



# THE PREVENTIVE MAINTENANCE MONTHLY

ISSUE 795 FEBRUARY 2019



## COMBAT VEHICLES

M1-Series Tank Recoil System PM	2-3
M1-Series Tank V-Pack Cleaning, Inspection	4-5
Bradley, MLRS Shock Absorber PM	6-7
M113-Series FOV Grenade Launcher Dust Covers	7
M119A2 Howitzer Equilibrator Springs Protection	8
M88-Series Recovery Vehicle Transmission Filter Cover	9



## TACTICAL VEHICLES

PLS Cold Weather Maintenance, Resources	10-11
M984 HEMTT, M1089 FMTV Towing Help	12-13
HMMWV Headlight, Brake Light Matching	14
A1P2 FMTV Window Latch NSN	15



## CONSTRUCTION

HMEE-1 Lube Points	16-17
HMEE-1 Backhoe Bucket Corrosion	17
M1270 MMPV Loading, Unloading	18-19
Watercraft, DA PAM 750-8 Update	20
M1231 Husky Air Dryer Change Interval	20



## AVIATION

H-60 Tail Rotor Retention Bolts	21
CH-47F Two-Wheel Tow Bar	22-23
AH-64 Series HADS Probe Cover	24-25
H-60/AH-64 Engine Oil TM Change	25
UH-60 Series Parts Turn-in	26

## Max Torque: The Maltese Long Johns, Pt 1

27-34



## SMALL ARMS

M120/A1 Mortar Firing Pin Alignment	35
CCMCK Stuck Round Prevention, Removal	36-37



## TOOLS

Tool Component Lists, Where to Find	38-39
Hardware Fastener Tips	40-41
SATS Tool Locator Guide	41



## MISSILES

Avenger ECU/PPU PM Pointers	42-43
-----------------------------	-------



## CBRN

JSLIST Hood Fitting for JSGPM	44
-------------------------------	----



## COMMUNICATIONS

Radio Equipment Power Surge Prevention	45
Commo Shelter Internal Maintenance	46-49
Commo Shelter External Maintenance	50-52



## SOLDIER SUPPORT

Containerized Kitchen Side Wing Wall Safety	53-55
Desiccant NSN for Corrosion Prevention	56
Laser Safety: Myths vs. Facts	57-58
Cold Weather Injury Types, Prevention	59-60

## Connie's Post Scripts

61

TB 43-PS-795, *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. The use of product or company names does not constitute endorsement of those products, services or companies by the U.S. Army. The use of non-DoD hyperlinks, along with their content, does not constitute endorsement by DoD or DA. Neither DoD nor DA exercises any editorial control over, and cannot vouch for, content on non-DoD websites.

**PS, The Preventive Maintenance Monthly** (ISSN 0475-2953)

is published monthly by the Department of the Army, Redstone Arsenal, AL 35898.

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 ARMY SUSTAINMENT COMMAND**

**BLDG 3307**

**Redstone Arsenal, AL 35898**

Or email:

**usarmy.redstone.asc.mbx.psmag@mail.mil**

Internet address:

**<https://www.logsa.army.mil/psmag/pshome.cfm>**

By Order of the Secretary of the Army:

**MARK A. MILLEY**  
General, United States Army  
Chief of Staff

Official:

*(Signature)*

**MARK F. AVERILL**  
Acting Administrative Assistant  
to the Secretary of the Army  
1831752

Issue 795

# PS



February  
2019

## THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-795

Approved for  
Public Release;  
Distribution is  
Unlimited

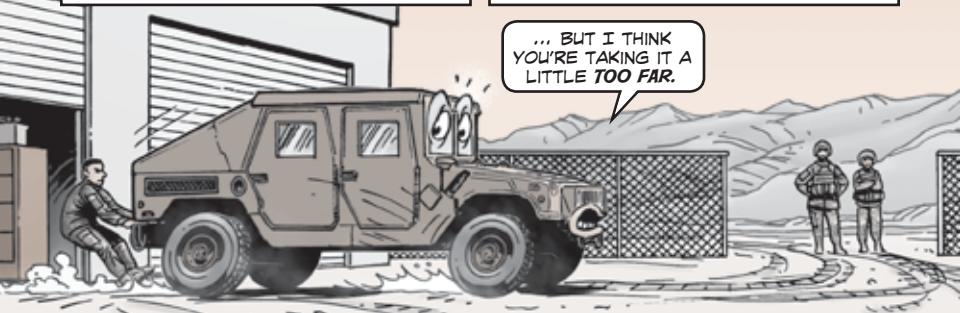
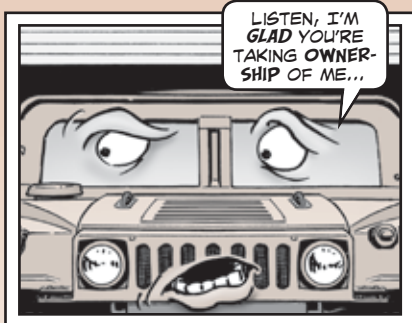
PREVENTIVE  
MAINTENANCE  
**SHOULDN'T** BE A  
MYSTERY. BUT IF  
IT IS, CALL ME.

MAX TORQUE,  
PM PI 555-PMCS

PS

For  
**MORE**  
Max, see  
Pages  
27-34

# Ownership of the Vehicle



**P**REVENTIVE MAINTENANCE IS THE REGULAR, ROUTINE MAINTENANCE THAT KEEPS YOUR UNIT'S EQUIPMENT UP AND RUNNING. IT PREVENTS UNPLANNED DOWNTIME AND EXPENSIVE REPAIR COSTS FROM EQUIPMENT FAILURE.

BET YOU'RE NODDING YOUR HEAD AND THINKING, "**NO NEWS THERE.**"

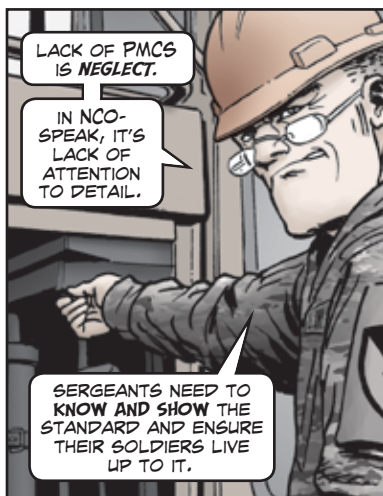
BUT THERE'S A **GROWING PROBLEM** IN MOTOR POOLS ACROSS THE ARMY. PMCS IS BECOMING NOTHING MORE THAN A **RIPPLE** IN THE OCEAN, ESPECIALLY ON LOW-DENSITY EQUIPMENT.

## WHY?

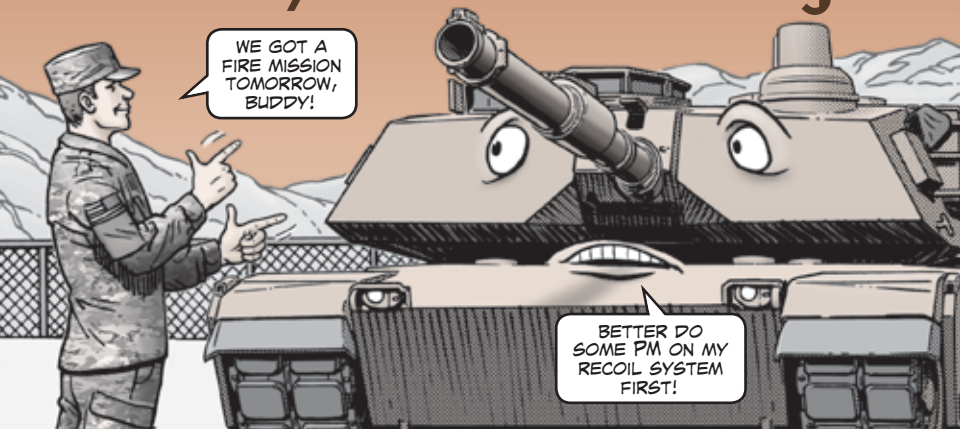
BECAUSE WAY TOO MANY OPERATORS **DON'T** TAKE OWNERSHIP OF THEIR EQUIPMENT. THAT'S DESPITE THE FACT THAT EQUIPMENT PERFORMANCE **DEPENDS** ON THEM.

THAT'S WHERE YOU NCOs COME IN. MAKE IT A HABIT TO WALK AROUND THE MOTOR POOL ON **MAINTENANCE MONDAYS** OR DURING AFTER OPERATION MAINTENANCE (AOM).

CORRECT A FEW FAULTS THEY'VE MISSED AND THEY'LL LEARN FAST THAT PMCS IS THEIR **DUTY.**



# Recoil System PM Done Right



Dear Editor,

We recently had an inexperienced crew get rattled because their M1A2 tank's gun tube started shaking during a live-fire exercise. Turns out, they didn't do proper PMCS and the recoil system had air in it.

Keeping air out of the system is an important part of keeping your tank combat ready. Same goes with making sure the replenisher has enough fluid.

Just like it says in the -10 TM, here's what you need to do anytime the replenisher has been changed for maintenance or just before firing:

## Replenisher Level

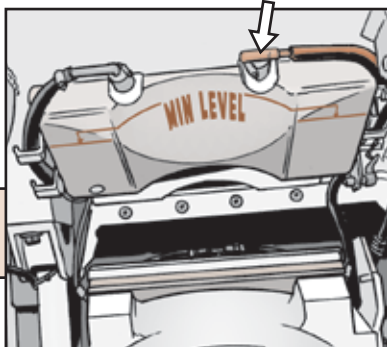
1. Park the tank on level ground and raise the gun tube to max elevation.
2. Make sure you're wearing long sleeves (rolled down), rubber gloves, goggles and a faceshield. FRH contains a chemical that can cause paralysis if it's taken orally. FRH can also be absorbed through the skin, so wash thoroughly with soap and water if you get any on you.

3. Disconnect the hose from the plug on the top right side of the replenisher reservoir.

4. Uncoil the hose by sliding it out of the six retaining clips around the outside of the replenisher.

5. Extend the hose through the loader's hatch.

6. Put the small Bil Funnel, NSN 7240-00-404-9793, in the hose and slowly add FRH, NSN 9150-00-111-6256, until the fluid level reaches the MIN LEVEL mark on the replenisher.





7. Remove the funnel, slide the hose back through the retaining clips and reattach it to the plug on top of the replenisher.

