY RECEIVED YOUR NEW JOINT SERVICE LIGHTWEIGHT INTEGRATED SUIT TECHNOLOGY (JSLIST) CHEMICAL PROTECTIVE SUITS...

...AND **ALREADY** QUESTIONS ARE POPPING UP.

HERE ARE THE ANSWERS TO SOME OF THE QUESTIONS AND WHERE TO GO IF YOU HAVE OTHER QUESTIONS...

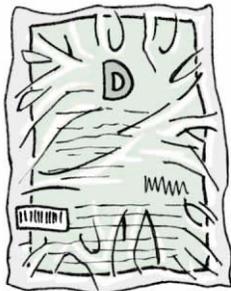


MY JSLIST MOPP SUIT PACKAGING WAS NOT TIGHTLY VACUUM SEALED.

WILL THIS SUIT STILL PROTECT ME?

Yes. JSLIST overgarments come from the factory in vacuum-sealed nylon/foil bags that are sealed within clear plastic bags. Sometimes these nylon/foil bags lose their vacuum and appear puffy. Even though TM 10-8415-220-10 says otherwise, JSLIST in bags with broken vacuum seals are still good unless the bags have clearly visible holes or tears or have been opened. The TM is being changed to say this.

A puffy bag **doesn't** mean JSLIST is no good



FEB 03



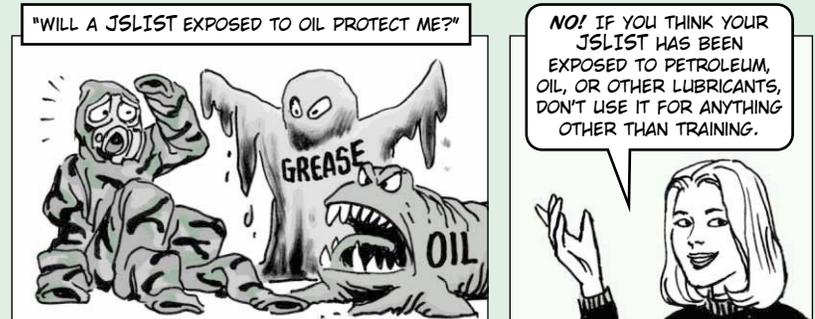
I ACCIDENTALLY TORE A HOLE IN MY JSLIST BAG.

CAN I USE THIS SUIT?

No, as long as you immediately tape over the hole with duct tape to recreate the seal. If you accidentally open the bag, you can tape it shut. Just be careful not to tape over any part of the surveillance data on the bag. JSLIST in repaired bags retains its original shelf life.



If you immediately tape a hole, your JSLIST is still usable



"WILL A JSLIST EXPOSED TO OIL PROTECT ME?"



**NO!** IF YOU THINK YOUR JSLIST HAS BEEN EXPOSED TO PETROLEUM, OIL, OR OTHER LUBRICANTS, DON'T USE IT FOR ANYTHING OTHER THAN TRAINING.



The same goes for any JSLIST whose shelf life has expired. Stencil **TRAINING ONLY** in 2½-in letters or larger on the outside of the coat sleeve and trouser leg of those garments in a contrasting ink or paint.



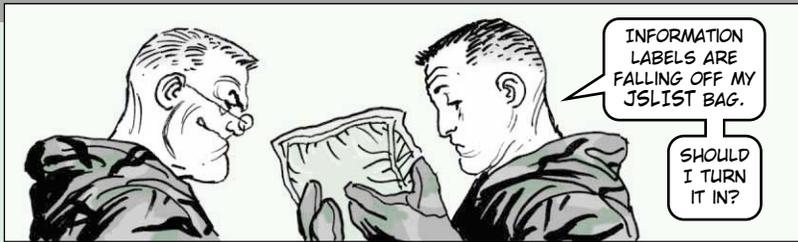
Mark **TRAINING ONLY** on sleeve and leg

**TRAINING ONLY**

**TRAINING ONLY**

PS 603

23



No. Some adhesive labels are falling off and unfortunately they contain important information. If your JSLIST bag is losing any of the seven labels but the labels are still inside the clear plastic outer bag, remove the clear bag and use an indelible marker to clearly print the surveillance info on the nylon/foil package. At a minimum, the info should include the last part of the contract number, last four digits of the NSN, manufacture date, date packaged, inspection date, surveillance marking number, and garment size. When you're finished, reseal the nylon/foil package in the clear bag. The bag helps protect JSLIST.

Mark info on nylon/foil package with indelible marker



If you have JSLIST with missing labels, however, you must turn it in. Contact the POCs listed below for information.



No, don't send JSLIST to DRMO for any reason. The shelf life of your JSLIST may have been extended. To check shelf life, see the Joint Service Set-Aside Program Website at <http://shelflife.pmnbc.com>. Most JSLIST are expected to be good for 15 years on the shelf. If your JSLIST's shelf life has expired or you unit doesn't need JSLIST, contact the POCs below for turn-in instructions.

If you have other questions, contact the JSLIST program manager, LTC David Anderson, at (703) 704-3834/DSN 654-3834, or e-mail [pm-seq@peosoldier.nvl.army.mil](mailto:pm-seq@peosoldier.nvl.army.mil)

Inspection date expired? Your JSLIST may still be good



Clothing...

## Body Armor Needs Cleaning, Too



If you ignore your body armor when you clean your clothing and other gear, you could get an unpleasant surprise when you try to turn it in.

The CIF (Central Issue Facility) expects clothing to be clean when you turn it in—and that goes for body armor, too. If you let sweat and dirt set for months in body armor, the armor becomes very difficult to get clean. One CIF reported that some soldiers have had to clean their armor four different times before it was clean enough to turn in. That's aggravation you want to avoid when you're processing out.

The body armor's collar is a real collector of sweat and dirt and it's the toughest area to clean. Just using a brush and water often won't do the job. You may think you've scrubbed out the dirt, but when the armor dries the dirt comes right back to the surface.



The best stuff for cleaning body armor is Jen-Brite, NSN 7930-01-359-9229. It's made specifically for the cordura material of the outer tactical vest cover. Before cleaning, remove the soft armor panels from within the vest. The panels shouldn't be cleaned or soaked in water, solvent, or cleaning solution.

Use a half-and-half mixture of Jen-Brite and water and a toothbrush to clean the collar and any other dirty spots. Non-bleach stain sticks also work well on dirty collars.

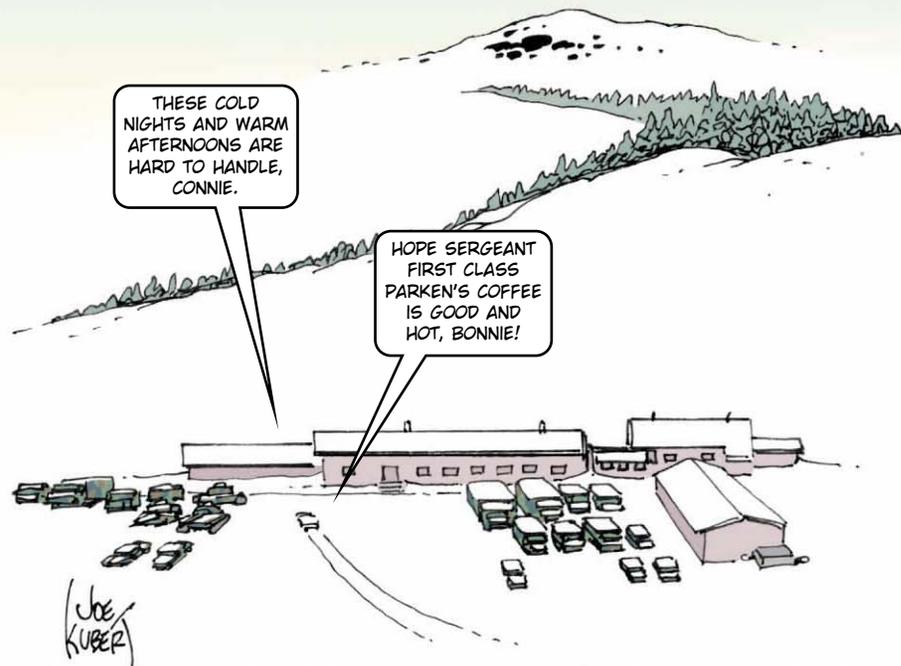
Once you're through brushing out the dirt, thoroughly rinse the whole outer tactical vest cover of your body armor in clean water. Then squeeze as much of the water out of the collar as you can. You don't need to do that for the rest of the jacket. Hang the vest cover upside-down to let it dry for at least 24 hours.

