



**THE
PREVENTIVE
MAINTENANCE
MONTHLY**

TB 43-PS-594, 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 594 MAY 2002

	WHEELED VEHICLES	2		MISSILES	40
	Combat Identification Panels	2-5		Stinger CFT and THT Button Repairs	40-41
	Thermal Identification Panels	6-7			
	HMMWV Warning Light Replacement ulbs	7		SMALL ARMS	42
	Safe Asbestos Removal	8-9		M2 Machine Gun PMCS Checks	42-43
	Crushproof Drip Pans	10			
	COMBAT VEHICLES	11		NBC	44
	M2/M3-Series Bradley 1W11 Cable Protection	11		M40/M42-Series Mask Maintenance	44-46
	M2A2/M3A2 Bradley NV Cable Rerouting	12-13			
	MLRS Carrier PM Information	14-17		TOOLS	47
	M1A1 Tank Turret Cracks	17		New Tool Kits	47
	M88A1/A2 Recovery Vehicle Lockout Blocks	18			
	Armored Vehicle Launched MICLIC U-bolts	19			
	M109-Series SP Howitzer Trash Tip	20			
	SOLDIER SUPPORT	21		COMMUNICATIONS	48
	Desiccant NSNs	21		Battery Storage and Handling	48-50
	Plastic Fuel Can Caps	24-25		AN/TMQ-41,-41A Light Fixtures and Bulbs	51
	COMBAT ENGINEERING	22		Cable Connector NSNs	52
	AN/PSS-12 Mine Detector Maintenance	22-23		3-KW TQG Cable Routing, Fuel Filters	53
	D7G Tractor Battery Cables	24-25		LOGISTICS MANAGEMENT	54
	AVIATION	36		Supply System Critical Data Elements	54-56
	OH-58D Tail Rotor Cover Hinge Pins	36		Maintenance Master Data File	57
	AMCOM Corrosion Assistance Team	37		On-line Warrior Web Sites	58-60
	OH-58D .50-cal Gun Umbilical Cable	38	EDITORIAL		1
	AH-64A Generator Wires	39	CONTINUITY		26
			CONNIE'S POST SCRIPTS		61

You are invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems and questions or comments on material published in PS.

Just write to:

MSG Half-Mast
PS, The Preventive Maintenance Monthly
USAMC LOGSA (AMXLS-LP)
5307 Sparkman Circle
Redstone Arsenal, AL 35898-5000

Or e-mail to:

psmag@logsa.army.mil

Internet address:

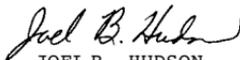
http://www.logsa.army.mil/psmag/pshome.html

By order of the Secretary of the Army:

ERIC K. SHINSEKI

General, United States Army Chief of Staff

Of fiscal:



JOEL B. HUDSON

Administrative Assistant to the Secretary of the Army
0206701

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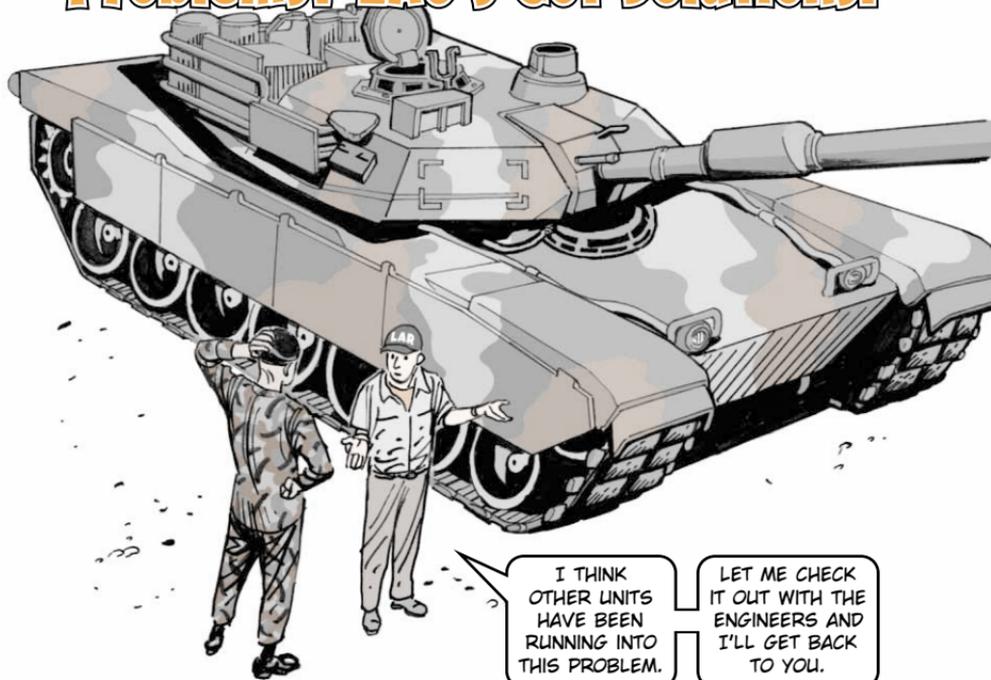
I-I GUESS...
I SHOULDN'T
HAVE TAKEN
THIS **SHORT-
CUT!**

AND **NO
SHORTCUTS
ON YOUR
PMCS,
EITHER!**



(JOE
UBER)

Problems? LAO's Got Solutions!



If you're having trouble with a part constantly failing or getting the correct part or finding where to send equipment for repair, help may be right down the street.

Nearly every Army post has a logistics assistance office (LAO) whose job is to help you solve your maintenance and supply problems.

The LAO's logistics assistance representatives (LARs) can quickly find the answers to most questions. And if they don't know the answers themselves, they know where to turn. They have contacts with equipment managers, engineers, depot repair specialists, and publications experts.

Don't know who your LAO is?

Check out <http://www.logsa.army.mil> on the Internet. It has a list of LAOs worldwide with their phone numbers and addresses. You'll need a password to access the list.

Or call (256) 955-6441, DSN 645-6441, e-mail oscsouth@logsa.army.mil, or write:

OSC-South
LAP Mgmt Directorate
AMSOS-LP
Redstone Arsenal, AL 35898-5000

YOU NEED CIP'S

HOLY COW!
THE ENEMY'S
AIM'S REALLY
IMPROVED!

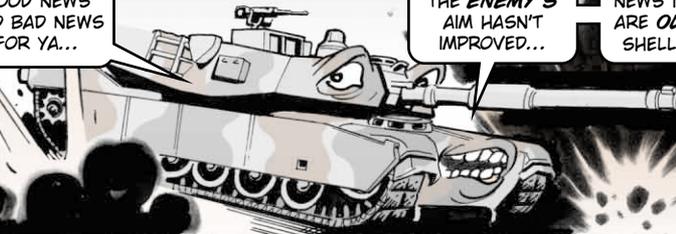


ON YOUR SIDE

I'VE GOT
GOOD NEWS
AND BAD NEWS
FOR YA...

'GOOD NEWS IS
THE ENEMY'S
AIM HASN'T
IMPROVED...

...THE BAD
NEWS IS THOSE
ARE OUR GUYS
SHELLING US!



THE **BATTLEFIELD**
IS A CHAOTIC AND
DANGEROUS PLACE.

SO BEING
ACCIDENTALLY
SHOT BY SOMEONE
ON YOUR OWN SIDE
IS A **SERIOUS**
CONCERN.

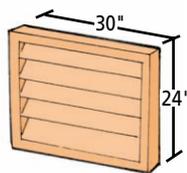
THAT'S WHY YOUR
VEHICLE NEEDS
COMBAT
IDENTIFICATION
PANELS (CIP'S).



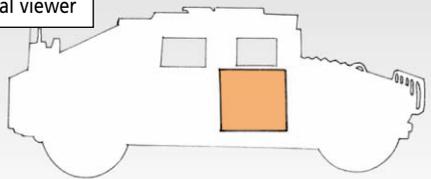
What are CIP's?

CIP's are 24x30-in panels that are covered with a special thermal tape. When mounted on the front, back and sides of a vehicle, the panels are seen as a unique contrasting "cold spot" when viewed through a thermal-imaging device.

CIP's measure
24x30 inches



Panels will
appear as "cold
spot" through
thermal viewer



Gunners that are trained to recognize these unique signatures can tell if the vehicle in their sights is friendly or unknown.

The panels mount to the vehicle using bolts, hook-and-pile tape, or mounting frames. The back side is painted with CARC, so you can turn the system on or off by simply turning the panels.

How Do You Get CIP's?

CIP's are being fielded initially as free-issue items. If you've not yet received your panels, check with the CIP Program Manager at Ft Monmouth, NJ, DSN 987-5272/5864 or (732) 427-5272/5864.

The panels come in kits that include from three to five panels, depending on the vehicle. The kits are available in green or tan to match the camouflage colors for individual vehicles. All mounting hardware is included with the kits.

After initial free distribution, units must order replacements through normal supply channels.

HERE
ARE THE
NSNs FOR
THE KITS...



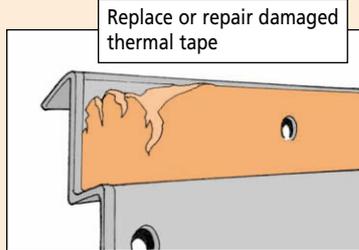
Vehicle	Green, NSN	Tan, NSN
M1A1/A2 tank	2350-01-394-7838	2350-01-394-2534
M2/M3-series Bradleys	2350-01-398-5169	2350-01-398-5170
MLRS	2350-01-398-5172	2350-01-398-5171
M113A2 FOV	2350-01-398-5166	2350-01-398-5164
M113A3 FOV	2350-01-398-5165	2350-01-398-5168
M88A1 recovery vehicle	2350-01-394-2530	2350-01-394-2531
M578 recovery vehicle	2350-01-421-7067	2350-01-421-7060
AVLB	2350-01-392-1565	2350-01-392-1566
M992A2 ammo carrier	2350-01-398-5177	2350-01-398-5178
M109A2-A5 SP howitzer	2350-01-398-5176	2350-01-398-5175
M109A6 Paladin	2350-01-398-5179	2350-01-398-5180
SEE	2320-01-398-5161	2320-01-398-5163
M9 ACE	2320-01-399-6773	2320-01-399-6774
D5B tractor	2320-01-400-1810	2320-01-400-1809
Fox NBC vehicle	2350-01-398-5174	2350-01-398-5173
M1025, M1026, M1043, HMMWV	2320-01-398-7193	2320-01-398-7195
M966, M1036, M1045, M1046 HMMWV	2320-01-398-7189	2320-01-398-7190
M996, M997 HMMWV	2320-01-398-7187	2320-01-398-7188
M1037, M1042, M1097 HMMWV	2320-01-398-7191	2320-01-398-7192
M998, M1035, M1038, M1097, M1109 HMMWV	2320-01-406-0481	2320-01-411-4393
M1114 HMMWV	2320-01-472-5882	2320-01-472-5884
Avenger	2320-01-398-7196	2320-01-398-7197

During initial fielding, units are also given a compact disk that provides mounting instructions, an NSN list of individual replacement parts, replacement procedures, care and maintenance, and thermal images of CIP-installed vehicles. If you need a new copy of the CD, contact the Program Manager for Combat ID at DSN 987-5550 or (732) 427-5550.

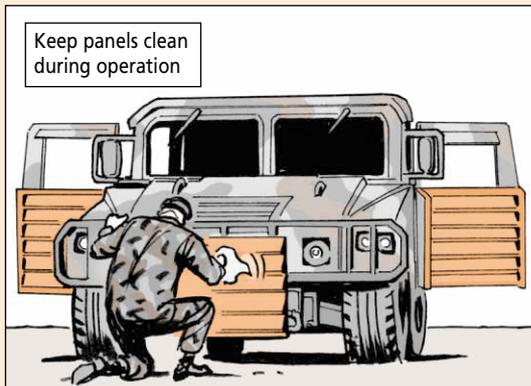


Before Operation

- ★ Eyeball the CIPs to make sure they're securely attached to the vehicle. If you see bends in the CIP brackets, try to straighten them. Report panels that are missing or can't be repaired.
- ★ Check the painted surface of the panels for damage. Spot paint with CARC if needed. Never paint over the thermal tape.
- ★ Inspect the panel for loose, missing or peeling thermal tape. Loose tape should be repaired using adhesive, NSN 8030-00-753-5004. Replace missing green tape with NSN 8135-01-390-7410 and tan tape with NSN 8135-01-392-2928. Each NSN brings a 3½-in x 150-ft roll of self-adhering thermal tape.



- ★ Keep the panels clear of dirt, dust, mud and sand. Use a soft, clean cloth to wipe off the panels.



- ★ If the panels are mounted using hook-and-pile tape, make sure the tape is securely attached to the vehicle. The tape should also be clean and free of debris.

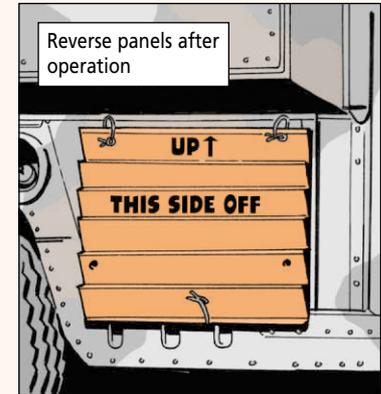
During Operation

When operational conditions allow, make the following checks:

- ★ Report any missing or damaged CIPs.
- ★ Glue down any loose tape.
- ★ Replace any missing thermal tape.
- ★ Wipe the panels with a soft, clean cloth. The panels will need cleaning more often in dusty environments to ensure a strong thermal signature.

After Operation

- ★ Report any missing or damaged CIPs.
- ★ Repair minor damage to the brackets, panels or panel inserts.
- ★ Glue down any loose thermal tape.
- ★ Replace any missing or damaged thermal tape or hook-and-pile tape.
- ★ Remove the panels before washing your vehicle. High-pressure water can knock the CIPs off and damage them.
- ★ Wash both sides of the CIPs with low-pressure water. Then dry them with a soft, clean cloth.
- ★ Reverse the panels so the CARC side faces out.



More Info

User's Guide No 95-3, *Combat Identification Quick Fix Devices*, provides information on training and techniques for vehicles equipped with CIPs. To get a copy, write to:

HQ TRADOC
TRADOC Program Integration Office -
Combat Identification
ATCD-MQ (Charles Purnell)
Ft Monroe, VA 23651-5000

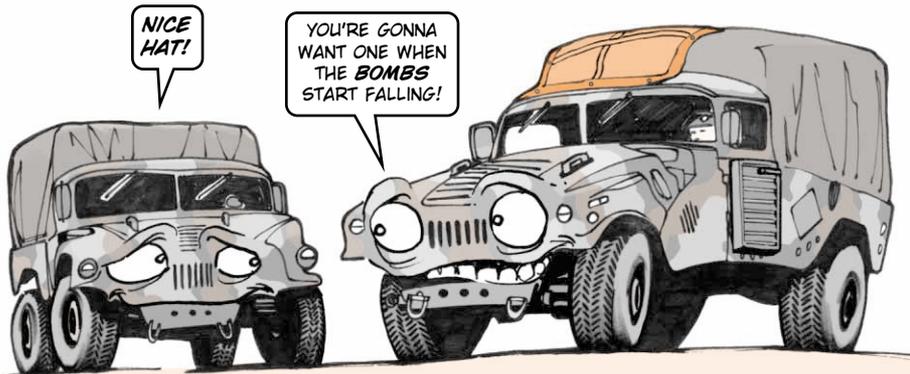
Or call DSN 680-5864 or
 (757) 788-5864.