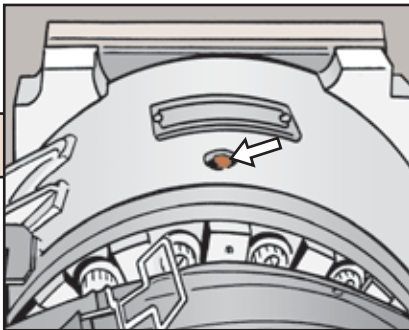
If the Fluid level in the replenisher keeps moving down over time, report it. You could have a Class III leak.

## Bleed Recoil System

If there's air in the system, the replenisher could give you a false reading. The level may look good when it's actually low.

Bleed the system prior to firing exercises and every time the system is drained and refilled. Here's how:

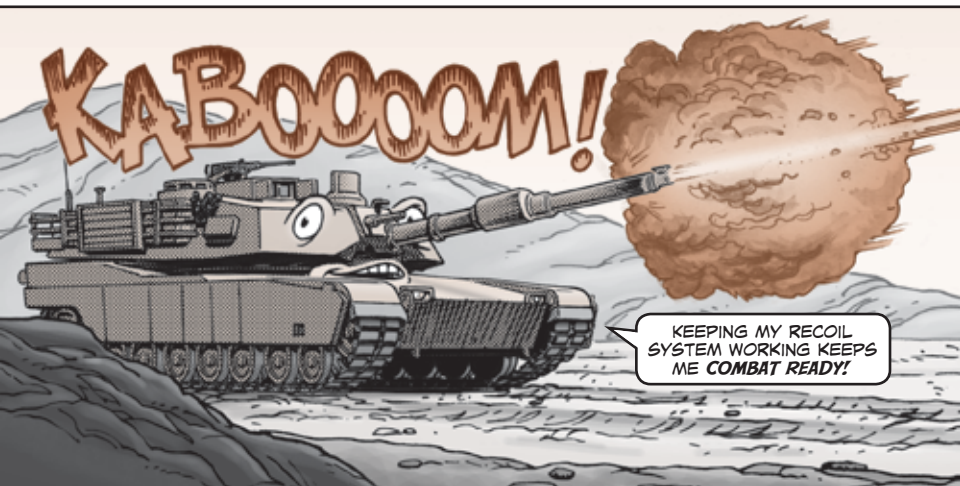
1. Make sure you're wearing long sleeves, gloves, goggles and a face shield for protection.
2. Elevate the main gun to maximum elevation with the hydraulic pump handle and check the replenisher to make sure it's full. Add hydraulic fluid if it's needed.
3. With turret power off and the system hydraulic pressure reduced to zero, manually depress the gun tube just below level.
4. Loosen, but don't remove, the bleed plug below the gun mount.
5. Allow all the air to escape until you see FRH starting to ooze from around the bleed plug.
6. Retighten the bleed plug. Wipe off any FRH with a rag and dispose of it properly.
7. Recheck the replenisher reservoir.



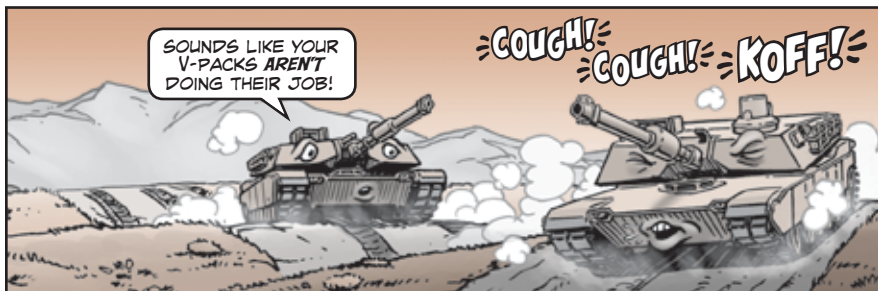
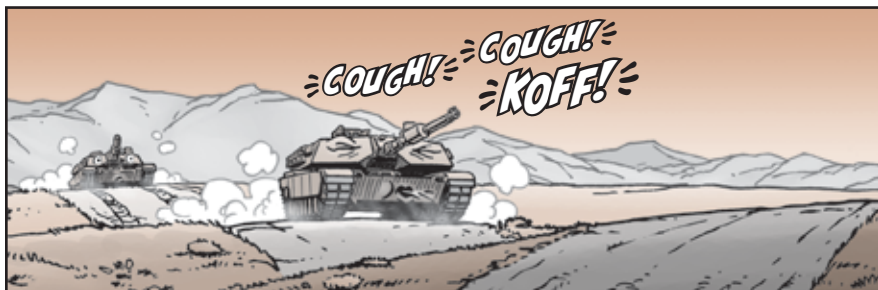
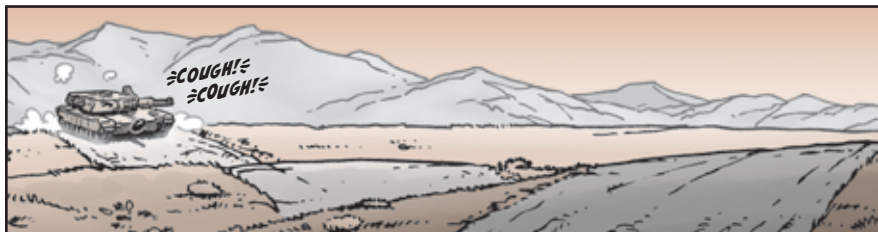
Add more FRH if needed.

SSG Mike Porter  
Ft Hood, TX

**Editor's note:** Thanks for the info, Staff Sergeant Porter!



# V-Packs Critical in Protecting Engine



Dear Editor,

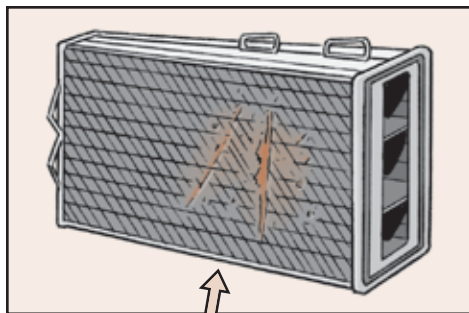
If you've ever seen an M1-series tank engine that's been destroyed by dirt or other foreign debris, you know how important it is to make sure the air going into the engine is free of anything that could cause damage.

A big part of protecting the engine is making sure the V-packs are clean and serviceable. Keep in mind that every time the V-packs are removed, the seals might not seal properly and dirt and other debris can get inside the engine, so don't remove them needlessly.

Since a pulse jet system (PJS) routinely keeps the V-packs clean, the V-packs don't need to be removed until semiannual services.

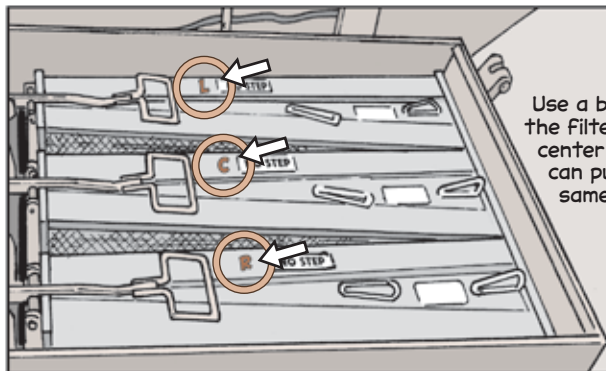
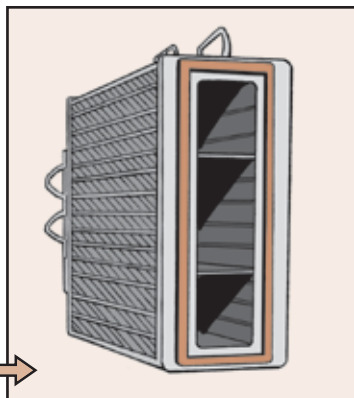
During services, they'll be removed, blown out and weighed. If they're within the weight limits listed in the TM, they'll be reinstalled. If not, they'll be replaced.

Mechanics, take a little extra time during semiannual services to look closely for measurable tears, breaks or holes in the filter element's fibers. Then look for any damage to the element's bead that would prevent a snug fit between the element and the air box seal.



Check V-packs for tears, breaks or holes in filter element

Check for damage to element's bead



Use a black marker to label the filters L, C, and R (left, center and right) so you can put them back into the same slots after cleaning.

If the V-packs are put back in a different sequence, they won't line up with the original compression points on the air plenum box seal. That leaves gaps in the seal and allows dirt to get to the engine.

CW3 Steven Page  
Ft Hood, TX

THANKS,  
CHIEF PAGE!  
THIS SHOULD  
HELP KEEP  
THOSE TANKS  
**BREATHING  
EASY.**



OH,  
M-MAN!

I-I'M  
ALL...

...SHOOK  
UH-UP...

...DUE T-TO  
P-POOR...

...SH-SHOCK  
PM!

**DON'T OVERLOOK SHOCK PM!**

Dear Editor,

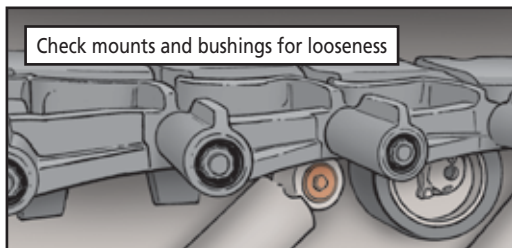
I see a lot of Bradley and MLRS crewmen overlooking their vehicle's shock absorbers after a mission. Bad idea! Like it says in the -10 TM, shock absorbers need a good once-over after every operation.

Here's how to make sure you aren't shocked by bad shock absorber PM:

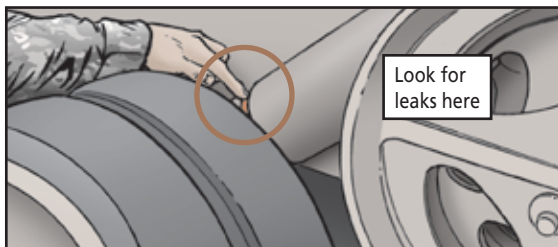
- Shock absorbers that are doing their job generate heat during operation. If any of the shocks are cool or only slightly warm to the touch, tell your mechanic. Careful, though. Shocks in good working order generate a lot of heat and can burn you!



- Feel the shock absorber mounts and bushings. They should be nice and tight. Let your mechanic know about any loose ones.



