



**THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY**

TB 43-PS-622, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders.

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

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PS, the Preventive Maintenance Monthly  
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Internet address:

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By order of the Secretary of the Army:

**PETER J. SCHOOMAKER**

General, United States Army Chief of Staff

Official:



**JOEL B. HUDSON**

Administrative Assistant to the Secretary of the Army  
0416901

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PS

September  
2004

# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-622

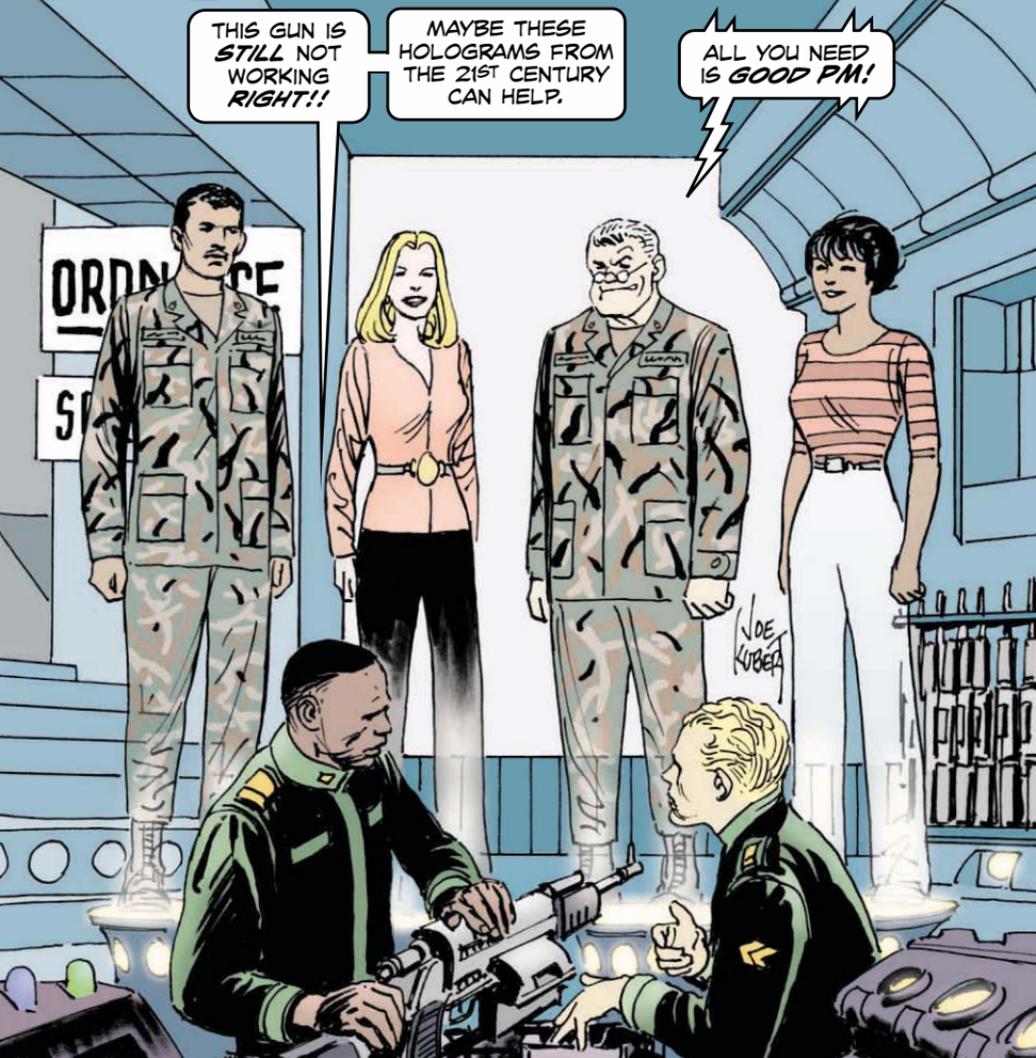
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VISIT THE  
FUTURE...  
PAGE 27

THIS GUN IS  
*STILL* NOT  
WORKING  
*RIGHT!!*

MAYBE THESE  
HOLOGRAMS FROM  
THE 21<sup>ST</sup> CENTURY  
CAN HELP.

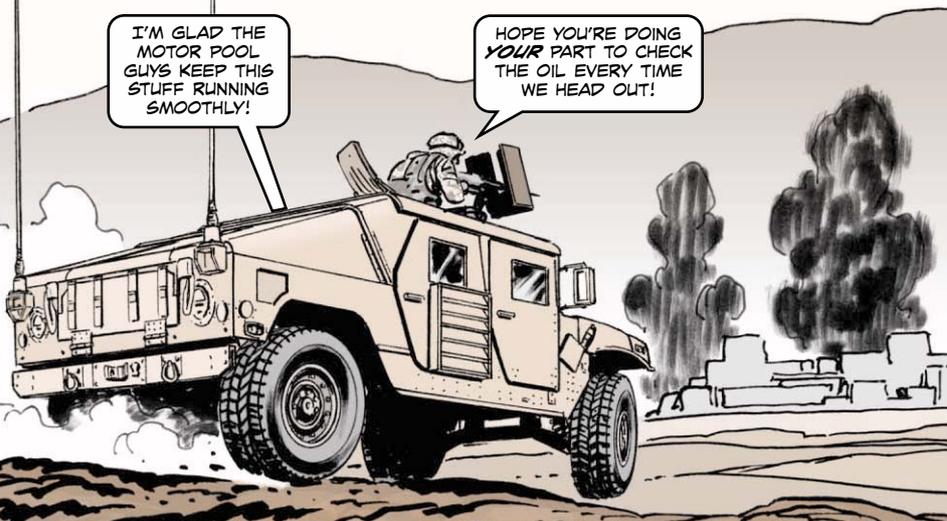
ALL YOU NEED  
IS *GOOD PM!*



# AS YEARS ROLL BY

I'M GLAD THE MOTOR POOL GUYS KEEP THIS STUFF RUNNING SMOOTHLY!

HOPE YOU'RE DOING YOUR PART TO CHECK THE OIL EVERY TIME WE HEAD OUT!



Did you hear about the HEMTT engine that had to be rebuilt because it was operated low on oil—low by 3 gallons in an 8 1/2-gal sump?

And, did you hear about a 621B scraper engine that arrived in the same rebuild shop a few days later because it had been operated with no oil at all? Sad to say, the vehicle's \$30,000 engine was cooked.

Army equipment is getting used daily under the worst conditions. That kind of use demands the best preventive maintenance checks and services. The checks should be based on use. What was once a weekly maintenance check may need to be a daily check. It may even need to be an hourly check.

Add to that the fact that as equipment gets older an engine racks up more and more hours of use. In some cases, older engines can burn up to a gallon of oil per day during heavy use. Within a few days some serious damage is done to an engine that's not maintained.

So, remember this: Whether an engine is new or old or in between, whether it uses no oil or a lot of oil, you need to pull PMCS to keep it running. Or it'll quit—maybe when you need it most.



DON'T EXPECT A MECHANIC TO CATCH LOW OIL LEVELS!

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**half.mast@us.army.mil**  
 Internet address:  
**https://www.logsa.army.mil/psmag/pshome.html**

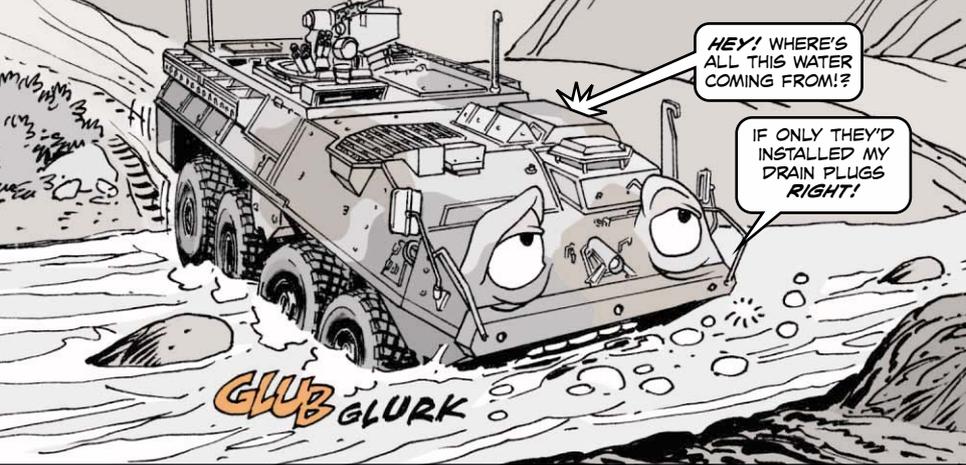
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Stryker...

# SAY 'SO LONG' TO PLUG PROBLEMS



There are two wrong ways and a right way to close the 15 drain plugs on the hull of your Stryker.

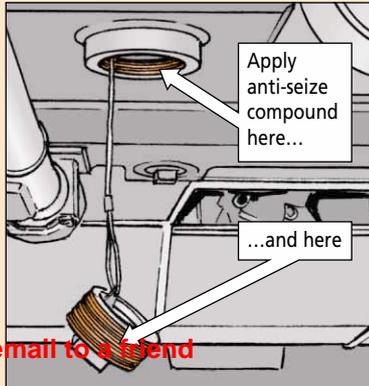
**Wrong Way #1:** Some crewmen close them loosely. But that lets the plugs vibrate loose. They hang below the hull and are knocked off by rocks and brush. Your Stryker will be a little waterlogged the next time you have to ford.

**Wrong Way #2:** Other crewmen like to close 'em up tight. That way, they reason, they'll never have to worry about a plug coming loose in the field. These crewmen are easy to spot. They're the ones who are red-faced with effort as they try to remove the plugs.

**Right Way:** The important thing to remember is to use anti-seize compound, NSN 8030-00-286-5453, on the threads before installing the plugs. That lets you tighten the plugs enough to keep them from vibrating loose, but makes them easier to loosen when you need to.

MAKE SURE YOU PUT THE COMPOUND ON THE PLUG'S THREADS AND ON THE THREADED PORTION OF THE HULL.

THAT WAY, ALL THE THREADS ARE COATED AND THE PLUGS WON'T STICK.



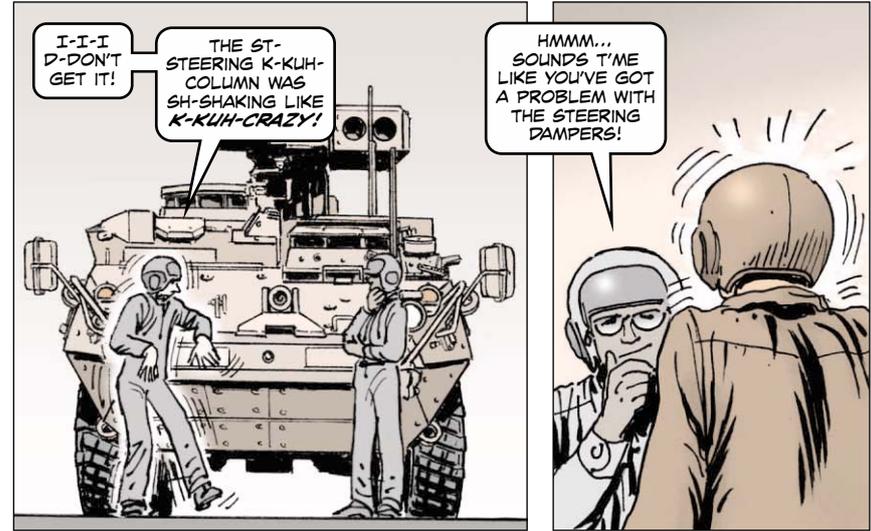
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Stryker...

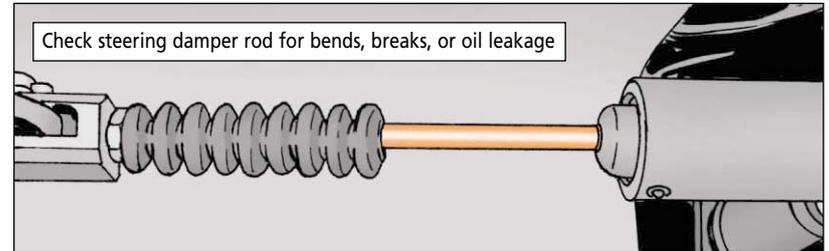
# Spare the Rod, Spoil the Steering



Drivers, your Stryker is strong and rugged. But even it has a few soft spots.

Take the steering dampers, for example. The dampers are like mini shock absorbers that act as a stabilizer for the steering system. Without 'em, the steering column can shake enough to loosen your fillings.

Since the rod on each damper is only about 1/4-in thick, rough terrain, rocks, and heavy brush can take a toll. So you need to crawl under your Stryker to visually inspect them. Look for a bent or broken rod or evidence of oil on the rod that could indicate a leaking wiper seal. Report any problems to your mechanic.



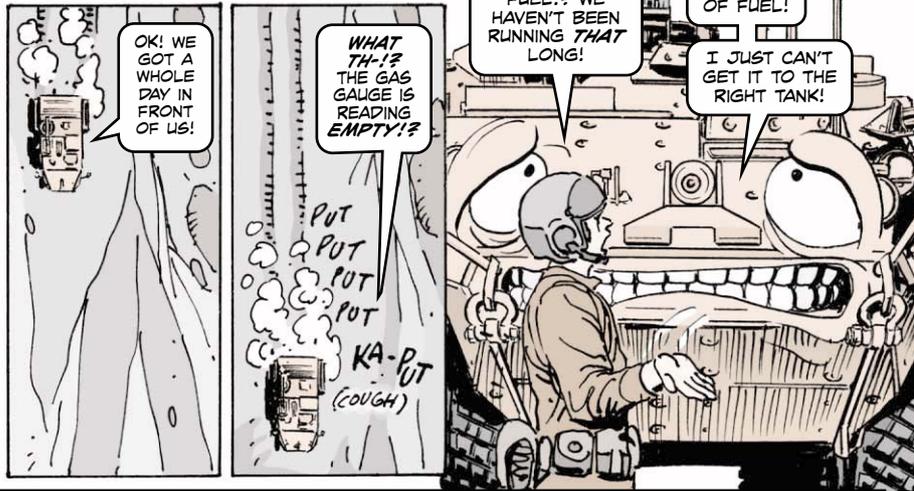
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SEP 04

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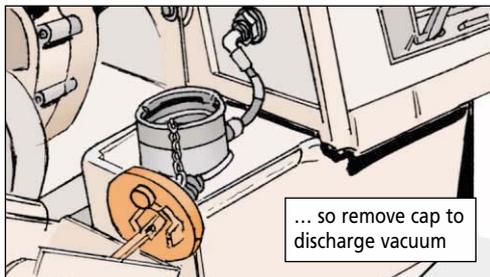
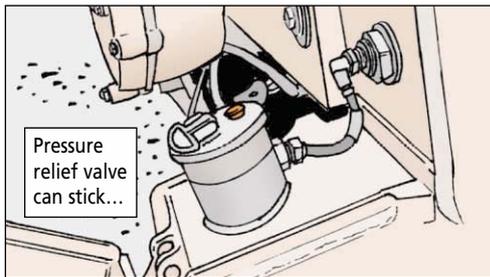


Fuel flow on the Stryker can be a little tricky, drivers.

Fuel is supposed to automatically transfer from the right to the left fuel tank as fuel is burned. But sometimes the pressure relief valves stick on the left and right fuel tank caps, especially if they get clogged with dirt or sand.

That can create a vacuum that allows the left tank to empty while the right tank stays full.

When that happens, it's up to you to relieve the pressure so fuel will transfer properly. You do that by opening the left and right fuel tank caps every 4-5 hours of operation to relieve the pressure.



# FUEL FILTER FOULUP



If you want to keep your Bradley's FUEL FILTER CLOGGED light off, you'll have to pay close attention to your fuel filter PMCS, drivers.

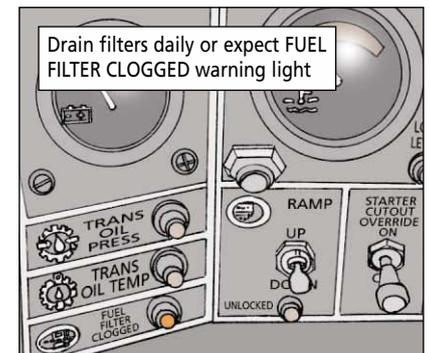
The -10-1 TMs say to drain water **after** every operation. If you forget, the separator starts to rust. The rust and water mix with contaminants in the fuel to create a gloppy buildup that can plug the bottom of the separator.

As fuel flow lessens, the Bradley's engine begins to sputter and jerk. On comes that FUEL FILTER CLOGGED light.

Things can get even worse in cold weather. Water buildup freezes into a solid plug that stops fuel flow completely. It can also crack the separator as the ice expands and contracts.

Changing the filter won't fix the problem, either. Once the damage is done, the only fix is to have your mechanic remove and clean the separator with a mixture of water and liquid detergent, NSN 7390-00-990-7391.

So, drain the filters after each operation into a clear container until clean fuel comes out. Then make sure you dispose of the fuel in an approved hazardous waste container.



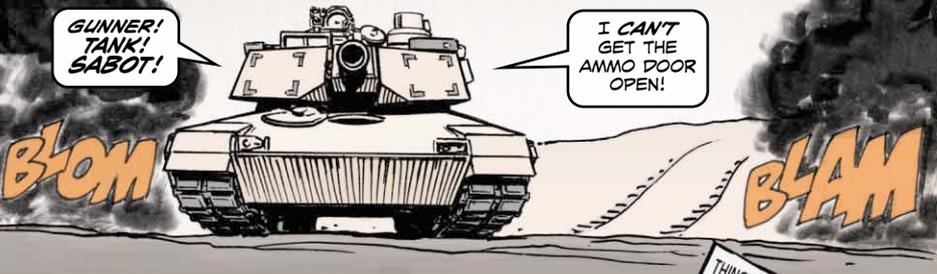
# KEEP AMMO DOORS MOVING

HOPE NOTHING HAPPENS TODAY...