More information on CIP replacement and replenishment for panel kits, components, and tape is available through the CIP item manager at TACOM. Call DSN 786-7210 or (586) 574-7210.

OR SEND
 AN E-MAIL TO:
charles.purnell@
monroe.army.mil



Get Tip-top Protection from TIPs



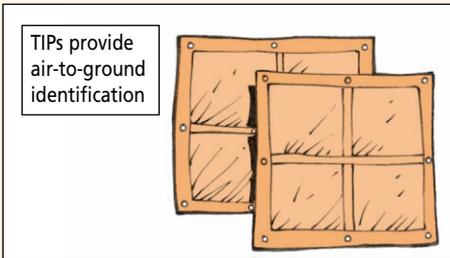
Friendly fire protection on the battlefield is vital. And the combat identification panels (CIPs) on Pages 2-5 do a good job of protecting you from all sides—except the top. That’s where thermal identification panels (TIPs) come in.

What are TIPs?

TIPs are 4x4-ft thermal cloth panels that are used to identify stationary friendly vehicles from the air and prevent casualties caused by friendly fire.

When viewed through thermal sights—such as those found on AH-64 Apache helicopters and the Air Force’s LANTIRN system—a TIPs panel appears as a large cold spot that marks the vehicle as friendly.

TIPs can also be used as primary markers for positions and structures where CIPs are not installed.



How to Get TIPs

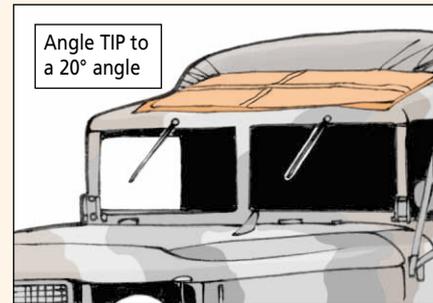
TIPs are being fielded as free-issue items. If you’ve not yet received your panels, check with the TIP Program Manager at Ft. Monmouth, NJ, DSN 987-5272/5864 or (732) 427-5272/5864.

Units that don’t get TIPs, or need replacements after the initial distribution, must order the panels through the regular supply system.

TIPs are available in OD green or desert tan to match vehicle camouflage patterns. The opposite side of each panel is international orange for use during air-to-ground visual operations. Get the green/orange panels with NSN 2590-01-447-8997 and the tan/orange panels with NSN 2590-01-448-4531.

How to Install TIPs

1. Remove the cloth panel from its storage bag.
2. Place the panel on the rear deck or similar flat spot that allows exposure of the panel without interfering with vehicle operations. For example, the turret ammunition vent doors are a good spot on M1-series tanks.
3. Position the TIP so that it is tilted approximately 20° from the surface it sits on. A filled sandbag or duffel bag placed under the panel can be used to create the required angle. The slight tilt lets the panel act as a thermal mirror that reflects the cooler temperature of the sky.
4. Tie the TIP in place using the metal grommets around the outside edge of the panel.



More Info

If you need more information about TIPs, contact the combat identification product manager at DSN 987-5324 or (732) 427-5324 or e-mail: wayne.calabretta@iews.monmouth.army.mil

HMMWV...

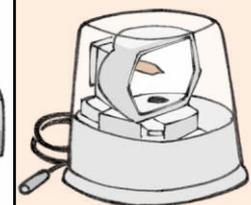
WARNING LIGHT BULBS

IF YOU'RE USING THE **HEMTT WRECKER WARNING LIGHT SYSTEM**, NSN 6220-01-250-5190, ON YOUR UP-ARMORED HMMWV BECAUSE OF ITS MAGNETIC BASE PORTABILITY, MAKE A NOTE OF THIS...



PS 594

"WHEN YOU NEED A **REPLACEMENT LAMP BULB**, ORDER NSN 6240-01-400-4201 INSTEAD OF THE ENTIRE SYSTEM."



"THE BULB IS ITEM 19 IN FIG 103 OF TM 9-2320-279-24P."

7



MAY 02

Asbestos Just Won't Go Away



Brake shoes, clutch linings and engine gaskets **may** contain asbestos. Yes, you may have heard years ago that the Army was purging everything made of asbestos from the system. And yes, you probably figured that by now all parts you receive are asbestos-free.

However, despite the best effort, there is **no guarantee** that brake shoes, clutch linings and engine gaskets do not contain some asbestos.

So you must treat all these parts as if they **do** contain asbestos. That means using a high efficiency particulate air (HEPA) vacuum or the wet method when you work on them—**after you have asked for specific guidance from your supervisor or local Industrial Hygiene support office.**

HEPA Vacuum Info

A HEPA vacuum is the best protection against asbestos. It safely captures asbestos dust knocked free from the parts being removed or repaired. If you have one, use it.

If you don't have one, you can order one with NSN 7910-01-292-0009. This brings a vacuum and an enclosure big enough for working on the brakes on vehicles smaller than 2½-ton trucks. NSN 7910-01-338-3327 brings the vacuum and an enclosure for vehicles 2½-tons and larger.

You can order the larger enclosure separately (the vacuum works with both) with CAGE OC1P4, part number BCE-700. Use RIC GSA on your DD Form 1348-6.

Instructions on the use of the HEPA vacuum come with it.



The Wet Method

Instructions for using the wet method are pretty specific and you must follow local rules. That's why you contact the Industrial Hygiene folks **before** you do any work on brakes or clutches.

- ✦ Use a spray bottle, hose nozzle or other implement that can deliver a fine mist of water at low pressure to thoroughly wet the brake or clutch parts. Then wipe the parts clean with a cloth.

- ✦ Handle that cloth according to local policy for getting rid of asbestos waste. In some instances, local policy may allow laundering of these cloths. Follow the instructions you are given.

- ✦ Clean up any spilled water or other material from the work site immediately, again using instructions as provided by your supervisor or the hygiene folks.

- ✦ **Do not grind, sand, scrape or dry brush** brake or clutch parts if you use the wet method.

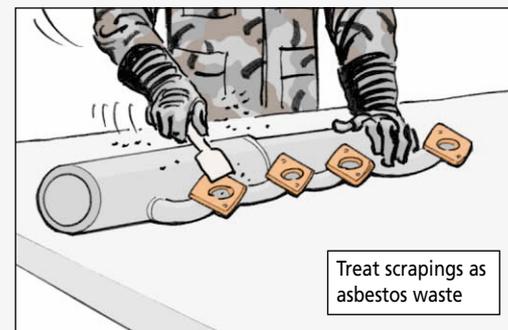


Gasket Removal Tips

To remove engine gasket material, steam clean the parts, then remove the gasket material by **hand scraping only.**

You must still handle this material as asbestos waste, to be disposed of as directed.

For more details, see TACOM SOUM 00-005 and GPM 99-06.



NEW DRIP PANS -SNAP- BACK



GOODBYE
CRUEL
WORLD!

THERE GOES
ANOTHER DRIP PAN,
CRUSHED UNDER THE
TRACKS OR WHEELS
OF YOUR VEHICLE.



"IF YOU'RE LIKE MOST
UNITS, YOU GO THROUGH
PLASTIC DRIP PANS
LIKE **CRAZY**."

THERE'S
GOTTA BE
SOME
MISTAKE!

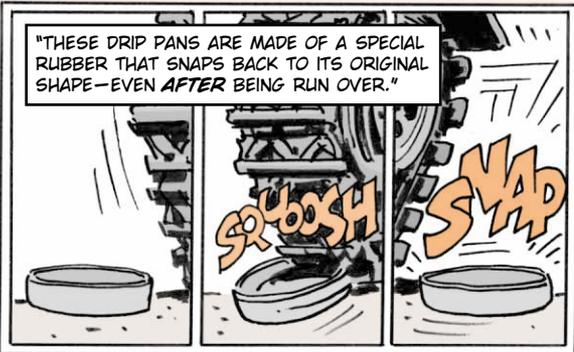
"INSTEAD OF GETTING MORE
OF THE **SAME OLD PLASTIC
ONES**, ORDER SOME NEW,
CRUSHPROOF DRIP PANS."

I KNOW
WHEN
I'M NOT
WANTED...

"THEY ONLY COST A FEW
BUCKS EACH, BUT THAT
COST MOUNTS WHEN
YOU'RE TALKING ABOUT
KEEPING A WHOLE
BATTALION SUPPLIED."



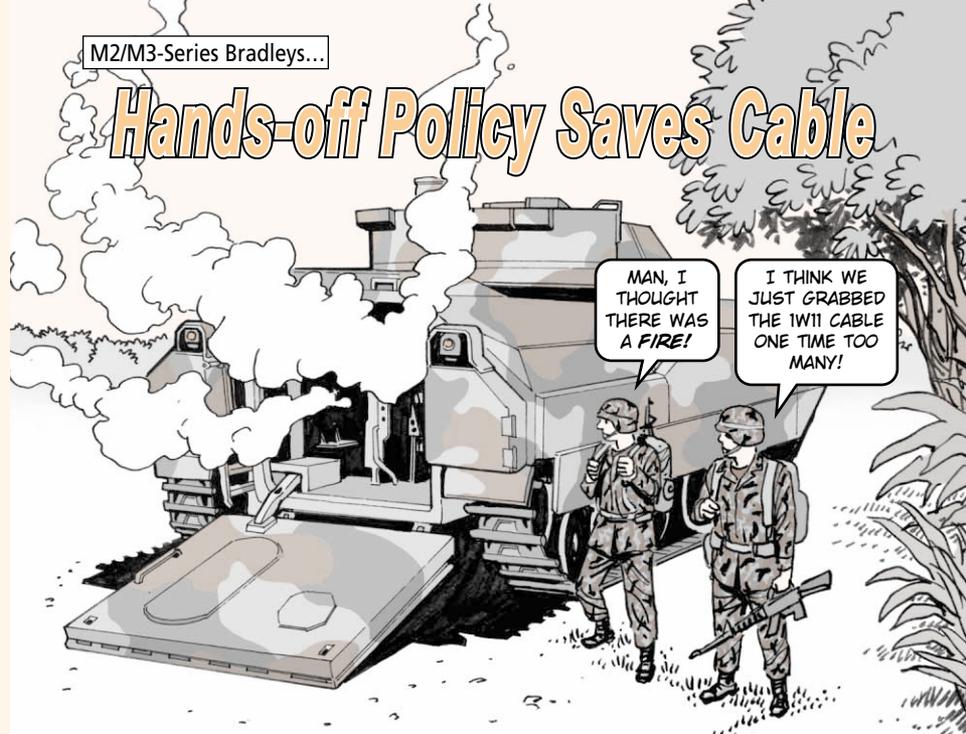
"THESE DRIP PANS ARE MADE OF A SPECIAL
RUBBER THAT SNAPS BACK TO ITS ORIGINAL
SHAPE—EVEN **AFTER** BEING RUN OVER."



ORDER THE SIZE
YOU NEED WITH
THESE NSNs:

NSN	Size
4940-01-490-	
2455	3-gal
2463	6½-gal
2470	15-gal

Hands-off Policy Saves Cable

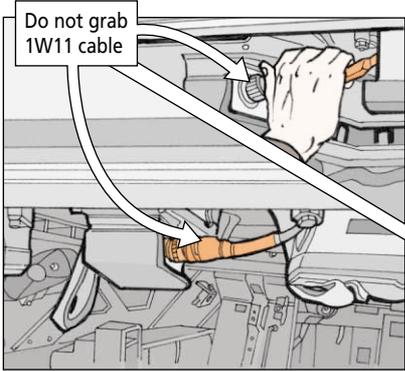


Kkeep a hands-off attitude when entering the Bradley's troop compartment, soldiers.

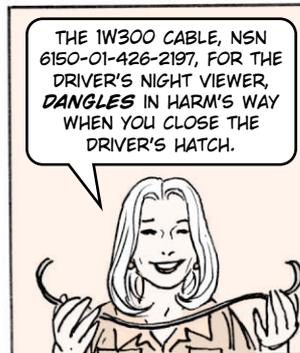
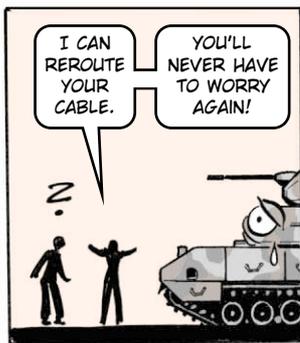
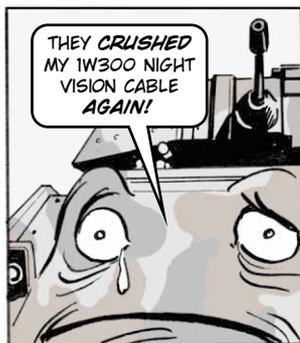
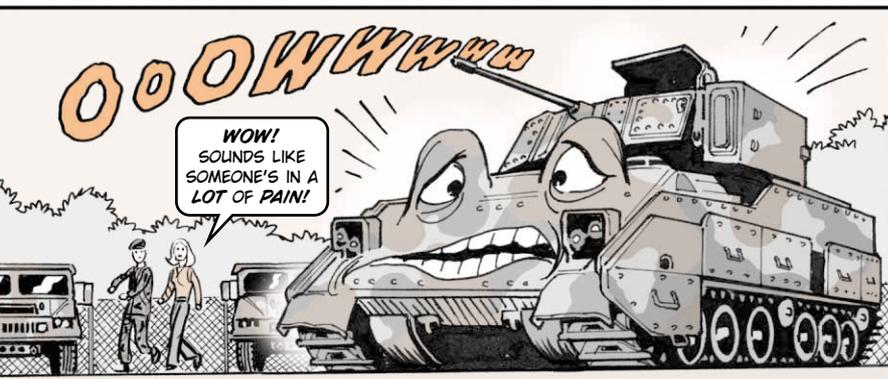
A loop of the 1W11 cable for the fire suppression system hangs down from the top of the ramp opening. It looks so much like a handle that most troops automatically reach up and grab it as they duck through the opening.

Trouble is, once the cable's been handled a few times, the internal wiring weakens and the connection is broken. When that happens, the fire extinguishers can discharge.

Being in the vehicle when the extinguishers discharge can be dangerous. Why risk it? Keep your hands in your pockets, cross your arms, do whatever you have to. Just keep your hands off the 1W11 cable.



REROUTED CABLE DOESN'T DANGLE

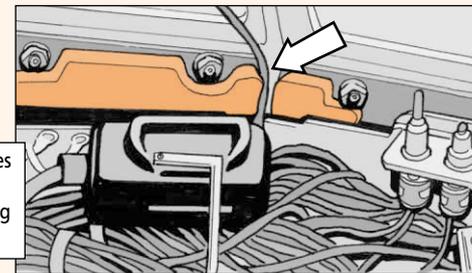


"THAT **CRUSHES** THE CABLE AND CAN CAUSE A **FIRE** IF IT SHORTS OUT."

"THE CABLE HAS BEEN **REDESIGNED** TO ADD AN IN-LINE FUSE TO HELP WITH THE FIRE THREAT, **BUT** IT'S UP TO YOU MECHANICS TO KEEP THE CABLE **SAFE** FROM THE HATCH."