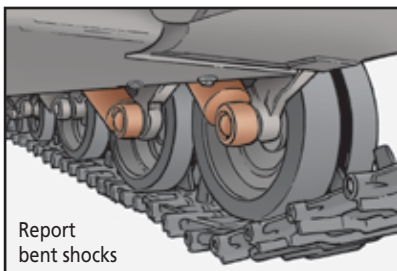
- Eyeball the shock absorbers for oil leaks. Report any leaks.





- From the front of the vehicle, look straight down the track line at the shock absorbers. Checking from that angle makes it easy to find **bent or broken shocks**. Tell your mechanic about any shock absorbers that **aren't** straight.

SGT Miguel Rodriguez  
Ft Carson, CO



Report bent shocks

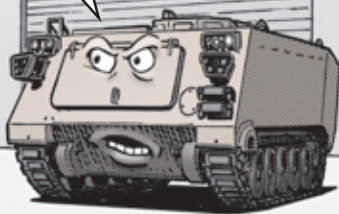
**Editor's note:** *Sergeant Rodriguez, hopefully your tips will shock some crews into doing shock absorber PM!*

**M113-Series FOV...**

# BRUSH UP ON DUST COVER PM

WELL, YOUR PM'S ALL DONE FOR THE DAY

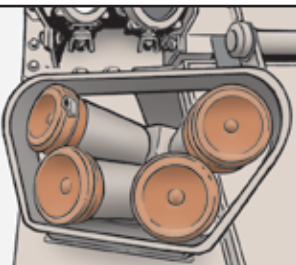
**NOW HOLD ON!** HOW 'BOUT YA GIVE MY SMOKE GRENADE LAUNCHER TUBE COVERS A LITTLE ATTENTION?



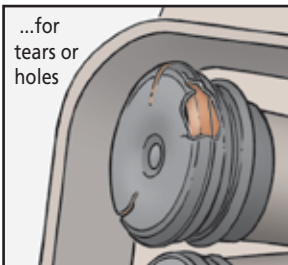
CREWMEN, TAKE A LITTLE **EXTRA** TIME DURING PMCS AND GIVE THE **DUST COVERS** ON YOUR M113 CARRIER'S SMOKE GRENADE LAUNCHER TUBES A GOOD EYEBALLING.

THE COVERS SHOULD BE IN GOOD SHAPE, WITH **NO TEARS OR HOLES**. IF YOU FIND AN **UNSERVICEABLE** COVER, ORDER A NEW ONE WITH NSN 5340-01-095-0297.

Inspect smoke grenade launcher dust covers closely...



...for tears or holes

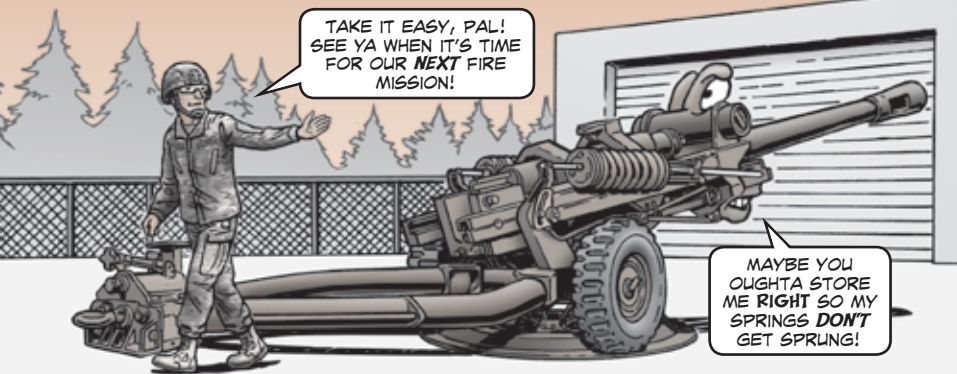


WHILE YOU'RE AT IT, MAKE SURE THE SMOKE GRENADE LAUNCHER TUBES ARE FREE OF ANY DIRT OR OTHER DEBRIS.

USE A PIPE CLEANER TO CLEAN THE DRAIN HOLE IN THE BOTTOM OF EACH TUBE, JUST LIKE IT SAYS IN THE -10 TM.

THEN LOOSEN AND PUSH OUT ANY REMAINING DIRT OR DEBRIS THROUGH THE DRAIN HOLES.

# AVOID **NASTY** SPRING SURPRISE



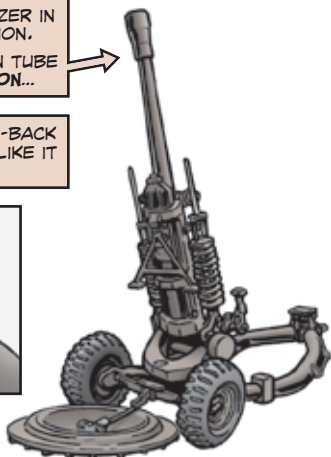
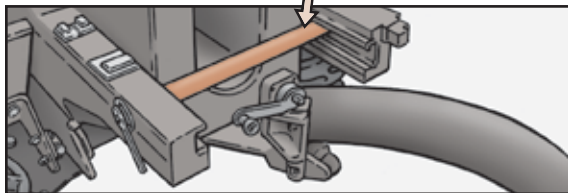
THE **SPRINGS**, NSN 5360-01-465-3964 AND NSN 5360-01-466-4057, CAN BE **DAMAGED** FROM THE STRESS OF BEING COMPRESSED FOR LONG PERIODS OF TIME.

BOTH SPRINGS TOGETHER COST MORE THAN **\$1,900**.

**DON'T** STORE YOUR HOWITZER IN THE TRAVEL-LOCK POSITION.

INSTEAD, KEEP THE CANNON TUBE AT ITS **MAXIMUM ELEVATION**...

...AND MAKE SURE THE RUN-BACK STOP IS INSTALLED, JUST LIKE IT SAYS IN THE -10 TM.



M88-Series  
Recovery  
Vehicles...

**DON'T** LET THIS HAPPEN  
TO YOU... GET THE TORQUE  
**RIGHT** WHEN MOUNTING  
TRANSMISSION OIL FILTERS!

# Get Oil Filter Torque Just Right

MECHANICS,  
THERE HAVE BEEN  
SEVERAL **ENGINE  
FIRES** RECENTLY  
INVOLVING M88-  
SERIES RECOVERY  
VEHICLES.

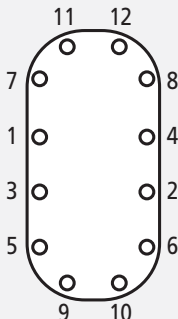
PROPERLY  
INSTALLED  
TRANSMISSION OIL  
FILTERS MIGHT  
HAVE **PREVENTED**  
SOME OF THESE  
FIRES.

IF YOU DON'T GET THE  
TORQUE **JUST RIGHT** WHEN  
INSTALLING THE FILTER,  
THE OIL FILTER HOUSING  
GASKET CAN **FAIL**. THEN  
TRANSMISSION FLUID  
SPRAYS ON THE TURBOS.  
NEXT THING YOU KNOW, YOU  
HAVE AN **ENGINE FIRE!**

Transmission oil  
filter gasket can  
blow if bolts  
are improperly  
torqued



JUST LIKE THE TM SAYS,  
TORQUE THE TRANSMISSION  
OIL FILTER MOUNTING  
BOLTS TO 25-31 LB-FT.  
BE SURE TO TORQUE THEM  
IN THE **PROPER NUMERICAL  
SEQUENCE** SHOWN BELOW.



BEFORE INSTALLING  
A NEW FILTER, MAKE  
SURE NONE OF  
THE OLD GASKET  
REMAINS. AND  
**NEVER** USE ANY  
TYPE OF RTV!

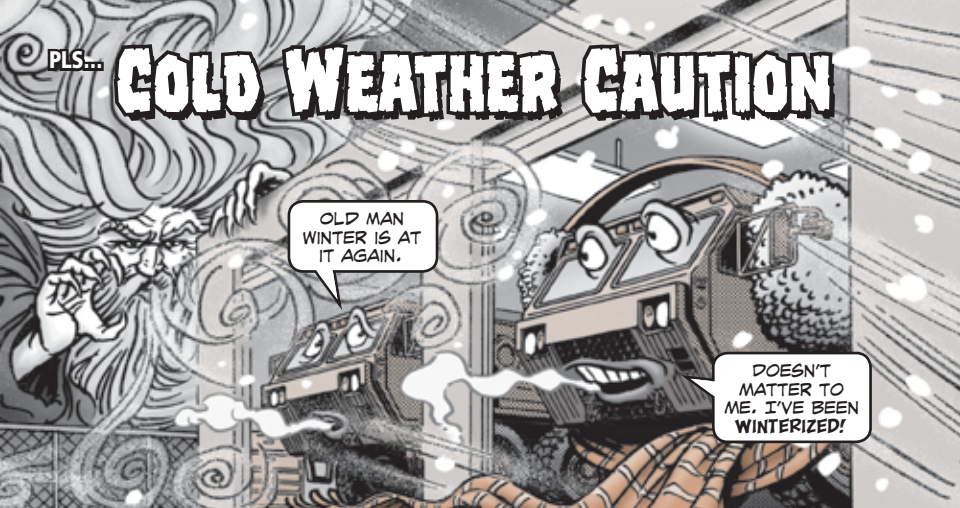
IT ACTS AS A  
LUBRICANT AND  
COULD CAUSE THE  
GASKET TO BLOW.

REMOVE AS MUCH  
OF THE OLD  
TRANSMISSION OIL  
FROM THE MOUNTING  
BOLT HOLES AS  
POSSIBLE TO ALLOW  
THE PROPER TORQUE  
ON THE BOLTS.

FINALLY, MAKE  
SURE YOU'RE USING  
A TORQUE WRENCH  
THAT'S **CORRECTLY  
CALIBRATED.**

PLS...

# COLD WEATHER CAUTION



AS OLD MAN WINTER WREAKS HAVOC WITH FREEZING TEMPS THIS SEASON, YOUR PALLETIZED LOADING SYSTEM (PLS) TRUCKS NEED EXTRA CARE TO WITHSTAND THE COLD.

HARSH WEATHER REALLY STRESSES VEHICLES, BUT THE IETM WORK PACKAGES HAVE YOU COVERED.