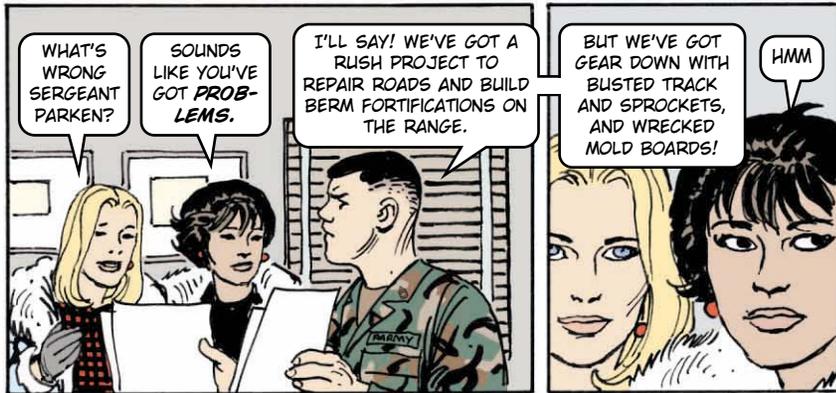


## Safety Goggles Protect Eyes

Need protection for your eyes? NSN 4240-01-292-2818 brings you dual purpose goggles that are impact resistant and protect against chemical splashes. The goggles cost about five bucks.

# CAMP STUCKALOT





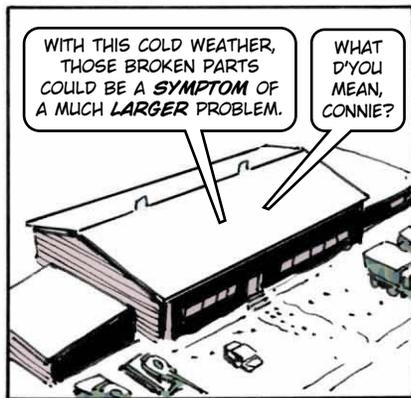
WHAT'S WRONG SERGEANT PARKEN?

SOUNDS LIKE YOU'VE GOT **PROBLEMS**.

I'LL SAY! WE'VE GOT A RUSH PROJECT TO REPAIR ROADS AND BUILD BERM FORTIFICATIONS ON THE RANGE.

BUT WE'VE GOT GEAR DOWN WITH BUSTED TRACK AND SPROCKETS, AND WRECKED MOLD BOARDS!

HMM



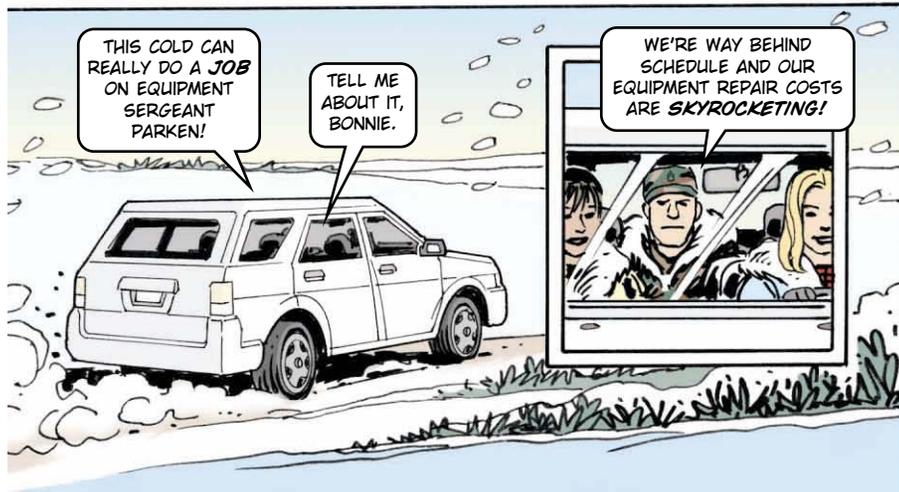
WITH THIS COLD WEATHER, THOSE BROKEN PARTS COULD BE A **SYMPTOM** OF A MUCH **LARGER** PROBLEM.

WHAT D'YOU MEAN, CONNIE?



LET'S TAKE A RIDE UP TO THE WORK SITE AND SEE FOR OURSELVES WHAT'S UP.

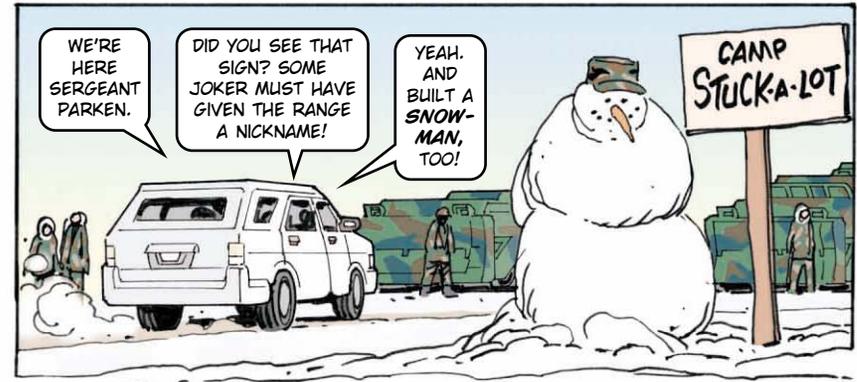
CAN YOU DRIVE? MY HMMWV IS BEING USED TO HAUL PARTS UP THERE.



THIS COLD CAN REALLY DO A **JOB** ON EQUIPMENT SERGEANT PARKEN!

TELL ME ABOUT IT, BONNIE.

WE'RE WAY BEHIND SCHEDULE AND OUR EQUIPMENT REPAIR COSTS ARE **SKYROCKETING!**



WE'RE HERE SERGEANT PARKEN.

DID YOU SEE THAT SIGN? SOME JOKER MUST HAVE GIVEN THE RANGE A NICKNAME!

YEAH. AND BUILT A **SNOW-MAN**, TOO!



SOMEBODY'S GOT A SENSE OF HUMOR.

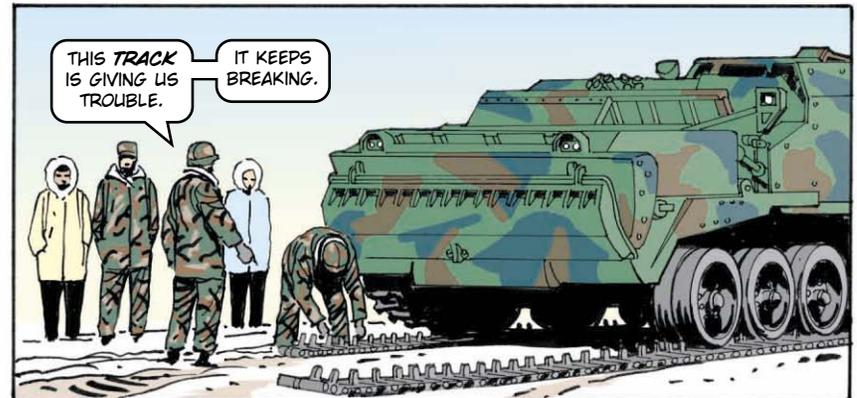


BETTER THEY SHOULD BE **WORKIN'** INSTEAD OF PLAYING IN THE SNOW.



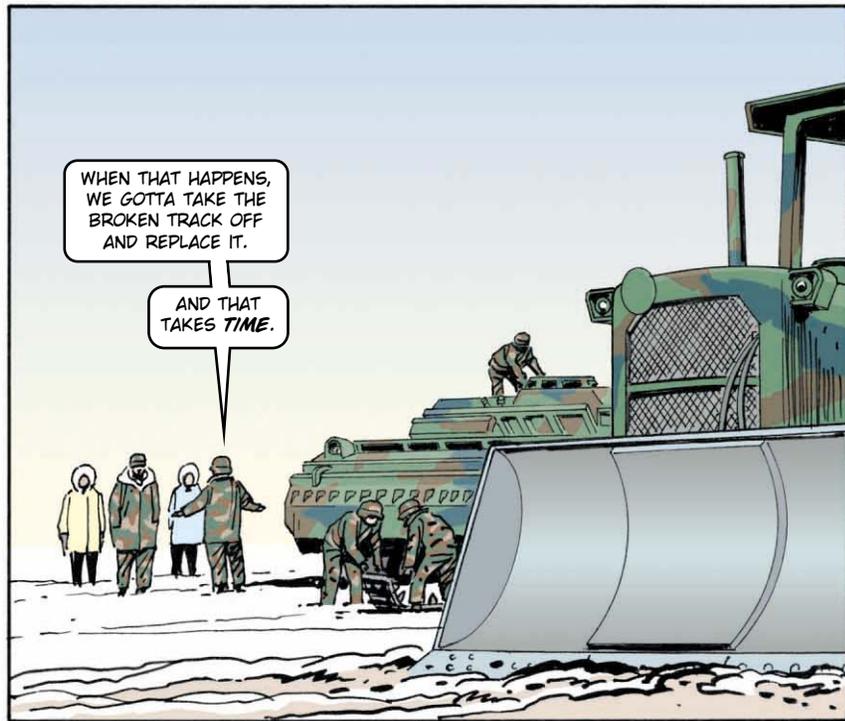
LOOKS LIKE THAT **ACE** IS OUT OF COMMISSION.

HI, SERGEANT PARKEN.



THIS **TRACK** IS GIVING US TROUBLE.

IT KEEPS BREAKING.