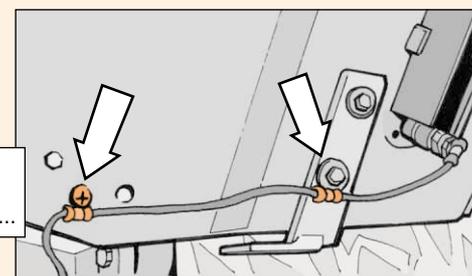


1. MAKE SURE THE CABLE IS ROUTED **OUT** OF THE BRADLEY **BETWEEN** THE TWO SECTIONS OF THE HATCH OPENING CUSHIONING PADS LOCATED OVER THE DRIVER'S LEFT SHOULDER.



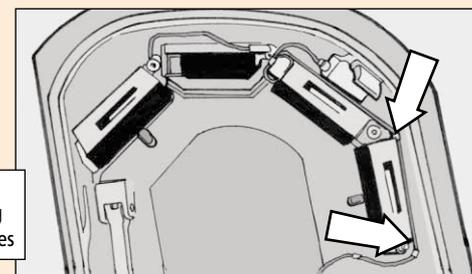
Cable goes through cushioning pads...

2. ROUTE THE CABLE ALONG THE DRIVER'S HATCH, KEEPING THE FIRST TWO LOOP CLAMPS PARALLEL WITH THE BOTTOM OF THE HATCH.



...along bottom of hatch...

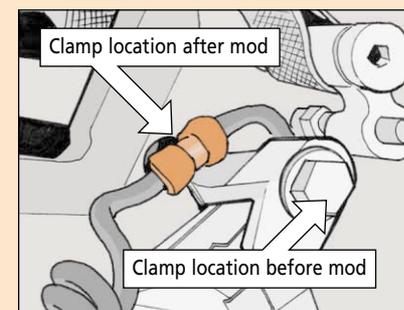
3. CONTINUE ROUTING THE CABLE ALONG THE PERISCOPE USING LOOP CLAMPS AND THE PERISCOPE'S MOUNTING SCREWS.



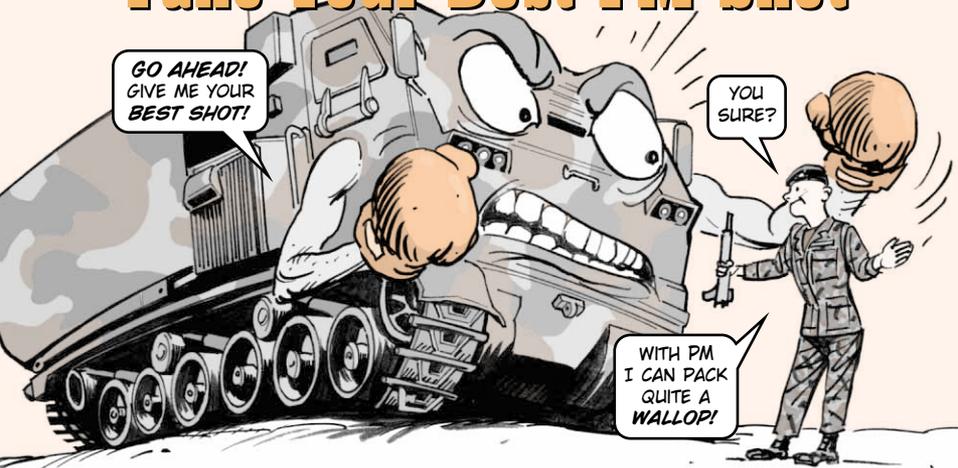
...and up along periscopes

4. AT THE **COILED** END, DISCONNECT THE CABLE FROM THE HATCH. POSITION THE CLAMP ABOUT 1 INCH UP FROM THE COILED SECTION OF THE CABLE AND REATTACH IT USING THE OLD HARDWARE IN THIS SEQUENCE:

- Loop clamp, NSN 5340-00-954-6014, holding the 1W300 cable.
- Sleeve spacer, NSN 5365-01-172-7899.
- Flat washer, NSN 5310-00-080-6004.
- Eye bracket, NSN 3040-01-106-7812.
- Flat washer, NSN 5310-00-080-6004.
- Self-locking bolt, NSN 5306-01-110-7884.



Take Your Best PM Shot

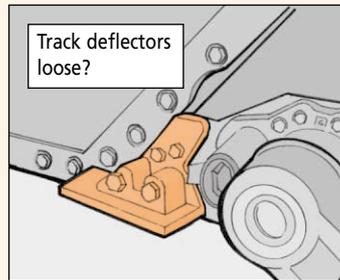


WITHOUT PM, YOUR MLRS HAS NO SHOT AT SMOOTH OPERATION. SO TAKE YOUR BEST SHOT WITH THIS PM INFORMATION.



Track Deflectors

Before moving out, take a look at the track deflectors. They protect the roadwheel arms from track slap. If the bolts are loose, the deflector can get caught in the track and break off. Tell your mechanic about loose bolts.



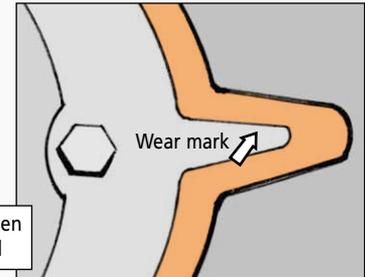
Hardware

At first glance, it may seem cheaper and easier to re-use bolts, screws and self-locking nuts on the MLRS's suspension, steering and braking components. **It's not.**

Used hardware won't hold. It works loose and falls out. That results in damaged components. So toss old hardware and replace it with the parts called out in the parts TM.

Final Drive Sprockets

Reverse the final drive sprockets when they wear down to the wear circle. If the wear goes too far past the circle, the sprocket starts hooking the track shoes. That damages the shoes and could result in a thrown track. When both sides of the sprocket are worn to the circle, replace the sprocket.

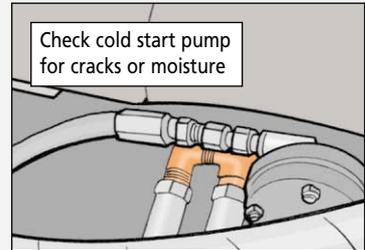


Reverse sprockets when wear mark is reached

Cold Start Pump

The fittings on the cold start pump crack from wear and vibration. Fuel drips from the fittings to the rocker arm covers and then onto the exhaust—a real fire hazard.

Eyeball the fittings for cracks before every operation. Feel for moisture and then smell your fingers for any trace of fuel. Immediately report a potential leak.



Radiator Plenum Seal

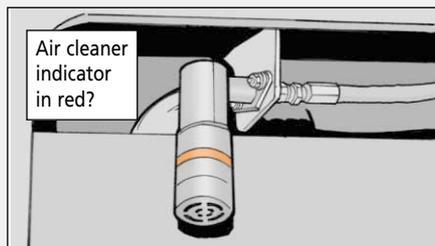
Check the radiator's plenum seal at least semiannually for cracks and tears. A bad seal lets in dirt, sand and insects that will coat the radiator fins and keep your engine from cooling off. Make a note until this check is added to the PMCS tables.



Air Filters

Eyeball the air cleaner indicator in the engine compartment **before** every operation. If the indicator is in the red, double check it like this:

1. Push the reset button.
2. Start the engine and hold the accelerator pedal all the way down for 5 seconds. Then let the engine idle for about 30 seconds.
3. Cut the engine and recheck the indicator. If it's in the red again, remove and clean the air filter V-pack.



Door Seals

The cab is over-pressurized during firing to prevent toxic fumes from entering the cab. If the door seals aren't in good shape, rocket exhaust gas can enter the cab.

Check the rubber seals **before** every operation. If they are dry or brittle, get 'em replaced.



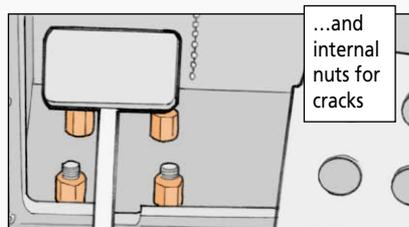
Raising the Cab

Before raising the cab, eyeball the cab hinge studs and nuts for cracks. If you find any, let your mechanic know. Don't raise the cab until cracked studs and nuts have been replaced. You don't want to be under the cab if the hinges fail!

Also, remove all equipment stowed on top of the cab before raising it. The elevating jack assembly can't take the extra strain and falling equipment could kill or injure you or others.

Slow and easy is the way to raise the cab. The faster you go, the more the cab rocks back and forth. That puts a lot of strain on the hinges.

Once the cab is up, check the hinge studs and nuts on the inside, too. Again, your mechanic should replace any damaged ones.



Lowering the Cab

Before lowering the cab, check inside for any TMs, tools or other items that may have fallen around the accelerator and brake pedals. Anything that gets in the way will be crushed and can damage the control linkages as the cab is lowered.

Once the cab is down, lock it down right or you could ruin the threads on the hold-down nuts or crack the frame.

If the nuts are not seated or tightened right, the cab sits cockeyed. The frame can crack as the cab flexes. The nuts can bind, too, so keep the threads clean. Never cross-thread 'em or the entire hold-down assembly has to be replaced. Use a little oil on the threads occasionally to make the job easier, too.

Release the tension on the elevation mechanism after the hold-down nuts are tightened. That way, there's no pressure on the mechanism while you're in operation. If you can move the elevation mechanism with your fingers, the tension is released.



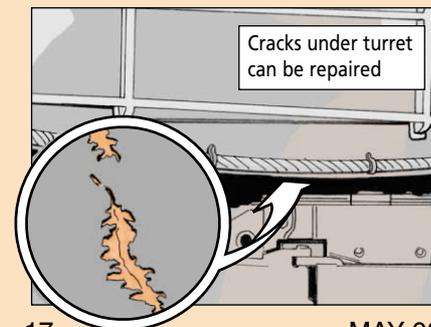
M1A1 Tank...

IS YOUR TANK CRACKING UP?

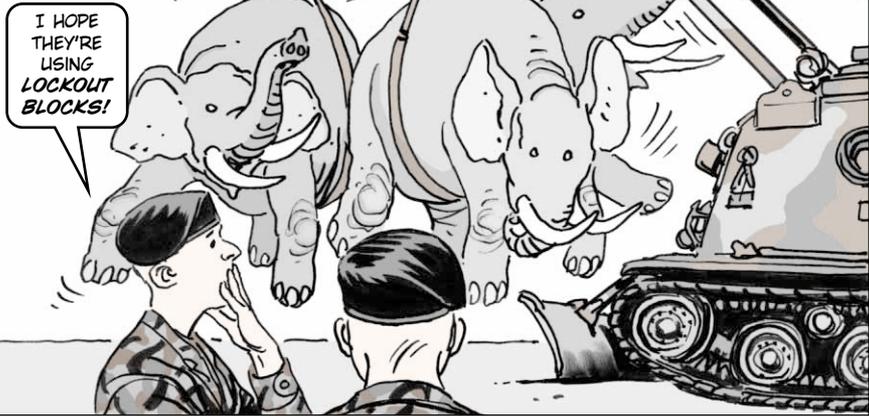
If you've noticed cracks developing on the underside of the turret, don't panic. Your tank is not coming apart at the seams.

In most cases, these are not cracks in the armor but in the thin metal skin that covers the bottom of the turret.

The cracks need to be repaired, though, so keep an eye out for them during your PMCS. If you spot any, let your mechanic know. He'll fix them following the procedures that start on Page 5-361 of TM 9-2350-264-20-2-3.



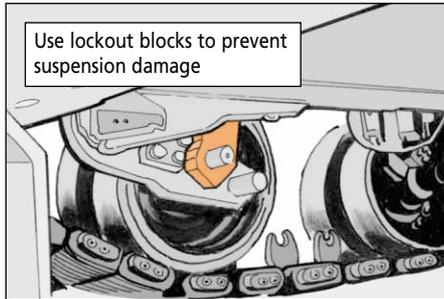
USE LOCKOUT FOR HEAVY LOADS



Setting up your M88A1/A2 recovery vehicle to lift a heavy load—more than 6 tons—is a lot of trouble. That “trouble,” though, can mean the difference between an easy lift and equipment damage.

Loads over 6 tons can play havoc with torsion bars, shock absorbers and road arms.

That’s why you should always use lockout blocks when lifting heavy loads. It’s also a good idea when you’re not sure just how heavy the load is. Lockout blocks take the extra stress off the front suspension system. You’ll find the procedures for installing and using lockout blocks on Page 2-144 of TM 9-2350-256-10 and Page 2-156 of TM 9- 2350-292-10.



Don’t think you’re in the clear, though, even if the load’s less than 6 tons.

Some operators leave the engine deck on the ground between the tank and the recovery vehicle while pulling a powerpack. The M88A1 straddles the deck as it gets ready to lift the pack.

As the pack goes up, the weight compresses the suspension enough that the hull bottoms out on the deck. The pressure can warp the deck.

Play it safe on light loads. Either use the lockout blocks or keep anything that might be damaged out of the way.

CAN YOU BEND U-BOLTS?

YOU BET! TOO TIGHT IS NOT RIGHT!

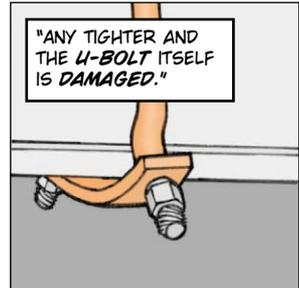
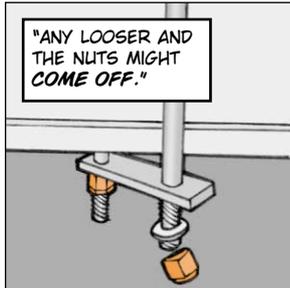


"EASY DOES IT WHEN TIGHTENING DOWN THE NUTS ON THE U-BOLTS THAT SECURE THE MINE CLEARING LINE CHARGE (MICLIC) TO THE ARMORED VEHICLE LAUNCHED MICLIC (AVLMD)."

"IF YOU'RE TOO HEAVY-HANDED, THE U- BOLT THREADS CAN STRIP, EVEN IF THE THREADS HOLD UP, THE U-BOLT ITSELF CAN BEND."

"EITHER WAY, YOU'RE GOING TO HAVE A REAL HARD TIME GETTING THE U-BOLT OFF THE NEXT TIME YOU NEED TO REMOVE THE MICLIC."

TIGHTEN THOSE NUTS TO 90-110 LB-FT.



"NEVER BE TEMPTED TO USE A DAMAGED U-BOLT, EITHER."



"IT WON'T HOLD." BAD IDEA!



HAVE A NEW ONE MADE FOLLOWING THE INSTRUCTIONS ON PAGE G-17 OF TM 9-1375-215-138P.

GET NEW SELF-LOCKING NUTS WITH NSN 5310-00-067-6356.

TAKE OUT THE TRASH!



ADMIT IT, CREWMEN. TRASH PILES UP INSIDE YOUR M109-SERIES HOWITZER DURING A FIELD EXERCISE.

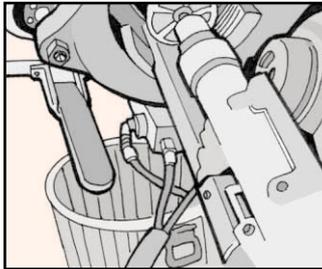


"A LOT OF CREWMEN SOLVE THAT PROBLEM BY PUTTING A METAL TRASH CAN IN THEIR VEHICLE."



"UNFORTUNATELY, THEIR PROBLEMS ARE JUST STARTING WHEN THEY DO THAT."

"NO MATTER WHERE YOU PUT THE CAN, IT SLIDES AROUND UNTIL IT ENDS UP UNDER THE GUN."