GLUNNER! TANK! SABOT!

I CAN'T GET THE AMMO DOOR OPEN!



TANKERS, A **JAMMED AMMO DOOR** IS HIGH UP ON THE LIST OF "THINGS YOU DON'T WANT TO HAVE HAPPEN ON THE BATTLEFIELD."

DO YOUR AMMO DOOR PM NOW, AND YOU WON'T HAVE ANY REGRETS LATER.

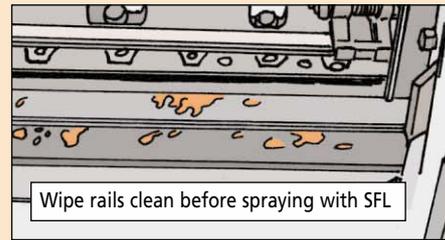


## Lubrication

Proper lubrication should be your first priority, since lack of lube will result in a stuck door almost every time.

A semiannual coat of solid film lubricant (SFL), NSN 9150-01-260-2534, is the way to go. Wipe away any dirt or grease that'll keep the SFL from sticking. Then, give the following areas a good coating:

- **Ammunition doors.** Spray the door seals, sliding surfaces and rails.
- **Ready ammunition door.** Spray the four seal retainer cams and the two rail cams.
- **Stowage ammunition door.** Spray the two door cams.
- **Hook latch.** Use a grease gun to lube the hook latch with WTR, NSN 9150-00-935-5851.
- **Hook latch and housing assembly.** Spray all moving and touching parts.
- **Latches.** Spray the sliding surfaces of all latches.
- **Ammunition tubes.**



Spray the inside surfaces and all rubber stops inside the ammunition tubes with SFL. That allows ammo to slide in and seat properly so that it does not hit the ammo doors.

Rubber stops and interior of ammo tubes need lube, too



## Hook Latch and Housing Assembly

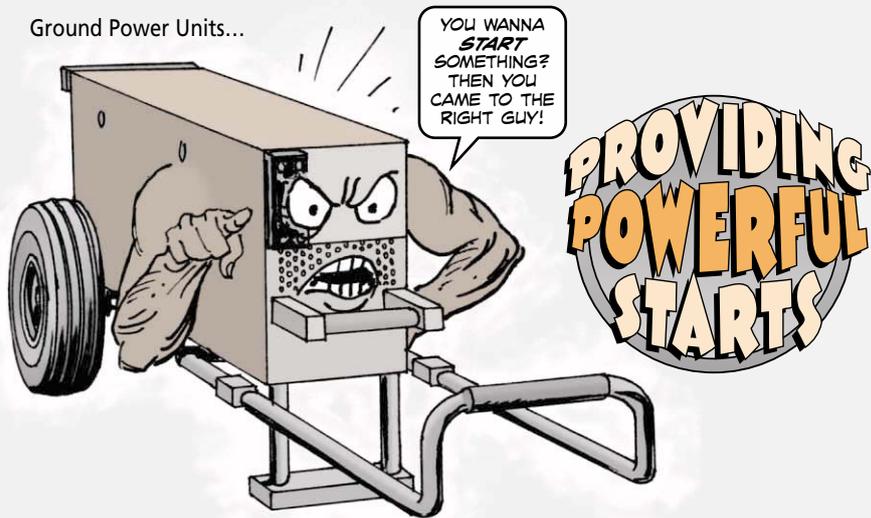
In addition to lubing this assembly, you'll need to make sure the mounting screws are nice and tight.

Vibration loosens the screws. If they break, the ammo door jams as you try to open or close it. You won't be doing any firing either way.

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

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





Tired of trying to maneuver a vehicle close enough to slave start a dead vehicle? It's never easy, but it's especially hard within the close confines of a motor pool.

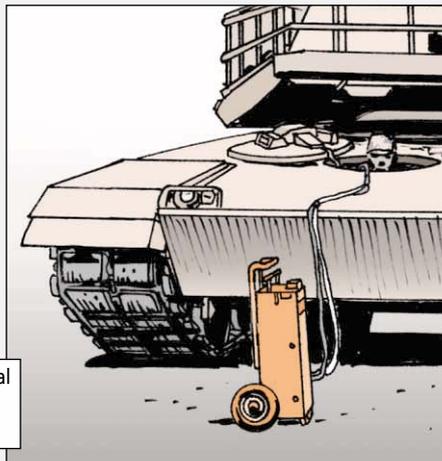
Not only is the job time-consuming, but it usually takes two or three soldiers to get it done. And if there's one thing maintenance managers can't spare, it's personnel.

You can solve this problem by buying a ground power unit (GPU), NSN 6130-01-475-5321, for your motor pool. The GPU is a Class IX item, weighs only 125 pounds and is easy to move between vehicles. In the field, it automatically receives a recharge from the vehicle it's hooked up to once the vehicle is started.

The GPU uses a dry-cell design, so there's no battery acid to handle.

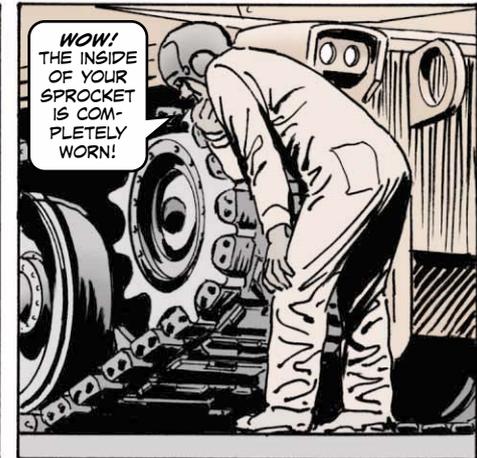
With the GPU, a maintenance team in a small vehicle can make repairs to a disabled tank, re-start it and send it back into action without having another tank or recovery vehicle on site to provide power.

The GPU works great with all combat, tactical and construction vehicles—anything that uses a 24-volt system.



GPU powers up all combat, tactical and construction equipment with 24-volt systems

# The Ins and Outs of PM



You're a firm believer in preventive maintenance. You do a complete and thorough PMCS whenever the TM requires it. So why is the track on your howitzer or ammo carrier in such sad shape?

Sprocket wear could be the culprit. Most crewmen check the sprocket wear marks to make sure there are no problems. But what they don't notice is that the end connectors can sometimes wear too far on the inside of the sprocket teeth.

In fact, the teeth may be worn down to or below the wear marks, even though the outside of the sprocket looks just fine.

When that happens, the sprocket "hooks" end connectors during operation. The end connectors are damaged, track life is reduced and sprockets are broken.

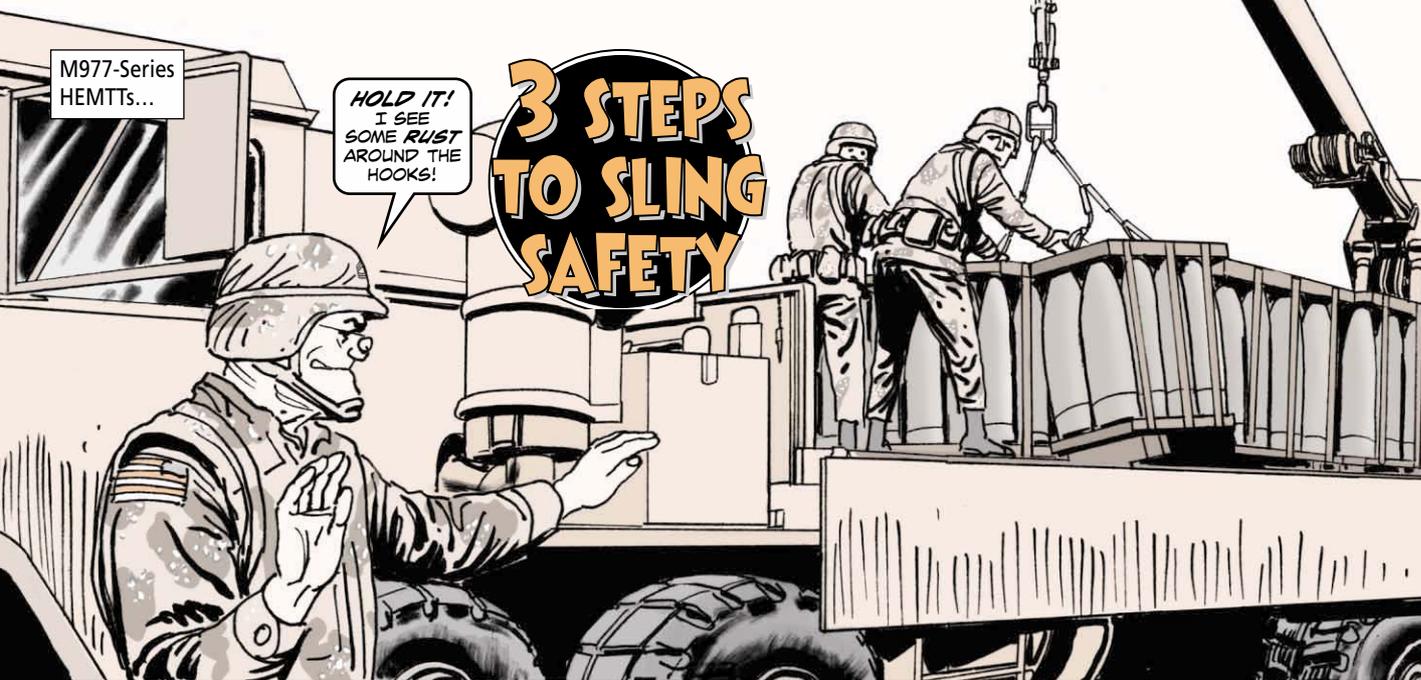


SO MAKE SURE YOU CHECK THE INSIDE AS WELL AS THE OUTSIDE OF THE SPROCKETS DURING PMCS.

M977-Series  
HEMTTs...

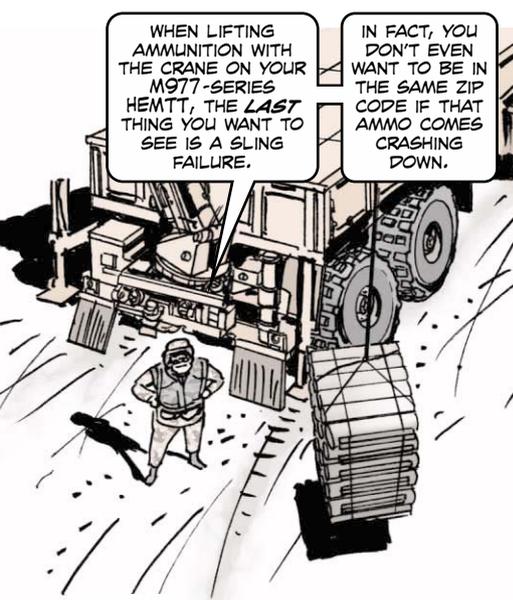
HOLD IT!  
I SEE  
SOME RUST  
AROUND THE  
HOOKS!

# 3 STEPS TO SLING SAFETY



WHEN LIFTING  
AMMUNITION WITH  
THE CRANE ON YOUR  
M977-SERIES  
HEMTT, THE **LAST**  
THING YOU WANT TO  
SEE IS A SLING  
FAILURE.

IN FACT, YOU  
DON'T EVEN  
WANT TO BE IN  
THE SAME ZIP  
CODE IF THAT  
AMMO COMES  
CRASHING  
DOWN.



**Step one** in preventing sling failure is to keep the sling properly marked. At a minimum, the sling should show the ID number (vehicle number and sling NSN), load rating, and the next required inspection date.

Unmarked slings are more likely to be abused. Without those guidelines, the slings may be overloaded or used for the wrong purpose. That's **very** dangerous for you and others.

There are two slings authorized for use with the HEMTT. The double basket chain sling, NSN 3940-01-209-6008, has a rated load of 6,000 pounds (3,500 pounds per chain). The six-legged projectile sling, NSN 3940-01-241-7400, has a rated load of 5,400 pounds (1,350 pounds per leg).

Double basket chain sling  
holds up to 6,000 pounds



**Step two** is to functionally load-test the slings annually at 100% of their rated capacity. TB 43-0142, *Safety inspection and Testing of Lifting Devices*, tells you how.

**Step three** requires inspecting the slings annually. Here's how:

## Double Basket Chain Sling

With the sling on the ground, eyeball the chains link-by-link. Watch for any link that does not hinge freely with its adjoining link and for obvious signs of stretching. Also look for bent or twisted links, defective welds, nicks, gouges, and any wear that exceeds 3/64 inch from the chain's original 1/4-in thickness.

If you spot any of these problems, the sling is unsafe and should be replaced.

## Six-legged Projectile Sling

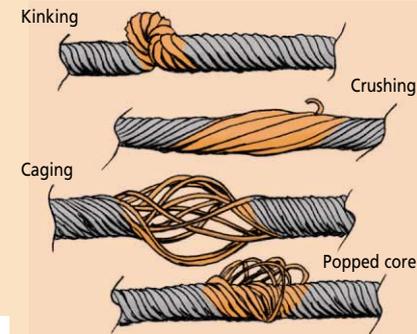
Replace the sling's wire rope when you find broken wiring (six or more randomly distributed broken wires or three broken wires in one strand).

Next, check the diameter of the wire rope. If it's reduced by more than 1/32 inch from the rope's original 3/8 inch diameter, replace it.

Pay special attention to the wire rope near the hooks. Internal corrosion is a problem there. Replace ropes with wire strands that show signs of pitting.

Wire ropes that show severe kinking, crushing, caging, or a popped core should also be replaced.

## Wire Rope Damage





## Tug Boat BII Blower

Use NSN 4140-01-333-2224 to get the portable ventilating blower for the large inland and coastal tug boat. This NSN replaces the one shown on Page B-37 of TM 55-1925-207-10-2.

## Tug Boat Life Preserver

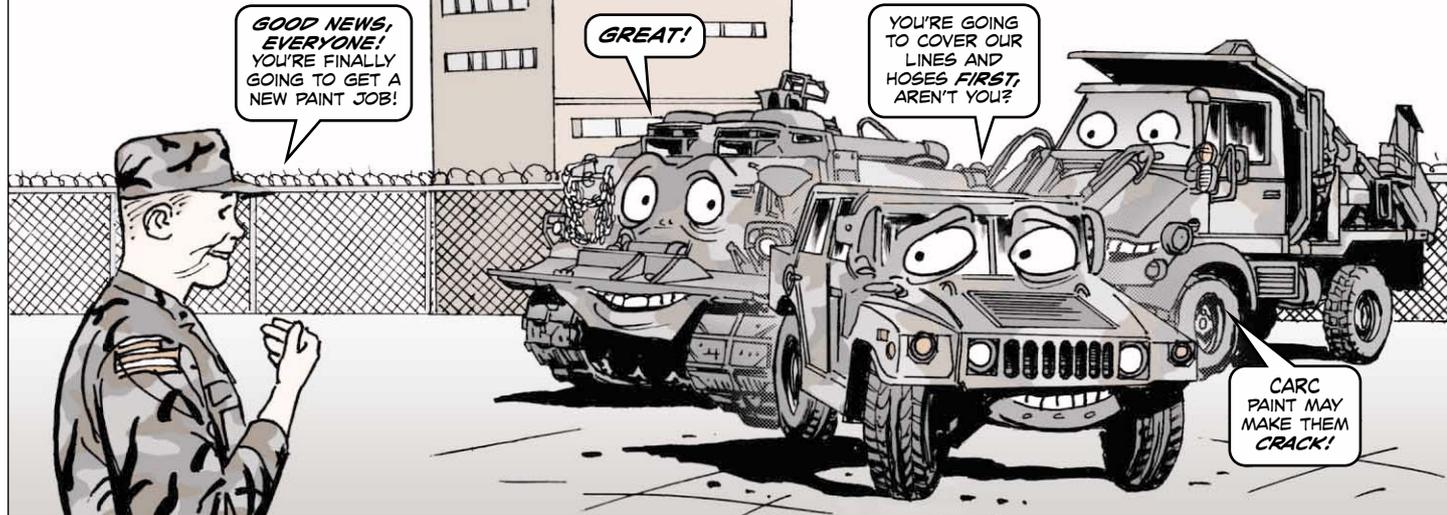
Use NSN 4220-01-485-1135 to get an orange life preserver with collar for the large inland and coastal tug boat. This NSN replaces the one shown on Page B-73 of TM 55-1925-207-10-2 w/C3.

## Tug Boat BII Pump

Use NSN 4320-01-387-2869 to get the centrifugal pump unit for the large inland and coastal tug boat. This NSN replaces the one shown on Page B-116 of TM 55-1925-207-10-2 w/C3.

CARC Paint...

# PROTECT RUBBER LINES AND HOSES



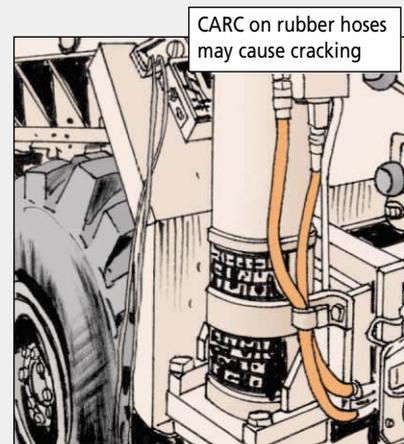
So, your vehicle's being sent off for a fresh coat of CARC paint. Before it goes, take a close look at the exterior rubber lines and hoses. Have they been covered with tape and paper yet?