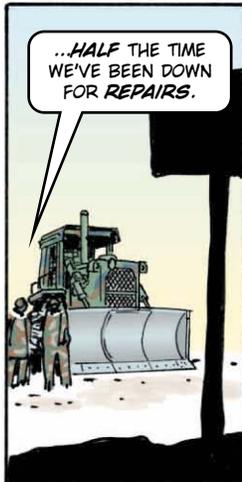
WHEN THAT HAPPENS, WE GOTTA TAKE THE BROKEN TRACK OFF AND REPLACE IT.

AND THAT TAKES *TIME*.



YOU'VE BEEN HERE MORE THAN *TWO WEEKS* AND HARDLY GOTTEN ANYTHING DONE!

THAT'S TRUE, BUT...



...*HALF* THE TIME WE'VE BEEN DOWN FOR *REPAIRS*.



I THINK I SEE THE *REAL* VILLAIN IN THIS SITUATION.



WHAT DO YOU MEAN, BONNIE? WHAT'S CAUSING THIS--?

DURING THE DAY, THE GROUND *THAWS* WHEN THE SNOW AND ICE MELT.



"THE MUD GETS *SOFT* AND WET... AND THE TRACKS *SINK IN*."



THEN, WHEN THE SUN GOES DOWN, THE MUD *FREEZES* AS HARD AS *CONCRETE*.

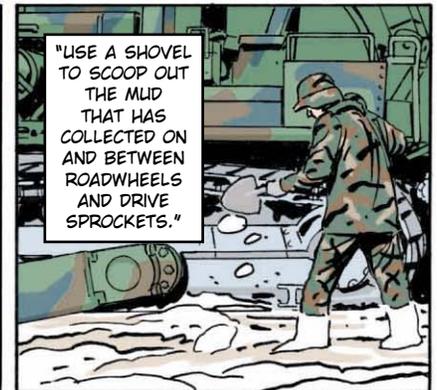
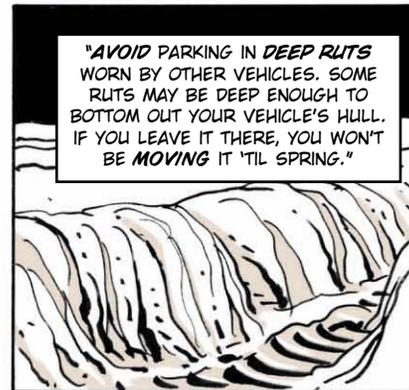
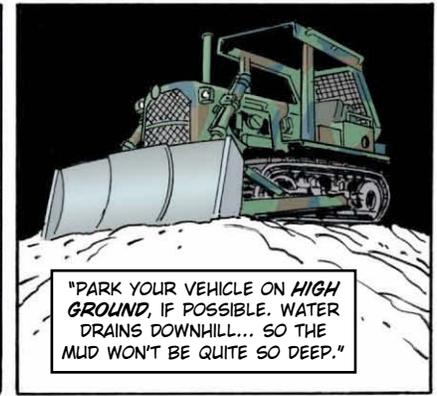
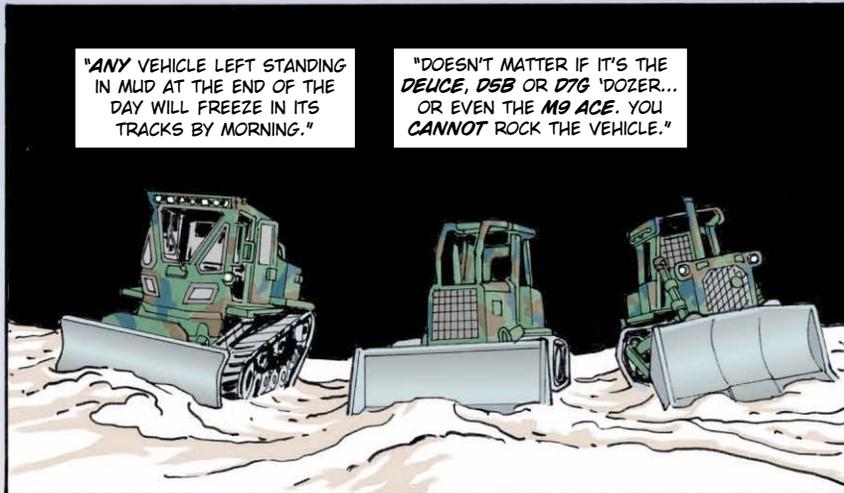


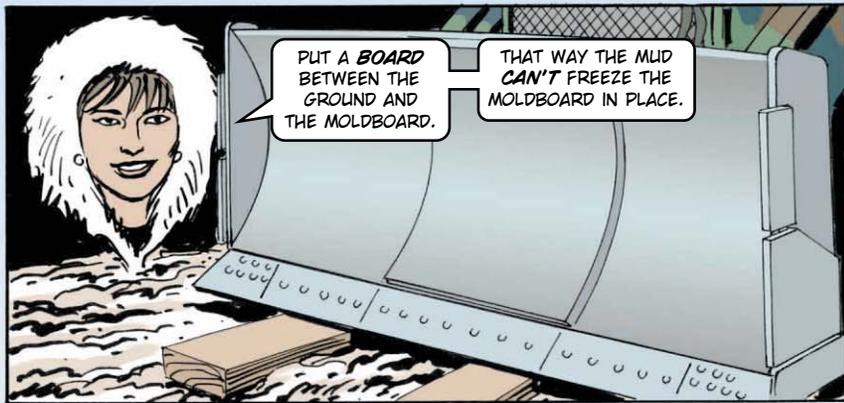
A VEHICLE LEFT SITTING IN MUD WILL FREEZE IN ITS *TRACKS* OVERNIGHT!



"THE DEEPER THE MUD, THE DEEPER THE TRACKS SINK..."

"...AND THE MORE *FIRMLY* FIXED IN THE MUD IT BECOMES."





PUT A **BOARD** BETWEEN THE GROUND AND THE MOLDBOARD.

THAT WAY THE MUD **CAN'T** FREEZE THE MOLDBOARD IN PLACE.



SEE HOW JUST A LITTLE PM CAN MELT COLD PROBLEMS?



THANKS FOR YOUR HELP. HOW ABOUT ANOTHER CLIP OF COFFEE... BACK AT MY OFFICE?

SOUNDS GOOD TO US.



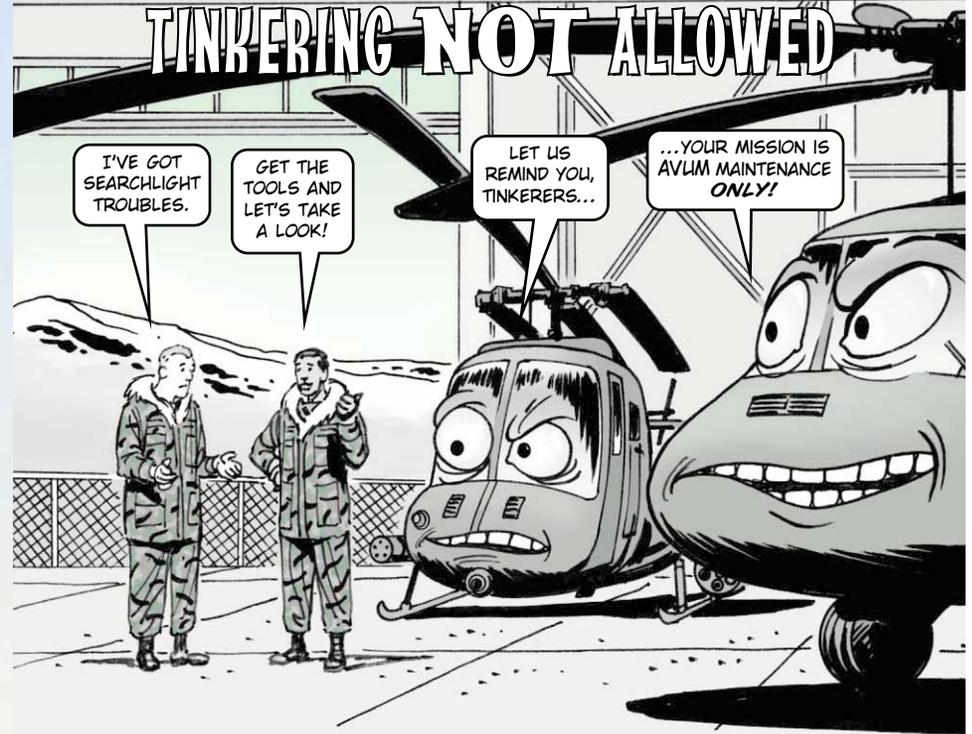
HEY... LOOKS LIKE SOMEBODY KNOCKED OVER THAT **CAMP STUCKALOT** SIGN.

I WONDER WHO?



All Aircraft...

# TINKERING NOT ALLOWED



I'VE GOT SEARCHLIGHT TROUBLES.

GET THE TOOLS AND LET'S TAKE A LOOK!

LET US REMIND YOU, TINKERERS...