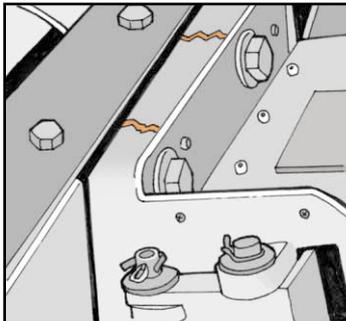


"THE NEXT TIME THE GUN IS RAISED, THE UNDERSIDE OF THE BREECH AND RAMMER ASSEMBLY CRUNCH INTO THE TRASH CAN."

OF COURSE, THE TRASH CAN IS PRETTY MUCH TRASHED.



"BUT THE PRESSURE CAN ALSO CRACK THE RAMMER ASSEMBLY SUPPORT AT THE MOUNTING BOLTS."



THE BEST WAY TO PREVENT BOTH PROBLEMS IS TO KEEP A PLASTIC BAG FOR TRASH. TRASH STAYS OUT OF THE WAY AND THE RAMMER ASSEMBLY KEEPS DOING ITS JOB.



PS PERSONALS

DESPERATELY SEEKING DESICCANT?

A few bags of desiccant work great for keeping moisture out of your equipment. FED LOG lists a lot of NSNs, but the characteristics data leaves you all wet when it comes to the information you need. Is the desiccant loose or in bags? If it's in bags, what is the size? Find the answer to those questions with this list of desiccant bags. All fall under MIL-D-3464 and are either Type 1, general purpose, or Type 2, non-dusting (which means the desiccant leaves behind no dust residue on whatever it is protecting).

NSN 6850-00-	Unit of Issue	Number of Bags	Bag Size (in inches)	Type
965-2280	Bag	1	5.5 x 4.75 x .75	1
999-1094	Can	5	3.75 x 2.25 x .25	1
856-7955	Can	18	8.5 x 4 x 1.75	1
263-8640	Can	40	7 x 4 x 1.12	1
935-9793*	Drum	120	8.5 x 4 x 1.75	2
264-6573	Can	130	5 x 4.75 x .5	1
264-6572	Drum	150	8.5 x 4 x 1.75	1
935-9794	Drum	240	7 x 4 x 1.12	2
264-6562	Can	250	3.75 x 2.25 x .25	1
809-7321*	Can	300	3.75 x 2.25 x .25	1
264-6571	Can	300	7 x 4 x 1.12	1
264-6571*	Drum	300	5.5 x 4.75 x .75	2
935-9795	Drum	400	5.5 x 4.75 x .75	1
264-6561*	Can	450	2.5 x 2.25 x .20	1
264-6568	Can	450	2.75 x 2.25 x .25	1
264-6574	Drum	500	5.5 x 4.75 x .75	1
935-9799*	Can	650	2.5 x 2.25 x .20	2
619-7805	Drum	800	5 x 4.75 x .5	1
935-9796*	Drum	1,000	3.75 x 2.25 x .25	2
264-6564	Can	1,200	2.5 x 2.25 x .20	1
619-7804	Drum	1,300	3.75 x 2.25 x .25	1

*Order on a DD-Form 1348-6 from RIC S9G and put "NSN not on AMDF" in the REMARKS block.

PM Helps Detector Detect Mines



ONE OF THE WORST THINGS THAT CAN HAPPEN TO A SOLDIER IS TO STEP ON A LAND MINE.

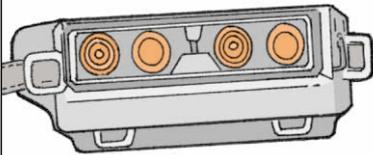
TO PREVENT THAT NIGHTMARE, THE ARMY GIVES YOU ME, THE AN/PSS-12 MINE DETECTOR.

BUT YOU'VE GOT TO DO YOUR PART FOR ME TO DO MINES—DETECT 'EM, THAT IS.

Batteries

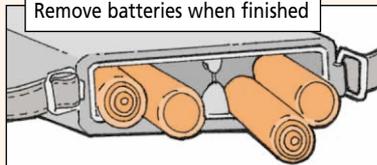
Use fresh batteries. A new set of four D-cells lasts at least 12 hours of operating the detector, but when you're dealing with real mines you want real strong batteries. Put fresh batteries in before you start sweeping a field and keep another fresh set in your case in case the BAT LOW light comes on.

Use new batteries and keep spares in case



When you're done, take the batteries out. If they're left in, they cause corrosion, which causes poor detecting.

Remove batteries when finished



Adjust It

Adjust the pole so it's comfortable for you. Stand straight up and hold the detector with your arm straight and the head parallel to the ground. If the head is about 2 inches from the ground, that's a good length.

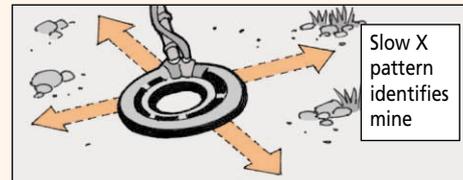
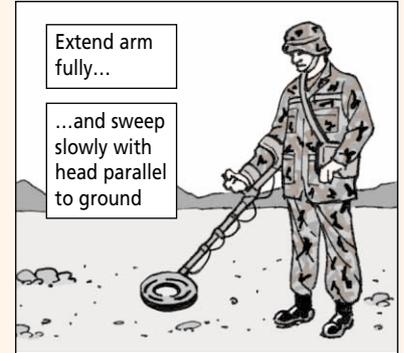


Sweeping

The most important thing is to keep the head no more than 2 inches off the ground. If the head's any higher, you could miss a mine. Don't worry about banging the head against rocks. It's sturdy and can take it.

Keep the head parallel to the ground as you sweep slowly with your arm fully extended. Unless you keep your arm extended, you won't fully cover the 2-meter wide path your sweeps should make.

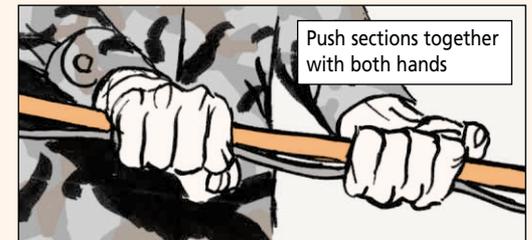
When you think you've found something, do a slow X-pattern over the spot. If you've found a mine, you should get beeps in all parts of the X.



Squad leaders, keep tabs on how long your people are sweeping. The longest anyone should sweep without a break is 20 to 30 minutes. After that, their concentration weakens.

Storage

When you collapse the pole for storage, don't brace the head on the ground. That damages the head. Instead, collapse the pole by pushing its sections together with both hands.



Keep Battery Cables Able



LET'S TAKE A LOOK AT THESE CABLES!

AS A TRACTOR OPERATOR, YOU MIGHT GIVE A DOZER'S BATTERIES LOW PM PRIORITY. AFTER ALL, YOU CAN'T DO ANY MORE THAN EYEBALL THE BATTERIES, CABLES AND BATTERY BOX.

BUT DON'T FORGET THAT YOUR EYES SEE BATTERY PROBLEMS FIRST. IF YOU DON'T REPORT WHAT YOU SEE, YOU HAVE NO ONE ELSE TO BLAME IF THOSE BATTERIES LET YOU DOWN.

SO HERE ARE *TWO THINGS* YOUR EYES CAN CHECK ON.

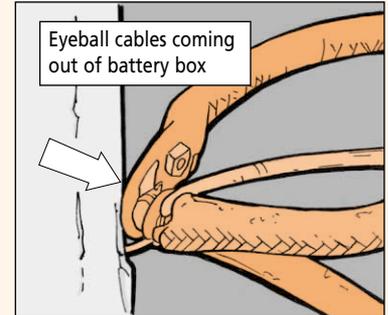


Charging?

After you start your tractor and before you start operations, make sure the battery indicator or ammeter gauge is in the CHARGE range.

All that bouncing around in the rough stuff loosens your tractor's battery clamps. A loose connection keeps your batteries from re-charging. It also keeps your dozer from starting.

No charge?
Check the clamps.



Missing a Grommet?

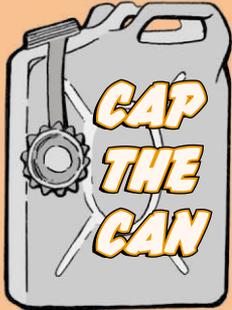
A missing grommet can stop your dozer dead in its tracks. It may sound hard to believe, but it's true.

For instance, take the grommets that protect the D7G's battery cables as they pass from the battery box into the transmission control group housing.

Weather deteriorates grommets and vehicle vibration loosens them. Once the grommets are gone, the metal edges of the housing or battery box can cut cables' rubber insulation.

That can ground the battery and shut down the vehicle. It could also burn or shock anyone touching the vehicle.

So eyeball the grommets to see if they're loose, missing or dry-rotted. They should fit snugly in the holes. If they need replacing, use NSN 5325-01-176-8163.



A METAL CAP WILL WORK FOR A SHORT TIME ON A 5-GAL PLASTIC FUEL CAN, BUT IN THE LONG RUN IT WILL STRIP OUT THE THREADS AND PROVIDE A POOR SEAL.

SO USE PLASTIC CAPS FOR PLASTIC CANS WHENEVER POSSIBLE.

I DON'T NEED YOUR PARTS ANYMORE, I'VE GOT A PLASTIC LID!

THEN I WON'T "METAL" IN YOUR AFFAIRS ANYMORE!

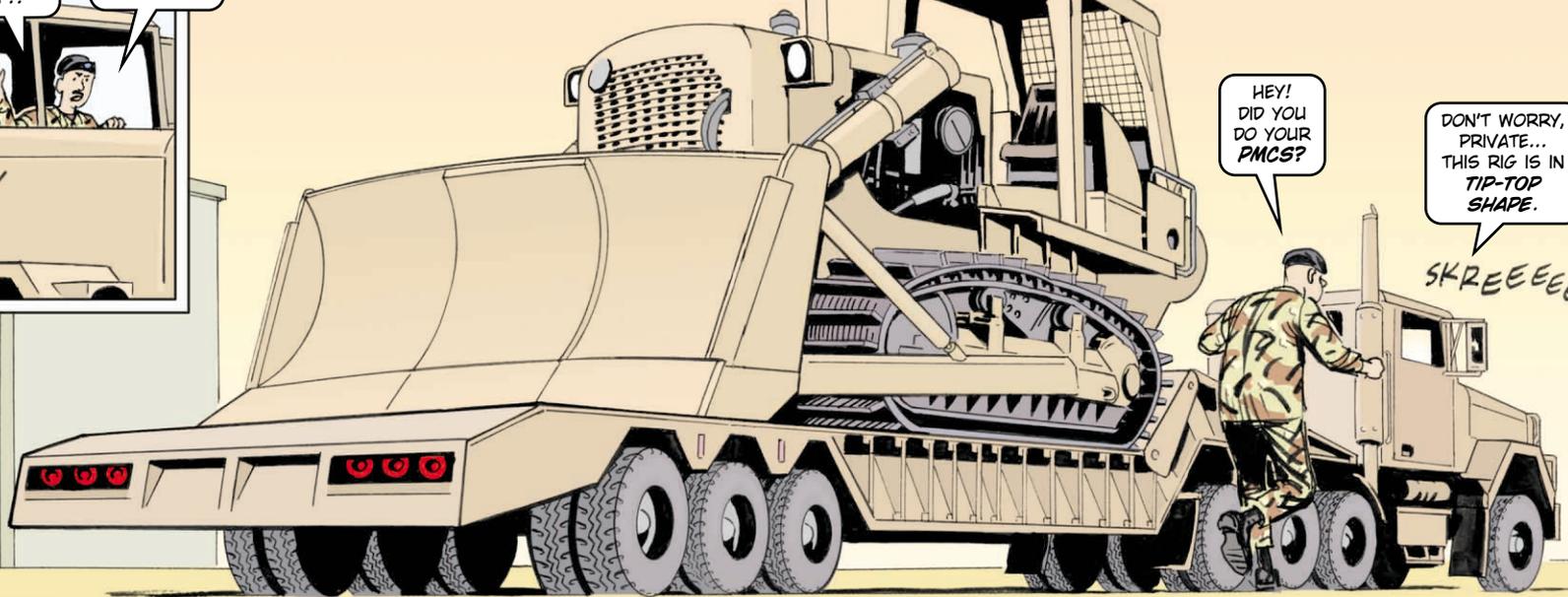


"NSN 7240-01-337-5349 BRINGS THE PLASTIC CAP FOR THE OLIVE-DRAB FUEL CAN, NSN 7240-01-337-5269."

"NSN 7240-01-337-5348 BRINGS THE PLASTIC CAP FOR THE SAND-COLORED CAN, NSN 7240-01-337-5268."

"IF YOU NEED TO FEED FUEL TO A SPACE HEATER WITH A PLASTIC CAN, USE CRADLE, NSN 7240-01-318-5222."

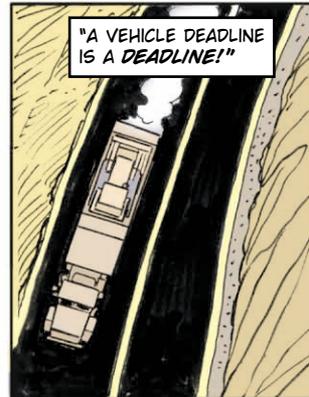
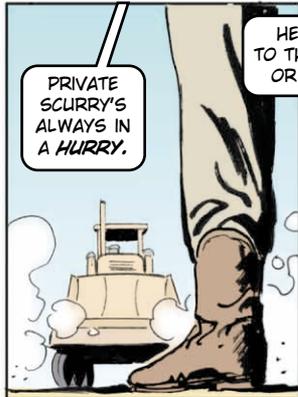
TAKE NO SHORTCUTS



HEY! DID YOU DO YOUR PMCS?

DON'T WORRY, PRIVATE... THIS RIG IS IN TIP-TOP SHAPE.

SKREEEEEEEE



SOMETIME LATER,
A FEW MILES OUT...

LOOKS LIKE
A SHORTCUT.
WE'LL TAKE
IT.

WE'LL GET
THIS DOZER TO
THE ENGINEERS
ON TIME... NO
PROBLEM.

LOOKS LIKE THAT
RIG'S STARTING TO
STEAM, BONNIE.

YOU'RE RIGHT,
CONNIE.



IT'S REALLY
STEAMIN'!
I BETTER PULL
THE HOOD
BACK AND TAKE
A LOOK-SEE.



HMM... WHAT'S
WRONG HERE?
WHAT IS THAT
SMELL?

LOOKS
LIKE WE'RE
STUCK HERE
'TIL THEY
MISS US!



NEGATIVE,
PRIVATE
SCURRY.



BONNIE!
CONNIE!
WHERE'D
YOU TWO
COME FROM?

WE SAW
STEAM ON THE
HORIZON!

UH, OH...
WE'RE
STEAMIN'
UP!

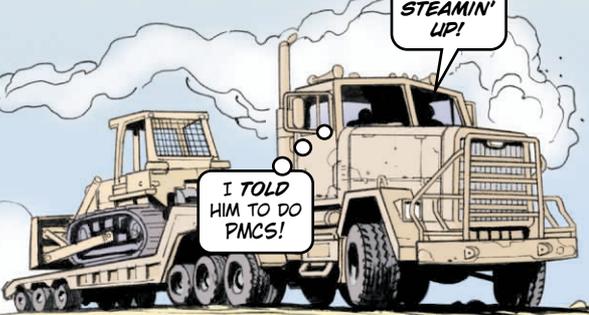
OF ALL PLACES TO
BREAK DOWN! IN THE
MIDDLE OF **NOWHERE!**

LOOKS LIKE
WE STOPPED
HERE JUST
IN TIME TO
IDENTIFY YOUR
PROBLEM!