SURE, THAT'S SUPPOSED TO BE DONE BY YOUR SUPPORT BEFORE THEY DO THE PAINTING.

BUT SINCE IT'S YOUR VEHICLE AND YOU HAVE TO DRIVE IT, PROTECTING THOSE LINES AND HOSES YOURSELF JUST MAKES PLAIN GOOD SENSE.



CARC paint and rubber do **not** mix. CARC is designed for use on hard metal surfaces, not flexible rubber surfaces like brake lines and hydraulic hoses.



The solvents in CARC can damage the rubber's flexibility and maybe even cause premature cracking. If that happens, your vehicle's unsafe until the hoses are replaced.

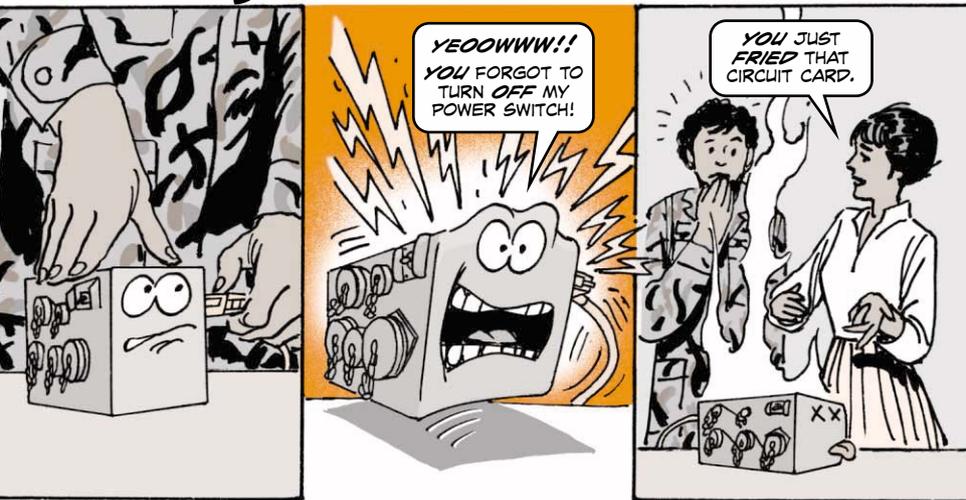
Have you seen a CARC-painted rubber hose that has developed cracks? If so, submit a QDR and send the failed part to TACOM-TARDEC for analysis. Here's the address:

TACOM-TARDEC  
TARDEC Materials Engineer MS-267  
(Carl Handsy)  
6501 E. 11 Mile Rd  
Warren, MI 48397-5000

Questions? Call Carl Handsy at DSN 786-7738 or (586) 574-7738.

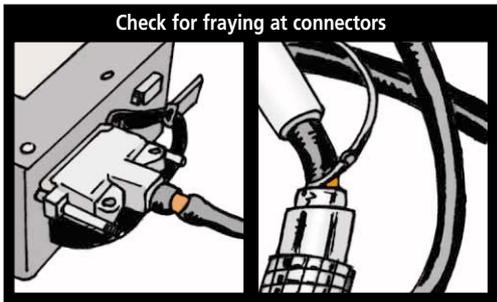
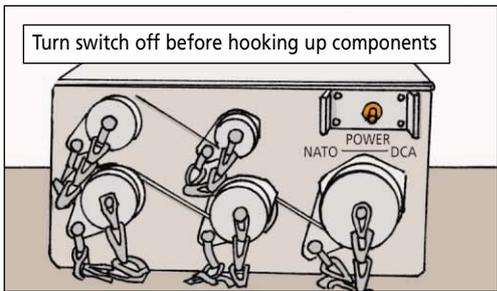
His email address is [igor.carl.handsy@us.army.mil](mailto:igor.carl.handsy@us.army.mil)

# Voltage KOs SPORT, MSD Cards



If you use the internal combustion engine (ICE) box with the AN/PSM-95 Soldier's Portable On-system Repair Tool (SPORT) or AN/PSM-95A Maintenance Support Device (MSD), make sure the ICE box power switch is turned off before you connect their components for testing.

If the switch is on, voltage can damage the ICE test kit's DM224 PCMCIA circuit card, which costs almost \$3,000. That means no more testing. Before hookup, also check the power/data cable for fraying at the connectors. A frayed cable can short circuit and also damage the card and the ICE box itself.



To help you remember to turn the switch off, stick a warning label on top of the ICE box. Get the label by calling the MSD/SPORT Help Desk at 1-877-564-1137 or emailing:

**APATS@redstone.army.mil**

You can also contact MSD/SPORT support through the dial-up connection that's part of the MSD desktop by clicking on the MSD homepage icon.

Info on removing and installing the MSD and SPORT PCMCIA card is in TM 9-6625-2301-12, which is the interactive electronic technical manual that came with the MSD. The TM can be accessed from the IETM icon on the MSD desktop. The computer-based training module that's part of the MSD and SPORT software gives additional training and info. To access it, hit the CBT icon on the desktop.

SPORT users will need to order TM 9-6625-2301-12 through their pubs account. If you have any questions about MSD or SPORT, call or write MSD/SPORT support at the numbers and addresses above.

For technical discussions on TMDE, go to the Army Knowledge Online website at:

<https://www.us.army.mil/portal/jhtml/dc/disc.jhtml>



## SPORT Warranty Wrong

THE WARRANTY DATE LISTED ON SOME AN/PSM-95 SOLDIER'S PORTABLE ON-SYSTEM REPAIR TOOLS (SPORT) IS **WRONG**.

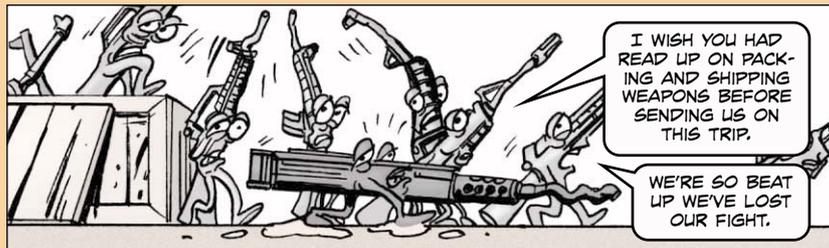
IF YOU HAVE A SPORT WITH SERIAL NUMBER CDA 20366 THROUGH CDA 21733, IT MAY STILL BE UNDER WARRANTY EVEN THOUGH THE WARRANTY DATE SAYS IT ISN'T.

TO CHECK, CALL 1-888-577-6780 AND THEY CAN QUICKLY TELL YOU.

IF YOUR SPORT IS STILL COVERED BY THE WARRANTY, THE MANUFACTURER WILL PAY TO MAIL, FIX AND RETURN IT.



# HOW TO SHIP WEAPONS



Dear Half-Mast,

We are getting ready to ship out to Iraq and we're wondering where to go for info on packing our rifles and machine guns. We don't want to get there and find out our weapons didn't make the trip safely.

B.B.

Dear Mr. B.B.,

Info on shipping weapons is lacking in many of the -23&P TMs for the rifles and machine guns, so here's the basic scoop on getting your weapons ready for a trip:

First, clean them thoroughly like it shows in the -10 TMs. But don't steam clean them. That leads to corrosion problems.

Then lube the weapons like the -10 says. All metal surfaces should be lubed. For most weapons, that means lube with CLP. Exceptions are the MK19 and the Avenger's M3P, which use stronger lubes. See their TMs for lubing instructions.

Wrap each weapon with vapor corrosion inhibitor (VCI) barrier and secure the barrier with tape. NSN 8135-00-664-0015 gets 600 feet of barrier. You can also use non-VCI greaseproof stretchable wrap, NSN 8135-00-753-4661, and add CORTEX Cor-Pak I-MUL VCI packets, NSN 6850-01-470-2737, at one per cubic foot inside the wrap. The NSN is not on FED LOG, but you can order it through GSA. You get a carton of 300 packets for \$242.

Place the weapons in weather-resistant fiberboard boxes. Put filler material like bubble wrap in the boxes to prevent weapons from shifting during travel. Tape all open box seams and edges to prevent VCI from escaping the box and water and sand from getting in.

Get boxes for the MK19 with NSN 8115-00-190-5015 and boxes for the M2 with NSN 8115-00-579-8461.

If you need NSNs for more packing materials and boxes, see Pages 56-60 in PS 596 (Jul 02). The article is on the PS website at:

[http://www.logsa.army.mil/pub/psissues/ps\\_596.pdf](http://www.logsa.army.mil/pub/psissues/ps_596.pdf)

If you need racks to ship the weapons in, see Pages 16-17 in PS 619 (Jun 04) for rack NSNs. It's on the Internet at

[http://www.logsa.army.mil/pub/psissues/ps\\_619.pdf](http://www.logsa.army.mil/pub/psissues/ps_619.pdf)

If you have other questions, contact TACOM's Dongil Juhn at DSN 793-0242/(309) 782-0242 or email:

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

or call TACOM's David Piskorik at DSN 793-6164/(309) 782-6164 or email:

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

*Half-Mast*

M16-Series Rifle, M4/M4A1 Carbine...

## Is There a Cleaning Kit NSN?



Dear Half-Mast,

We've heard that there's an NSN that brings the entire cleaning kit for the M16-series rifle and M4/M4A1 carbine. Is there?

SFC K.M.

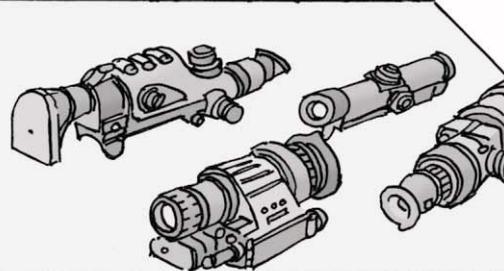
Dear Sergeant K.M.,

No, there is not an NSN for a cleaning kit. Commercial cleaning kits exist but lack a rigid cleaning rod. Without a cleaning rod, you have no way of dealing with a spent cartridge in the chamber. Use the NSNs in the back of TM 9-1005-319-10 to order the tools and supplies you need for cleaning M16s and M4s.

*Half-Mast*

# A LARGE AMOUNT OF MOUNTING INFO

NOW YOU CAN MOUNT ALL SORTS OF NIGHT VISION SIGHTS AND AIMING DEVICES ON YOUR RIFLE OR MACHINE GUN.



The trouble comes when you try to figure out which sights and aiming devices can be mounted on which weapons and how you mount them. The TMs for the weapons usually don't cover that and sometimes it's hard to locate a TM for a sight or aiming device. And then there's also the problem of zeroing the sight or aiming device.

Well, there is a publication that has all the info you need on what you can mount on which weapons, how to do it, and how to zero the sight or aiming device. It's called the Small Arms Integration Book. And the good news is that you don't have to order it. You can download it at:

<http://atiam.train.army.mil/portal/atia/adlsc/view/public/295518-1/st/saib/saib.htm>

Read the instructions on how to download the book. The book runs hundreds of pages and takes quite a while to download on even the fastest Internet connection.



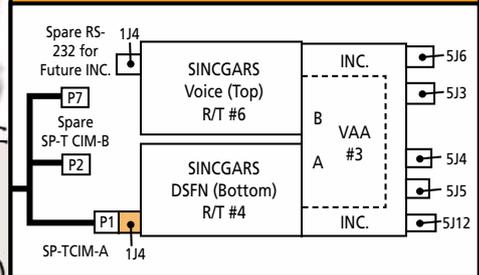
ONCE YOU PRINT OUT A COPY OF THE BOOK, YOU MIGHT WANT TO GET IT COPIED LOCALLY.

# TM Changes for M31 Ballistics Computer

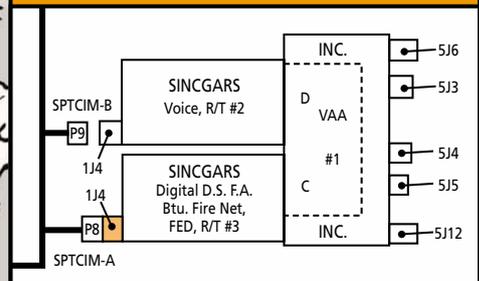
IF YOUR UNIT USES THE M31 MORTAR BALLISTICS COMPUTER (NSNS 1220-01-484-1740 AND 1220-01-484-0716), MAKE THESE CHANGES IN THE COMPUTER'S TM 9-1220-247-13&P...



Page G-3: Change the cable diagram to show the 3W17 cable's P1 connector hooked to the J4 port of SINGGARS.

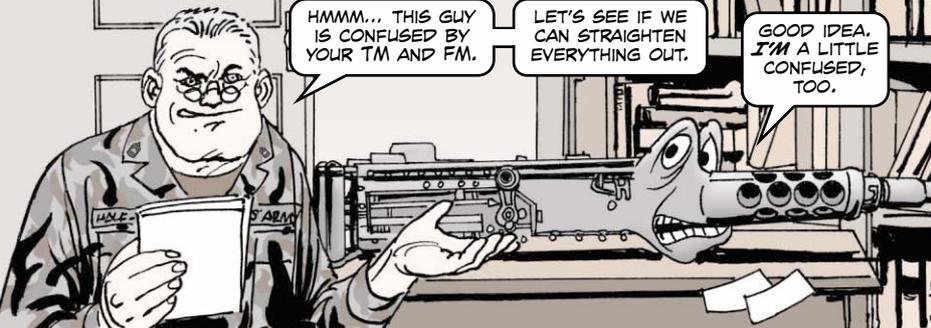


Page G-2: Change the cable diagram to show the 4W7 cable's P8 connector hooked to the J4 port of SINGGARS.



Page 2-20.1: Add the following note: "Pressing the CTRL DEL twice will cause improper shutdown and will lock up the computer. The DELETE MEMORY AND SHUTDOWN? operator message box will not appear. Turn MBC Power switch OFF."

# CONFUSED BY THE TM AND FM



HAMMM... THIS GUY IS CONFUSED BY YOUR TM AND FM.

LET'S SEE IF WE CAN STRAIGHTEN EVERYTHING OUT.

GOOD IDEA. I'M A LITTLE CONFUSED, TOO.

Dear Half-Mast,

There are some places in the M2 machine gun's TM 9-1005-213-10 and FM 23-65 that seem to contradict each other. I was wondering if you could clear these areas up:

- Para 2-3a in the FM says to use CLP to clean and lubricate and Para 2-3f further says to use RBC only if CLP isn't available. But Chapter 3 in the TM says to use RBC and carbon removing compound for cleaning the M2.

So which is it?

CLP, RBC, AND CARBON REMOVING COMPOUND ARE ALL AUTHORIZED FOR CLEANING THE M2. BUT RBC AND CARBON CLEANING COMPOUNDS ARE CLEANERS ONLY.

ONCE YOU'RE FINISHED CLEANING WITH THEM, YOU MUST WIPE THE MACHINE GUN DRY AND THEN LUBE IT WITH LSA OR LAW, DEPENDING ON THE TEMPERATURE. CLP CLEANS AND LUBES SO NO FUTHER LUBING IS REQUIRED.

FOR REALLY TOUGH CLEANING JOBS, RBC IS USUALLY BETTER THAN CLP. DON'T MIX CLP WITH LSA OR LAW. THEY DON'T WORK WELL TOGETHER.

- Item 4 in work package 0023 00-4 in the TM says "Use LSA above 0° F and LAW below 0° F", but 0023 00-6 says "Between 10° F and -10° F use CLP, LSA or LAW. Below -10° F use only LAW."

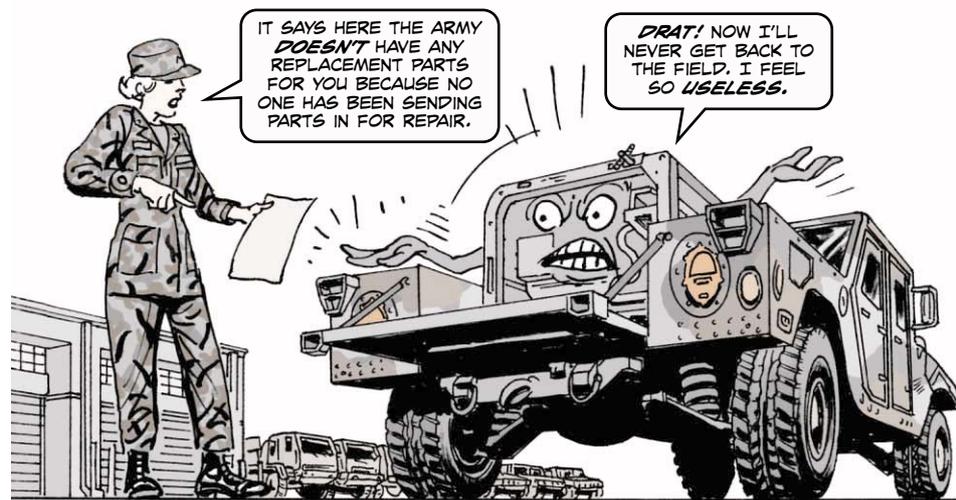
What's correct?

SGT C.L.S.

ABOVE 10°, USE CLP OR LSA. BETWEEN -10 AND 10, YOU CAN USE CLP, LSA, OR LAW. BELOW -10, USE ONLY LAW.

THANKS, SERGEANT, FOR POINTING OUT THESE CONFUSING AREAS IN THE TM AND FM. HOPE THIS CLEARS EVERYTHING UP.

# SEND IN BROKEN COMPONENTS



IT SAYS HERE THE ARMY DOESN'T HAVE ANY REPLACEMENT PARTS FOR YOU BECAUSE NO ONE HAS BEEN SENDING PARTS IN FOR REPAIR.

DRAT! NOW I'LL NEVER GET BACK TO THE FIELD. I FEEL SO USELESS.