...YOUR MISSION IS AVUM MAINTENANCE **ONLY!**

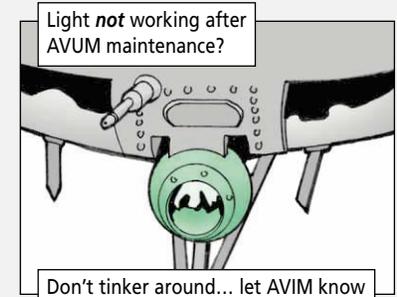
**M**echanics, don't be tempted to tinker with or try to repair your aircraft searchlights.

If you've got searchlight retracting or rotating problems, get your TMs out and do your AVUM inspections and troubleshooting, but leave the repairs to AVIM.

But, you say that you have a knack for fixing things? Maybe so, but tinkering with your bird's searchlight electrical components and gears or removing gear covers to investigate is not your job.

Once you damage the searchlights trying to repair them, your lights are out. Then you won't find anything in the dark or in the fog.

Perform your AVUM mission, but leave the AVIM work to AVIM.



Light **not** working after AVUM maintenance?

Don't tinker around... let AVIM know

OH-58D...

# Guard Against FOD With a Cover

HEY SERGEANT BLADE, IT LOOKS LIKE THIS COVER DOES THE TRICK.

GOOD JOB, SOLDIER!

THE IMPELLER IS PROTECTED AND OUT OF HARMS WAY LIKE THE TM SAYS.

USE THE COVER EACH TIME YOU INSPECT THE AIR INDUCTION SYSTEM.



HERE'S ANOTHER GOOD IDEA TO KEEP PM GOING STRONG!



Dear Sergeant Blade,

When we inspect, clean or perform maintenance on our Kiowa Warrior's air induction system, it usually involves removing the engine cowling and the particle separator cowling.

We inspect the particle separator swirl vanes on the impeller for cracks or damage. Sometimes we perform other maintenance on the engine, too.

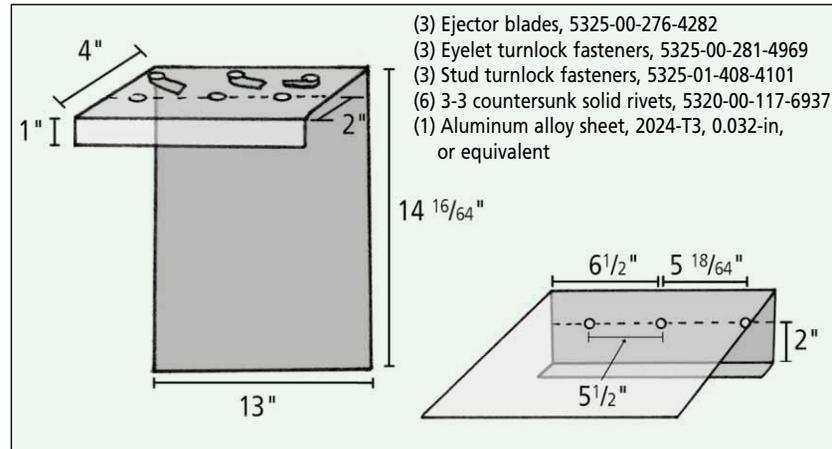
But all too often the impeller is left unprotected and is damaged by dropped tools or careless feet. If that happens, the aircraft is NMC.

In addition, cleaning rags are sometimes left in the impeller area while other maintenance tasks are performed.

Once the bird is assembled, started and goes out for a flight, that out-of-sight, out-of-mind rag becomes FOD. If it's ingested through the impeller vanes and into the engine, it could cause engine and drive shaft damage.

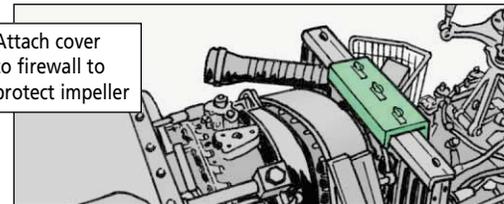
We've come up with a bellmouth cover, painted red and stenciled with the words "DANGER," that will protect the impeller vanes and keep FOD out of the air inlet.

Have your AVIM shop use the following dimensions and materials to make the cover. Attach the mouth cover to the firewall while doing maintenance.



- (3) Ejector blades, 5325-00-276-4282
- (3) Eyelet turnlock fasteners, 5325-00-281-4969
- (3) Stud turnlock fasteners, 5325-01-408-4101
- (6) 3-3 countersunk solid rivets, 5320-00-117-6937
- (1) Aluminum alloy sheet, 2024-T3, 0.032-in, or equivalent

Attach cover to firewall to protect impeller



SGT James Burge  
SGT T. A. Willem  
SGT Christian Boehler  
F TRP 1-7 CAV  
Ft Hood, TX

UH-60...

# GO EASY ON PULLING AND TUGGING



BUDDY, YOU DIDN'T BELIEVE ME WHEN I TOLD YA TO GO EASY ON MY ENGINE OIL CAP.

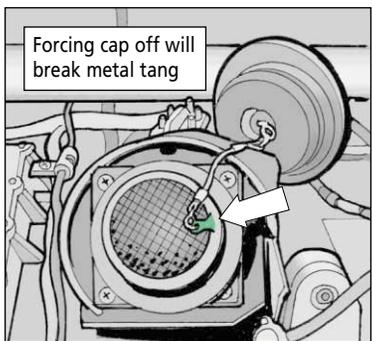
YEAH, I KNOW. LOOKS LIKE I'LL BE DOING SOME EXTRA REPAIR.

**B**e careful, mechanics, when you remove your Black Hawk's T-700-GE-700 series engine oil cap to add oil.

When the cap and O-ring stick, some mechanics muscle off the cap. Instead, they should twist the cap back and forth to loosen it and then ease the cap off.

The cap has a short cable that's attached to a metal tang on the screen. If you use force to pop loose the cap, you can jerk the cable and snap off the metal tang on the screen assembly. That screen keeps FOD from entering the oil tank while the cap is removed.

Pulling and tugging too hard leads to replacing the oil cap and filler assembly, NSN 5340-01-318-0077, for about \$330. A sticking cap is no fun to remove—but it's even less fun to replace the assembly!



CH-47D...

# Stepped on and Worn Out



HOLY COW! THIS WALKWAY IS SLIPPERY AS ICE!

I GUESS WE'D BETTER SCHEDULE THE WALKWAYS FOR RESURFACING.

Your Chinook's high-traffic, non-skid walkway areas take a beating from boots that wear off the non-skid material. Grease and oil and dirt left on exposed rivets makes walking on worn-out walkways dangerously slippery.

So pay attention, repairers, and be careful when walking on places like the ramp and on top of your bird. Inspect the walkways for wear. If you notice shiny rivet heads through the non-skid material, resurface the walkways like it says in Task 2-356 of TM 55-1520-240-23-2 and paragraph 6-12 of TM 55-1500-345-12.



**Don't wait.** If you do, it could mean some broken bones, if you slip and fall off your bird while performing maintenance. Fall off the top of your Chinook, and you could die!

The new Mil Spec for finishing walkways is A-A-59166. Make a note until the TMs are updated. If you need some black finish, NSN 8010-00-641-0247 brings you one gallon and NSN 8010-00-142-6525 brings one quart.

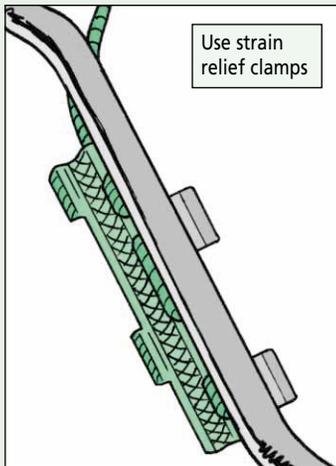
OE-254 Antenna...

# IN NEED OF MORE RELIEF

Dear Editor,

The OE-254 antenna needs two cable strain relief clamps, not just one, during certain types of operations.

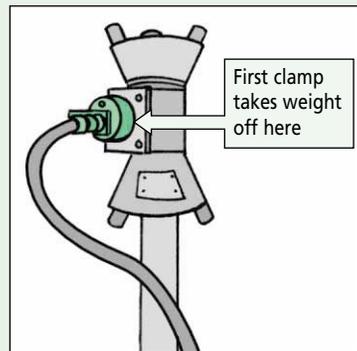
Use strain relief clamps



OE-254s come with one strain relief clamp, NSN 5975-00-563-0229. That clamp needs to be attached to the upper guy plate of the mast like it says in Para 2-4 of TM 11-5895-357-13 to take the weight of the cable off the feedcone connection.

But there's often strain at the other end too! This is especially true during retrans operations using a SINCARS in a HMWWV or an M577 command post carrier.

Second clamp helps the radio connection



First clamp takes weight off here

MY PIN'S ALL BENT OUT OF SHAPE!



LOOKS LIKE THE FEEDCONE NEEDS A STRAIN RELIEF CLAMP.

MAYBE WE SHOULD USE A CLAMP AT THE RADIO, TOO.