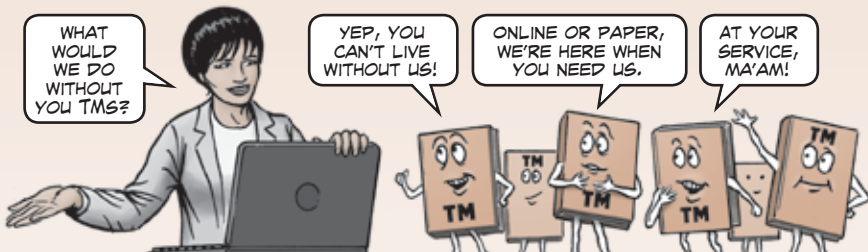
EVEN IF YOU'VE READ IT BEFORE, DO A QUICK REFRESHER BY READING THE SECTION ON COLD WEATHER MAINTENANCE FOR YOUR PLS MODEL:

Model	TM	IETM
M1074 & M1075	9-2320-364-10-1, WP 0069	9-2320-364-13&P (EM 0206), WP 0010-25 & 26
M1074A1 & M1075A1	9-2320-319-10-1, WP 0051	9-2320-319-13&P (EM 0298), WP 0100-03 & 0010-26

## Winter Resources

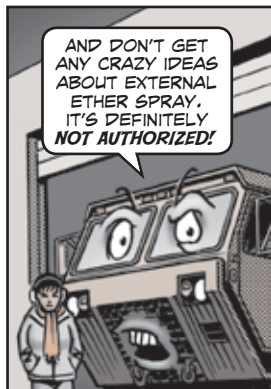
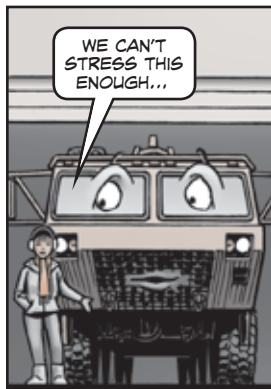
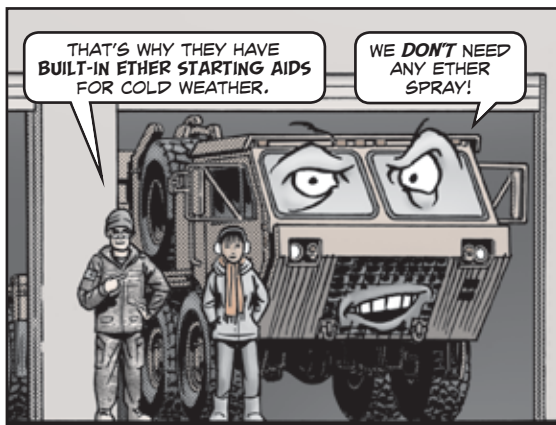
THESE ADDITIONAL PUBS ALSO PROVIDE HELPFUL INFO FOR SERVICING VEHICLES IN WINTER WEATHER:

- **TM 4-33.31**, *Cold Weather Maintenance Operations* (Feb 17)
- **ATP 390.97**, *Mountain Warfare and Cold Weather Operations* (Apr 16)
- **TC 21-305-20**, *Manual for the Wheeled Vehicle Operator* (Jan 16)
- **TB 750-651**, *Use of Antifreeze Multi-Engine Type Cleaning Compounds and Test Kit in Engine Cooling Systems* (Sep 06)
- **TM 750-254**, *Cooling Systems: Tactical Vehicles* (Mar 72)





## Ether and Engines: A Dangerous No-No for PLS



**ETHER ACTUALLY BURNS HOTTER THAN JP8 AND DIESEL. THAT MEANS YOU CAN SERIOUSLY DAMAGE YOUR PLS ENGINE IF YOU SPRAY IT WITH ETHER!**

CRACKED PISTONS, FRACTURED CYLINDER SLEEVES, BENT CONNECTING RODS AND RUINED CYLINDER HEADS ARE JUST A FEW OF THE REPAIRS YOU'LL BE MAKING ON YOUR TOASTED ENGINE AFTER COOKING IT WITH ETHER SPRAY.

EVEN WORSE, ETHER IS **EXTREMELY FLAMMABLE** AND CAN IGNITE AT LOWER TEMPERATURES THAN YOU MIGHT EXPECT. THIS PUTS YOU **AND** YOUR VEHICLE AT RISK OF FIRE OR EXPLOSION WHEN USING EXTERNAL SPRAY ETHER.

**IT'S JUST NOT WORTH IT.**



# TOWING TROUBLES TRIGGER TM TRANSITIONS

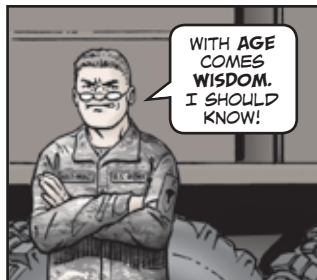
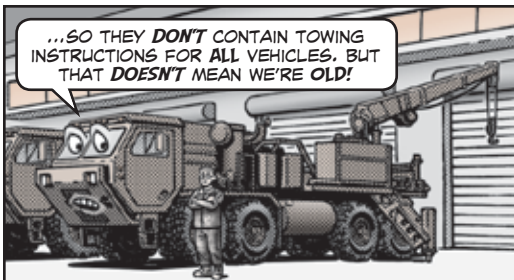
CW2 JEFFREY MILLER WROTE US ABOUT THIS **TOWING PROBLEM**, STARTING WITH THE PREP INSTRUCTIONS IN THE TOWED VEHICLE'S -10 TM. THOSE STEPS ARE CORRECT.

SO REFER TO THE **WRECKER'S MANUAL** FOR INSTRUCTIONS ON HOW TO CONNECT THE VEHICLE.

FOR THE M1089 FMTV WRECKER, THAT WOULD BE TM 9-2320-334-10-1.

BUT WITH THE M984 HEMTT WRECKER, IT'S **CONFUSING** BECAUSE CERTAIN MODELS ARE ACTUALLY OLDER THAN SOME VEHICLES THEY TOW!

IT'S TRUE. OUR TMS WERE WRITTEN **BEFORE** SOME VEHICLES WERE INVENTED...



YOU'LL ONLY FIND TOWING PROCEDURES FOR FMTV/LTAS VEHICLES IN THE M984A4'S MANUAL. THE TMS FOR THE M984A1 AND A2 MODELS DON'T SAY ANYTHING ABOUT TOWING FMTVS.

SOME UNITS INTERPRET THAT TO MEAN YOU **CAN'T** TOW FMTV/LTAS VEHICLES WITH THE M984A1 OR A2 WRECKERS. **THAT'S NOT TRUE.**

THESE OLDER TMS ARE NOW BEING UPDATED TO INCLUDE TOWING PROCEDURES FOR FMTV/LTAS. IN THE MEANTIME, USE THE SAME FMTV/LTAS TOWING PROCEDURES LISTED FOR THE M984A4 IN TM 9-2320-421-10-1 AND IETM EM 0289.

YOU'LL ALSO NEED TO ORDER THE PARTS IN THIS CHART. THAT'S BECAUSE ALL M984 HEMTT WRECKERS USE THE SAME TOWING DEVICE, WHICH REQUIRES THESE ADDITIONAL PARTS FOR TOWING FMTV/LTAS VEHICLES:

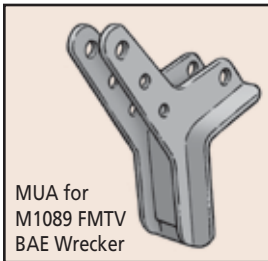
Item	NSN
Shoulder pin	5315-01-613-1461
Sleeve spacer	5365-01-613-2392
Straight pin	5315-01-215-7505



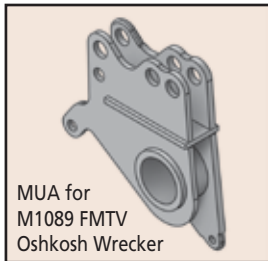
<https://tulsa.tacom.army.mil/Maintenance/message.cfm?id=MA16-009.html>

## Towing Tools: Multi-Use Adapters

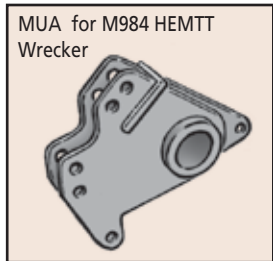
BOTH THE M984 HEMTT AND THE M1089 FMTV WRECKERS MADE BY BAE AND OSHKOSH USE THE MULTI-USE ADAPTER (MUA) SYSTEM TO TOW VEHICLES, BUT THE MUAS ARE **NOT** INTERCHANGEABLE.



MUA for  
M1089 FMTV  
BAE Wrecker



MUA for  
M1089 FMTV  
Oshkosh Wrecker



MUA for M984 HEMTT  
Wrecker

**DON'T GET THEM CONFUSED!** THE M1089 MUA HAS A **SQUARE-SHAPED** CROSS TUBE. THE M984 MUA IS A **CYLINDRICAL** CROSS TUBE. EACH ONE REQUIRES A LEFT AND A RIGHT MUA.

USE THIS  
HANDY  
CHART TO  
ORDER THE  
CORRECT  
MUAS:

Wrecker	Left "roadside" MUA NSN	Right "curbside" MUA NSN
M984 HEMTT	5340-01-516-2058	5340-01-516-2059
M1089 FMTV BAE	4910-01-434-6818	5340-01-372-0948
M1089 FMTV Oshkosh	2590-01-614-6050	3040-01-614-5746

HMMWVs...

# Shine On with LEDs

Y'KNOW, THEY PUT ONE **NEW** HEADLIGHT IN, BUT... THIS DOESN'T SEEM QUITE RIGHT.

IT'S **NOT** RIGHT! YOU **CAN'T** MIX LED AND INCANDESCENT HEADLIGHTS!

NOW HEADLIGHTS AND BRAKELIGHTS, THAT'S A **DIFFERENT** STORY. IT'S OK TO MIX **THOSE**!



Dear Half-Mast,

IF one incandescent light goes out on a HMMWV, can an LED bulb be used to replace it, assuming all lights are ordered using NSNs/part numbers out of the appropriate TMs for the vehicles?

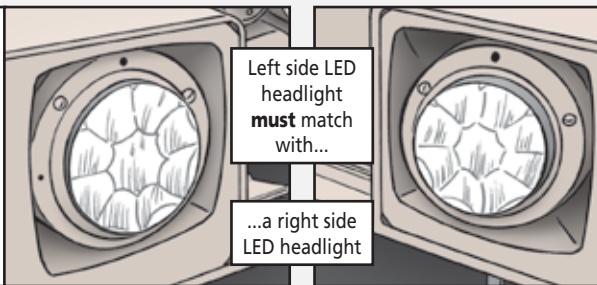
SGT N.D.