When components are breaking down on the position and azimuth determining system (PADS), not enough units are sending them in for repair. As a result, the Army can't repair components and put them back in the field and units can't get replacement components to keep their PADS operating.

If you have **any** broken PADS components sitting in your unit, turn them in. The following are in really short supply:

- **computer**, NSN 7020-01-120-4131, PN 880700-8 (Item 32 in Fig 1 of TM 5-6675-308-24P)
- **power supply**, NSN 6130-01-117-7234, PN 880750-6 (Item 7 in Fig 30)
- **circuit card assembly**, NSN 5998-01-355-4518, PN 880598-1 (Item 9 in Fig 41)
- **computer subassembly**, NSN 7050-01-236-3232, PN 868199-1 (Item 8 in Fig 30)
- **circuit card assembly**, NSN 5998-01-182-5198, PN 880778-3 (Item 43 in Fig 30)
- **power supply**, NSN 6130-01-139-6339, PN 880600-3 (Item 33 in Fig 1)
- **circuit card assembly**, NSN 5998-01-315-1637, PN 880592-1 (Item 11 in Fig 44)
- **circuit card assembly**, NSN 5998-01-182-5202, PN 880690-4 (Item 21 in Fig 44)
- **control and display**, NSN 5999-01-117-1223, PN 880800-2 (Item 34 in Fig 1)
- **electronic component test set**, NSN 5999-01-117-7374, PN 877465-2 (Item 58 in Fig 2 in TM 5-6675-238-24P)

For shipping instructions, contact TACOM's Karen Conger at DSN 793-5578/(309) 782-5578 or email [CongerK@ria.army.mil](mailto:CongerK@ria.army.mil)

# Let's Keep M8A1 Alarmed



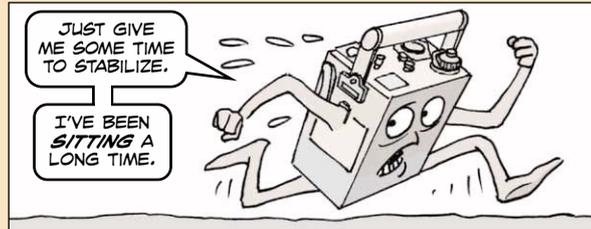
IF YOUR M8A1 CHEMICAL AGENT ALARM *DOESN'T* STAY ALARMED, YOU COULD HAVE **ALARMING** RESULTS.

HERE ARE A FEW WAYS NBC NCOs AND OPERATORS CAN KEEP THE M8A1 SNIFFING FOR DANGER.

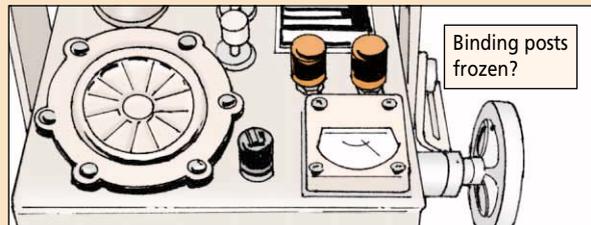


## PMCS

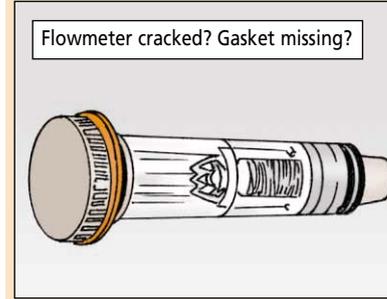
If your M8A1 has been locked in a cabinet for weeks, the M43A1 detector probably won't reach the green zone on its meter in 15 minutes during PMCS. Give it longer to run. Sometimes the M43A1 just has to run until the cell assembly clears itself, which may take longer than 15 minutes.



If the M8A1 has been stored for a long period, also check that the binding posts can be depressed. Corrosion could have frozen them. Then you can't connect the detector to the alarm. Get frozen binding posts replaced.

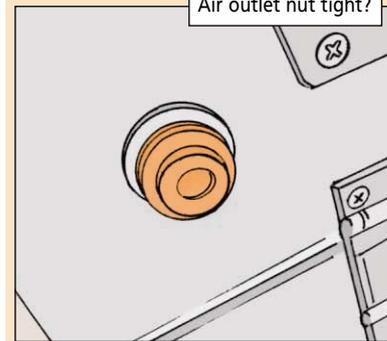


Look for cracks in the flowmeter and a missing gasket at the top of the flowmeter. That's Item 3 in the PMCS. If it's cracked, the flowmeter won't pass its test.

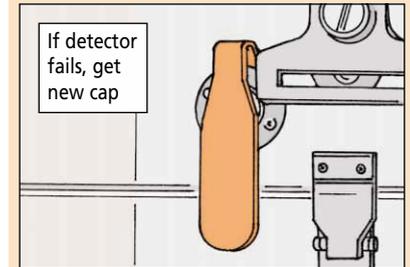


Remember your NBC NCO needs to install the air outlet filter if you're operating the M8A1 inside. Because of its radioactive source, the M8A1 puts out radioactive particles.

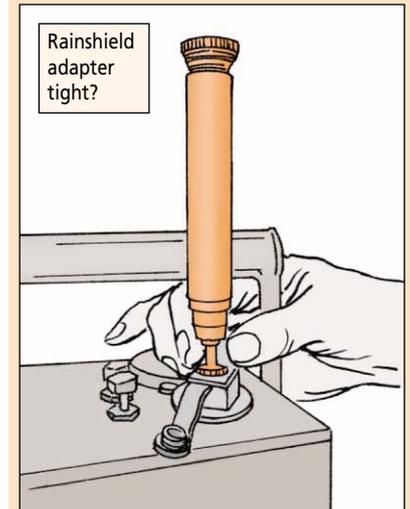
If the flowmeter is OK but the M43A1 still can't get the ball into the green zone, make sure the air outlet nut is tight and the case main seal, air filter plug seal, and air inlet seal are good. Turn the air outlet nut clockwise with your fingers until it's hand-tight. Report bad seals.



Still no luck? The air outlet cap may be leaking. Put a new cap on or seal the outlet with your finger (wear gloves to do that).



Still doesn't pass? Check that the rainshield adapter is tight. If all that doesn't fix the problem, it's time for that M8A1 to go to support.

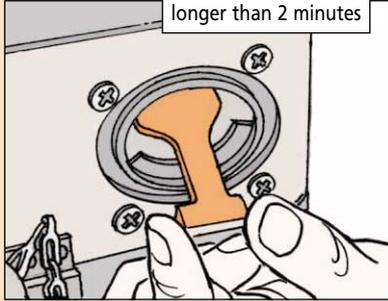


Remember, **never** run the M43A1 longer than 30 seconds with the air outlet sealed. Otherwise, heat destroys its circuitry.



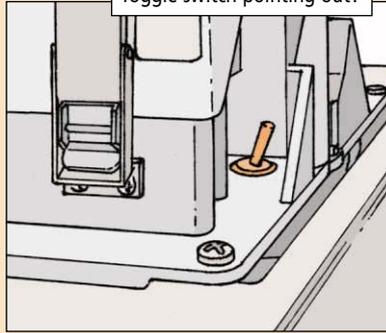
Another never is to **never** leave a test paddle in longer than two minutes and never try more than two paddles. If you ignore those rules, the detector cell is contaminated and it takes a l-o-n-g time to purge it.

Never leave paddle in longer than 2 minutes



If the M43A1 doesn't respond to tests, its toggle switch may be turned off. The switch should point out, away from the pump module. Flip it out if necessary.

Toggle switch pointing out?

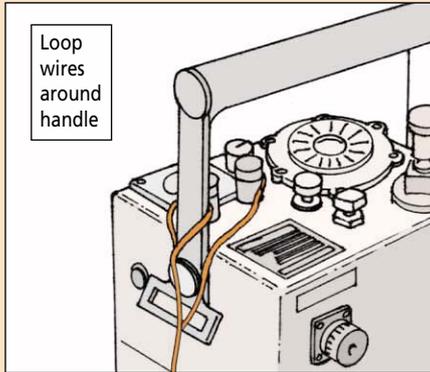


### In the Field

When you connect the detector to the alarm, tie off nine inches of wire at the loop on the side of the M43A1. If the loop is missing, wrap the wire around the handle. That keeps the wire from being jerked out if someone trips on it.

Warn your unit before you test the alarm. Otherwise, you could come back to your unit and find everyone dressed in chemical gear...and saying unkind things about you.

Loop wires around handle

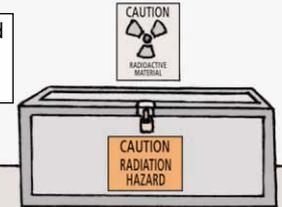


### Radiation Rules

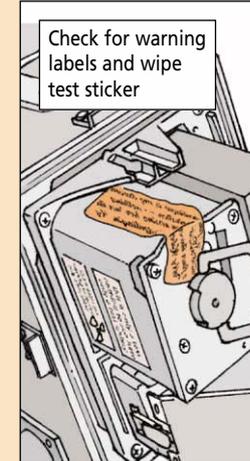
BECAUSE THE M43A1 HAS A **RADIOACTIVE SOURCE**, YOU HAVE TO FOLLOW THE **RADIATION RULES...**

- Keep the M43A1 locked in a metal cabinet or caged area with a radioactive caution sticker posted on the door. If you don't have a sticker, see your safety officer.
- Have the M43A1 wipe tested for radiation leaks by support every 12 months. Your M43A1 detector will be non-mission capable if there's not a record of a current wipe test. And the detector cell must have radiation warning labels stuck to it, as well as a sticker showing when it was wipe tested.
- Once the outlet filter is clogged or damaged, it must be placed in a sealed plastic bag and given to your local RPO. See Para 4-13 in the M8A1's TM 3-6665-312-12&P for details.

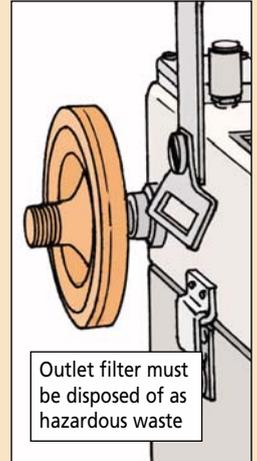
Store in locked cabinet with warning label



Check for warning labels and wipe test sticker



Outlet filter must be disposed of as hazardous waste

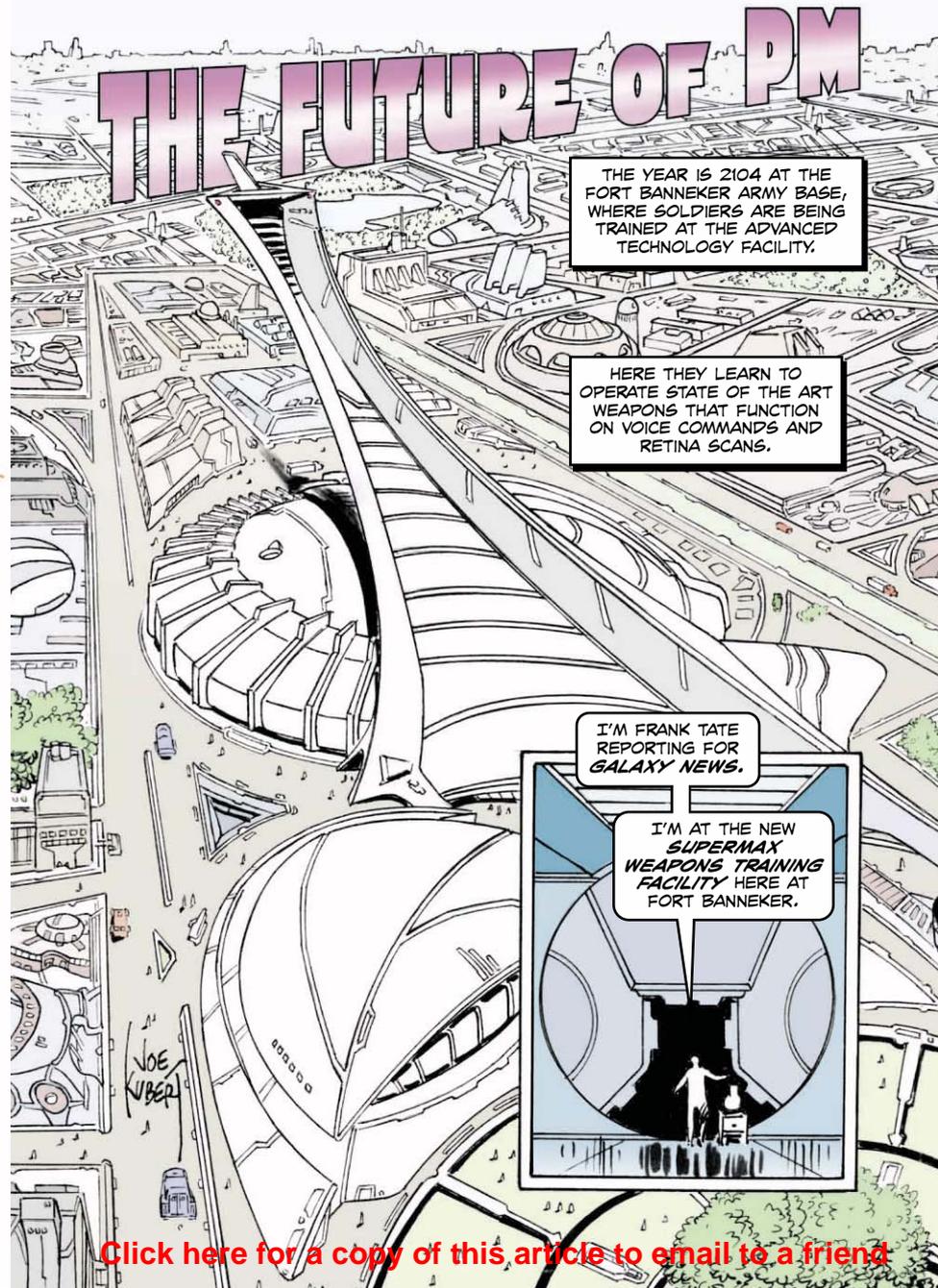
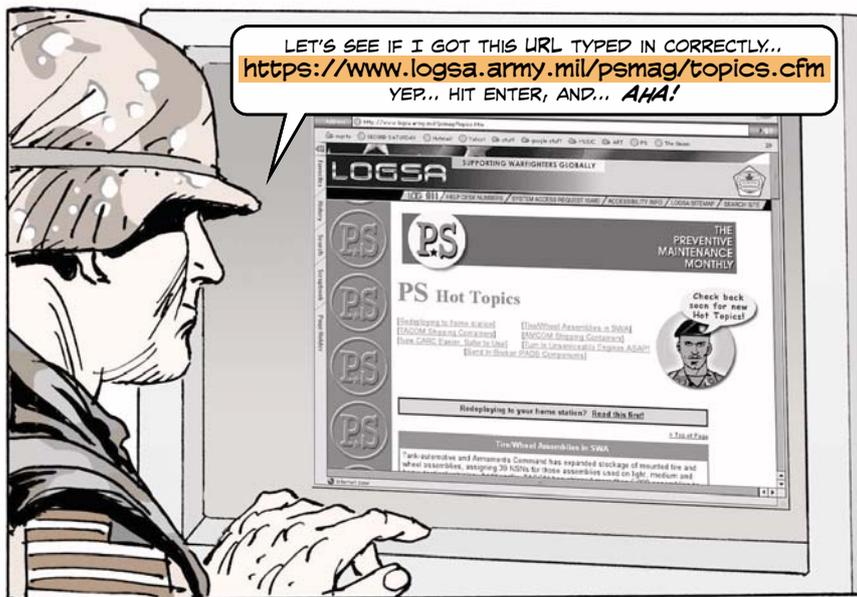


IF YOU **DON'T** FOLLOW THESE RULES, YOU COULD FIND YOURSELF IN **HOT WATER** WITH ALL SORTS OF GOVERNMENT AGENCIES.





# HOT TOPICS



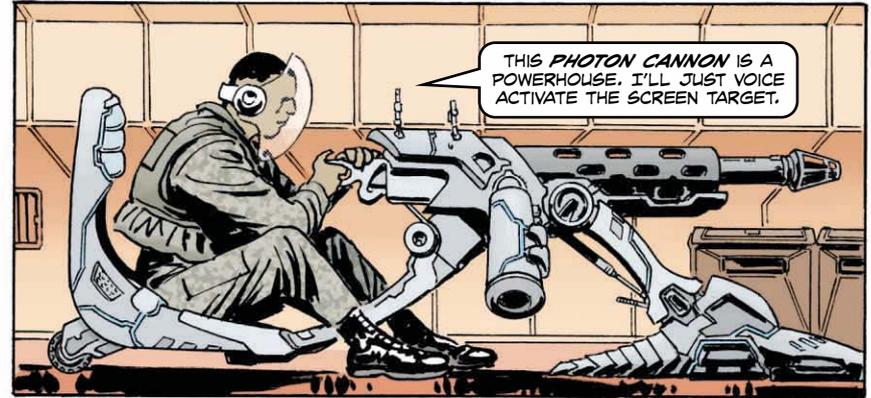
# THE FUTURE OF PM

THE YEAR IS 2104 AT THE FORT BANNEKER ARMY BASE, WHERE SOLDIERS ARE BEING TRAINED AT THE ADVANCED TECHNOLOGY FACILITY.

HERE THEY LEARN TO OPERATE STATE OF THE ART WEAPONS THAT FUNCTION ON VOICE COMMANDS AND RETINA SCANS.



Click here for a copy of this article to email to a friend



MEANWHILE,  
AT THE AVIATION  
SECTOR...

ATTENTION, EAGLE  
HAWK, THIS IS  
SERGEANT JONES.

EAGLE HAWK...  
INITIATE TURBONIC  
ENGINE START UP!