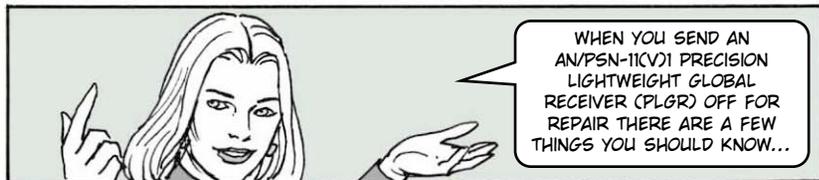
So order and use a second strain relief clamp to take the strain off the radio connection. That will solve a problem that happens far too often—the connector between the cable and the radio being ripped off.

SFC Gary Smith  
201 Engr Bn(M)(C)  
KYARNG

## From the desk of the Editor



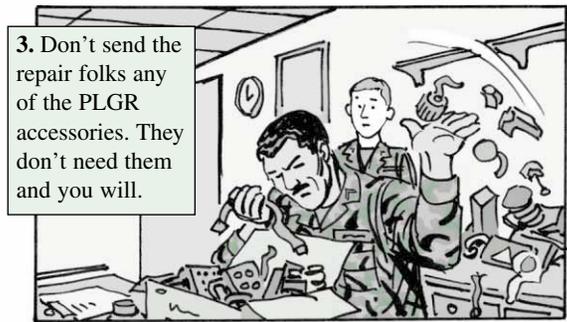
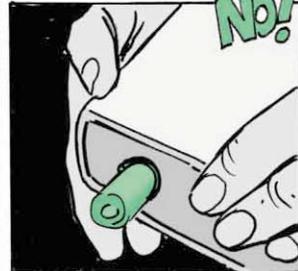
Excellent idea, Sergeant. One of the best types of preventive maintenance is solving a problem so it doesn't reoccur. So take a page from Sergeant Smith's book. Don't live with the same problem over and over again. Solve it and put it behind you.



**1.** Remove and hang on to the main power battery or the AA batteries and battery tray if you're using them. The batteries are yours and the PLGR repair folks don't need 'em—and won't return 'em.



**2.** Don't remove the memory battery! That little 3.6 volt, AA-size lithium battery stores the PLGR fault codes that will tell the repairman where the problem is. You'll get a memory battery back if you send one it.



**4.** Pack the PLGR carefully. Don't toss a pile of them into a box, slap on some tape, and send them off for repair. By the time they reach the repair folks, there'll be a whole lot more things to fix and it **won't** be covered by the warranty. In fact, you shouldn't let problem PLGRs pile up. When one is down, pack it up right and ship it off!



**5.** Units supported by direct support (DS) shops should turn in your PLGRs to them and they will give you a working replacement. The DS folks will send busted PLGRs to:

Rockwell Collins  
855 35th Street NE  
ATTN: PLGR Repair, M/S 139-141  
Cedar Rapids, IA 52402-3613

**6.** Finally, make sure before you ship that you give the repair folks all the info they might need. That includes how to get in touch with you, your return address and your assessment of what is wrong with the PLGR including the operating environment.

They also put **DODAAC EZ7415** on the shipping container and mark the package, **PLGR WARRANTY**.

Units not supported by DS can ship PLGRs directly to Rockwell Collins.

This shipping address is good for both under warranty and out-of-warranty PLGRS. Rockwell Collins will know if a payment is needed and how to do the billing.



Mounting Radios...



HERE ARE THE  
NSNs FOR THE  
MOUNTING KITS  
TO INSTALL  
RADIOS IN YOUR  
5-TON TRUCKS...

# Kits for 5-ton Trucks

**Type:** MK-2847/VRC  
**NSN:** 5895-01-441-1338  
**Radios:** Dual AN/VRC-89, -91, -92 Series  
**Vehicles:** M934 Expando Van, M935 Expando Van

**Type:** MK-2378/VRC  
**NSN:** 5895-01-225-0518  
**Radios:** AN/VRC-87 Series, AN/VRC-88 Series, AN/VRC-90 Series  
**Vehicles:** M923, M924, M925, M926, M927, M928, M929, M930, M931, M932, M933, M936

**Type:** MK-2195/VRC  
**NSN:** 5895-01-225-0511  
**Radios:** AN/VRC-87 Series, AN/VRC-88 Series, AN/VRC-90 Series  
**Vehicles:** M813, M814, M816, M817, M818, M819, M821, M52, M54, M543, M543A2 (also M34, M35 and M36 2½ ton trucks)

**Type:** MK-2331/VRC  
**NSN:** 5895-01-292-6542  
**Radios:** AN/VRC-89 Series, AN/VRC-91 Series, AN/VRC-92 Series  
**Vehicles:** M934 Expando van, M935 Expando van

**Type:** MK-2196/VRC  
**NSN:** 5895-01-229-0670  
**Radios:** AN/VRC-89 Series, AN/VRC-91 Series, AN/VRC-92 Series  
**Vehicles:** M813, M814, M816, M817, M818, M819, M821, M52, M54, M543, M543A2 (also M34, M35 and M36 2½ ton trucks)

**Type:** MK-2207/VRC  
**NSN:** 5895-01-291-3215  
**Radios:** AN/VRC-87 Series, AN/VRC-88 Series, AN/VRC-90 Series  
**Vehicles:** M934 Expando van, M935 Expando van

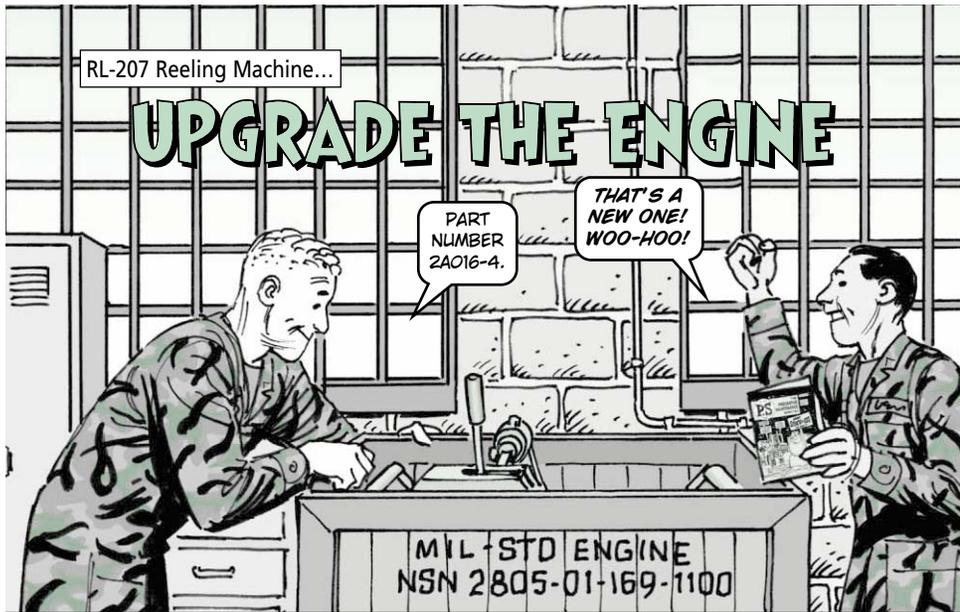
**Type:** MK-2195, MK-2207, and MK-2378

The LS-454/U loudspeaker that comes with the MK-2195, MK-2207, and MK-2378 installation kits is not compatible with the SINGGARS, RT-1523C, RT-1523D or RT-1523E that are used in the SINGGARS AN/VRC-87D, -87F, -88D, -88F, -90D and -90F radios. Thus, when requisitioning the MK-2195, MK-2207, or MK-2378 for use with any of the AN/VRC-87, -88, or -90 "D" or "F" model SINGGARS radios, the following parts must be requisitioned as separate line items:

1. Loudspeaker LS-671/VRC, NSN 5965-01-222-1420
2. Cable assembly, special purpose electrical, CX-13292/VRC (6 ft), NSN 5995-01-219-4704
3. Mounting plate, NSN 5340-01-391-2740

To install the mounting plate, the following are required (these may be requisitioned or may be available in "shop stock"):

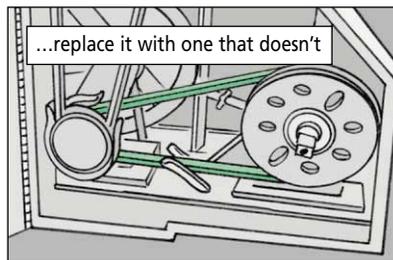
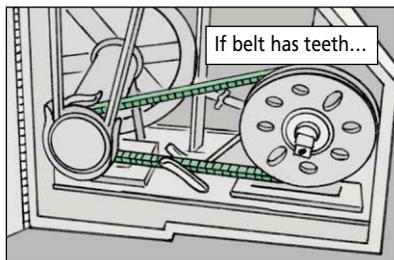
Item	NSN	Quantity
Bolt, machine (5/16-24 x 1 in)	5306-00-225-9089	2 each
Washer, lock (5/16 in)	5310-00-407-9566	2 each
Washer, flat (5/16 in)	5310-00-081-4219	4 each
Nut, hexagon (5/16-24 in)	5310-00-880-7746	2 each



The Mil-Std engine for the RL-207 reeling machine, NSN 3895-00-892-4583, has been replaced with NSN 2805-01-169-1100.