Dear Sergeant,

When it comes to mixing and matching incandescent and LED lights on HMMWVs, the left and right sides of the vehicle should always be symmetrical. Right and left headlights should match. Right and left brake lights should match.

However, the brake lights can be LED while the headlights are incandescent, or vice versa.

If replacing an incandescent light with an LED, the corresponding light on the other side of the HMMWV should also be replaced with an LED.



By the way, NSN 6220-01-600-5069 for the HMMWV LED headlight assembly hasn't made it into the IETM yet, so save it for future reference!

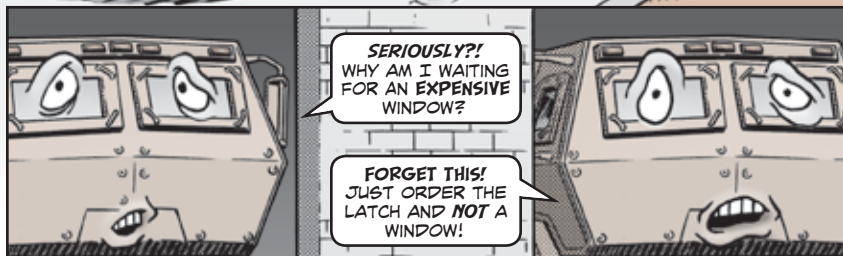
*Half-Mast*



# SIMPLE LATCH SAVES CASH!



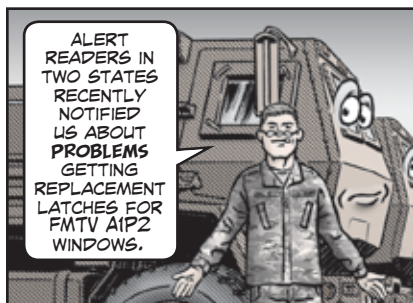
LATER, GUYS!  
ALL I NEEDED WAS  
A WINDOW LATCH!



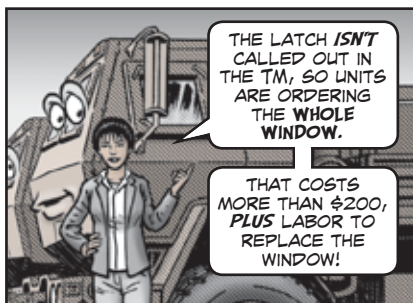
SERIOUSLY?!

WHY AM I WAITING  
FOR AN EXPENSIVE  
WINDOW?

FORGET THIS!  
JUST ORDER THE  
LATCH AND *NOT* A  
WINDOW!



ALERT  
READERS IN  
TWO STATES  
RECENTLY  
NOTIFIED  
US ABOUT  
PROBLEMS  
GETTING  
REPLACEMENT  
LATCHES FOR  
FMTV A1P2  
WINDOWS.

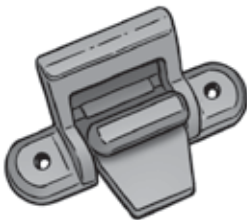


THE LATCH *ISN'T*  
CALLED OUT IN  
THE TM, SO UNITS  
ARE ORDERING  
THE **WHOLE**  
WINDOW.

THAT COSTS  
MORE THAN \$200;  
**PLUS** LABOR TO  
REPLACE THE  
WINDOW!

**BUT THERE'S A MUCH  
CHEAPER SOLUTION!**

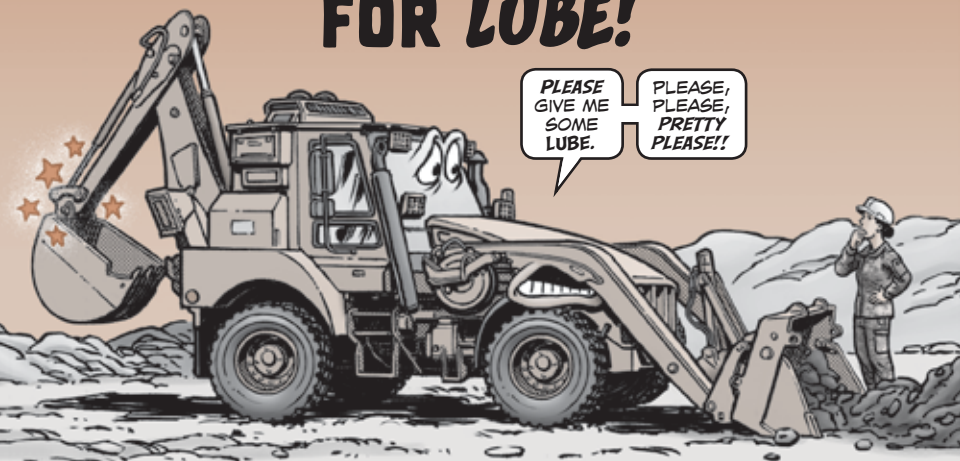
ORDER NSN 2540-  
01-654-7991 TO GET A  
SINGLE WINDOW LATCH  
FOR **ONLY \$42!**



SAVE YOUR UNIT MONEY  
**AND** HEADACHES BY  
MAKING A NOTE OF THE  
NSN UNTIL THE TM IS  
UPDATED.

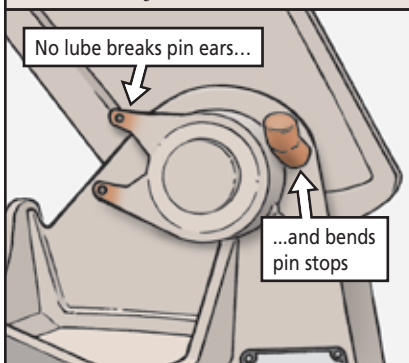
THEN NO ONE MAKES  
THE **MISTAKE** OF  
ORDERING A COSTLY  
WINDOW JUST TO  
REPLACE A BROKEN  
LATCH!

# BACKHOE'S BEGGIN' FOR LUBE!

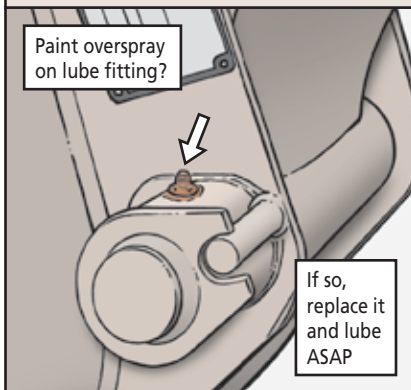


**M**aintenance neglect has become a real problem for the backhoes on the HMEE-1 excavator. These vehicles often sit for weeks or months at a time. Even when they're used regularly, the backhoe's lube points are often overlooked or ignored.

And when that happens, the backhoe bucket's pivot pins rust in place. That causes frozen bucket pins, busted pin ears and broken pin-stop pins. Bottom line is a backhoe bucket assembly that won't do the job.



Take a good look at the HMEE-1's backhoe. Notice any lube points with CARC paint overspray on the grease pin fitting? That's a sure sign the grease fitting was never lubed!

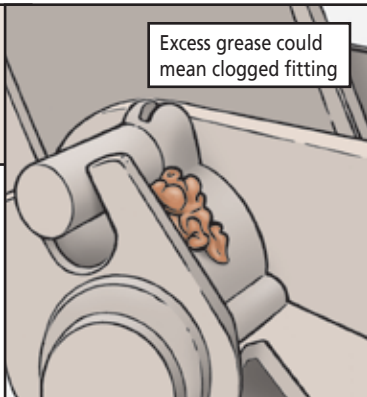


And if you see a fitting with globs of grease all around it, the fitting is either clogged or not being lubed properly. Wipe away the excess and try again. If grease still won't go in the fitting, notify your mechanic.

IT ALL COMES DOWN TO **THIS...**



Excess grease could mean clogged fitting



MAKE SURE **ALL** THE LUBE POINTS LISTED IN TM 5-2420-232-10 (JUL 07) GET ATTENTION. AND IF YOU'RE USING THE OPERATOR'S MANUAL IN TM 5-2420-232-13&P IN IETM EM 0330 (FEB 13), NOTE THAT THE LUBE INSTRUCTIONS **AREN'T** INCLUDED WITH THE PMCS.

INSTEAD, YOU'LL FIND THEM LISTED UNDER MAINTENANCE PROCEDURES.

HMEE-1...

LAY THE BACKHOE BUCKET **FLAT** ON THE GROUND TO KEEP WATER OUT.



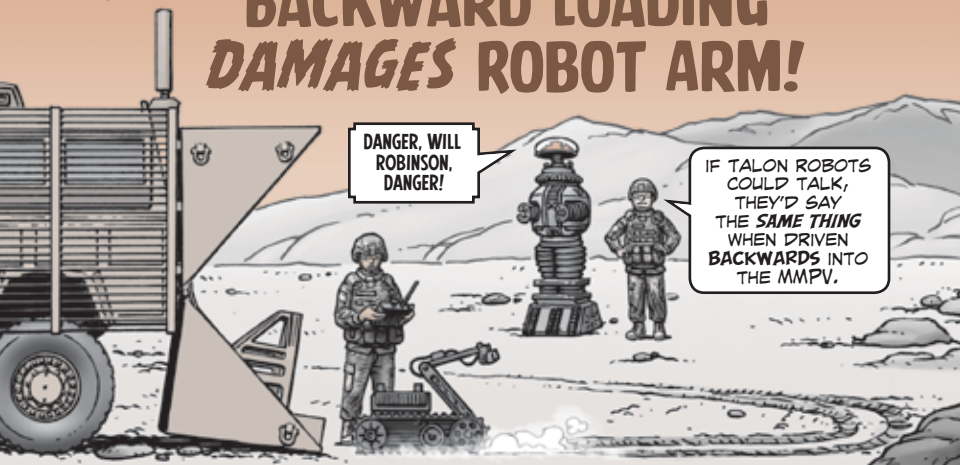
## GIVE BUCKET A BREAK

**O**PERATORS, MAKE IT A POINT TO LOWER THE BACKHOE BUCKET SO IT'S **FLAT** ON THE GROUND WHEN YOU PARK YOUR HMEE-1 EXCAVATOR.

RESTING THE BUCKET TAKES WEIGHT OFF THE LIFT CYLINDER **AND** KEEPS WATER FROM POOLING INSIDE.