I CAN HEAR THE  
ENGINE REVVING UP,  
BUT THE ROTOR  
BLADES AREN'T  
TURNING!

**VRRRRMMMMMMMM**

**FIRE ALERT!  
FIRE ALERT!!**

**AUTOMATIC HALON  
EXTINGUISHING  
PROTECTION  
DEPLOYED!**

WHAT TH-? THIS  
NEVER HAPPENED  
BEFORE.

**EMERGENCY  
ENGINE SHUTDOWN  
GAMMA 3-2-1!**

THAT  
DID IT...  
THE  
FIRE'S  
OUT!

MEANWHILE,  
AT THE RIFLE  
RANGE,  
PFC MEYERS  
TAKES AIM...

THIS SONIC  
RIFLE IS A  
GREAT  
WEAPON.

THIS WEAPON  
IS REALLY  
AUTOMATIC...  
IT EVEN  
CLEANS  
ITSELF.



WHA-A-A!?

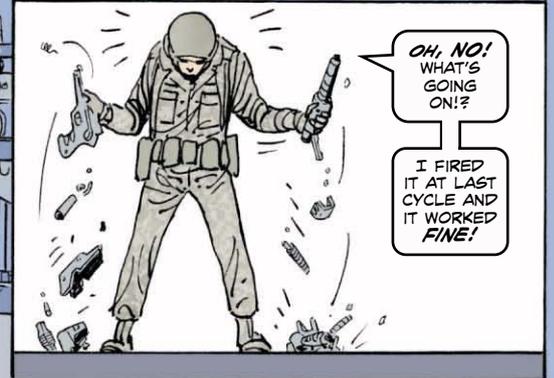
**FSST**

**WHRRUMP**



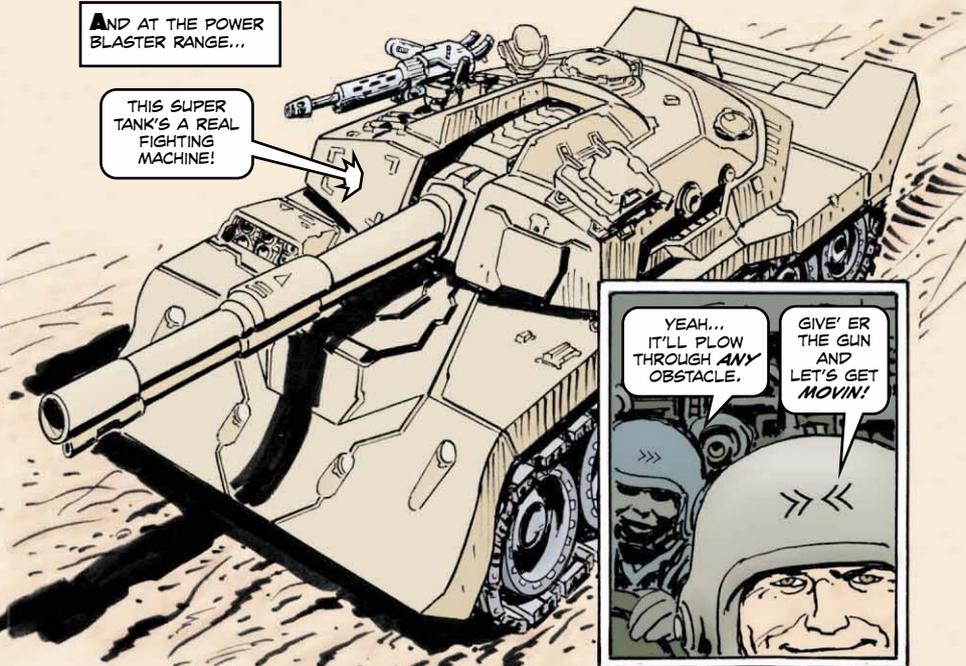
OH, NO!  
WHAT'S  
GOING  
ON!?

I FIRED  
IT AT LAST  
CYCLE AND  
IT WORKED  
FINE!



AND AT THE POWER BLASTER RANGE...

THIS SUPER TANK'S A REAL FIGHTING MACHINE!



YEAH... IT'LL PLOW THROUGH ANY OBSTACLE.

GIVE' ER THE GUN AND LET'S GET MOVIN'!



WHAT'S HAPPENED?

IT'S STOPPED DEAD IN IT'S TRACKS!



WHAT DO WE DO NOW?

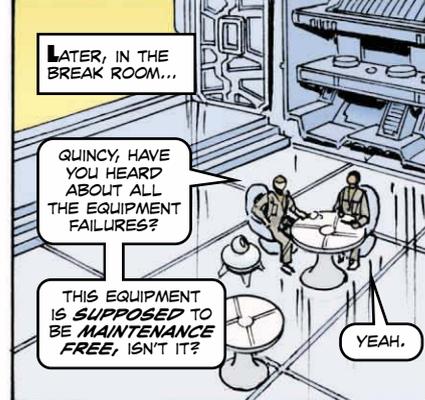


LATER, IN THE BREAK ROOM...

QUINCY, HAVE YOU HEARD ABOUT ALL THE EQUIPMENT FAILURES?

THIS EQUIPMENT IS SUPPOSED TO BE MAINTENANCE FREE, ISN'T IT?

YEAH.

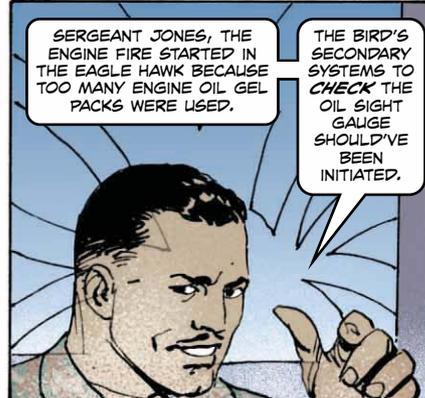


IN THE DATA BASE STORAGE CENTER, AFTER THE OLD PROGRAM HAS BEEN FED NEW DATA...



LOOK... THOSE ARE THE PEOPLE WHO WERE RESPONSIBLE FOR MAINTENANCE INFORMATION YEARS AGO.

MAYBE THEY CAN HELP US NOW.



SERGEANT JONES, THE ENGINE FIRE STARTED IN THE EAGLE HAWK BECAUSE TOO MANY ENGINE OIL GEL PACKS WERE USED.

THE BIRD'S SECONDARY SYSTEMS TO CHECK THE OIL SIGHT GAUGE SHOULD'VE BEEN INITIATED.

HEY, Y'KNOW, I RECALL SOMETHING ABOUT A HIGHLY SUCCESSFUL PREVENTIVE MAINTENANCE PROGRAM DATA BASE FROM YEARS AGO.

PREVENTIVE MAINTENANCE? HUH. THAT'S A GOOD IDEA. LET'S SEE IF WE CAN ACCESS THE HOLOGRAPHIC PROGRAMS. MAYBE IT CAN HELP US NOW.



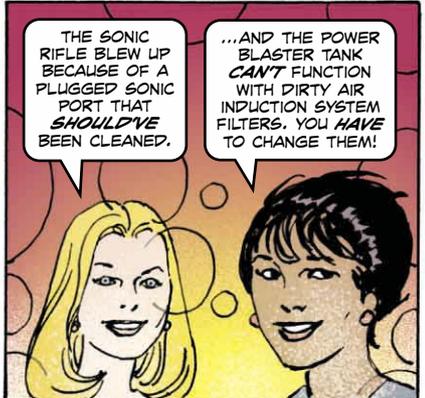
SERGEANT CHUNG, YOU TOOK VIRTUALLY MAINTENANCE FREE TECHNOLOGY... AND JUNKED IT.

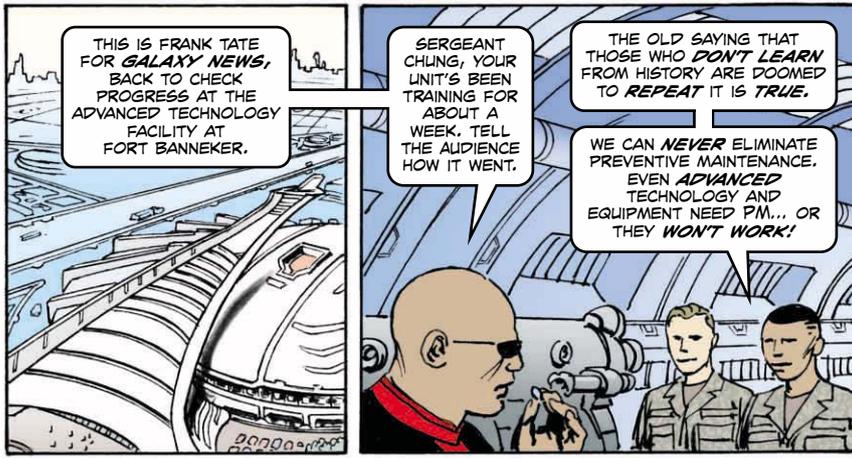
THAT PHOTON CANNON BARREL HAD TO BE CHANGED EVERY 3,000 ROUNDS... AND IT WASN'T.



THE SONIC RIFLE BLEW UP BECAUSE OF A PLUGGED SONIC PORT THAT SHOULD'VE BEEN CLEANED.

...AND THE POWER BLASTER TANK CAN'T FUNCTION WITH DIRTY AIR INDUCTION SYSTEM FILTERS. YOU HAVE TO CHANGE THEM!



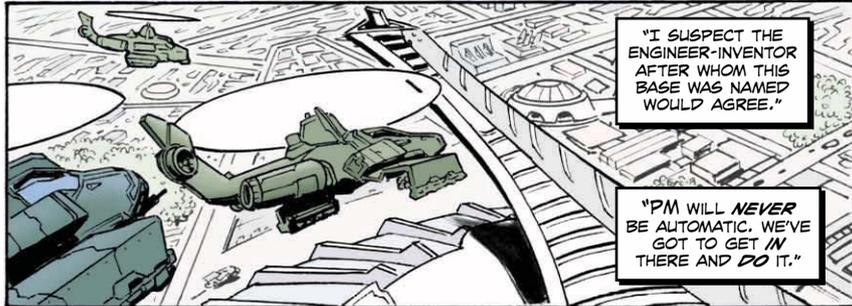


THIS IS FRANK TATE FOR GALAXY NEWS, BACK TO CHECK PROGRESS AT THE ADVANCED TECHNOLOGY FACILITY AT FORT BANNEKER.

SERGEANT CHUNG, YOUR UNIT'S BEEN TRAINING FOR ABOUT A WEEK. TELL THE AUDIENCE HOW IT WENT.

THE OLD SAYING THAT THOSE WHO *DON'T* LEARN FROM HISTORY ARE DOOMED TO *REPEAT* IT IS *TRUE*.

WE CAN *NEVER* ELIMINATE PREVENTIVE MAINTENANCE. EVEN *ADVANCED* TECHNOLOGY AND EQUIPMENT NEED PM... OR THEY *WON'T* WORK!



"I SUSPECT THE ENGINEER-INVENTOR AFTER WHOM THIS BASE WAS NAMED WOULD AGREE."

"PM WILL *NEVER* BE AUTOMATIC. WE GOT TO GET IN THERE AND *DO* IT."

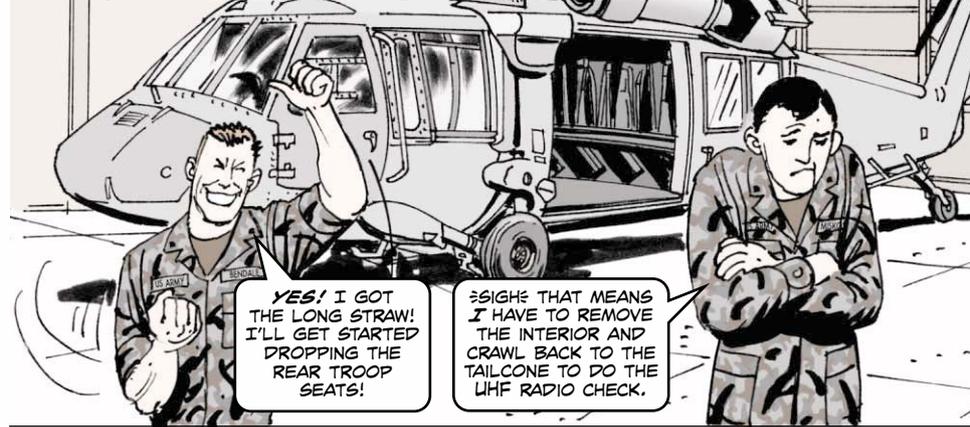


THERE YOU HAVE IT... PREVENTIVE MAINTENANCE IS BACK ON LINE. WITH SERGEANT HALF-MAST, SERGEANT BLADE, BONNIE, AND CONNIE GIVING ADVICE, PM'S FUTURE LOOKS *BRIGHT*.

THIS IS FRANK TATE OF GALAXY NEWS SIGNING OFF... UNTIL NEXT TIME!

HH-60A/UH-60A/L...

# UHF Radio Checks in Tailcone



**YES!** I GOT THE LONG STRAW! I'LL GET STARTED DROPPING THE REAR TROOP SEATS!

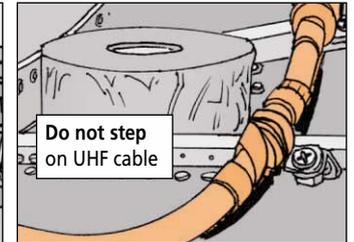
⚠️SIGH! THAT MEANS I'VE GOT TO REMOVE THE INTERIOR AND CRAWL BACK TO THE TAILCONE TO DO THE UHF RADIO CHECK.

A trip through the crawlspace underneath a house is a daunting task. So is crawling through a gauntlet of stuff to perform checks on the AN/ARC-186 UHF radio cables in your Black Hawk's tail cone crawlspace.

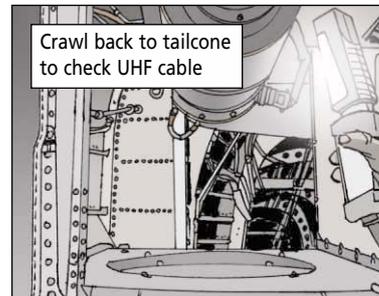
Sometimes the cables get crushed because the crawlspace is tight. So watch where you place your feet.



UHF radio not working? Check cable in tailcone



Do not step on UHF cable



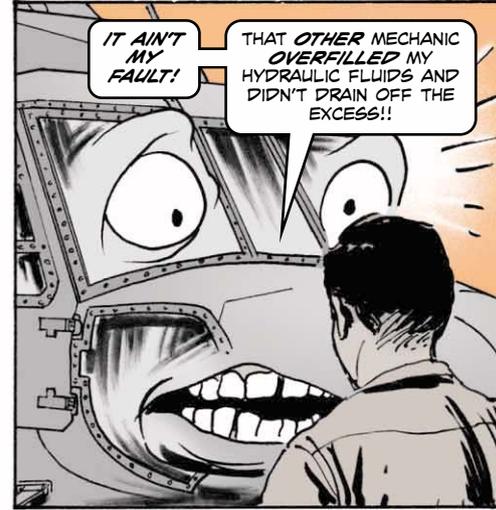
Crawl back to tailcone to check UHF cable



IF YOU DAMAGE THE CABLES, YOUR UHF RADIO *WON'T* TRANSMIT OR RECEIVE SIGNALS.

THEN YOU MAY BE LOOKING AT AN NMC BIRD.

# Too Much of a Good Thing

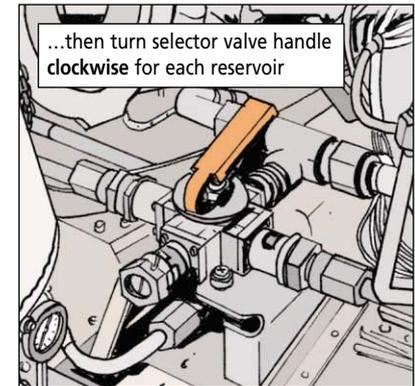
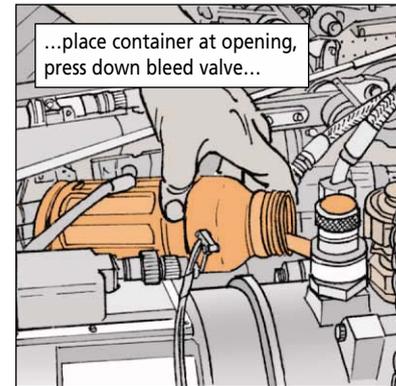
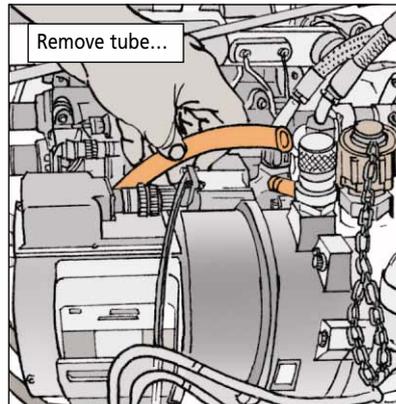
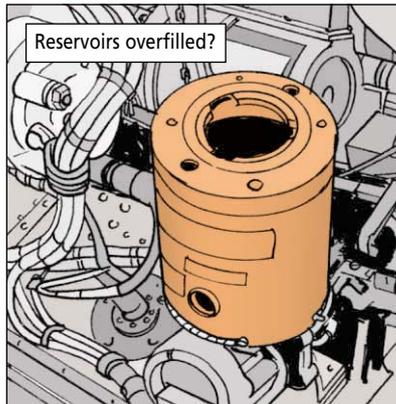


THAT OTHER MECHANIC OVERFILLED MY HYDRAULIC FLUIDS AND DIDN'T DRAIN OFF THE EXCESS!!