Check the engine data plate. If you have part number 2A016-4, you have the upgraded engine. If you have part number 2A016-1, -2, or -3, order the new engine when you need to replace the old one.

While you're looking at the engine data plate, check out the upper and lower V-belts. Both of these belts should be smooth—no teeth. If you have one with teeth, replace it. It could grab and cause injury or equipment damage. NSN 3030-01-290-1371 brings the upper belt. NSN 3030-01-158-7527 brings the lower belt.



One final point: these reels are machines and they need to be lubed and preventive maintenance needs to be done. Too many of these reels are sitting out in the weather and are being neglected. Get your RL-207 in tip-top shape and it will be ready to do your reeling job when called on.

Electrostatic Discharge...

# ESD KIT STOPS STATIC



If you've ever zapped someone with just a touch, you know what an electrostatic discharge is. That small spark of electricity won't hurt you, but it can do some **serious** damage to commo parts and circuit cards.

Discharge your ESD troubles by using ESD field service kit, NSN 4940-01-253-5368. It limits static buildup and carries charges away from your body (and the electronic part you're handling) to ground.

SEE...

# SET FOR COLD WEATHER



The alcohol reservoir under the excavator's rear wheel well (curbside) takes a beating from thrown rocks, the elements, and the age of the vehicle.

This reservoir is part of the vehicle's compressed air system antifreeze unit. The unit shoots ethyl alcohol into the air system to keep water from freezing in the air lines.

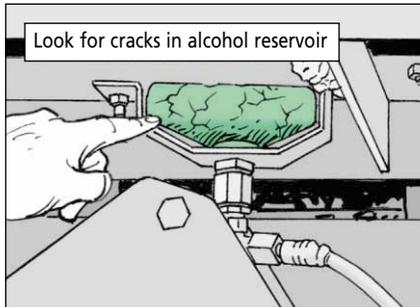
A crack or hole in the reservoir's plastic housing means it won't hold alcohol. Without alcohol, water freezes in the air system. Air system failure is the end result.

So before you add alcohol to the system, make sure the reservoir can hold its own.

### The Right Position

You'll also want to make sure the air line antifreeze unit is set to the number 1 (open) position for cold weather.

And keep the reservoir filled, even in summer, so dirt and dust can't get in the system.



D7G Tractor...

# Clamp the Hose Rub

MECHANIC!  
CAN WE GET  
A MECHANIC  
OVER HERE!!!

ARGHHH!  
I'M LOSING  
HYDRAULIC OIL  
LIKE CRAZY!

OH, IF ONLY  
MY OPERATOR  
HAD CHECKED  
MY CLAMP!

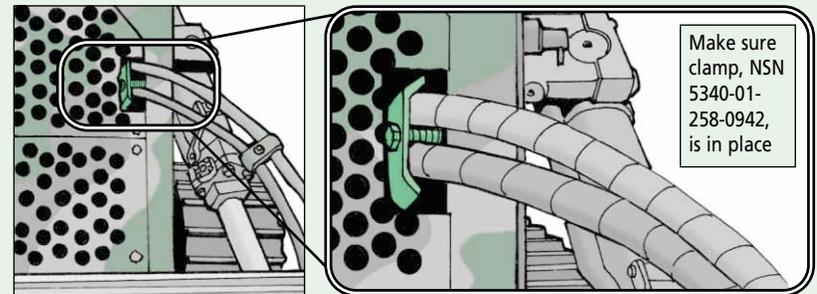
Mechanics, the hydraulic hoses that mount next to the roadside edge of the radiator grill can end up with a raw deal.

There's a clamp that holds these hoses in place. Sometimes the clamp gets misplaced when the hydraulic lines are replaced, or when the engine is overhauled by support. Without the clamp, the hoses rub against the grill's guard frame when the dozer's blade is raised or lowered.

Enough rubbing causes the hoses to spring a leak. That means the dozer's blade is out of commission. Without hydraulic oil, it won't retract, elevate or push dirt forward.

Before the day's run, eyeball the hydraulic hoses where they pass through the radiator grill.

Is the clamp snug against the hoses? Is it missing? If so, order a new clamp with NSN 5340-01-258-0942.





250 CFM Air Compressor...

THESE TIDBITS ON PREVENTIVE MAINTENANCE WILL HELP KEEP YOUR AIR COMPRESSOR MISSION-READY AT THE WORK SITE.

### Get Dirt Out

Your air compressor needs lots of clean air to run right. Do your part to keep clean air flowing.

Before the day's run, squeeze the dirt out of the dust cap on the bottom of the air canister. Do it more often if you're operating in a dusty or sandy area.

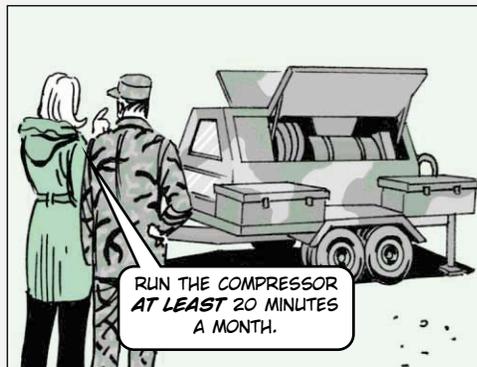


### Exercise PM

Some air compressors are known to sit for long periods of time in the motor pool, especially in Guard and Reserve units.

One way to keep your compressor in working order is to give it some exercise. Exercise means starting up the compressor and letting it run for at least 20 minutes every month.

While the compressor is running, look for any leaks under it and listen for any unusual sounds. Also, make sure you hook up the compressor to its prime mover and take it for a quick run around the motor pool, or down the road and back. Taking the compressor for a ride helps prevent any "flat spots" in the vehicle's wheel bearings and tires.



RUN THE COMPRESSOR AT LEAST 20 MINUTES A MONTH.

### Air Hoses

The compressor's air hoses are constantly exposed to the elements. That means they rot, harden and crack with age. Also, air hoses have to withstand pressure and vibration.

Unreel the hoses. You need both eyes and hands to detect bad hoses. Report any hoses that show signs of hardness (cracks are clues), mushiness or puffiness.



MAKE A NOTE OF THESE HOSE NSNs UNTIL THEY'RE ADDED TO THE TECHNICAL MANUAL.

Hose (Inside diameter)	Length (feet)	NSN 4720-00-
½-in	10	142-2561
¾-in	15	202-8857
¾-in	2	202-8658
¾-in	50	202-6948

MK-155 Mine Clearing Line Charge...

## STOP AND CHECK FOR STOP

I CAN'T STOP!

SOMEBODY TOOK OUT MY POSITIVE STOP!

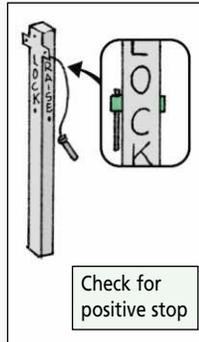


Dear Editor,

MICLIC crews can prevent launcher rails from flipping by checking before they go to the field for the positive stop on the right side of the telescoping tube assembly.

The positive stop is not mentioned in the PMCS in TM 9-1375-215-13&P. But without the stop, the launcher rail can be raised past its 75° limit and flip over. Because the stop is just a straight pin held in place by a cotter pin, it often disappears.

Werner Knoll  
Logistics Assistance Representative  
Ft Knox, KY



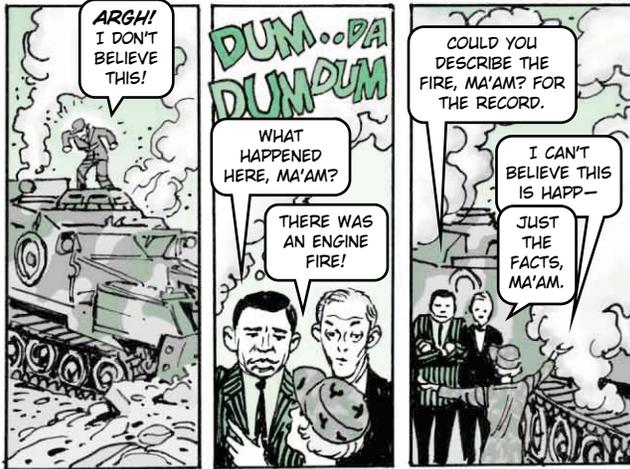
From the desk of the *Editor*

Thanks for the tip, Mr. Knoll. And thanks for the good MICLIC info you have given PS over the years.

M9 ACE...

# ACE HOT SPOTS

THE STORY YOU ARE ABOUT TO READ IS TRUE. THE NAMES HAVE BEEN CHANGED TO PROTECT THE INNOCENT ...



Smoke coming from the barbecue grill means its time to flip that burger.

Any smoke coming from the ACE's engine compartment means it's time to shut down the vehicle – EL PRONTO!