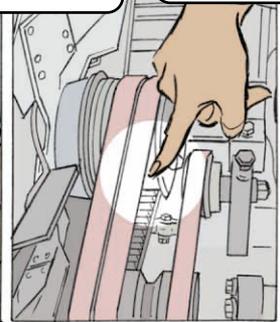
PART OF THIS RIG'S
PMCS INCLUDES
LUBRICATING THIS
GREASE FITTING FOR
THE FAN ACTUATOR—
RIGHT HERE.

THE ACTUATOR HELPS
THE CLUTCH ENGAGE
AND DISENGAGE SO
THE FAN BLADES CAN
TURN... TO COOL
THE ENGINE.

NO **LUBE** AND
THE ACTUATOR
BURNS OUT.
NO **FAN** AND
THE ENGINE
OVERHEATS.



I TOLD
HIM TO DO
PMCS!



METAL-TO-METAL CONTACT NOT ONLY CAUSES SCREECHING... BUT, ALSO QUICK WEAR.

IT SEEMS LIKE I'M *ALWAYS* IN TOO BIG A HURRY TO GET ANYTHING *RIGHT*.



THERE WAS A YOUNG PRIVATE NAMED SCURRY,
WHOSE BAD PM HABITS CAUSED WORRY!
HE FOUND (TO HIS WOE),
IF HE'D READ THE L.O.,
HIS DISTRESS WOULD'VE EASED IN A HURRY!

1. WIPE OFF FITTINGS BEFORE YOU LUBE.
2. REPLACE FITTINGS THAT WON'T TAKE GREASE... THEY'RE PLUGGED.
3. WIPE OFF GREASE WHEN YOU FINISH.
4. GIVE UNIVERSAL JOINT FITTINGS A SINGLE SHOT OF GREASE FROM A HAND GUN. *TOO MUCH GREASE CAN BLOW SEALS.*
5. REPLACE BROKEN FITTINGS.
6. USE A BEARING PACKER ON WHEEL BEARINGS. DO NOT PACK THE HUBS FULL OF GREASE.
7. EYEBALL THE GEAR CASE BREATHER VENTS, MAKE SURE THEY'RE NOT CLOGGED.
8. NEVER MIX LUBES. THE MIX WILL NOT WORK AS WELL AS EITHER ONE ALONE.
9. DON'T OVER-LUBE OR UNDER-LUBE. PAY CLOSE ATTENTION TO THE *NOTES* IN THE LUBE ORDER (*L.O.*). THEY WILL OFTEN GIVE YOU THE SCOOP ON HOW TO LUBE CORRECTLY.

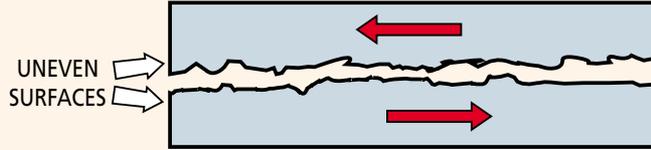
I TOLD HIM TO DO PMCS!

WE HAVE THE WORLD'S BEST EQUIPMENT...
TAKE CARE OF IT!



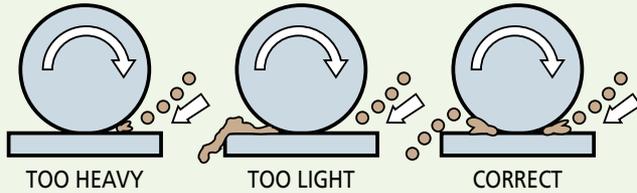
MOST METAL SURFACES THAT REQUIRE LUBE MAY LOOK SMOOTH, BUT... THEY AREN'T .

Close inspection will show that even the smoothest surfaces are rough.



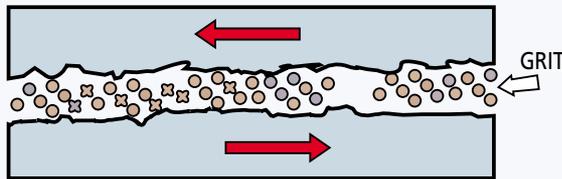
When these surfaces rub together, you get friction, heat and wear.

Lubrication gets between the surfaces and holds them apart. The lube has to be just right to do that.



If it is too thin, it won't keep the surfaces apart.
If it's too thick, it can't get between them.

It has to be clean, too. Grit in the lube wears away parts.



WHEN IT COMES DOWN TO IT, PRIVATE SCURRY, ANY VEHICLE WILL GRIND TO A HALT... WITHOUT LUBE.



LUBE IS ESSENTIAL TO GOOD PM, PRIVATE.

YEAH... I FOUND THAT OUT.

THE HARD WAY.



JUST REMEMBER THAT LO SHOWS YOU WHERE EVERY FITTING IS... HOW OFTEN TO LUBE 'EM... AND WHICH LUBE TO USE.



THANKS FOR THE GOOD INFO. LUBING IS A LOT MORE IMPORTANT THAN I THOUGHT.



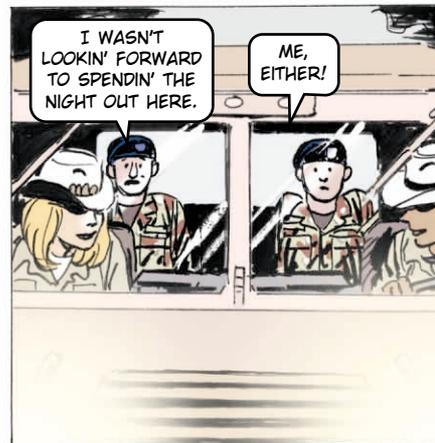
LET'S HEAD ON BACK TO THE MOTOR POOL, OKAY PRIVATES?

THANKS FOR THE LIFT.



I WASN'T LOOKIN' FORWARD TO SPENDIN' THE NIGHT OUT HERE.

ME, EITHER!



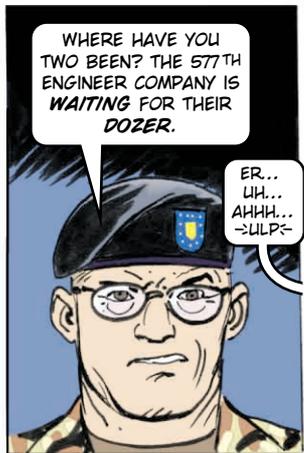
WELL... HERE WE ARE BACK AT THE MOTOR POOL, PRIVATES.





FOLKS. CONNIE... BONNIE... GOOD TO SEE YOU AGAIN.

HEY THERE, UNCLE... ER, I MEAN MASTER SERGEANT SERENE!

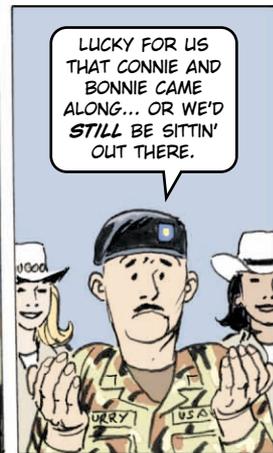


WHERE HAVE YOU TWO BEEN? THE 577TH ENGINEER COMPANY IS WAITING FOR THEIR DOZER.

ER... UH... AH... -SULP-



I... HAD A **PROBLEM**, SERGEANT. I TOOK A **SHORTCUT** AND GOT STUCK OUT IN THE **BOONDOCKS**.



LUCKY FOR US THAT CONNIE AND BONNIE CAME ALONG... OR WE'D **STILL** BE SITTING OUT THERE.



SHORTCUTS CAN TURN INTO **LONGCUTS**, PRIVATE. ESPECIALLY IF YOU **SHORTCUT PREVENTIVE MAINTENANCE**.

I SHOULD HAVE LISTENED TO PRIVATE SERENE'S ADVICE.



COME TO THINK OF IT, HOW'D YOU **TWO** KNOW I WAS **STUCK** OUT IN THE MIDDLE OF NOWHERE?

IT WASN'T LUCK... OR BY ACCIDENT.

WE **KNEW** YOU'D BE TAKING THAT SIDE-ROAD.

LET'S JUST SAY WE'D HEARD A THING OR TWO ABOUT **SHORTCUTS**... NAMELY **YOURS**.

I HAVE A STRANGE FEELING THAT I'M GONNA HEAR ABOUT MY **SHORTCUTS** FOR A LONG, LONG TIME!



Cover Hinge Pin Works Loose



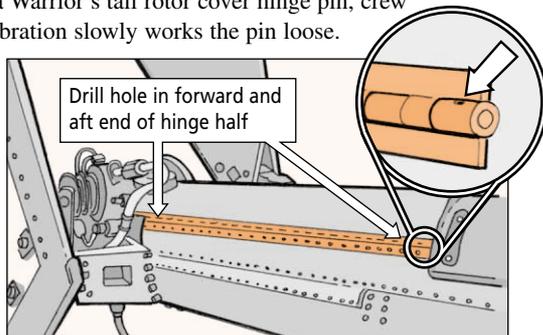
DON'T WORRY, AFTER I DRILL HOLES IN YOUR HINGE...

THIS SAFETY WIRE WILL HOOK YOU UP AND KEEP THAT PIN IN PLACE!

Keep an eye on your Kiowa Warrior's tail rotor cover hinge pin, crew chiefs. Aircraft tail boom vibration slowly works the pin loose.

If the hinge pin gets loose, it can slide back into the tail rotor gear box area. That's like throwing a wrench in the works. If the pin is sheared off and pieces of it become FOD, your flight could end in disaster if the tail rotor is damaged by pieces of the rod.

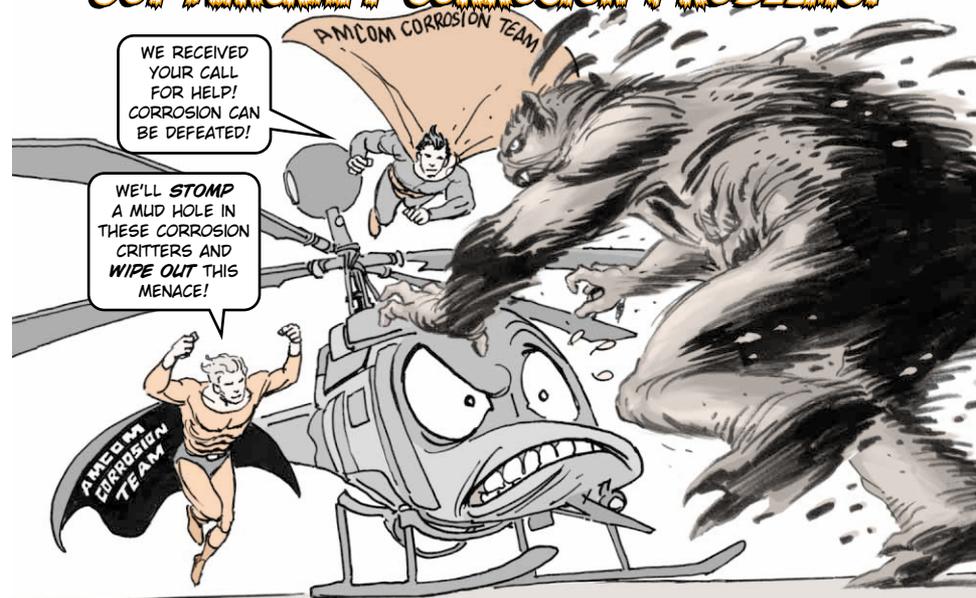
So keep that slippery hinge pin where it belongs. When you remove and install the tail rotor drive shaft covers, have your airframe mechanic drill a hole in the forward and aft end of the hinge half like it says in paragraph 2-3-11 of TM 1-1520-248-23. Then add some safety wire, NSN 9505-00-293-4208, to keep the pin from sliding out either side of the hinge.



Drill hole in forward and aft end of hinge half

All Aircraft...

GOT AIRCRAFT CORROSION PROBLEMS?



WE RECEIVED YOUR CALL FOR HELP! CORROSION CAN BE DEFEATED!

WE'LL STOMP A MUD HOLE IN THESE CORROSION CRITTERS AND WIPE OUT THIS MENACE!

If the answer is yes, your unit can get a no-cost visit from the AMCOM corrosion assistance team. The team will provide classes on corrosion prevention and control and hands-on training to all maintenance personnel. Overseas units will get a 2-week visit.

The AMCOM corrosion assistance team will send two representatives to your unit to teach the course.

The training consists of a 2½-hour classroom session followed by a 1-hour hands-on session with your aircraft. The classroom training covers the basics of corrosion, repair techniques, stopping

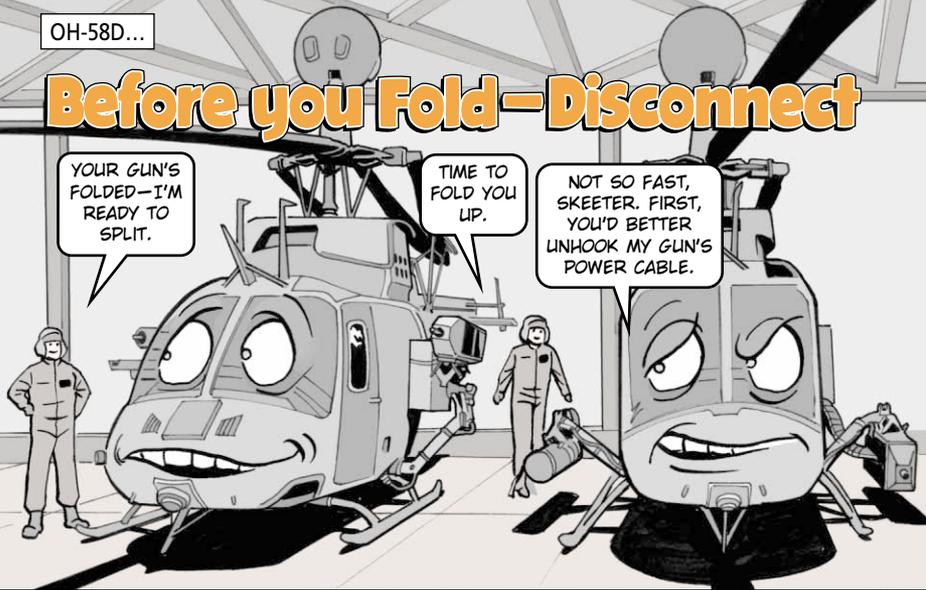
and preventing corrosion and types of materials to prevent corrosion. The team can assist with other corrosion problems you have, too.

To sign up for the course, contact the corrosion hotline at DSN 897-0209, (256) 313-0209 or toll free 1-866-222-2364. You can also contact team members by e-mail:

donald.wilhite@redstone.army.mil
willie.harris2@redstone.army.mil
sidney.harrison@redstone.army.mil
juanita.curtis@redstone.army.mil
vance.riggs@titan.com
jeff.jeter@titan.com

Check out the on-line calendar at http://calendar.yahoo.com/armyavn_corrosion to view the corrosion team schedule. Use the schedule to determine when the corrosion team can visit your unit.