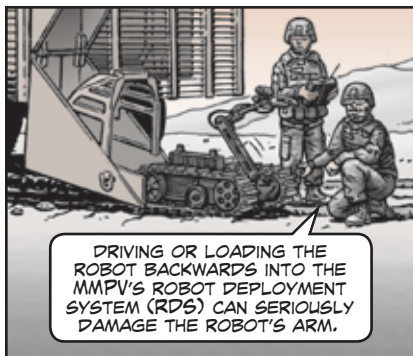
WATER THAT SITS IN THE BUCKET CAUSES **RUST**. IN THE WINTER, IT FREEZES AND SPLITS WELDS.

# BACKWARD LOADING DAMAGES ROBOT ARM!

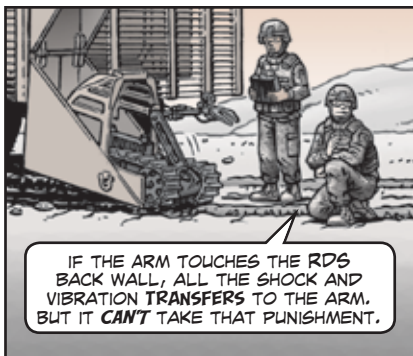


DANGER, WILL  
ROBINSON,  
DANGER!

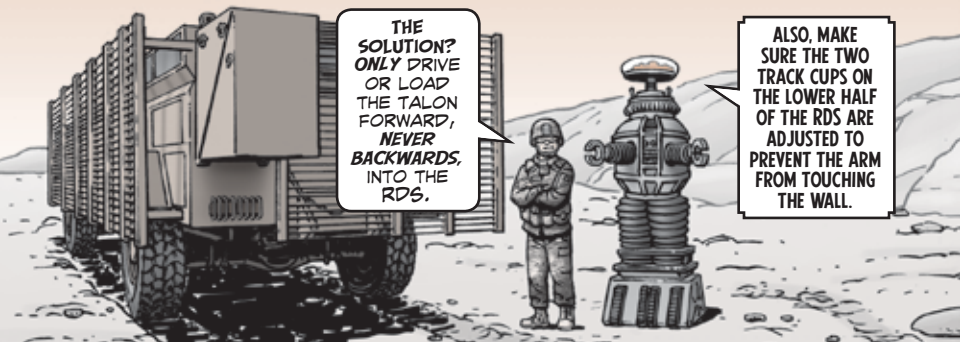
IF TALON ROBOTS  
COULD TALK,  
THEY'D SAY  
THE **SAME THING**  
WHEN DRIVEN  
**BACKWARDS** INTO  
THE MMPV.



DRIVING OR LOADING THE  
ROBOT BACKWARDS INTO THE  
MMPV'S ROBOT DEPLOYMENT  
SYSTEM (RDS) CAN SERIOUSLY  
DAMAGE THE ROBOT'S ARM.



IF THE ARM TOUCHES THE RDS  
BACK WALL, ALL THE SHOCK AND  
VIBRATION **TRANSFERS** TO THE ARM.  
BUT IT **CAN'T** TAKE THAT PUNISHMENT.



THE  
SOLUTION?  
**ONLY** DRIVE  
OR LOAD  
THE TALON  
FORWARD,  
**NEVER**  
**BACKWARDS**,  
INTO THE  
RDS.

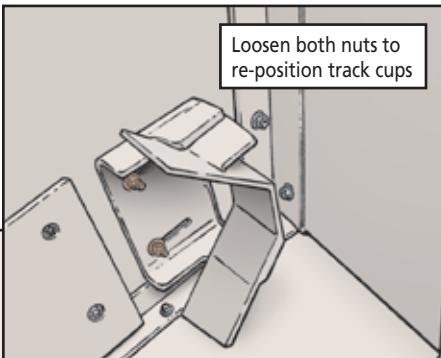
ALSO, MAKE  
SURE THE TWO  
TRACK CUPS ON  
THE LOWER HALF  
OF THE RDS ARE  
ADJUSTED TO  
PREVENT THE ARM  
FROM TOUCHING  
THE WALL.



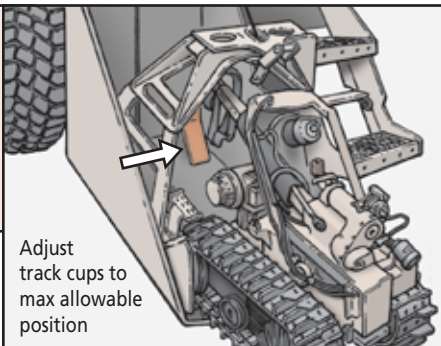
## HERE'S HOW:

1. Remove the robot from the RDS.
2. Open the RDS so that its lower half is positioned parallel to level ground below it. That stops the track cups from sliding back and forth.
3. Locate the two adjustable track cups on the lower half of the RDS.

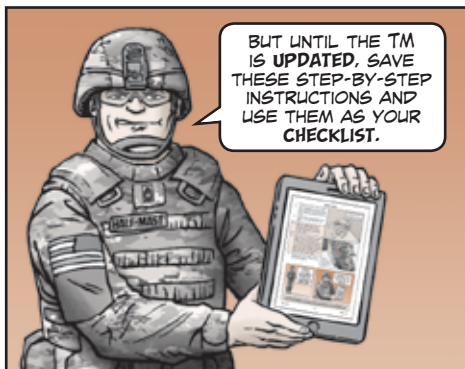
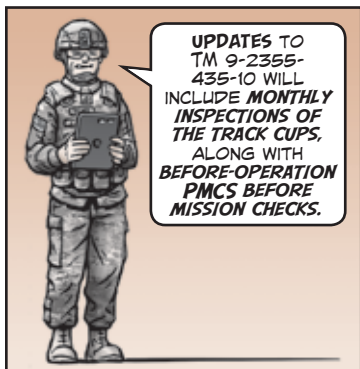
4. Using the adjustable wrench from your BII, loosen and remove the two nuts located on each adjustable cup (total of four nuts).



5. With the nuts removed, manually adjust the two track cups by pushing them away from the rear of the truck. You'll know they're in the correct position when both cups are at the maximum allowable space along the slotted holes. Make sure both track cups are in alignment with each other.



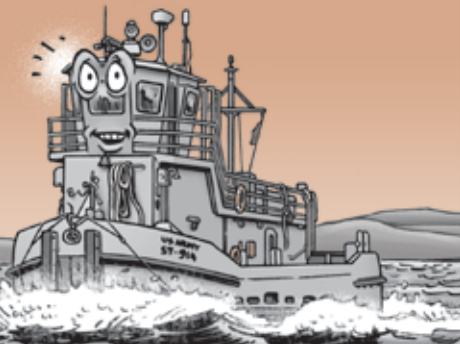
6. Tighten the track cups in their new position using the four nuts removed in Step 4.



FOR MORE INFORMATION, CHECK OUT TACOM MAINTENANCE ACTION MESSAGE 18-011:  
<https://tulsa.tacom.army.mil/Maintenance/message.cfm?id=MA18-011.html>

HERE'S WHAT YOU NEED TO  
KNOW ABOUT THE LATEST...

## Update to DA PAM 750-8!



### VESSEL OPERATORS AND MAINTAINERS, LISTEN UP!

AN UPDATE TO SECTION 6-2  
IN CHAPTER 6, *WATERCRAFT  
PROCESSES, FORMS  
AND RECORDS*, OF DA PAM  
750-8 IS IN THE WORKS.

BUT THERE'S NO NEED  
TO WAIT. HERE'S A  
PARAPHRASE OF WHAT  
THE UPDATE SAYS:

6-2. Records of use, including vessel logbooks, in Global Combat Support System-Army (GCSS-A) ensures units capture maintenance man-hours, parts or supply demands, work orders, and usage data on the vessel. This data will be used to capture and track maintenance hours and usage.

a. To capture this data, the vessel operator or maintainer will dispatch vessel(s) and input data in the appropriate fields within GCSS-A.

b. Dispatching will happen, even for routine maintenance, where underway time is not required.

c. Instructions for dispatch procedures refer to the GCSS-A End User's Manual and unit SOPs.

M1231 Husky...

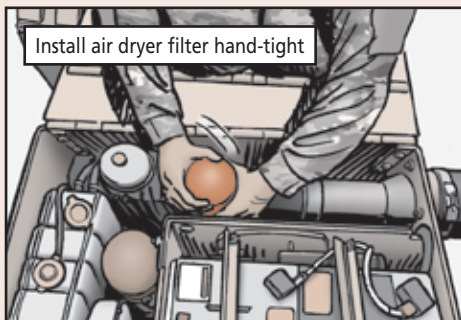
## WHAT'S THE AIR DRYER INTERVAL?

Dear Half-Mast,

How often does the air dryer filter have to be replaced on the Husky? TM 9-2355-316-23-3 (Nov 10, w/Ch 2, Jul 14) lists it as a mandatory replacement item and the PMCS chart says the equipment is NMC if the filter is past its replacement date.

So when is the filter due for replacement?

Mr. D.H.G.



Dear Sir,

According to the manufacturer, the recommended change interval for the air dryer is one to two years. So your best bet is to change it annually.

The interval will be added in the next update to the TM.

Half-Mast

# DIFFERENT BOLT HEADS OK!

DON'T WORRY ABOUT THE DIFFERENT BOLT HEADS FOR THE TAIL ROTOR RETENTION PLATES. YOU'RE OK TO USE THEM **BOTH**.

MECHANICS, WHEN YOU ORDER BOLTS FOR SECURING THE H-60'S TAIL ROTOR RETENTION PLATE, YOU MAY GET DIFFERENT BOLT HEAD DESIGNS. **DON'T WORRY.**

ONE BOLT HEAD HAS AN INTERNAL RELIEF HOLE, WHILE THE OTHER BOLTS **DON'T**. TURNS OUT, THE RELIEF HOLE IS **COSMETIC**, SO **ALL** THE BOLTS ARE OK TO USE.

THE BOLTS LISTED HERE HAVE ALL BEEN DEEMED OK FOR SECURING THE TAIL ROTOR RETENTION PLATE:

NSN 5306-	PN
01-093-5096	70101-11209-101
01-093-5095	70101-11209-102
01-117-7398	70101-11209-103

AVIATION MAINTENANCE INFORMATION MESSAGE (MIM) H-60-MIM-17-003 HAS **ALL** THE DETAILS:

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

CH-47F...