Here are two hot spots you need to keep in mind to help prevent an engine fire or the vehicle shutting down.

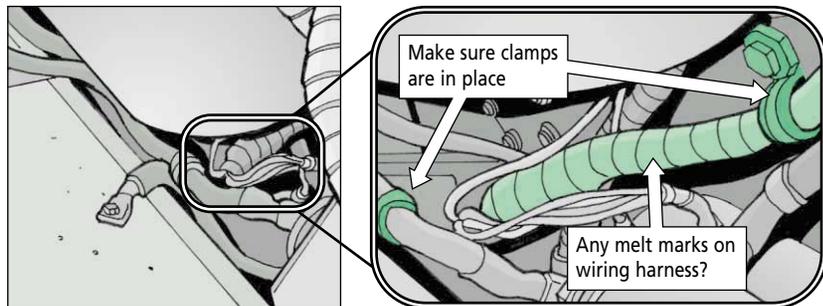
## Wiring Harness

Take a look at the wiring harness for the engine's fuel shutoff valve. It's right next to the exhaust manifold (roadside).

If the harness is too close to the manifold, the wiring will melt and burn. A melted harness means the vehicle shuts down and stops running.

Push the wiring harness down with your hand and look for any melt marks on the wiring. If you see any marks, report it to your mechanic.

Make sure any clamps on the nearby wire or hydraulic hoses are in place and attached. Use a tie-strap, NSN 5975-00-074-2072, to pull the wiring harness away from the exhaust manifold.



## Retainer Bracket

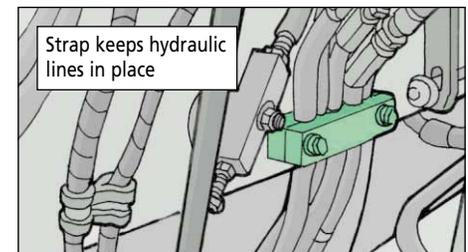
While the access door to the engine compartment is open, eyeball the same road-side wall where five hydraulic lines are mounted—directly across from the engine's exhaust manifold.

These hydraulic lines go to a hydraulic shift control valve that operates the vehicle. Each line is held in place by a retainer bracket that keeps it snug against the wall.

Sometimes the bracket gets misplaced when a hydraulic line is repaired, or when the engine is repaired by support. It makes no difference—do not run or operate the earthmover when the bracket is missing. Those hydraulic lines will rub up against the engine's exhaust manifold. That manifold gets hot enough to start a fire!

Have your mechanic replace a missing bracket with NSN 5340-01-179-7530. It's shown as Item 40, Fig 140 of TM 5-2350-262-24P.

As always, remember to file an accident report on DA Form 285 on all fires. Problems can't be fixed if they're not reported.



M9 ACE...

# Bruised Egos!

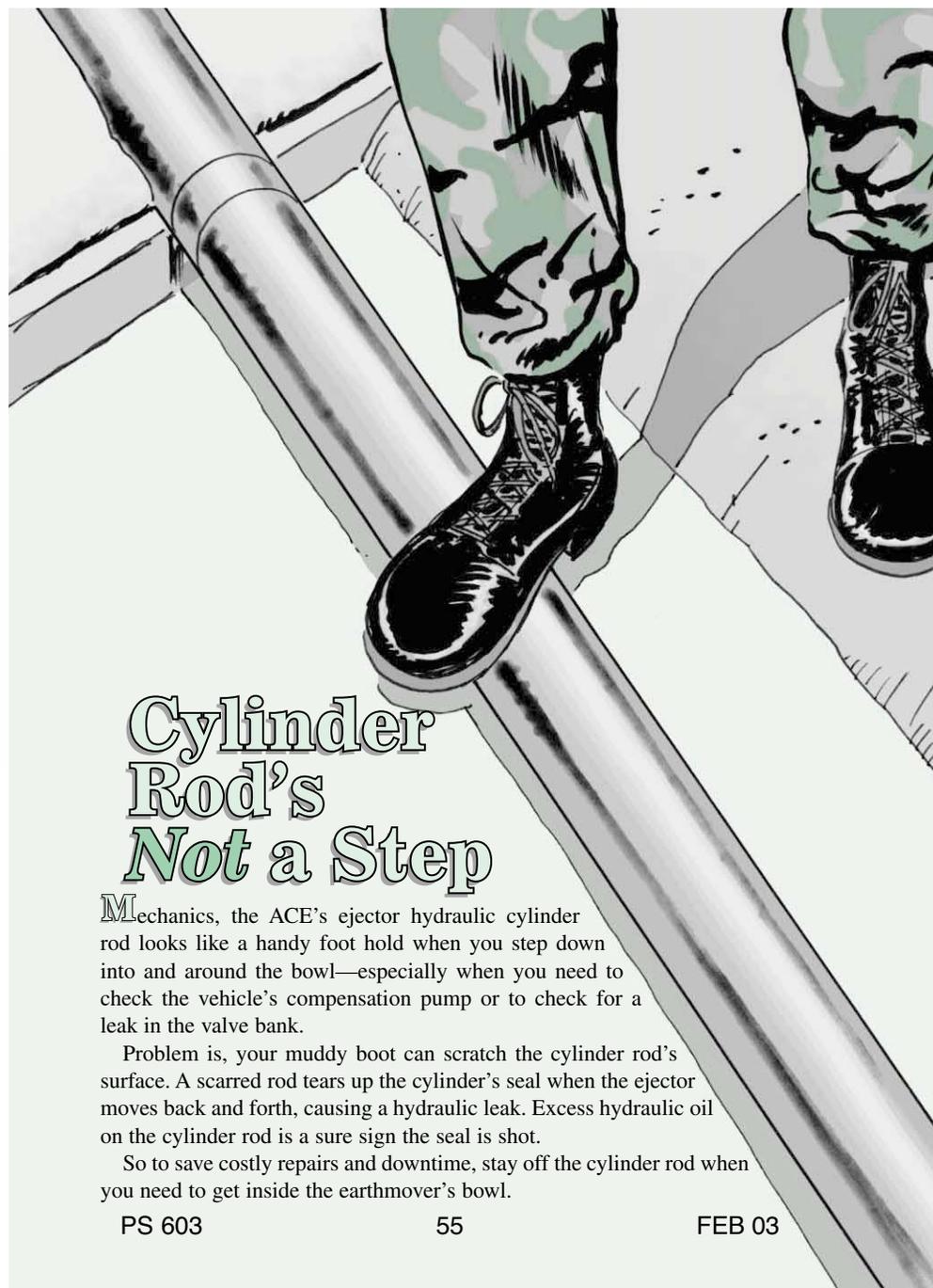


## A Closer Look

Before the plate is removed, or after the day's run, take a close look at the plate. Look for any marks caused by a loose track or a loose pin (or pin nut) that protrudes from the bushing bore. These are the obvious tell-tale signs of a loose track rubbing against the Florida plate.

Enough rubbing means the pin and pin nut will shear off. The plate gets so hot from rubbing that it burns off the paint! But it makes no difference—the end result is a thrown track.

A loose track means it's time for an adjustment. You'll find that info in TM 5-2350-262-10.



# Cylinder Rod's Not a Step

Mechanics, the ACE's ejector hydraulic cylinder rod looks like a handy foot hold when you step down into and around the bowl—especially when you need to check the vehicle's compensation pump or to check for a leak in the valve bank.

Problem is, your muddy boot can scratch the cylinder rod's surface. A scarred rod tears up the cylinder's seal when the ejector moves back and forth, causing a hydraulic leak. Excess hydraulic oil on the cylinder rod is a sure sign the seal is shot.

So to save costly repairs and downtime, stay off the cylinder rod when you need to get inside the earthmover's bowl.

DA Form 2028...



"THIS FORM LETS YOU CALL ATTENTION TO ERRORS IN YOUR PUBS, THINGS LIKE INCORRECT OPERATIONAL AND MAINTENANCE PROCEDURES, INCOMPLETE ILLUSTRATIONS, OR WRONG NSNS AND PART NUMBERS."

RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS  
For use of this form, see AR 20-20, the proponent agency is DODIGL.

TO: (Forward to proponent of publication form) (Include ZIP Code) FROM: (Activity and location)

PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SCISM) AND B...

PUBLICATION FORM NUMBER	DATE	TITLE	RECOMMENDED		
ITEM	PAGE	PARA-	LINE	FIGUR E	TABLE

"IT LETS YOU SUGGEST IDEAS FOR DOING YOUR JOB BETTER, EASIER, OR FASTER."

"SO, WRITE DOWN YOUR THOUGHTS AND SEND THEM IN. HERE'S HOW..."