Before you Fold - Disconnect

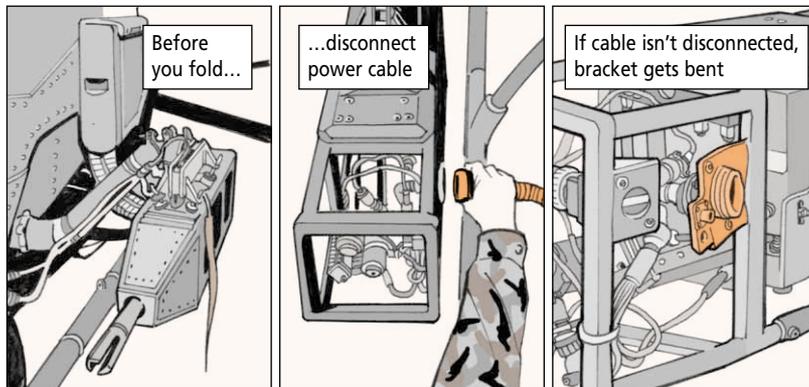


Crew chiefs, folding up your Kiowa Warrior's .50-cal gun with the umbilical cable still attached will strain and damage the cable and cage.

The cable is just not long enough to cover the added distance when you're folding up the universal weapon's pylon. When that happens, it could bend or snap the bracket off the cage that holds the cannon plug and pull the connector off the cable.

To make matters worse, the cable is usually wrapped around the pylon mounting arm to keep it out of harm's way. This wrap makes the cable even shorter!

The simple solution is to disconnect the power cable before you fold the gun.



NO BACKWARD? WIRES ON GENERATORS



Dear Editor,

We have a lot of problems with wires being put on backwards after maintenance on the AH-64 No. 1 and No. 2 generators.

And backward wires lead to fried generators.

The procedure in TM 1-1520-238-23-5 says to identify wires as they are removed. We once used tape or a grease pencil, but neither of those things works. Oil smudges the markings and heat makes the tape fall off.

Our idea is to use an assortment of different colored heat-shrink tubing with stamped stud numbers around the wire leads to avoid the wrong hookup.

Here's what we use:

Wire	Tubing
T1	Black
T2	Blue
T3	Red
T4	Yellow

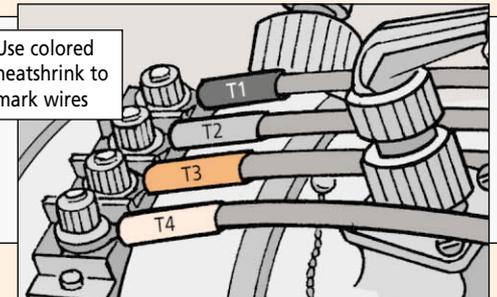
NSN 9390-01-494-3834 brings you the heat-shrink kit. If you have problems ordering the kit, contact Glen Heitland at DSN 897-1419, (256) 897-1419 or e-mail him at glen.heitland@redstone.army.mil

SSG Francisco Delect
D Trp, 6-6 Cav
APO AE 09140

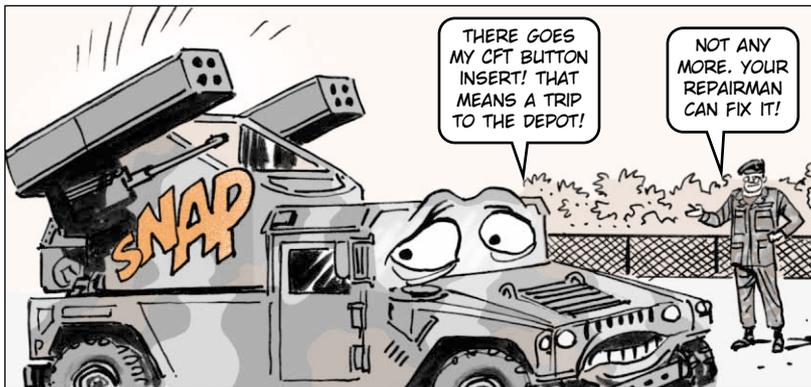
From the desk
of the *Editor*

Great job! Identifying unmarked wires is always a problem and shrink tubing seems like a good solution.

Use colored heatshrink to mark wires



YOU CAN REPAIR CFT



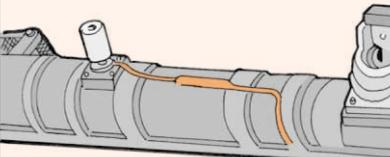
GOOD NEWS, STINGER REPAIRMEN. YOU NO LONGER HAVE TO SEND CAPTIVE FLIGHT TRAINERS (CFT) AND TRACKER HEAD TRAINERS (THT) BACK TO DEPOT FOR BUTTON INSERT REPAIR.

REPAIR THEM YOURSELVES LIKE THIS...

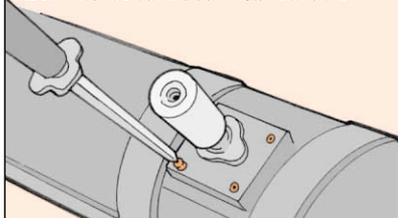


1. POSITION THE CFT OR THT ON A MAINTENANCE STAND OR WORK BENCH SO THE INSERT ASSEMBLY IS EXPOSED.

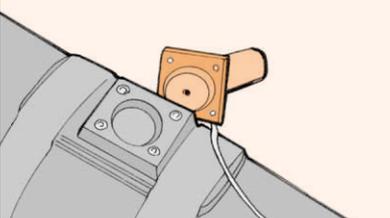
2. LOOK FOR DINGS, CREASES AND BENDS ON THE CRYO LINE THAT RUNS TO THE INSERT ASSEMBLY. IF THE LINE'S DAMAGED, THE CFT MUST GO TO DEPOT FOR REPAIR. NO PROBLEMS? MOVE ON.



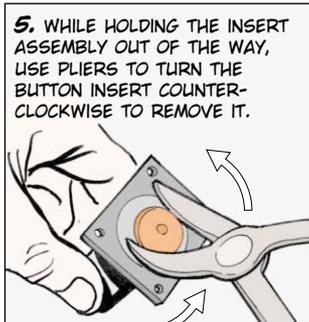
3. USE A NO. 0 CROSS-TIP SCREWDRIVER FROM YOUR TOOL KIT TO REMOVE THE FOUR SCREWS, NSN 5305-00-054-5636, FROM THE MOUNTING COVER. KEEP THE SCREWS.



THE MOUNTING COVER REMAINS ATTACHED TO THE INSERT ASSEMBLY, SO YOU WILL HAVE TO ROTATE THE COVER OUT OF THE WAY. DON'T FORCE IT. THAT COULD DAMAGE THE CRYO LINE.



4. LIFT THE INSERT ASSEMBLY OFF THE GAS FITTING MOUNT, BUT ROTATE IT NO MORE THAN 90 DEGREES TO AVOID STRAIN ON THE CRYO LINE. THIS WILL LET YOU GET AT THE SPRING TENSION WASHER AND BUTTON INSERT, NSN 1420-01-346-7657.

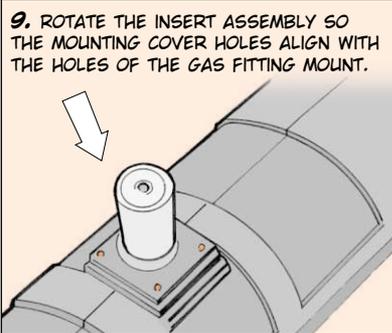
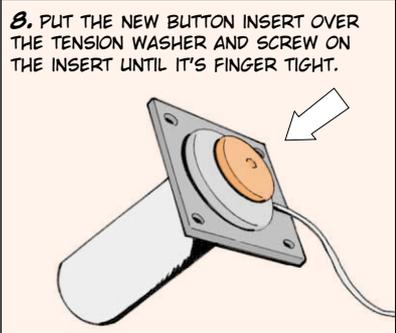


5. WHILE HOLDING THE INSERT ASSEMBLY OUT OF THE WAY, USE PLIERS TO TURN THE BUTTON INSERT COUNTER-CLOCKWISE TO REMOVE IT.

THIS WILL RELEASE THE TENSION WASHER. KEEP THE WASHER.

6. POSITION THE MOUNTING COVER OVER THE INSERT ASSEMBLY WITH THE FLAT PART OF THE HALF-CIRCLE HOLE FACING THE CRYO LINE.

7. PUT THE TENSION WASHER ON TOP OF THE MOUNTING COVER WITH THE WASHER'S FLAT PART FACING THE COVER. THE WASHER'S CURVED PART WILL PUSH UP AGAINST THE BUTTON INSERT.

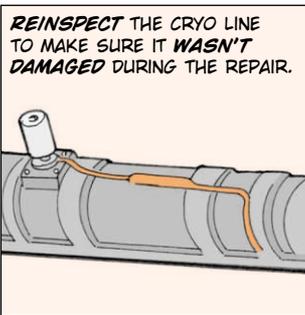


8. PUT THE NEW BUTTON INSERT OVER THE TENSION WASHER AND SCREW ON THE INSERT UNTIL IT'S FINGER TIGHT.

9. ROTATE THE INSERT ASSEMBLY SO THE MOUNTING COVER HOLES ALIGN WITH THE HOLES OF THE GAS FITTING MOUNT.

10. ATTACH THE INSERT ASSEMBLY TO THE LAUNCH TUBE WITH THE FOUR SCREWS.

11. TORQUE THE SCREWS TO 36-44 IN-OZ.



REINSPECT THE CRYO LINE TO MAKE SURE IT WASN'T DAMAGED DURING THE REPAIR.

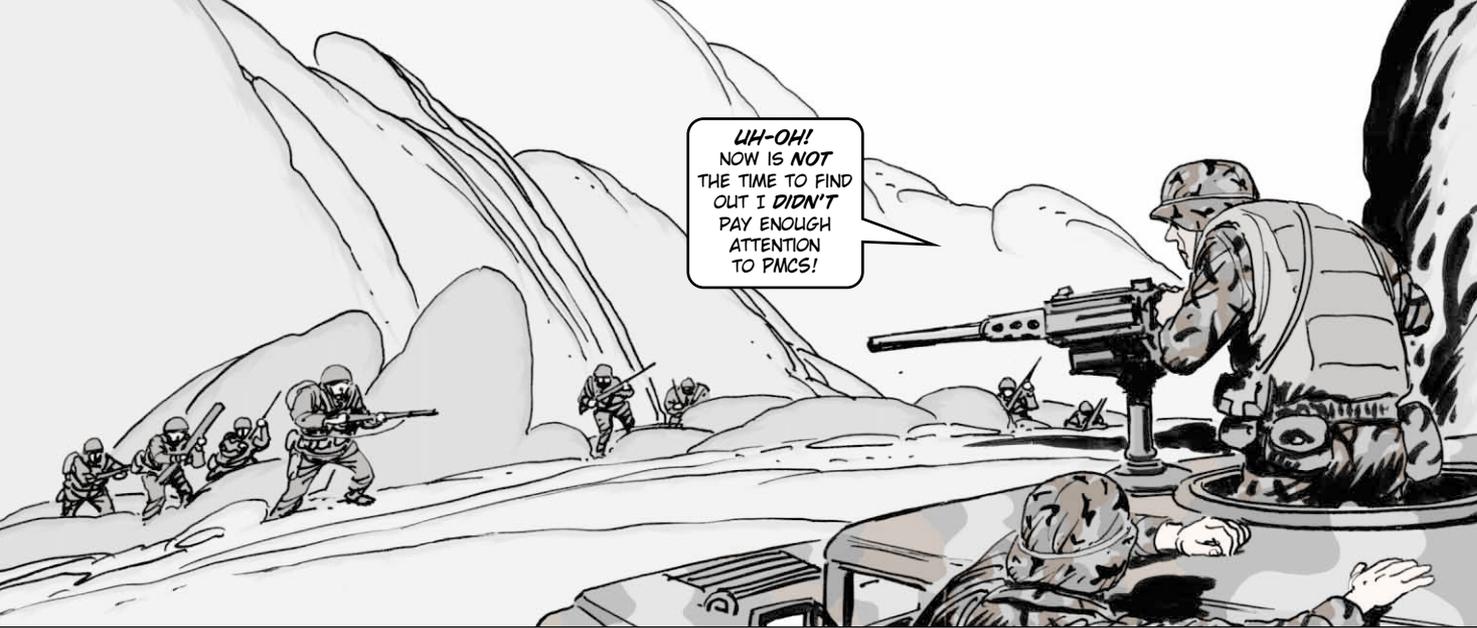
THIS PROCEDURE IS BEING ADDED TO TMS 9-6920-429-12, 9-1425-429-12, AND 9-1440-431-238P.



M2 Machine Gun...

THE REAL THING

Having your M2 machine gun fail on the battlefield is a life-or-death problem. You don't want to find out as the enemy is bearing down on you that you didn't pay enough attention to PMCS.



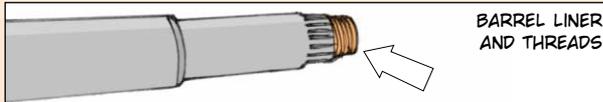
UH-OH!
NOW IS NOT
THE TIME TO FIND
OUT I DIDN'T
PAY ENOUGH
ATTENTION
TO PMCS!



FAITHFULLY FOLLOW THE PMCS SPELLED OUT IN TM 9-1005-213-10.

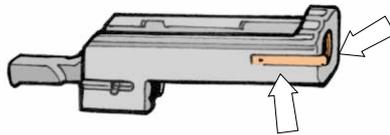
BUT **ALSO** DO THESE CHECKS WHENEVER THERE'S A **SPARE MOMENT** IN THE FIELD TO ENSURE YOU'RE READY FOR THOSE **LIFE-OR-DEATH SITUATIONS**.

FIELD STRIP YOUR M2 AND CHECK THE FOLLOWING FOR CRACKS...

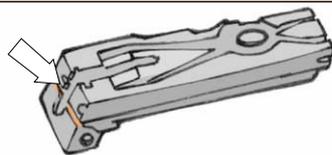


BARREL LINER AND THREADS

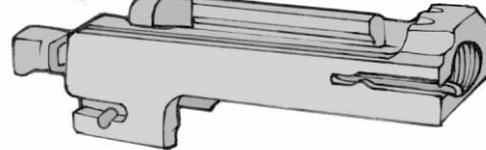
BARREL EXTENSION'S THREADS AND LOCKING SPRING



BOLT'S FIRING PIN SLOT, T-SLOT AND BREECH LOCK SLOT



LOOK FOR EXCESSIVE WEAR ON THE BREECH LOCK.



CHECK THE DRIVING ROD SPRING FOR FLAT SPOTS AND MAKE SURE THE DRIVING ROD AND ITS LOCKING PIN ARE NOT BENT.



EYEBALL THE FIRING PIN'S TIP FOR FLAT SPOTS.



TIME AND HEADSPACE YOUR M2 WITH BOTH BARRELS TO MAKE SURE **BOTH** ARE USABLE.

TELL YOUR ARMORER ABOUT ANY PROBLEMS. OF COURSE, **CLEAN AND LUBE** YOUR GUN AS **OFTEN AS POSSIBLE**.

ARMORERS M2S USED IN BATTLE NEED MORE ATTENTION FROM DIRECT SUPPORT—**TWICE** AS MUCH.

INSTEAD OF SUPPORT ANNUALLY CHECKING BARREL EROSION, THE BARREL LINER, BARREL EXTENSION, HEADSPACE AND TIMING, THE BREECH LOCK AND THE BOLT, HAVE THEM DO THE CHECKS **EVERY 6 MONTHS**.