**T**hat's right, mechanics, put a little too much hydraulic fluid in your Black Hawk's hydraulic pump reservoirs and you've just committed an overfilling violation.

You can take care of the problem by draining off the excess fluid. Just disconnect the plastic drain tube from the drain valve of each pump. Place the container at the bleed valve opening. Press down the bleed valve button and turn the selector valve handle clockwise for each reservoir to drain the excess fluid from all the pumps.



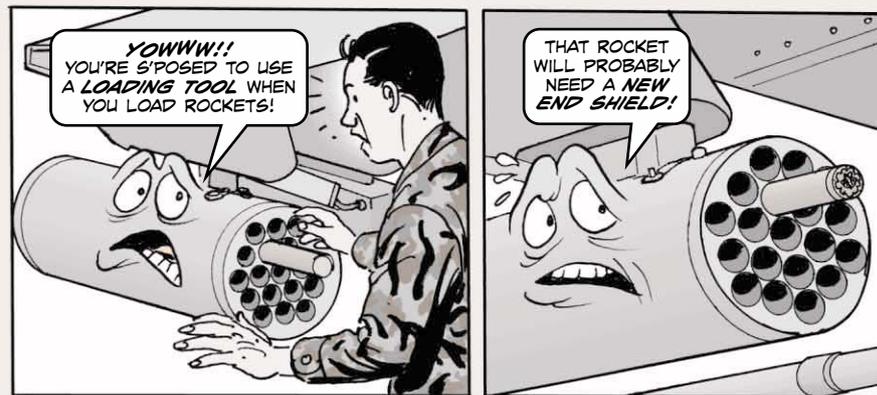
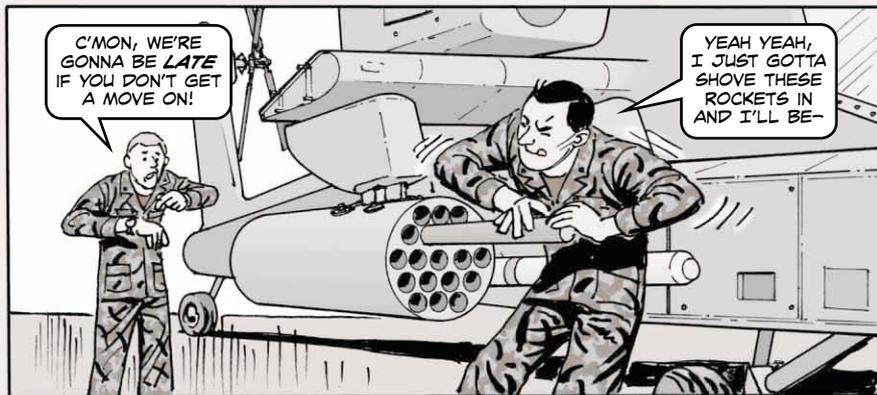
That solves one problem with overfilling. But after you drain the excess fluid, some of it remains trapped in the hydraulic system and continues to drain from the line inboard of the front landing gear wheels when the aircraft is moved.

To avoid cleaning up a mess on the hangar floor or on the flight line, place a drip pan inboard of the front landing gear to catch the continuous drips.

And when servicing your bird's three hydraulic pump modules, like it says in Para 1-3-8 of TM 1-1520-237-23-1, go easy on adding fluid. Pour just enough and prevent overfilling by eyeballing the level indicator as you pour.

That way you'll escape the hassle of continuous dripping for days on end.

# LOAD UP ON LOADING TIPS

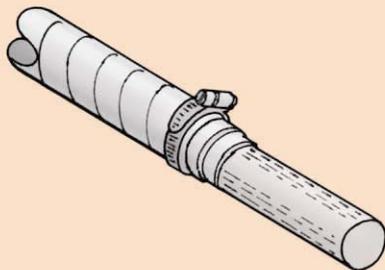


## Loading Tool

Use the loading tool for loading and unloading rockets. Without the tool, you could jam the rocket in its tube against the rocket stop. Then, when you have to move it forward to lock it in place, the end shield may be punctured and the igniter wire and weather seal damaged. That makes the rocket unusable because of electrostatic discharge and the hazard of electromagnetic radiation (EMR) to ammo and rockets.

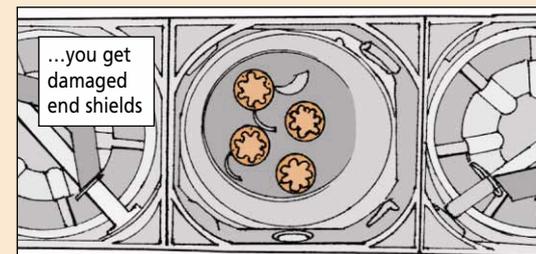
The loading tool is something you fabricate at the unit with 1-in inside diameter rubber hose with a maximum outside diameter of 1 3/8 inch. You can get the hose with NSN 4720-00-415-1362. You will also need a 14-in piece of 1-in wooden dowel and a hose clamp. You will need to buy the dowel and hose clamp at your local home improvement center. Instructions for putting the tool together are in Appendix E-1 of TM 9-1055-460-13&P and in the TM for the aircraft the launcher is installed on. Each forward area refueling point should have at least two loading tools.

Use loading tool for loading and unloading or else...



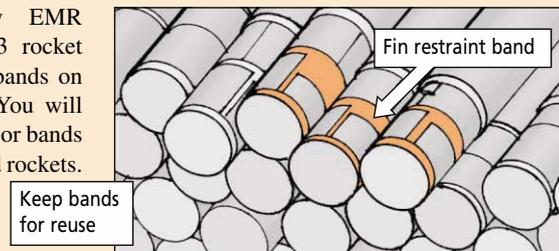
## End Shields

If you do damage a rocket end shield, contact your ammunition logistics/quality assurance representative or turn in the rocket to the ammo supply point. Units aren't authorized to replace end shields on their own.



## Fin Restraint Bands/EMR Shield

Don't throw away EMR shields on the MOD 3 rocket motors or fin restraint bands on all other motor mods. You will need to reuse the shields or bands when you unload unfired rockets.



# HELMET AND HEADSET-MICROPHONE KIT



SO, I TRIED TO ORDER THE HEADSET-MICROPHONE KIT, MK-1697/G, USING NSN 5965-00-313-8958.



YOU DIDN'T GET IT?

NAH, TURNS OUT THAT'S ONLY A REFERENCE NUMBER!

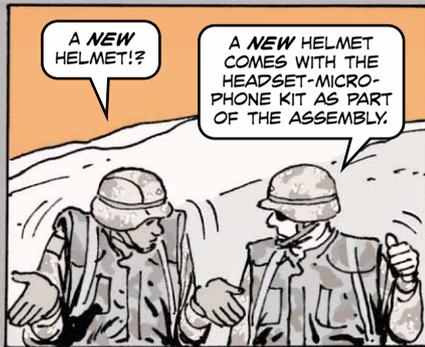
YOU *CAN'T* ORDER THE ASSEMBLY WITH IT!



HOW THE HECK CAN YOU GET THE KIT?

I'M GONNA HAVE TO ORDER IT PIECE BY PIECE...

...OR ORDER A WHOLE NEW CVC HELMET.

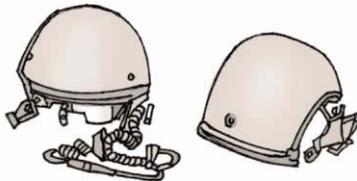


A NEW HELMET!?

A NEW HELMET COMES WITH THE HEADSET-MICROPHONE KIT AS PART OF THE ASSEMBLY.



THE CVC HELMET HAS TWO VERSIONS, DH-132A AND DH-132B (INCREASED BALLISTIC SHELL).



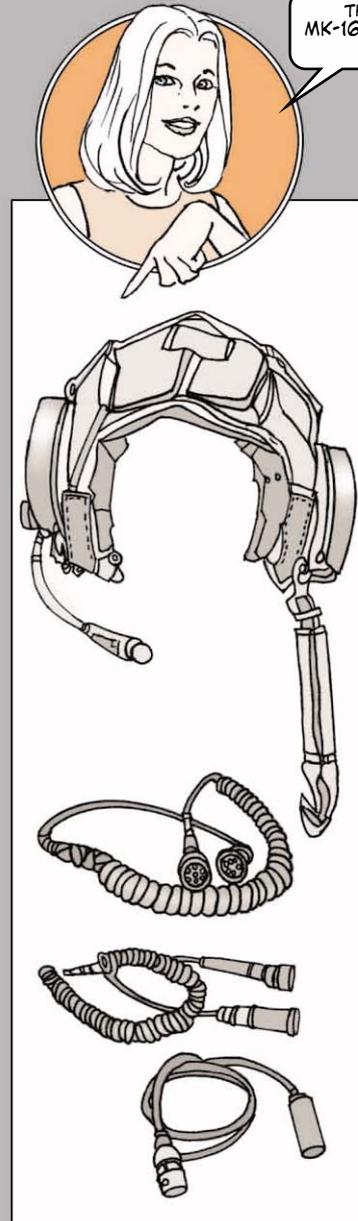
"EACH VERSION HAS THREE DIFFERENT SIZES—SMALL, MEDIUM AND LARGE."

NSN 8470-01-	Size
130-8180	Small DH-132A
130-3794	Medium DH-132A
130-3795	Large DH-132A
389-3822	Small DH-132B
389-3823	Medium DH-132B
389-3818	Large DH-132B

IF YOU HAVE QUESTIONS ABOUT THE HELMET OR MICROPHONE-HEADSET, CONTACT THE ITEM MANAGER, ELLEN THOMAS, DSN: 444-8071, EMAIL: ellen.thomas@dla.mil



THE CVC HELMET (DH-132A/B) AND MK-1697/G COMPONENTS CAN BE ORDERED FOR REPLACEMENT PARTS...



NSN	Item
5965-01-063-1332	Earphone shell
5930-00-114-4359	Switch
5995-00-302-7519	Cord assembly
5995-00-302-7515	Cord assembly, upper
5995-00-302-7521	Cord assembly, branched
5340-00-134-3846	Clip
5995-00-302-7520	Electrical lead
5930-00-114-4362	Switch handle
5310-00-022-1117	Lock washer
5305-00-494-7334	Machine screw
5305-00-224-0783	Machine screw
5965-01-076-8026	Earcup
5965-01-099-7869	Pad, helmet cushioning
5965-01-063-1910	Pad, filler
5965-01-063-1909	Pad
5365-01-076-8073	Plate spacer
5965-00-135-0506	Earphone
8415-01-093-0590	Pad, cushioning
5965-00-937-1851	Microphone
5965-00-135-0547	Guide boom
8470-01-389-3815	Shell (sm/med)
8470-01-389-3821	Shell (large)
8415-00-134-9396	Liner (small)
8415-00-134-9397	Liner (medium)
8415-00-134-9398	Liner (large)
8415-00-163-9040	Pad, center, small
8415-00-163-9041	Pad, side, small
8415-00-163-9042	Pad, center, medium
8415-00-163-9043	Pad, side, medium
8415-00-163-9044	Pad, center, large
8415-00-163-9045	Pad, side, large
8415-00-163-9046	Pad, setting, brown
8415-00-163-9048	Pad, chin
8415-00-163-9052	Pad, chin strap
8415-01-207-1196	Attachment kit
8415-01-207-1197	Attachment kit
8415-01-470-2821	Liner, medium
8415-01-470-2840	Liner, large
8415-01-470-2845	Pad set, medium
8415-01-470-2856	Pad set, large

Commo...

# JUST BAG IT

WE MAY *NOT* BE VERY BIG...

...BUT WE'LL PROTECT THESE SPARE PARTS FROM THE LIKES OF YOU!



The original shipping containers are the best place to keep spare parts. But when that option is not available, use plastic self-sealing bags. These bags keep dirt, dust, sand and moisture away from small commo parts in the field.

The plastic bags protect small items like connectors, cables, fuses, o-rings, handsets, microphones and batteries.

And because the bags are clear, you can tell at a glance what's inside them.

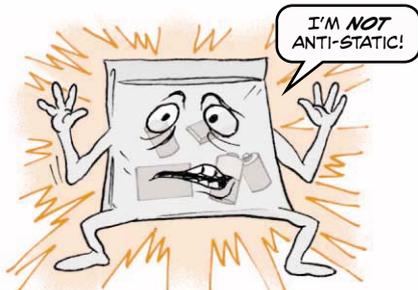
Here's a list of some of the available sizes:

Size (inches)	Qty	NSN 8105-00-837-
4x4	1000	7753
6x6	1000	7754
8x8	1000	7755
10 1/2x11	500	7756
12x12	500	7757



Don't forget, plastic bags have a high static charge. Never use them to store circuit cards, transistors, resistors or any other device sensitive to electrostatic discharge (ESD). There are special anti-static bags for ESD sensitive items.

Also, when you bag an item, squeeze the air out of the bag before you seal it to cut down on condensation.



[Click here for a copy of this article to email to a friend](#)

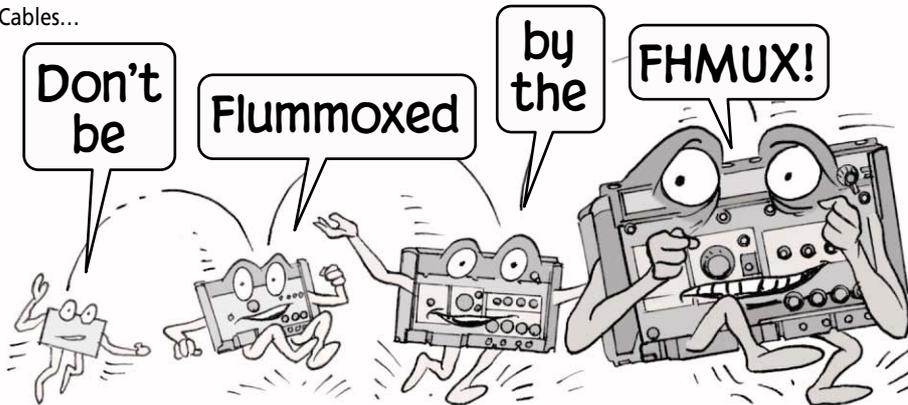
Cables...

Don't be

Flummoxed

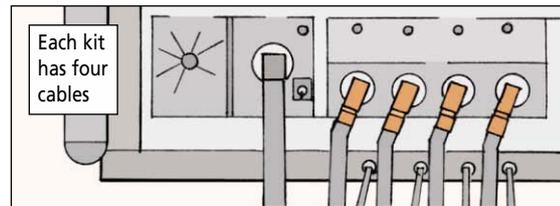
by the

FHMUX!



When it comes to ordering the installation kit for the Frequency Hopping Multiplexer (FHMUX), TD-1456, the length of the cables matters.

Each of the five FHMUX installation kits comes with four cables. All the kits have one cable in common. That's one electrical radio frequency cable assembly, CG-3856/VRC, NSN 5995-01-437-8856. It's 12 feet long.



But the other three cables in all five kits are the same length within their kit, but are different lengths than in the other kits.

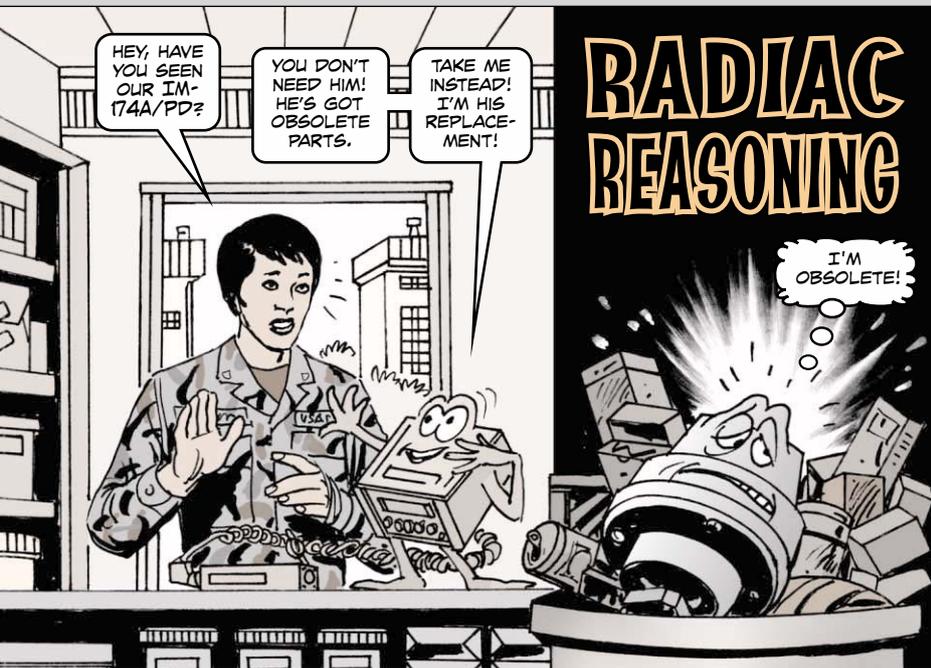
One kit has 6-ft cables; one has 12-ft cables; one has 18-ft cables; one has 24-ft cables; and one has 30-ft cables.

The kit you need to order is determined by the length of cable you need to do the job.

Here are the kits and the sizes of their cables::

Kit	NSN 5895-01-442-	Size (feet)	Cable	NSN 5995-01-
MK-2863	4582	6	CG-3856	444-2730
		6	CX-13509	438-7822
		6	CX-13528	444-7933
MK-2864	4583	12	CG-3856	437-8856
		12	CX-13509	438-7823
		12	CX-13528	437-8865
MK-2865	4585	18	CG-3856	444-2729
		18	CX-13509	438-7826
		18	CX-13258	437-8853
MK-2866	4586	24	CG-3856	300-9318
		24	CX-13509	444-2731
		24	CX-13528	437-8868
MK-2867	4584	30	CG-3856	437-8857
		30	CX-13509	438-7824
		30	CX-13528	439-1746

[Click here for a copy of this article to email to a friend](#)



Dear Half-Mast,

We cannot find a substitute for battery, BA-1391/U, NSN 6135-00-935-2532, which is no longer in the supply system. We have an IM-174A/PD radiac that uses three of these batteries. What should we do?