# ANOTHER TOWING OPTION FOR CHINOOK

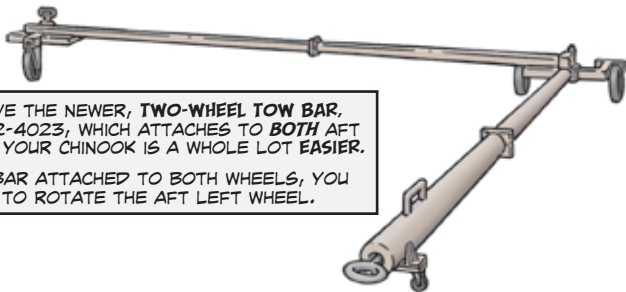
EVEN IF YOU HAVE THE SINGLE AXLE WHEEL TOW BAR, THIS TWO-WHEEL BAR REALLY GETS THE JOB DONE AND MAKES TOWING A LITTLE EASIER.



MECHANICS, IF YOUR UNIT STILL HAS THE CHINOOK'S OLD SINGLE AXLE/WHEEL TOW BAR, YOU HAVE TO ROTATE THE LEFT REAR WHEEL 120 DEGREES BEFORE HOOKUP. THAT'S TO KEEP THE LANDING GEAR FROM SNAPPING DURING TOWING.

PAGE 37 OF PS 662 (JAN 08) HAD THE COMPLETE SCOOP:

<https://www.logsa.army.mil/web2/archive/PS2008/662/662-37.pdf>



BUT IF YOU HAVE THE NEWER, **TWO-WHEEL TOW BAR**, N6N 1730-01-562-4023, WHICH ATTACHES TO **BOTH** AFT WHEELS, TOWING YOUR CHINOOK IS A WHOLE LOT **EASIER**.

WITH THE TOW BAR ATTACHED TO BOTH WHEELS, YOU **DON'T** HAVE TO ROTATE THE AFT LEFT WHEEL.

THE TWO-WHEEL TOW BAR KEEPS BOTH WHEELS ALIGNED DURING GROUND HANDLING AND HELPS PREVENT DAMAGE TO THE WHEELS, SPINDLE AND LANDING GEAR. THE TOW BAR TURNS BOTH AFT LANDING GEARS DURING A TURN.

THE TOW BAR HAS A COMMERCIAL OPERATOR AND MAINTENANCE MANUAL, SO MAKE SURE YOU REFER TO IT WHEN OPERATING THE TOW BAR.

**NEED A COPY?** SEND AN EMAIL TO: [usarmy.redstone.asc.mbx.psmag@mail.mil](mailto:usarmy.redstone.asc.mbx.psmag@mail.mil)

NOTE THAT THIS TOW BAR IS LISTED AS A PART OF THE SPECIAL TOOLS AND TEST EQUIPMENT (STTE) AND PECULIAR GROUND SUPPORT EQUIPMENT (PGSE), LIN T59439 IN TB 1-1520-271-20-01.



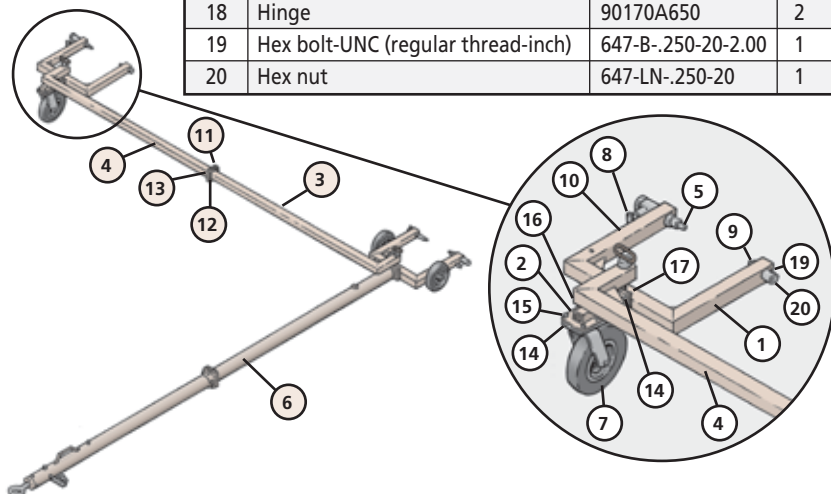
IF YOU HAVE PROBLEMS WITH THE TOW BAR OR ITS COMPONENTS, DON'T TRY TO MAKE A REPAIR.

INSTEAD, REPLACE THE BROKEN PART FROM THIS LIST...



# Tow Bar, NSN 1730-01-562-4023

Item	Part	PN	Qty
1	Yoke assembly	HT47-01-00A	1
2	Arm assembly	HT47-03-00	1
3	Leg assembly	HT47-04-00	1
4	Leg assembly	HT47-05-00	1
5	Pin assembly	HT47-02-00	1
6	Tow bar assembly	HT-647A	1
7	Non-locking caster wheel	1080-520Z	1
8	Locking pin assembly	90222A112	1
9	Pin	HT47-02-15	1
10	Hitch pin	HITCH pin 3/4	2
11	Hex bolt-UNC (regular thread-inch)	647-B-.313-24-1.00	4
12	Washer A	647-W-.313-SAE	8
13	Hex nut	647-LN-.313-24	4
14	Hex nut	647-LN-.375-24	8
15	Washer A	647-W-.375-SAE	16
16	Hex bolt-UNC (regular thread-inch)	647-B-.375-24-1.50	4
17	Hex bolt-UNC (regular thread-inch)	647-B-.375-24-1.50	4
18	Hinge	90170A650	2
19	Hex bolt-UNC (regular thread-inch)	647-B-.250-20-2.00	1
20	Hex nut	647-LN-.250-20	1



FOR ALL THE PARTS YOU NEED, CONTACT THE MANUFACTURER, **BRACKETT AIRCRAFT**, AT (928) 757-4005. THEIR WEBSITE IS:

<http://www.brackettaircraft.com/>

OR YOU CAN ORDER ON A DD FORM 1348-6 USING THE PART NUMBER AND CAGE 56833.

**DIRECTIONAL CONTROL OF YOUR AIRCRAFT IS IMPORTANT, SO KEEP THE PROBES COVERED TO PREVENT CLOGGING WHEN YOUR AIRCRAFT ISN'T IN USE.**

**WHERE IS YOUR AIRCRAFT HEADING?**

**W**hen your Apache flies through a whirlwind of sand, a clean helicopter air data system (HADS) probe will get you where you're going.

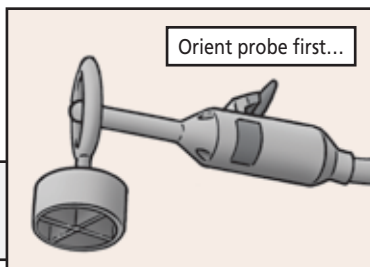
The HADS probe gives readings on air speed and directional control, so a clogged probe will leave you flying blind. Your aircraft will be like Dorothy's house: caught in a whirlwind heading to the Land of Oz.

The solution is to keep the HADS probes clean and cover them whenever the aircraft isn't flying.

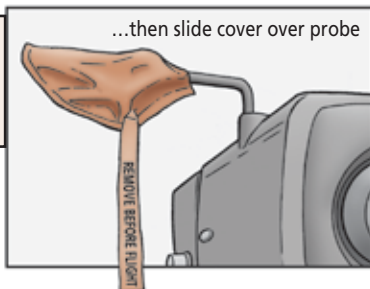
Note that the Apache headshed will be issuing new information about improved HADS covers for the probes. There will be an initial free issue of two per aircraft for both D and E model Apaches through the Performance Based Logistics windows. After the free issue, the new HADS covers will come through DLA with NSN 1561-01-659-2716.

Keeping the HADS probes covered will reduce your maintenance time and decrease the number of probes that get turned in for repair. So when you're issued the improved covers, use them like this:

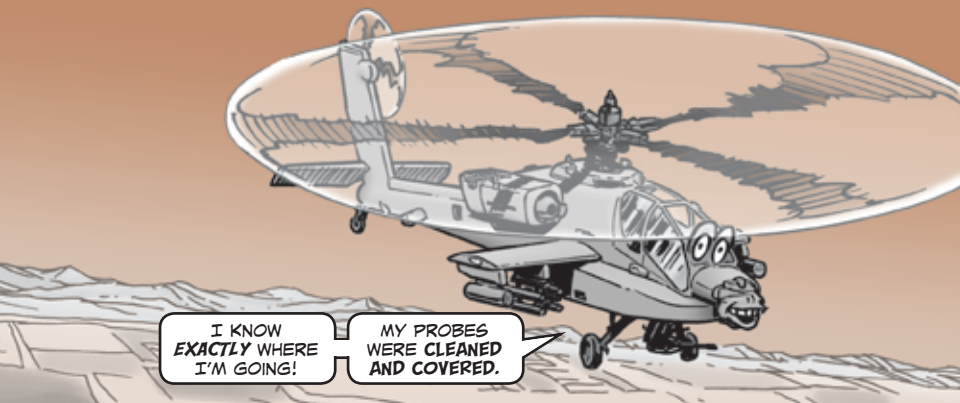
1. Rotate the HADS so the fins are near the probe body at the six o'clock position and the probe head is facing outboard.



2. Slide the cover over the probe head first. Continue to pull the cover over the probe to cover the temp sensor on top and the fins that are still at the six o'clock position.



3. Make sure the probe head is completely seated at the end of the cover. Then fully seal the Velcro flap to create a tight seal around the HADS support arm.



H-60/AH-64 Engines...

## Pay Attention to Engine Oil Change

**M**echanics, when you're working on the Black Hawk and Apache engines, pay close attention to the caution in WP 0109, *Operational Checks (Engine Testing: Engine Installed in Aircraft)* in TM 1-2840-248-23&P on IETM EM 0271 (JUN 17).

**THERE'S AN  
IMPORTANT CHANGE IN  
THE FIFTH CAUTION.**

Don't operate the engine when it needs more than 1.5 quarts of oil to bring the level to the ADD line of the sight glass during a single oil service or the engine bearings may be damaged.

THE PREVIOUS EDITION OF THE TM SAID 3.5 QUARTS OIL ARE NEEDED TO BRING THE LEVEL TO THE FULL LINE. KEEP THIS IN MIND SO YOU HAVE ENOUGH ENGINE OIL TO OPERATE YOUR H-60 AND AH-64 AIRCRAFT ENGINE.