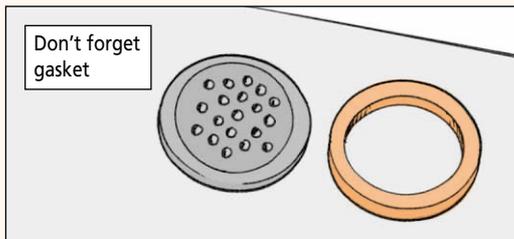
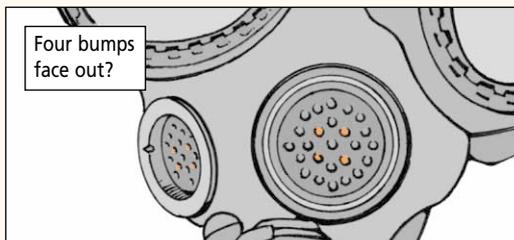
PM for Good



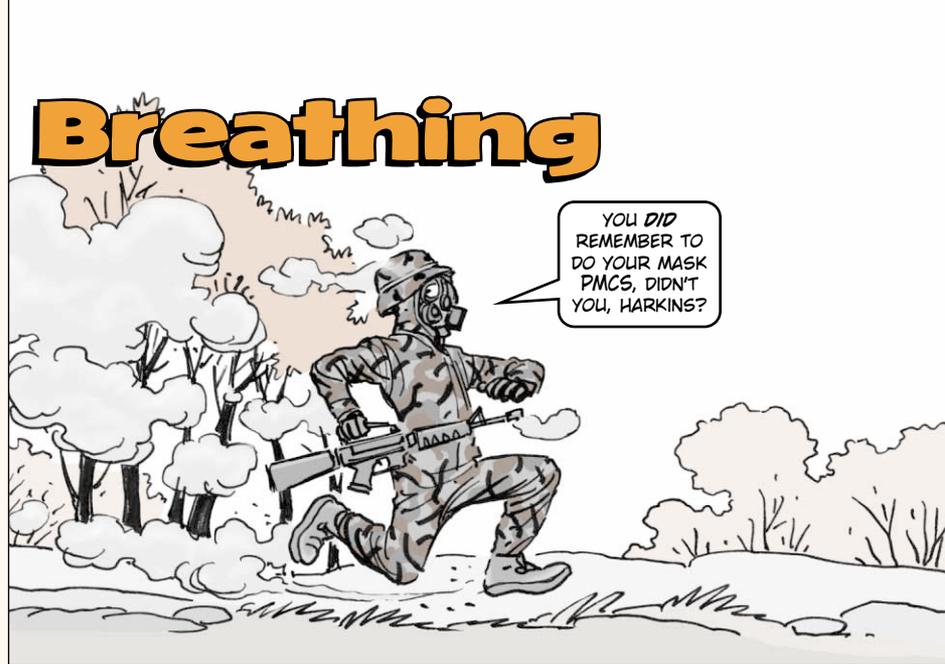
One piece of equipment you want never to fail is your M40 or M42 protective mask. A mask that can't do its job leads to a condition called "can't breathe". But just a few quick checks make breathing easy.

Voicemitters: The No. 1 mistake soldiers make with their masks is putting the side voicemitter in backwards. That offers you less protection. The voicemitters' four bumps should face out.

Remember, the side voicemitter has a rubber gasket. If you forget to put the gasket back in, the voicemitter won't have a good seal. Tighten the side voicemitter ring with the D-ring on the carrier strap.



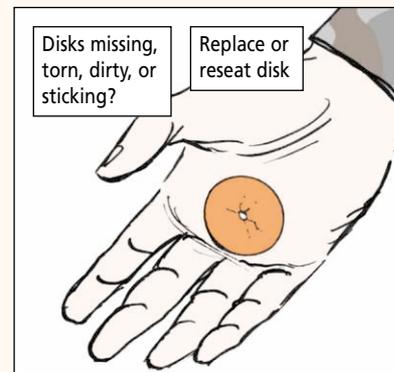
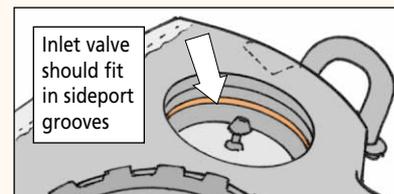
Breathing



Inlet valve: The inlet valve assembly must seat completely in the sideport grooves or the mask won't seal. If the inlet valve is properly installed, you should be able to rotate it easily with your finger. If it's difficult to move, try installing it again.

Disks: The outlet and inlet valves and the nosecup all have disks. If any of the disks are missing, you'll have trouble breathing or the eyelenses will fog up. So make sure all the disks are installed.

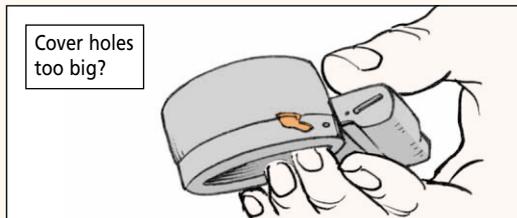
If the disks are torn or dirty, replace them. Rotate the disks with your finger to make sure they're not sticking. If the inlet valve disk sticks, replace it. Sticking nosecup and outlet disks usually just need reseating. Remember, the nosecup valve disks go inside the nosecup, not outside.



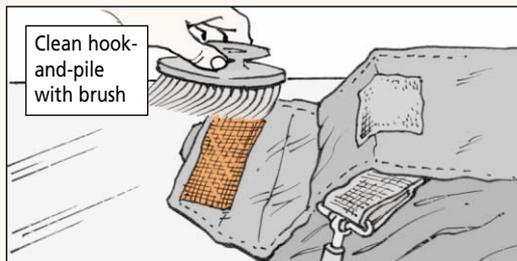
Air flow deflector: The deflector is supposed to be on the left side of the mask for a right-handed shooter and on the right side for a left-handed shooter. If the deflector's on the wrong side, let your NBC NCO switch it. If the job's not done correctly, the mask can be torn.



Outlet valve cover: Make sure the cover fits snugly. The cover's holes that fit over the valve body lugs may tear over time and the cover won't stay on. Get the cover replaced if necessary.

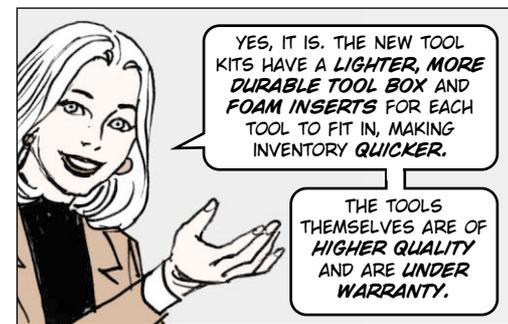
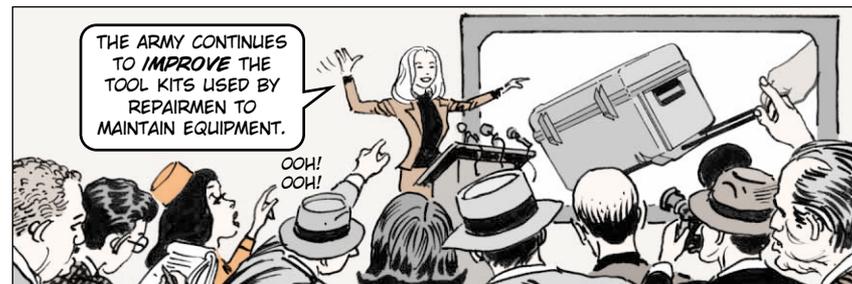


Carrier: Check that the hook-and-pile holds the carrier shut. If the carrier flap flaps open without much pulling, the hook-and-pile may need cleaning. Wipe off dirt with a plastic brush.



Tool Sets...

NEW TOOL KITS AVAILABLE



THESE ARE THE NEW KITS...

- **Small Arms Tool Kit**, NSN 5180-01-462-4254, LIN W51910, SC 5180-095-B71
- **General Mechanics Tool Kit**, NSN 5180-01-481-8389, LIN T28688, SC 5180-95-B47
- **Electronic Repairman Tool Kit**, NSN 5180-01-460-9328, LIN W37388, SC 5180-91-R64
- **Aircraft Armament Individual Repairman Tool Set**, NSN 5180-01-433-4469, LIN W59034, SC 5180-95-A69
- **Aircraft Armament Team Repairman Tool Set**, NSN 5180-01-433-4470, LIN T59171, SC 5180-95-B70



YOU CAN'T JUST SHOVE



The buzz around commo shops now is about batteries. With new types of batteries coming into the Army system and the emphasis on using rechargeables, proper storage and handling procedures have become even more important.

Here are a dozen storage and handling tips every commo equipment user and repairman, whether at a large storage facility or just in a unit, should know.

1. Personal protective equipment such as gloves, face shields and aprons must be available and must be worn whenever handling leaking or vented batteries.



2. Get your post fire department to help you pick a battery storage location and to inspect it periodically.



For large bulk storage of batteries, a sprinkler system is recommended. BC extinguishers will do the job for small fires of combustibles such as packaging. Lithium battery fires should only be handled by trained firefighters.

'EM IN A CLOSET



3. Keep batteries in their original packaging until they are used. The original packaging helps you identify the batteries and does offer some protection from crushing, puncturing and shorting.



4. Temperatures in battery storage and maintenance facilities must not exceed 130°F. Among the problems high heat causes is the loss of available capacity and, in the case of rechargeables, the loss of the capacity for recharging.

If the temperature in your storage area consistently hits the 110-degree mark, it's time to think about cooling off the area or finding another storage spot.

5. Battery chemistries don't mix well with each other. Some combinations can cause explosions and others harmful gases. So segregate batteries in storage, especially lead acid batteries away from nickel cadmium or nickel metal hydride.

6. The same tools and materials must not be used between battery chemistries. So color code the tools. Pick a color for each type of battery a tool could be used on and mark the storage area, as well as the tool, with that color.

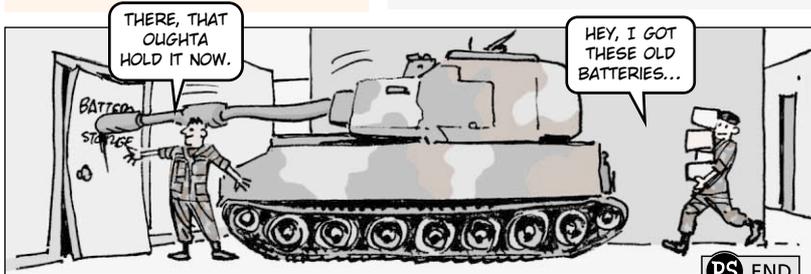
Watch out when using metal tools or materials that you don't short circuit a battery or cause sparks that could lead to an explosion.



7. Do not smoke, eat or drink in battery storage areas. An open flame could lead to an explosion and eating around toxins is never a good idea.



11. Know the odors, such as the smell of rotten eggs, and sounds, such as hissing and popping, associated with abnormal battery behavior. Let your nose and ears tell you when you might have a problem with a stored battery. Also, immediately disconnect any battery that is hot to the touch.



8. Do not mix new and used batteries. Each type needs its own storage area. Do not let used batteries pile up. Properly dispose of them quickly.

9. Periodically inspect stored batteries for defects such as bulges, cracks or leaks and to monitor battery expiration dates.

10. Keep only authorized batteries on hand and keep only the number that you need. It's a good idea to display in your storage area a list of available batteries and the equipment they're used in.

12. Last, but certainly not least, all personnel should be properly trained in maintenance procedures, first aid, personal protection equipment and the hazards of battery maintenance operations.



The meteorological measuring set (MMS) AN/TMQ-41, NSN 6660-01-386-3906, uses two types of light fixtures. One fixture takes a halogen bulb and the other an incandescent bulb.

The MMS AN/TMQ-41A uses one type of light fixture—an incandescent bulb.

Some MMS AN/TMQ-41 units contain a light fixture that requires a dual contact, 28V, halogen bulb. This bulb needs to be local purchased from the manufacturer, Ushio America Inc., using CAGE 0H3N2 and a part number of 1000917. Their phone number is 800-838-7446.

Other MMS AN/TMQ-41s and all AN/TMQ-41As contain a light fixture that requires a single contact, 28V, incandescent bulb, NSN 6240-00-155-7965.

REMEMBER, THE INCANDESCENT BULB IS NOT INTERCHANGEABLE WITH THE HALOGEN BULB!



When replacing the light fixture in any MMS, use the one that uses the incandescent bulb. The one that uses the halogen is being phased out. The incandescent bulb fixture needs to be ordered by part number S2312-201 and CAGE 78366 on a DD Form 1348-6.



GET YOUR NSNs HERE!



ARE YOU HAVING A TOUGH TIME GETTING THE CLAMP-TYPE AND CRIMP-TYPE CONNECTORS FOR THE RG-58 COAXIAL CABLE, NSN 6145-00-542-6092?

DO YOU HAVE THE NSN FOR THE CRIMPER TO ATTACH THE CRIMP CONNECTORS?

HERE'S A STARTER LIST OF CLAMP AND CRIMP CONNECTORS. USE FED LOG TO GET THE SIZES YOU NEED...

CRIMP

Plug	Type	Jack
	BNC	
5935-00-880-2569		5935-01-096-1953
5935-00-483-4252		5935-00-762-3858
5935-00-198-4304		5935-01-295-6443
5935-00-198-4305		5935-01-028-9404
	TNC	
5935-00-461-8416		5935-00-256-1034
5935-00-078-0029		
5935-00-136-6912		
	N	
5935-00-410-8888		5935-00-421-0279
	UHF	
5935-01-314-8138		none
5935-01-138-6365		

CLAMP

Plug	Type	Jack
	BNC	
5935-00-361-8401		5935-01-043-4859
4859-00-503-5531		
4859-01-043-0629		
4859-01-003-0820		
4859-00-828-1730		
4859-00-685-9768		
	TNC	
5935-01-385-5795		5935-00-840-6436
5935-01-043-5841		
5935-00-333-1804		
5935-00-003-2655		
	N	
5935-00-660-4296		5935-00-581-4601
5935-00-385-5991		
5935-01-285-1028		
	UHF	
5935-01-149-5358		none

TO CRIMP CONNECTOR TYPES BNC, TNC, AND UHF, YOU'LL NEED TOOL FRAME, NSN 5120-00-132-6913, AND DIE SET, NSN 5120-01-184-0131.

TO CRIMP CONNECTOR TYPE N, YOU'LL NEED CRIMPER, NSN 5120-01-138-0125.

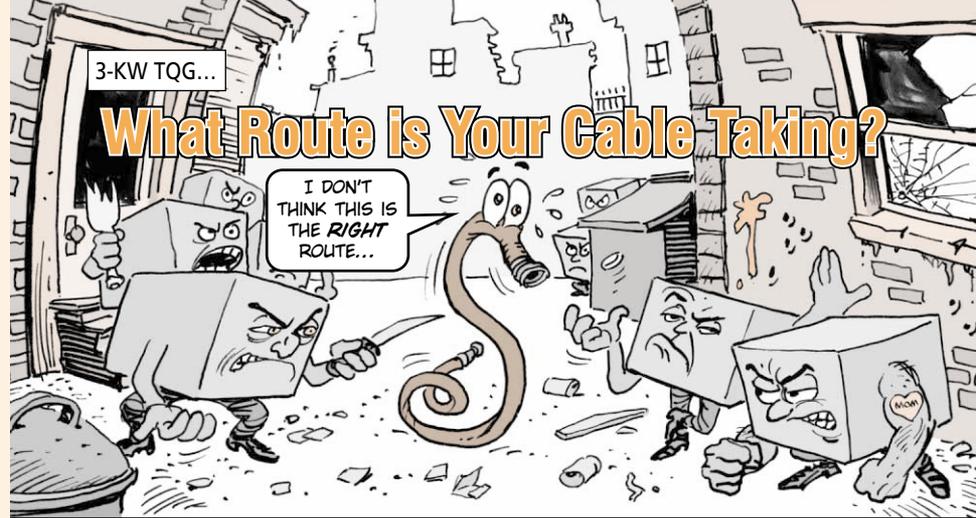
FINALLY, WORD ON THE COMMO STREET IS THAT THE CLAMP TYPE DOESN'T HOLD WELL UNDER STRONG VIBRATION.