SGT L.N.

Dear Sergeant L.N.,

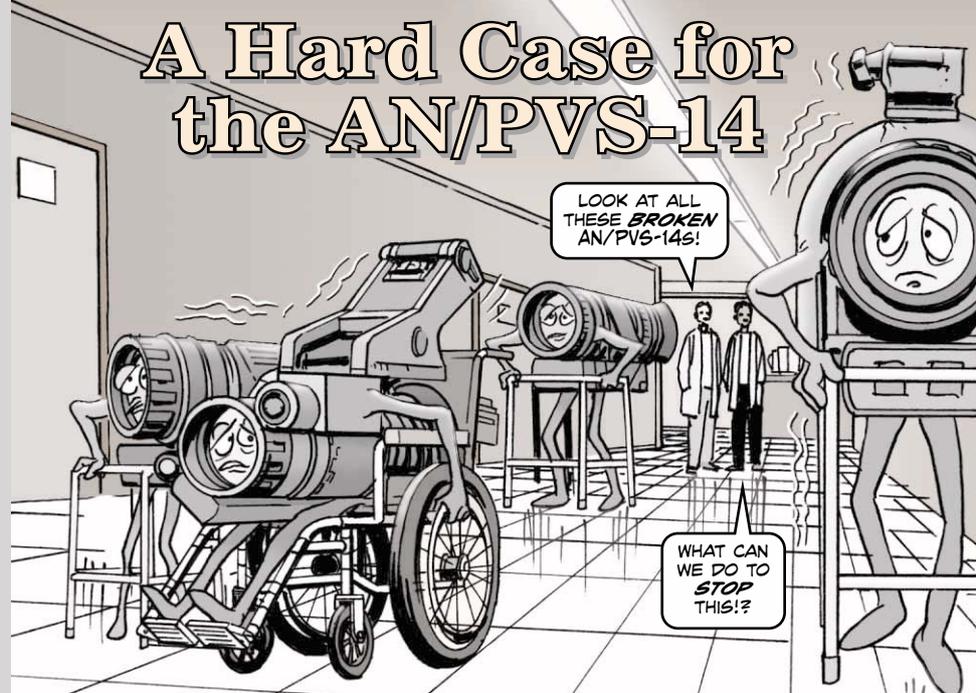
Get rid of the IM-174A/PD! It's as obsolete as Pac-Man. To replace it, order the AN/VDR-2, NSN 6665-01-222-1425, now, and when one becomes available, it will be shipped to you. It works with a common 9-volt battery.

Check around your shop. You may already have the AN/VDR-2 and just failed to turn in the IM-174A!

One more word on this: there is another variety of the IM-174A that uses a D-cell battery. Also, the IM-174B uses a D-cell battery. If you have one of these and it is working well, keep using it. But when it goes kaput, order the AN/VDR-2.

In any case, just be sure to update your MTOE so you're authorized to have the AN/VDR-2 when it becomes available.

*Half-Mast*



Dear Editor,

When deployed, we have a real problem keeping our AN/PVS-14 night vision sights in shape. Broken battery compartments, broken battery caps and broken adapter brackets are common.

After talking to many people, we think much of the abuse that leads to breakage could be stopped if the AN/PVS-14 had a hard case that could be attached to the ALICE or MOLLE system.

We found one such case for \$44 that is advertised as "slim-line and impact resistant." But before we local purchase and spend our money, we want to make sure there was nothing in the supply system we could order. Is there a hard case for the AN/PVS-14 in the supply system?

SPC Jeremy D. Jernigan  
A Co, 1/502 Inf  
SWA

*(Editor's note: No, there is no hard carrying case like the one you describe in the system at this time. The PVS-14 comes with a modified ammo container that is to be used as a shipping and storage case, which is not designed for securing to your MOLLE. Thanks for writing. You have given the folks who would procure a case something to think about.)*

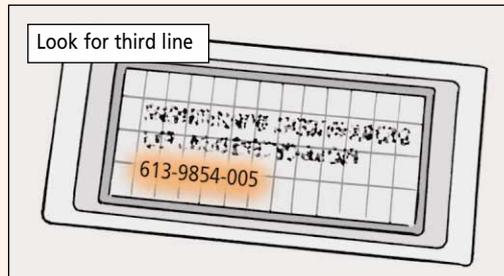


YOU COULD BECOME THE NOWHERE MAN IF YOU DON'T HAVE THE LATEST SOFTWARE INSTALLED IN YOUR PRECISION LIGHT-WEIGHT GPS RECEIVER (PLGR) OR THE ENHANCED (EPLGR) MODEL.



Old software could cause your PLGR/EPLGR to continually reset and the display to flash over and over. That would make your precision receiver not so precise!

Even if you haven't had these problems, check what software you're using. As you power up the PLGR/EPLGR, look for the 10-digit number. It will be on the third line of the first display. If you're already powered up, you can find the number on a status page by using the MENU key.



If you spot numbers 613-9854-005 or 613-9868-008, you're up-to-date and good-to-go. (PLGR+96 software version 613-9868-008 is the preferred operating system if the hardware will support it.)

Any other numbers mean you need new software. See your CECOM LAR for a copy of MWO 11-5820-291-30-4. The MWO lists the software you need, tells how to install it and authorizes you to do it. Your LAR should also have a copy of the new software.

If not, the software is available on the Internet at CECOM's software engineering directorate website. Go to:

<http://www.sed.monmouth.army.mil/RDIT/>

You'll have to register and get a password in order to download the software.

If you have any questions about the new software or how to get it, contact Willie Jackson at DSN 468-3518 or email: [willie.jackson@robins.af.mil](mailto:willie.jackson@robins.af.mil)

If you have PLGR/EPLGR safety questions, contact David Kiernan at DSN 992-0084 or email: [david.kiernan@us.army.mil](mailto:david.kiernan@us.army.mil)



# VITAL LINK TO SAFETY



Dear Half-Mast,

Here in the maintenance facility we rely on material safety data sheets (MSDS) every day. I've found a website that makes it convenient to view or print MSDS from a variety of manufacturers. Best of all, it's free of charge.

The website is Vermont Safety Information Resources, Inc. (SIRI). To access the SIRI home page, go to <http://www.hazard.com>. You're not required to enter a login ID or password to view or print MSDS.

On the home page you'll find links to:

- discussion board
- safety websites
- OSHA and EPA regulations
- an online library of safety information
- a bookstore of safety and health titles you can order online

To find MSDS from the home page, click on [SIRI MSDS collection-Florida Site](#).



This website is made possible by the support of



**E-mail Lists Archive**  
New Safety Forum  
Discussion Board  
Links to Other Safety Websites  
OSHA and EPA Regulations

**Online Library:** Graphics & Powerpoint files  
Safety Bookstore  
Health and Safety Consultants List  
Databases from NIOSH

Bookmark MSDS sites for increased reliability  
[SIRI MSDS collection - Florida site](#)

On-line Presentations:  
Using the Internet for Safety Information

Search this site (except MSDS):

4941089 banner downloads since 6/18/01  
Click here for information about advertising on this site.

**Contact Us**  
We use Linux. So can you!

**SIRI Home Page:**  
Click here to start looking for MSDS

Once you get to the next screen, you can search for MSDS in one of three ways:

- by manufacturer
- by whole or partial words or numbers in the company or product name
- by NSN

## Search by Manufacturer

To search by manufacturer, look for the list of letters near the top of the screen. These letters are links to manufacturers. Click on the one that is the first letter of the company name. For example, if you're looking for the Loctite Corporation, click on the letter L.

The next screen brings up a list of company links whose name begins with L. Click on [Loctite Corporation](#) and it'll lead you to the page on the company website where you'll find MSDS.

[SIRI Home] [SIRI MSDS Site 1] --SIRI MSDS Index--

Is an MSDS needed?

Search MSDS by manufacturer

If so, *first*, check for an MSDS direct from the manufacturer:

ALL 0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
To be included in this index, send the URL of your company's MSDS site to [dan@siri.com](mailto:dan@siri.com)

Second, search our database

Enter whole or partial words or numbers in the company, product name, or the CAS or NSN. (Note: we do not include these MSDSs, which are available in the public domain from the federal government)

- Lincoln Electric Welding supplies
- LiphaTech Rodenticides
- Loctite Corporation Enter "Loctite" to see list of all products. Best MSDS format on the net\*\*\*\*
- Lone Star Epoxies Epo-Toxy Base and Hardener
- Loveland Industries from CDMS
- LPS Laboratories Cleaners, degreasers, lubricants, greases, and corrosion inhibitors
- LSZ Ledisolv lead-specific detergent

## Search by Words or Numbers

To search by whole or partial words or numbers in the company or product name, look for the field that says Find. If, for example, you're looking for a lubricant, type in the word lubricant. Click on the radio button that says Whole words only. Then click the Search button. The next screen brings up a variety of lubricant product links. Each screen contains 50 links. To view the next group of links, go to the bottom of the screen and click [Get next 50](#). Click on the link for the product you want and you'll get its MSDS.

Second, search our database

Enter whole or partial words or numbers in the company, product name, or the CAS or NSN. (Note: we do not include these MSDSs, which are available in the public domain from the federal government)

Search MSDS by words

Find lubricant

- Partial words
- Whole words

Need chemical toxicity data?

You can Search Toxicology Reports here as well (These are NOT on the SIRI site)  
Do NOT enter a company or mixed product name for this search

Return to the MSDS Archive Search Help  
Enter a whole or partial NSN or 1-3 words or character strings from the product name.  
Try one word from the manufacturer's name and one from the product name

Find LUBRICANT   Partial word  Whole word

- Equilon (Shell/Texaco) -- SHELL CENTERPLATE LUBRICANT
- Equilon (Shell/Texaco) -- SHELL\* Fuel Efficient Axle
- Equilon (Shell/Texaco) -- WAY LUBRICANT 100 00568
- Equilon (Shell/Texaco) -- WAY LUBRICANT 220 00572
- Equilon (Shell/Texaco) -- WAY LUBRICANT 150 00653
- Equilon (Shell/Texaco) -- AAR BRAKE CYLINDER LUBRICANT
- Equilon (Shell/Texaco) -- DIFFERENTIAL GEAR LUBRICANT
- Equilon (Shell/Texaco) -- WAY LUBRICANT CHAIN BAR AND SPRING
- Equilon (Shell/Texaco) -- WAY LUBRICANT 68 00561
- Equilon (Shell/Texaco) -- MULTIGEAR LUBRICANT
- Equilon (Shell/Texaco) -- MULTIGEAR LUBRICANT
- Loctite Anti-Seize Lubricant 767 - 76759
- Loctite Nickel Anti-Seize Lubricant - 77124



## Search by NSN

To search by NSN, type it in the Find field and click the NSN radio button. Then click on Search. The next screen shows a list of links to all the companies that supply the product under that NSN. Click on the company/NSN link and you'll get its MSDS.

### Second, search our database

Enter whole or partial words or numbers in the company, product name, or the CAS or NSN. (Note: we do not have the contents of these MSDS's, which are available in the public domain from the federal government)

Find   Partial words  NSN  Whole words only

Return to the MSDS Archive ... Search Help

Enter a whole or partial NSN or 1-3 words or character strings from manufacturer's name, product name. Try one word from the manufacturer's name and one from the product name to start. Searching hints

Find   Partial words  NSN  Whole words only

FIN	PENRECO, DIV OF PENNZOIL	--	PETROTECT 2, MIL-C-16173, GRADE 2
Oth	ASHLAND OIL (SUPPLIED BY STEVEN INDUST	--	TECTYL 502C
Hov	ASHLAND OIL	--	TECTYL 502-C
MS	SPRAYON PRODUCTS	--	71101 711B PDRP BULK 1 GAL
MS	ASHLAND CHEMICAL	--	TECTYL 502 C
MS	DAUBERT CHEMICAL	--	NOX RUST 207 (FORMERLY NOX RUST X 425)
Abc	F AND L	--	TECTYL 502-C, MIL-C-16173D GR#2 (11 02
Find	DAUBERT CHEMICAL	--	NOX RUST 502-LS
	ASHLAND CHEMICAL COMPANY	--	TECTYL 502C
	DAUBERT CHEMICAL COMPANY	--	NOX RUST 502-LS
	F & L COMPANY	--	TECTYL 502C

DAUBERT CHEMICAL COMPANY -- NOX RUST 502-LS -- 8030-00-244-1297

----- Product Identification -----

Product ID:NOX RUST 502-LS  
MSDS Date:01/23/1995  
FSC:8030  
NIIN:00-244-1297  
MSDS Number: CGFBJ  
=== Responsible Party ===  
Company Name:DAUBERT CHEMICAL COMPANY  
Address:4700 S CENTRAL AVE  
City:CHICAGO  
State:IL

SGT Thomas Sparks  
HQ 2123d Trans Co.  
(HET)  
Richmond, KY



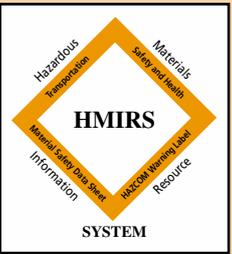
CONGRATULATIONS, SERGEANT SPARKS.

YOU'VE SUPPLIED A VITAL "LINK" TO FINDING MSDS.

ANOTHER GREAT PLACE TO FIND MSDS IS THE HAZARDOUS MATERIAL INFORMATION RESOURCE SYSTEM (HMIRS) WEBSITE AT:

<http://www.dlis.dla.mil/hmirs/default.asp>

IT'S THE OFFICIAL DOD REPOSITORY FOR MSDS.



PS END

Extended Cold Weather Clothing...

# FORMULA FOR REPELLING WATER



WHAT HAPPENED TO HIM?

HE DIDN'T RESTORE THE WATER REPELLENCY TO HIS CLOTHES! SO HE GOT WET AND FROZE!

Every time you wash your extended cold weather clothing system (ECWCS) parka and trousers, you wash away more than just dirt. You wash away some of their water repellency.



AN ECWCS THAT CAN'T REPEL WATER CAN'T PROTECT YOU FROM HYPOTHERMIA WHEN IT GETS WET.

T-T-TELL MUH-ME A-ABOUT IT!

So, if your ECWCS has gone through lots of washing and rain-water no longer beads on the fabric surface, it's time to restore the water repellent protection. If your post laundry does that job, take your parka and trousers there. A field or post laundry can get five gallons of water-repellent laundry additive with NSN 8030-01-408-9444, or 55 gallons with NSN 8030-01-408-9445.



AH, WHAT IF THE POST LAUNDRY DOESN'T DO THE JOB?

PS MORE

Click here for a copy of this article to email to a friend

IF YOU'RE RESPONSIBLE FOR RESTORING THE ECWCS WATER REPELLENCY, YOU'LL NEED TO GO THROUGH SUPPLY.

Units can order a case of 24 8-oz bottles of additive with NSN 8030-01-408-9446.

Or you can order any of the following three brands of additive directly from the manufacturer: Stormshed, Xpel or Protex 2000. Any one will do a good job.

Get Stormshed from:

Evergreen Specialties, Inc.  
Suite 277  
4521 PGA Blvd  
Palm Beach Gardens, FL  
33418-3997  
Phone: (877) 330-8760  
Fax: (800) 834-1809  
Email: [sales@evergreenspecialties.com](mailto:sales@evergreenspecialties.com)

Get Xpel from:

Caled Chemical  
26 Hanes Drive  
Wayne, NJ 07470  
Phone: (800) 652-2533  
Fax: (800) 225-3332  
Email: [gpg102@aol.com](mailto:gpg102@aol.com)

Get Protex 2000 from:

M & M Technologies, Inc.  
4001 Kennett Pike, # 134  
PO Box 4092  
Wilmington, DE 19807  
Phone: (800) 658-5958  
Fax: (302) 658-3734  
Email: [pmoody@dol.net](mailto:pmoody@dol.net)

GREAT! NOW I KNOW WHERE TO GO... I'LL BE BACK IN A MINUTE.



OK, I'VE GOT THE WATER REPELLENT... NOW WHAT?



LAUNDRY

WHERE ARE YOU GOING WITH THAT BLOW-TORCH?



NOW THAT I CAN RESTORE WATER REPELLENCY, I'M GONNA SEE IF I CAN THAW OUT OL' WALT!

ONCE YOU HAVE THE WATER REPELLENT, HERE'S HOW TO RESTORE THE PROTECTION...

- Wash the ECWCS in your washing machine according to the care label instructions.
- After you've run your clothing through the entire wash cycle, run them through the rinse cycle again to make sure all the soap is rinsed out.
- Set the machine again to the wash cycle and the water temperature to warm. Fill the machine until all clothing is completely covered with water.

• Add the water repellent following the directions on the bottle. If the directions aren't clear, use the following amounts:

—Two ounces of repellent for a parka or a pair of trousers if you're treating them separately.

—Three ounces of repellent if you're treating them together.

- Continue the wash cycle until it's finished. Your wet clothes may have a white film. That's the repellent. It won't show after they dry.
- Tumble dry the ECWCS on permanent press and at medium heat until dry.

AHHH...

THERE'S NOTHING BETTER THAN A RELAXING SOAK IN WARM WATER REPELLENT.

LIFE IS GOOD!

SAY, HOW 'BOUT WE GET TOGETHER AGAIN FOR A RELAXING SOAK?

SORRY, BUT I FIND YOU THOROUGHLY REPELLENT.