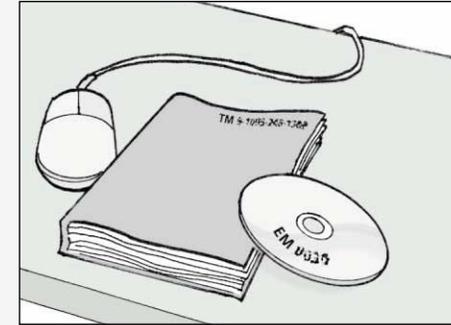
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FEB 03

### Recommendations to Individual Pubs

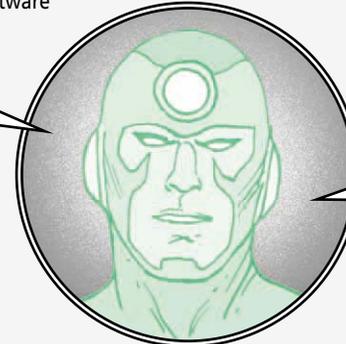
It makes no difference if the publication is on paper, CD-ROM, or the web. The steps for submitting your comments on individual pubs are just about the same.

● Tear out the paper DA Form 2028 from the back of the book. Or you can print a hard copy from the electronic version. If your publication doesn't have a 2028, you can get the form from one of the following places:



- U.S. Army Publishing Agency (USAPA) web site
- EM 0001, the Army Electronic Library
- FormFlow software

FILL IT OUT. MAKE SURE YOU INCLUDE THE FOLLOWING...



- Your name
- Your unit's complete address
- DSN and commercial phone numbers
- Fax numbers
- Date sent
- Publication number
- Change number
- Publication date
- Publication title
- Page
- Paragraph

Then write down your comments. Describe the problem and how to fix it. Be sure to include any information that helps identify the item or the problem, things like figures, tables, lines, NSNs, or references.

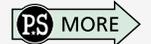
● Send it to the publication's proponent. You can mail it or fax it. You'll find regular mail addresses and fax numbers in the paragraph titled *Reporting Errors and Recommending Improvements*. In TMs, that's on the title page.

● If you prefer, you can e-mail your comments. Include all the information that goes on a DA Form 2028.



PS 603

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### Where to Send Your Comments

SEND YOUR COMMENTS ABOUT INDIVIDUAL PUBLICATIONS AND IETMS TO THE PUB'S PROPONENT AT THESE REGULAR MAIL AND E-MAIL ADDRESSES, FAX NUMBERS AND WEB SITES (WHERE AVAILABLE)...

#### AMCOM

If you have internet access, AMCOM prefers you submit your comments online at their 2028 web site at:

<https://amcom2028.redstone.army.mil>

You can also mail, e-mail or fax your comments.

Commander

U.S. Army Aviation and Missile Command

ATTN: AMSAM-MMC-MA-NP

Redstone Arsenal, AL 35898-5000

e-mail:

[2028@redstone.army.mil](mailto:2028@redstone.army.mil)

Fax:

DSN 788-6546

Commercial (256) 842-6546

#### TACOM-RI and TACOM-Warren

U.S. Army Tank-Automotive and Armaments Command

ATTN: AMSTA-LC-CIP-WT

1 Rock Island Arsenal

Rock Island, IL 61299-7630

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Fax:

DSN 793-0726

Commercial (309) 782-0726

Website:

<http://aeps.ria.army.mil>

#### CECOM

Commander

U.S. Army Communications-Electronics

Command and Fort Monmouth

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Fort Monmouth, NJ 07703-5006

e-mail:

[amsel-lc-leo-pubs-chg@mail1.monmouth.army.mil](mailto:amsel-lc-leo-pubs-chg@mail1.monmouth.army.mil)

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Commercial (732) 532-1413

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U.S. Army Soldier and Biological Chemical

Command

ATTN: AMSSB-RIM-L(N)

15 Kansas St.

Natick, MA 01760-5052

e-mail:

[amssbriml@natick.army.mil](mailto:amssbriml@natick.army.mil)

Fax:

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### CD-ROMs Containing Electronic Technical Manuals

These days a lot of people are using publications on CD-ROM containing electronic technical manuals (ETMs). What if you have a problem with the CD itself? For example:

- Something wrong with the CD's operation or the PC setup.
- Publications that should be added or deleted to support a system or commodity.
- A pub that's not properly linked.
- A pub that won't open.

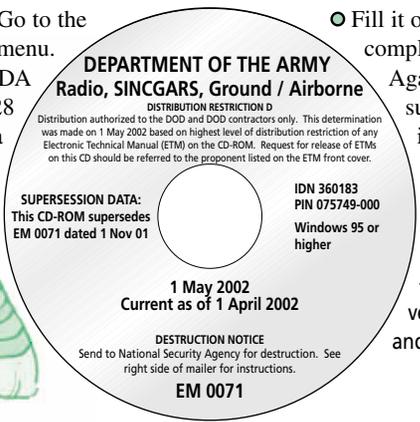
If you find these kinds of errors, submit your recommendations to the USAMC Logistics Support Activity (LOGSA). LOGSA prefers you send your comments by e-mail. Do it like this:

- Go to the CD's menu. Open up *DA Form 2028 Recommended Changes to Publications*. You'll find instructions on submitting your comments by e-mail. Record all the information you normally would on a DA Form 2028, including:
  - The EM number, title, and date. This information is found on the CD-ROM label.
  - The EM version and edition. Also found on the label, this information refers to the computer operating software that reads the CD, for example, Windows 95 or higher.
- Then e-mail your comments to: [logetm@logsa.redstone.army.mil](mailto:logetm@logsa.redstone.army.mil)

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### MLRS SHOCK WASHER

Use NSN 5310-01-413-1037 to get the right flat washer for MLRS shock absorbers. The hole diameter of NSN 5310-00-928-1885, shown as Item 15 in Fig 9 of TM 9-1450-646-24P, is too small.

### BRADLEY AIR CLEANER DOOR

Get a replacement door for your M2A2/M3A2 Bradley's air cleaner with NSN 5340-01-439-5897. The NSN was left out of Fig 130 in TM 9-2350-284-24P-1.

### M992A2 Fuel Line Sealant

Stop using teflon tape, NSN 1015-01-255-4144, to seal fuel line threads and fittings on your M992A2 ammo carrier. The tape doesn't always prevent leaks, which can result in a fire hazard. Substitute sealing compound, NSN 8030-01-054-0740, instead. Pencil in the new NSN as Item 65 in Appendix D of TM 9-2350-293-20-2.

### M989A1 HEMAT HELICAL SPRING

NSN 5360-01-390-6448 gets the helical spring for the service brakes for the heavy expanded mobility ammunition trailer. The NSN shown as Item 2, Fig 4, of TM 9-2330-368-14&P is no longer available.

### HEMTT Ladder Pin

Need new holddown pins and chain for the ladder on your M983 HEMTT? You won't find them in TM 9-2320-279-24P-1. A new pin comes with NSN 5315-01-164-1782. The chain is made from NSN 4010-01-067-1700, which is available by the foot.

### M109 HOWITZER LEAF SPRINGS

Need new leaf springs, NSN 5360-00-824-0522, for the breech on your M109-series SP howitzer? Be careful when you order. The unit of issue was just changed from 1 each to a package of 10.

### HEMTT Electrical Connectors

Use NSN 5935-01-475-7130 and NSN 5999-00-338-9875 to get electrical connector plugs for the M978 HEMTT tanker. These NSNs replace the ones shown as Item 2 and 3 of Fig 114 in TM 9-2320-279-24P-1 w/Change 1.

### M1113/M1114 HMMWV Rod Retainer

Order NSN 5360-01-474-9653 to get the HMMWV door subassembly's rod retainer clip-clevis. The parts info shown as Item 14, Fig 170 of TM 9-2320-387-24P is wrong.

### M939/A1/A2 BLACKOUT LAMP

NSN 6220-01-094-1440 gets the 5-ton truck's blackout lamp. The NSN shown as Item 1, Fig 141 of TM 9-2320-272-24P-1 gets the wrong lamp.

### M916/M20 FIFTH WHEEL

NSN 2510-01-192-0631 gets the fifth wheel assembly for the M916 and M920 tractor trucks. Use compensator ramp, NSN 2510-01-305-6284, to go with the assembly. Do not mount a new fifth assembly with an old ramp. These NSNs replace the ones shown as Item 1 of Figs 230 and 231 in TM 9-2320-273-24P.

### PLS Trailer Load Binder

NSN 5420-00-529-4427 gets the BII load binder for the M1076 PLS trailer. The parts info shown for Item 5, Page C2 of TM 9-2330-385-14, is wrong.

### PLS Air Horn Kit

NSN 6350-01-460-5600 gets an air horn that's louder than the truck's electric one. The kit includes all the parts shown in Figure 240 of TM 9-2320-364-24P-1. Installation instructions come with the kit.

### AIRCRAFT COVERS

RoLin Industries Inc. (Windshield Buddy) provides aircraft covers for all kinds of weather and locales for OH-58/AH-64/CH-47/UH-60 aircraft. NSNs for covers for AH-64s are accessible at

<http://www.windshieldbuddy.com>

You can call 1-888-667-9455 or e-mail

[sales@windshieldbuddy.com](mailto:sales@windshieldbuddy.com)

Their address is:

RoLin Industries Inc.  
634 Lovejoy Road  
Ft Walton Beach, FL 32548



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