THE CRIMP TYPE IS THE WAY TO GO.

3-KW TQG...

What Route is Your Cable Taking?



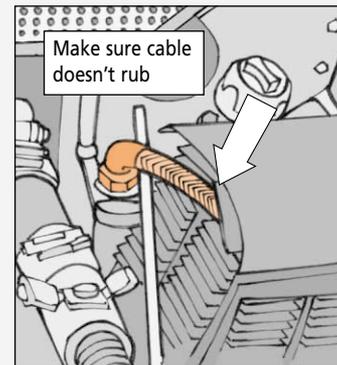
The battery cable on your 3-KW tactical quiet generator might be taking the wrong route through a bad neighborhood. It's a neighborhood where the cable's protective covering can get nicked and rubbed away.

This wrong route is underneath the engine mounting plate. Traveling this way puts the battery cable in harm's way. Cuts and nicks to the insulation can lead to shorts in the equipment and shocks to you.

The right route is above the mounting plate.

Make sure your battery cables are taking the right route. To help them stay in place, use a single tie wrap to secure the battery cables to the top of the engine mounting plate.

Add this routing info to Para 4-45, battery cable maintenance, in TM 9-6115-639-13.



Fuel Filter \$avings

If you're using NSN 2910-01-477-0840 to order a fuel filter element for your 3-KW tactical quiet generator, you're paying \$66 more than you need to and getting more parts than you bargained for.

According to TM 9-6115-639-23P, that NSN should bring you a fuel filter element. Instead it brings you the entire filter assembly!

Use NSN 4330-01-374-9147 to get only the fuel filter element. It will cost you around \$10.

YOU WANTED IT WHEN?



ALTHOUGH THIS QUESTION IS USUALLY ACCOMPANIED WITH LAUGHTER, IT'S **NOT** A LAUGHING MATTER FOR YOU IF PARTS YOU NEED ARE **NOT RECEIVED ON TIME.**

AVOID THESE PROBLEMS BY UNDERSTANDING THE **SIX CRITICAL DATA ELEMENTS** THAT TELL THE SYSTEM HOW QUICKLY YOU NEED A PART.

**Element 1
Department of Defense Activity Address Code (DODAAC)**



IS THE **CODE VALID?** IF NOT, YOU **WON'T GET ANYTHING** YOU ORDER.

The unit DODAAC is on the permanent orders that activated your unit. Unit activation orders are kept with the unit property book or in the commander's unit hand receipt if the unit is supported by a parent unit property book office—such as a battalion.

IS IT **CORRECT** WITH THE **INSTALLATION DODAAC COORDINATOR?**

If not, then your unit will not be authorized to order parts, pick up fuel or do anything in support of unit operations.

IS IT **REGISTERED** WITH YOUR **DIRECT SUPPORT UNIT (DSU)?**

If your supporting DSU doesn't have your DODAAC, they can't support you.

THE FOLLOWING THREE ELEMENTS TELL THE SUPPLY SYSTEM HOW IMPORTANT YOUR REQUEST IS.

THEY ARE EXPLAINED IN PARAGRAPH 2-2 OF DA PAM 710-2-1. **DO NOT** OVERSTATE THE IMPORTANCE BECAUSE THAT WILL BOG DOWN THE SYSTEM.

AND YOU WILL SLOW SUPPLIES TO UNITS WITH HIGH PRIORITY MISSIONS.

**Element 2
Force Activity Designator (FAD)**

"YOUR UNIT IS ASSIGNED A FAD, GENERALLY IN THE PERMANENT ORDERS ACTIVATING YOUR UNIT."

"PARAGRAPH 2-2A. THE FAD IS EITHER I, II, III, IV OR V."

**Element 3
Urgency of Need Designator (UND)**



YOUR UNIT DETERMINES THE UND (A, B, OR C) BASED ON HOW **URGENTLY** YOU NEED THE SUPPLIES.

YOUR **COMMANDER** WILL HAVE TO SIGN OFF ON UND A AND B, AS EXPLAINED IN PARAGRAPH 2-3A OF DA PAM 710-2-1.

**Element 4
Issue Priority Designator (IPD)**

"THE IPD IS DETERMINED USING THE FAD AND THE UND. PARAGRAPH 2-2C OF DA PAM 710-2-1 TELLS YOU HOW TO USE TABLE 2-1 OF THE PAM TO DETERMINE THE IPD."

Priority Designator Table
relating Force/Activity Designator (FAD) to Urgency of Need (UND)

FAD	UND		
	A	B	C
I	01	04	11
II	02	05	12
III	03	06	13
IV	07	09	14
V	08	10	15

Element 5 Required Delivery Date (RDD)

THE RDD IS USED WHEN THE STANDARD DELIVERY DATE (SDD) CANNOT MEET UNIT NEEDS.

IT IS ALSO USED ON HIGH PRIORITY REQUESTS FOR PARTS THAT DEADLINE UNIT EQUIPMENT. SEE YOUR EQUIPMENT TAGS FOR PARTS THAT, WHEN BROKE, RENDER THE EQUIPMENT NOT MISSION CAPABLE.



"IF YOU *DON'T* ASSIGN ONE, THE SYSTEM WILL USE THE SDD TO MEET YOUR NEEDS."

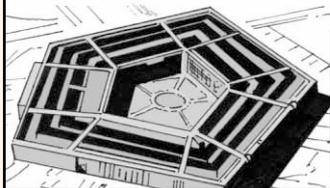
"SEE PARAS 2-4 AND 2-5 OF DA PAM 710-2-1 FOR ADDITIONAL INFORMATION ON THE SDD AND RDD."

FINALLY, IS THERE AN **AUTHORIZED PROJECT CODE** FOR YOUR REQUISITION?

Element 6 Project Code

"PROJECT CODES ARE ASSIGNED BY HQDA, THE CHAIRMAN OF THE JOINT CHIEFS OF STAFF, THE SECRETARY OF DEFENSE AND THE PRESIDENT OF THE UNITED STATES."

"YOUR COMMANDER WILL TELL YOU OF ALL PROJECT CODES YOUR UNIT MAY USE AND WHEN THEY SHOULD BE USED."



"*NEVER* USE PROJECT CODES THAT YOUR COMMANDER HAS NOT APPROVED FOR USE. THE CODES EXPEDITE DELIVERY OF PARTS NEEDED IN SUPPORT OF SPECIAL OPERATIONS AND TASK FORCES. PARAS 1-29 AND 1-30 OF AR 725-50, **REQUISITIONING, ISSUE AND RECEIPT SYSTEM** (NOV 95) DISCUSS THE PURPOSE AND USE OF PROJECT CODES."

IF YOUR REQUISITION HAS THE RIGHT ELEMENTS CORRECTLY ENTERED, THEN YOU SHOULD HAVE NO PROBLEMS GETTING THE PARTS YOU NEED WHEN YOU NEED THEM.



PS END

Maintenance Management...

Find Reportable Items in MMDF

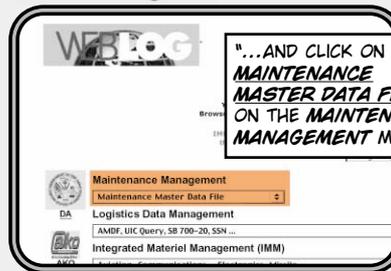
I'M TRYING TO DO THIS MONTH'S AMSS REPORT, BUT THIS RADAR SET IS A MISSION CRITICAL ITEM...

...AND IT'S NOT EVEN READINESS REPORTABLE!

I'M PRETTY SURE MY UNIT IS REPORTING THAT. WHAT VERSION OF THE MMDF ARE YOU USING? ARE YOU SURE THAT IT'S THE LATEST ONE?



THE MOST **UP-TO-DATE** LIST OF REPORTABLE ITEMS YOU NEED TO COMPLETE YOUR MONTHLY **ARMY MATERIEL STATUS SYSTEM (AMSS)** REPORT IS **ON-LINE**. JUST GO TO <http://weblog.logsa.army.mil/index.shtml>



"...AND CLICK ON **MAINTENANCE MASTER DATA FILE** ON THE **MAINTENANCE MANAGEMENT** MENU."

Maintenance Master Data File (MMDF) & Readiness Reportable Item Listings
(Dated 25 July 2001)
Attention: Due to a Windows NT problem in these executables you must **FORMAT** all disks manually prior to executing the programs.

The MMDF development Unit Level System (S) You can all MMDF pass Sustainabil readiness readiness authorizes reportable readiness approved f

IT'S THE READINESS REPORTABLE ITEM LISTING, A PART OF THE MAINTENANCE MASTER DATA FILE (MMDF).

BOTH FILES ARE UPDATED SEMIANNUALLY IN JULY AND JANUARY."

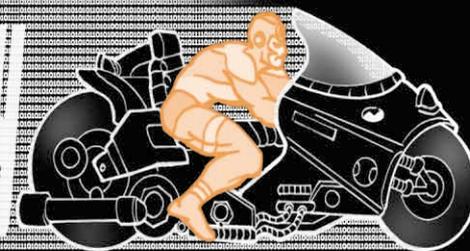
"ACCESS TO THE WEB LOG FILES REQUIRES A **LOGONID**."

"IF YOU *DON'T* HAVE ONE, REQUEST ONE AT THE **SYSTEM ACCESS REQUEST** LINK—LOCATED AT THE BOTTOM OF THE WEB LOG PAGE."



"PARA 2-5B OF AR 700-13B **ARMY LOGISTICS READINESS AND SUSTAINABILITY** (SEP 97), AUTHORIZES YOU TO USE THE MMDF AND ITS READINESS REPORTABLE ITEM LISTING TO VERIFY YOUR AMSS REPORTABLE ITEMS."

CHECK IT OUT AND IF YOU STILL HAVE QUESTIONS, CONTACT THE LOGSA POC AT DSN 645-9748, (256) 955-9748 OR BY E-MAIL AT linda.thompson@logsa.army.mil



THE ON-LINE WARRIOR IS BACK IN THE FAST LANE OF THE INFORMATION SUPERHIGHWAY.

DURING MY LAST TRIP THROUGH THE WEB, I CAME ACROSS THE FOLLOWING USEFUL SITES...



MANY REQUIRE A PASSWORD AND USER ID.

EACH SITE WILL TELL YOU HOW TO GET THEM.

<http://aeps.ria.army.mil/SMART/smartidea.cfm>

Gets you to the on-line SMART suggestion form. Just input your idea, hit the Submit button and the headshed has your idea to review. You may even make some money!



Submit An Idea

Welcome to the SMART Submission Page. Be sure information from you to start this process complete all the entries. We need this information your suggestion, and provide you the appropriate suggestion. **Also, please do NOT use double submission.**

Navigation	
■ SMART Home Page	
■ Search Ideas	

<http://www.quartermaster.army.mil/lt/supexcel.html>

Gives you all the info you need to compete for the Army Supply Excellence Award.

LOGISTICS TRAINING DEPARTMENT
Chief of Staff, Army,
Supply Excellence Award Program

<http://www.goordnance.apg.army.mil/>

Defines Army Award for Maintenance Excellence competition requirements. Once there, click on the Ordnance Corps button, then click on Army Award for Maintenance Excellence (AAME) about halfway down the page.

The Chief of Staff, Army Award for Maintenance Excellence (AAME)

DOD Maintenance Awards

<http://safety.army.mil/home.html>

Is the Army Safety Center web site. It contains safety regulations, safety training programs, risk management information and is home to the Countermeasure and Flightfax newsletters.

► **Safety Strategic Plan**

Army Safety Strategic Plan signed by the SecArmy and Chief of Staff . Plan provides the roadmap for integrating safety risk management into Transformation and all the Army does (more)

► **Safety Messages**

- DASAF Safety Alerts

► **Quick View**

- Flightfax January
- Countermeasure
- UH-60A MedE
- Aviation Safety
- Ground Safety
- Laser Eye Surv
- CY01 Counter Index
- Winter Driving

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

Gets you to the Army Knowledge On-Line web portal. It offers access to Army pubs and news, has a powerful search engine of Army web sites, and a permanent email address for registered users. In short, it's your one-stop shop for Army business.



SB 700-20 APPENDIX H UPDATE

Note that Appendix H of SB 700-20 now authorizes/substitutes LIN combinations of machine gun mounts. The combinations are M12647 (authorized) and M74823 (substitute) and M11071 (authorized) and M74618 (substitute). The changes were applied to SB 700-20's master file in Mar 02. The official pub date of the new appendix is 1 Jun 02.

AOAP on the Web

Having trouble finding the Army Oil Analysis Program Management Office? Check out these links:
<http://www.logsa.army.mil/proserv.htm>
<http://www.logsa.army.mil/alc/index.htm>
<http://weblog.logsa.army.mil/aoap/openpg.htm>
You can find out about AOAP, and check out what equipment is enrolled and their sampling intervals.

<http://www.mmis-mwo.com/mwo>

Is the home of MWO reporting.

Modification Management Information System (MMIS)

Please Login

User ID:

Password:

Drive to Arrive

Soldiers often forget the basics of safe driving when they park their trucks and tanks and fire up their POVs. Every 72 hours, a soldier is killed in a POV accident. Help prevent accidents by showing star-studded country music video clips as part of unit safety briefings. Download from the Safety Center web site at <http://safety.army.mil>. Also check out the POV Risk Management Toolbox for tips and tools to help in the Army's "Drive to Arrive" accident prevention campaign.

FMTV HYDRAULIC FLUID

You can also use Royco 756 hydraulic fluid in the air/hydraulic manifold on FMTVs. It joins MIL-H-5606 as the only approved fluids for this application. Royco 756 can be mixed with MIL-H-5606 in the same manifold without causing performance problems. Royco 756 is available in these sizes:

NSN 9150-00-224-4134 (quart)
NSN 9150-00-252-6383 (gallon)
NSN 9150-00-265-9408 (55-gal drum)

BATTERY CHARGER CHANGE

The PP-34/MSM, lead acid battery charger, NSN 6130-00-224-6089, is obsolete. Order the PP-1660E, NSN 6130-01-446-4132, instead.

<http://aeaps.army.mil>

Allows users to submit supply discrepancy reports, quality deficiency reports or pub changes (DA Form 2028) on-line. It also has a logistics assistance office (LAO) locator service, major subordinate command links to safety of use (SOU), safety of flight (SOF), maintenance advisory messages (MAM) and other maintenance and supply resources.



250 CFM COMPRESSOR FILTER

NSN 2940-01-186-0592 gets the oil filter element shown as Item 9 in Fig 74 of TM 5-4310-452-24P. The NSN listed in the TM gets the wrong filter.

DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 3408312, requirements for TB 43-PS-Series.

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



WHEN IT COMES TO COMMO PM, THE WEAKEST LINK NEVER HEARS "GOOD-BYE"!



Issue 594



May 2002

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-594

Approved for Public Release; Distribution is Unlimited



I-I GUESS... I SHOULDN'T HAVE TAKEN THIS **SHORT-CUT!**

AND **NO** SHORTCUTS ON YOUR **PMCS**, EITHER!