# THOUGHTS ON COTS

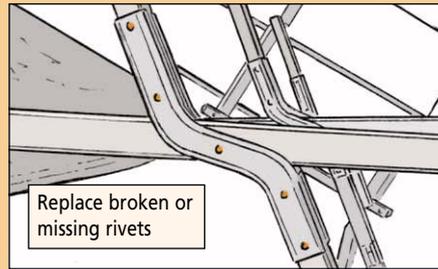
WHO ORDERED THE COUNTING SHEEP?



Want to get a good night's sleep? Before you try counting sheep, try performing a little PM on your aluminum cot, NSN 7105-00-935-0422. Here are some trouble spots:

- **Rivets** sometime break or get lost. Unfortunately you won't find replacement rivets for your cot. But you can use these items instead:

- Machine screw, NSN 5305-00-050- 9236
- Washer, NSN 5310-00-933-8120
- Nut, NSN 5310-00-934-9760



- If the **rivet holding the tiedown strap** gets damaged or lost, replace it with

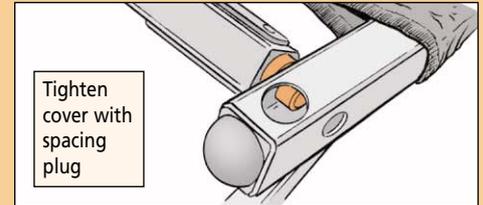
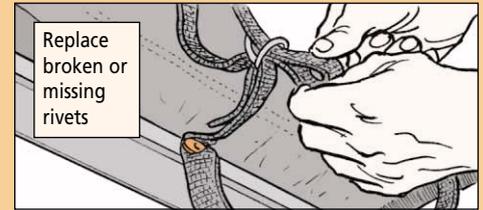
- Self-tapping screw, NSN 5305-00-432-4251

- Washer NSN 5310-00-809-3078

- **Cot covers** can stretch, sink and sag with use. To tighten the cover, insert spacing plugs, NSN 7105-00-935-0434, between the end stick and frame. New covers may be tight and not need plugs, so store unused plugs in an end stick until needed.

- Sometimes the **buckle on the tiedown strap** gets bent. Then when you slip the strap through the buckle, the tab gets caught and tears off. Straighten the buckle with a screwdriver so the tab will slide through easily.

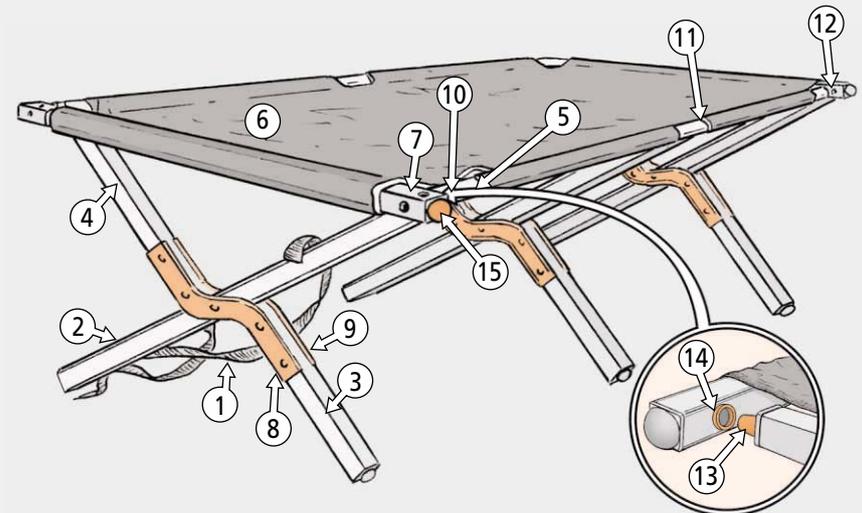
- **Things bugging you?** Use NSN 7210-00-267-5641 to get an insect bar frame made of wood for your cot. Get the insect netting with NSN 7210-00-266-9736.



HERE ARE THE REPLACEMENT PARTS FOR YOUR ALUMINUM COT...



Item	Description	NSN 7105-00-
1	Folding cot strap	113-0003
2	Leg, folding cot	935-0425
3	Lower half-leg	935-0427
4	Upper half-leg	935-0426
5	Side rail	935-0423
6	Cover	935-1845
7	End stick	935-0424
8	Cross leg support (left)	935-0428
9	Cross leg support (right)	935-0429
10	Top leg support (left)	935-0431
11	Top leg support (center)	935-0432
12	Top leg support (right)	935-0430
13	Dowel plug	935-0433
14	Spacing plug	935-0434
15	End plug	935-0435



# To Secure or Not?



THAT IS THE QUESTION!



SIR, LOCKING THESE RIGS UP SURE CREATES A HUGE SAFETY RISK!

I KNOW, MOTOR SERGEANT. IT MAKES NO SENSE,...

...BUT I HAVE THIS LETTER THAT SAYS THE FUEL TRUCKS HAVE TO BE SECURED.



FOR MANY YEARS FUEL TRUCKS HAVE BEEN LEFT UNLOCKED SO THEY COULD BE MOVED QUICKLY IN CASE OF FIRE.

THE INCREASE IN PHYSICAL SECURITY CONCERNS SINCE 9/11 HAS SOME PEOPLE TRYING TO FIND A REGULATION THAT SUPPORTS LEAVING FUEL TANKERS UNLOCKED. HERE'S THE ANSWER...

Dear MSG Half-Mast,

We used to leave all refueling vehicles and fuel tankers steering wheels unsecured for safety. In case of fire, we could quickly move the vehicles out of danger without the delay of getting a key. Recently we were told to secure all fuel tankers in the motor pool because there wasn't a regulation or policy that exempted them from security requirements. I need to know if there is a regulation or policy that can provide the proper guidance.

SSG A.W.

Dear Sergeant A.W.:

The answer isn't easy to find. It's not in safety, security, maintenance, or hazardous waste/environmental publications. It turns out to be a military police regulation. AR 190-51, Military Police, Security of Unclassified Army Property (Sensitive and Nonsensitive), requires vehicles to be secured with a locking mechanism. However, Para 3-5e. (2)(g) also provides an exception for fuel tanker vehicles at the discretion of the installation commander.

The regulation is available online at the Army Publishing Directorate's website:

[http://www.army.mil/usapa/epubs/190\\_Series\\_Collection\\_1.html](http://www.army.mil/usapa/epubs/190_Series_Collection_1.html)

Half-Mast



THE KEY TO THE COMPETING SAFETY AND SECURITY CONCERNS IS A RISK ASSESSMENT.

THE INSTALLATION COMMANDER MUST WEIGH THE RISKS AND DECIDE IN FAVOR OF WHAT SEEMS TO BE THE MOST LIKELY RISK.

# NOMINATIONS FOR THE ARMY AWARD FOR MAINTENANCE EXCELLENCE

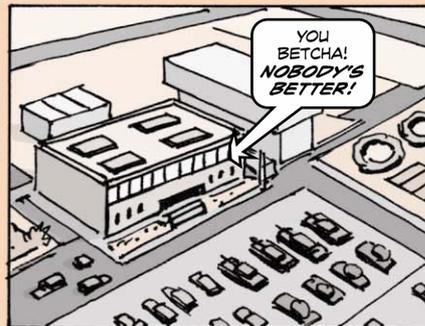


HEY SARGE...?

YEAH, JONES, WHAT'S UP?



YOU'RE ALWAYS TELLING US WE'VE GOT THE BEST MAINTENANCE OUTFIT IN THE ARMY, RIGHT?



YOU BETCHA! NOBODY'S BETTER!



SO WHY DON'T WE COMPETE FOR THE MAINTENANCE EXCELLENCE AWARD?



THAT'S AN EXCELLENT QUESTION. HERE'S HOW!

Nominations for the FY 2004 Chief of Staff Army Award for Maintenance Excellence (AAME) are due Dec. 15.

The AAME program recognizes units for improving and sustaining readiness. If you believe your unit should be recognized, go to Chap 7 and Appendix D of AR 750-1, *Army Materiel Maintenance Policy*, and review the requirements. Then contact your MACOM.

Units will report on mission accomplishments, the effective use of maintenance resources, innovative management actions, and quality of life programs.

The top AAME winners are also nominated for the Secretary of Defense Maintenance Awards program.

# QUERY SEARCHES GET RESULTS



Last month we discussed the opening screens of FED LOG. This month we look into making queries.

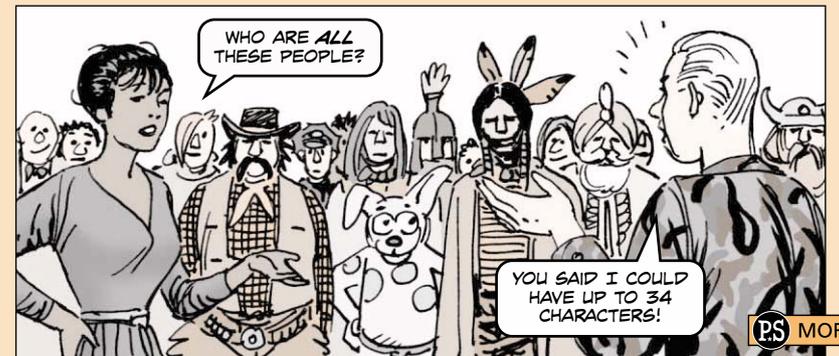
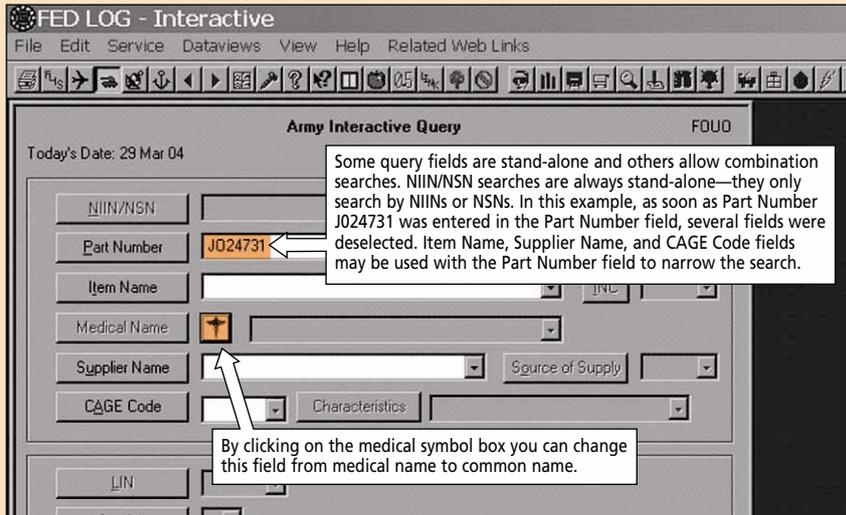
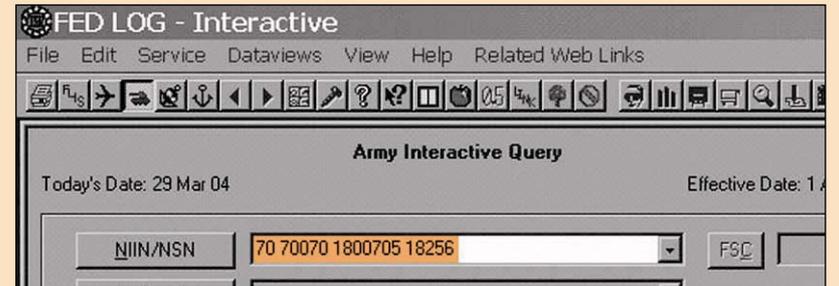
FED LOG allows you to search for: NIINs/NSNs, part numbers, item names, medical/common names, supplier names, CAGE codes, federal supply classes, item name codes, sources of supply, and characteristics.

Open FED LOG and click on the *green tank* to switch to Army Interactive. Query results will display the Army Master Data File (AMDF).

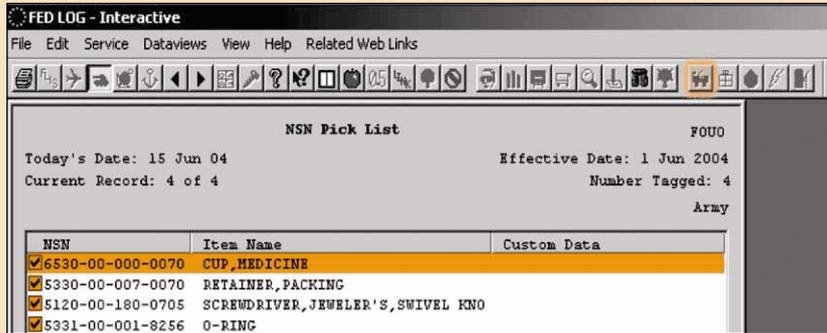
Some query fields are stand-alone and some can be used in combination. The NIIN/NSN field is a stand-alone. If you begin typing a NIIN or NSN in this field the other fields are deselected (grayed out). Part number is a combination field. It can be used in a stand-alone mode or combined with the fields that are not deselected—in this case, item name, supplier name, and CAGE code.

When entering a NIIN any preceding zeros not following another number may be omitted. So a NIIN of 000000070 may be typed as 70, but a NIIN of 000070070 would require 70070.

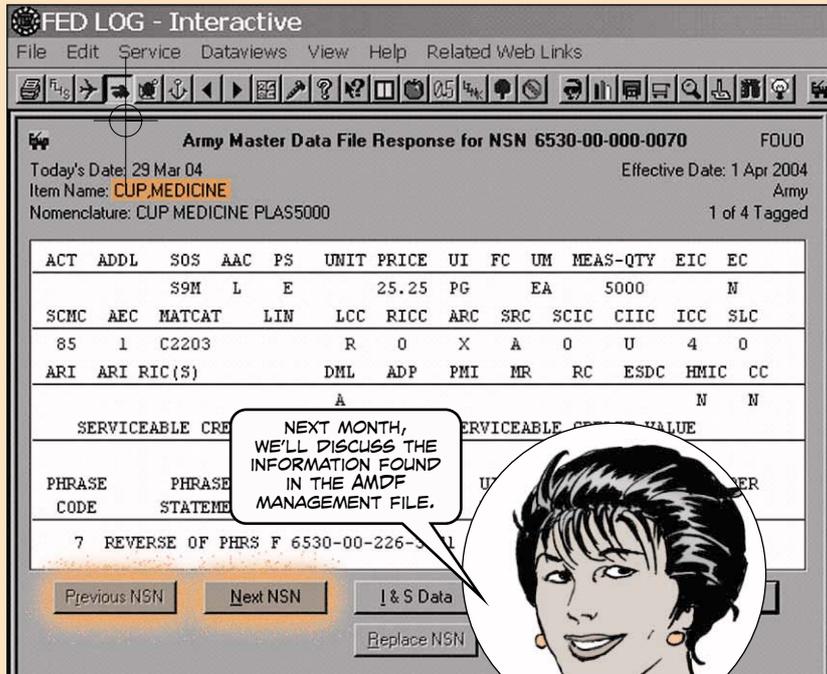
You can search for more than one NIIN at a time by separating the NIINs with a space. However, you are limited to about 34 characters and spaces. For example, let's search for 70, 70070, 1800705, and 18256.



Once you click on the Search button you will get an NSN Pick List screen. The four NIINs are now listed by NSN and item name. Each has a check mark box checked, what FED LOG calls "tagged." Leave them all tagged and click on the AMDF management data field icon (the green vehicle fifth from the right).



The AMDF screen displays info for the NSN that was highlighted. At the bottom of the AMDF screen are Previous NSN and Next NSN buttons. Clicking on the buttons allows you to navigate among the tagged NSNs.



## PS WEBSITE GAINS SECURITY

The URL (web address) for the PS web site has changed to <https://www.logsa.army.mil/psmag/pshome.html>  
It's now a secure site, but you do not need an account and password to log in.

## MWO Website Update

The Modification Management Information System (MMIS) website for MWOs has changed its internet address. Go to <https://www.mmis.army.mil> and you will be back in business. Questions about the MMIS system go to Bob Lane at (703) 797-8714. Questions about MWOs go to Grover Gibson, HQ AMC, at DSN 656-9058 or Andy Yedinak at DSN 656-9059.

## M88A1 APU HYDRAULIC PUMP

Four of the hydraulic pump parts listed in Fig 267 of TM 9-2350-256-24P-1 for the M88A1's auxiliary power unit are too small. Use these NSNs instead:

Item	Part	NSN 4730-01-
2	Pipe elbow	198-0780
9	Pipe elbow	444-0303
18	Pipe elbow	410-8110
26	Pipe tee	317-8903

## Maintaining Engine Barrier Filter

Mechanics, here's the cleaning solvent and lube you need to take care of your Kiowa's engine barrier filters. For the solvent, NSN 6850-01-514-3952 brings 5 gallons and NSN 6850-01-486-7201 brings 1 gallon. For the lube for the air filters, NSN 9150-01-514-3640 brings you 5 gallons and NSN 9150-01-486-7174 brings you 1 gallon.

PM!  
PROTECTING  
THE FUTURE...  
TODAY!



## MAINTENANCE STAND PARTS, PART 2

In PS 608, page 41, we gave you NSNs to maintain your maintenance stand, NSN 1730-00-269-8283, since it does not have a TM. However, the support brackets on the stand's front legs don't have NSNs. If you need to replace any of the brackets, your AVIM shop will have to use one of the old brackets as a pattern to make one.

## BB-2590/U Battery Not for Javelin

Do not use the BB-2590/U rechargeable battery in the Javelin's command launch unit (CLU). Testing has shown that the battery's high voltage output could damage the CLU. Instead, use BB-390A, NSN 6140-01-419-8187.

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

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

THE PREVENTIVE MAINTENANCE  
YOU DID *YESTERDAY...*



***...MATTERS TODAY!***

Would You Stake Your Life *right now* on  
the Condition of Your Equipment?

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