**HEADS UP!  
WHEN DOING  
ENGINE CHECKS,  
PAY CLOSE  
ATTENTION TO  
THE CAUTION  
IN THE ENGINE  
MANUAL.**

**AND  
CHECK OUT  
ALL THE OTHER  
CHANGES MARKED  
BY A CHANGE  
BAR IN THE LEFT  
COLUMN OF  
THE TM.**

# TURN IN PARTS FOR REPAIR TO AVOID SHORTAGES!

IF YOU  
HAVE ANY OF  
THE FOLLOWING  
EQUIPMENT IN  
YOUR SHOP  
AREA, TURN  
THEM IN  
NOW.

GETTING THE PARTS YOU  
NEED TO MAINTAIN YOUR  
AIRCRAFT MEANS YOU **MUST**  
RETURN UNSERVICEABLE  
EQUIPMENT FOR **REPAIR**.

THE UNSERVICEABLE  
EQUIPMENT RETURN RATE FOR  
H-60 SERIES AIRCRAFT IS **LOW**  
AND NEEDS TO BE AT LEAST  
95 PERCENT FOR ALL ITEMS.



IF A PIECE OF EQUIPMENT HAS A **CONTAINER**, USE IT TO SHIP  
THE COMPONENT TO **AVOID** UNNECESSARY DAMAGE.

MAKE A NOTE THAT UNSERVICEABLE PARTS ARE BEING  
SCRAPPED AT A HIGH RATE, SO TAKE CARE OF THEM.  
THEY'RE FRAGILE. THE OTHER PARTS HAVE LOW RETURN  
RATES, SO GET THEM IN.

Aircraft	Item	NSN	PN	Return/ Scrap Rate %
UH-60M	Right hand stabilator	1560-01-542-8455	70200-07801-102	37.8
UH-60M	Left hand stabilator	1560-01-542-7904	70200-07801-101	63.9
UH-60A/L/M	Auxiliary valve assembly Shipping container	1650-01-399-5104 8110-00-254-5722	52900-2	62.7 22
UH-60A/L/M	Hydraulic pumping unit	5340-01-147-2150	1311024-003	73.7
UH-60A/L/M	Hydraulic accumulator Shipping container	1650-01-222-4316 1650-01-250-3767 8145-00-536-4925	3197170-5 0204-0004	82.2 22
UH-60A/L	Horizontal stabilator	1560-01-301-8212	70200-07050-051	66.7
UH-60A/L/M	Hydraulic servo valve Shipping container	1650-01-263-7870 8145-00-301-2987	70410-02540-102	79.7 22
UH-60A/L	Stabilizer fitting assembly	1560-01-088-1709	70209-07051-052	77.9
UH-60A/L/M	Hydraulic motor pump Shipping container	1650-01-224-6682 8145-00-522-6907	4730-20E	82.2 15
UH-60A/L/M	Primary transfer module hydraulic servo valve Shipping container	1650-01-162-5035 8145-00-522-6907	60900-11	89.1 15

## QUESTIONS?

CONTACT **HERI RODRIGUEZ** AT 256-313-4832, DSN 897-4832  
OR BY EMAIL: [heriberto.rodriguez2.civ@mail.mil](mailto:heriberto.rodriguez2.civ@mail.mil)



MAX TORQUE, PM DETECTIVE

*starring in*

# "THE MALTESE LONG JOHNS, PART I"

MR. TORQUE, I WANT YOU TO  
SHADOW MY WIFE. I SUSPECT  
SHE'S *CHEATING* ON ME WITH A  
GERIATRIC JOCKEY.

SORRY, PAL. I *ONLY*  
WORK PREVENTIVE  
MAINTENANCE CASES.

MAX TORQUE,  
PM INVESTIGATIONS



It was a peaceful spring evening in the City of Angels. The traffic noise over on Sunset had faded to a whisper.



A gentle breeze was flowing down the Hollywood Hills, carrying the scent of jasmine to the streets below.



From my office window I watched the city lights flicker on. Across the rooftops, through the dusk, drifted the sad, sultry notes of a tenor sax.



WHERE THE HECK'S THAT MUSIC COMING FROM?



Just then I heard my office door open...



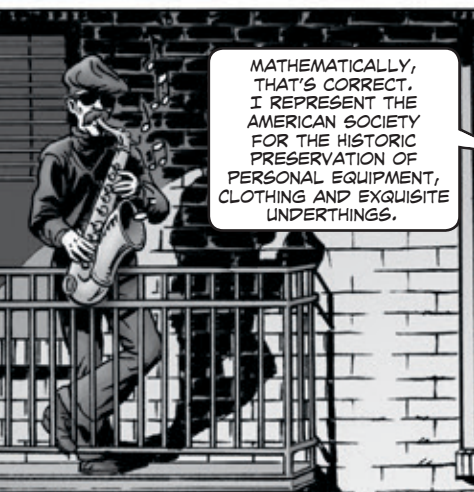
I turned to see an elegant  
brunette standing in the  
doorway. She was stylish  
and well-groomed, sleek  
and long-legged.



MY NAME IS  
SIMONE DE  
BEAUVOIR  
SIMONE.



THAT WOULD  
MAKE YOU...  
SIMONEZ.

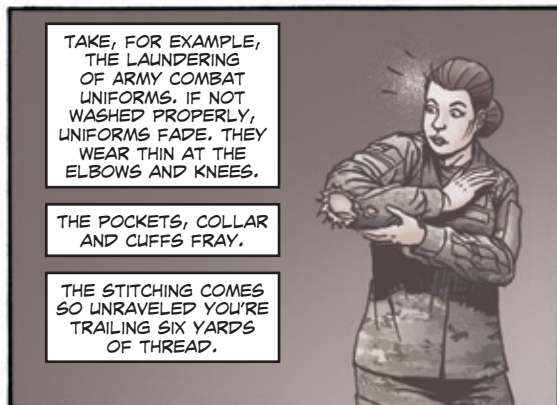


MATHEMATICALLY,  
THAT'S CORRECT.  
I REPRESENT THE  
AMERICAN SOCIETY  
FOR THE HISTORIC  
PRESERVATION OF  
PERSONAL EQUIPMENT,  
CLOTHING AND EXQUISITE  
UNDERTHINGS.



THE ASHPPECEU?  
THAT'S A PRESTIGIOUS  
INSTITUTION. DO  
YOU HAVE SOME  
IDENTIFICATION, MISS?







SEVERAL WAYS:  
THE UNIFORMS ARE  
MACHINE WASHED ON  
A SETTING **OTHER**  
THAN PERMANENT  
PRESS.



AND BEFORE YOU  
KNOW IT, CHLORINE  
BLEACH GETS  
**MYSTERIOUSLY** ADDED  
TO THE WASH WATER.



THAT FADES THE  
CLOTHING, WEAKENS  
THE FABRIC AND  
SHORTENS ITS LIFE.



THEN THE DRYER IS  
SET FOR **HOT** RATHER  
THAN PERMANENT  
PRESS. THAT'S  
A FORMULA FOR  
**SHRINKAGE.**



SOMETIMES THE  
PROBLEM IS SIMPLY  
FAILING TO USE COLD  
WATER AND MILD  
LAUNDRY DETERGENT  
WHEN WASHING  
UNIFORMS.



I SEE THIS  
STORY HAS  
SHAKEN YOU.

IT'S JUST THAT  
WHEN I HEAR THE  
WORDS 'COLD WATER  
AND MILD LAUNDRY  
DETERGENT,' I GET  
ALL **MISTY-EYED.**



THE THEFT OF  
CLOTHING AND  
PERSONAL GEAR IS  
ONLY **HALF** THE CRIME.

THE THIEF **ALSO**  
STOLE A PRICELESS  
ARTIFACT.

MR. TORQUE, HAVE  
YOU EVER HEARD OF  
**THE MALTESE LONG**  
**JOHNS?**



NO, BUT I BET  
I'M ABOUT TO.





THE KNIGHTS WERE A **MILITARY ORDER** FOUNDED DURING THE MIDDLE AGES.



THEY RULED THE ISLE OF KNEE UNTIL THE YEAR 1523, WHEN THE OTTOMAN SULTAN AND HIS ARMY DROVE THEM OUT.



HOMELESS, THEY ASKED KING CHARLES V OF SPAIN TO GRANT THEM THE ISLAND OF MALTA.



THE KING AGREED... **UNDER ONE CONDITION...**



...THE KNIGHTS WERE TO SEND A YEARLY TRIBUTE FROM MALTA.



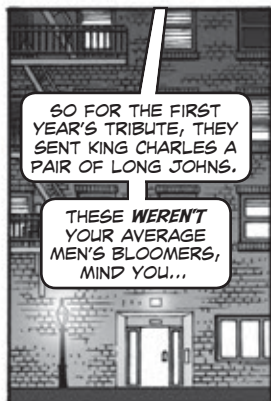
MALTED MILK BALLS?

NOT QUITE. THE KNIGHTS WERE A **WEALTHY ORDER**.



DURING THE CRUSADES, THEY PLUNDERED JEWELS, GOLD, SILK AND IVORY.





...BUT A SILKEN PAIR  
FASHIONED BY THE FINEST  
CRAFTSMAN!

ENCRUSTED WITH  
PRECIOUS JEWELS!

EMBROIDERED  
WITH GOLD AND  
SILVER THREAD!

AND  
STUDDED  
WITH PEARLS  
AND IVORY.



IT NEVER  
ARRIVED.



THE LONG JOHNS  
VANISHED, WITHOUT  
A TRACE. LOST FOR  
400 YEARS. THEY  
SURFACED ONLY  
RECENTLY, WHEN WE  
ACQUIRED THEM FOR  
OUR COLLECTION.



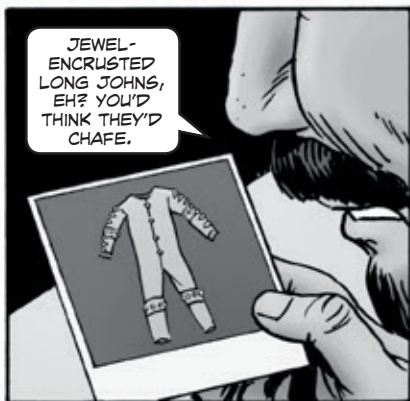
THEY'RE ONE OF A  
KIND, DETECTIVE, AND  
THUS PRICELESS.



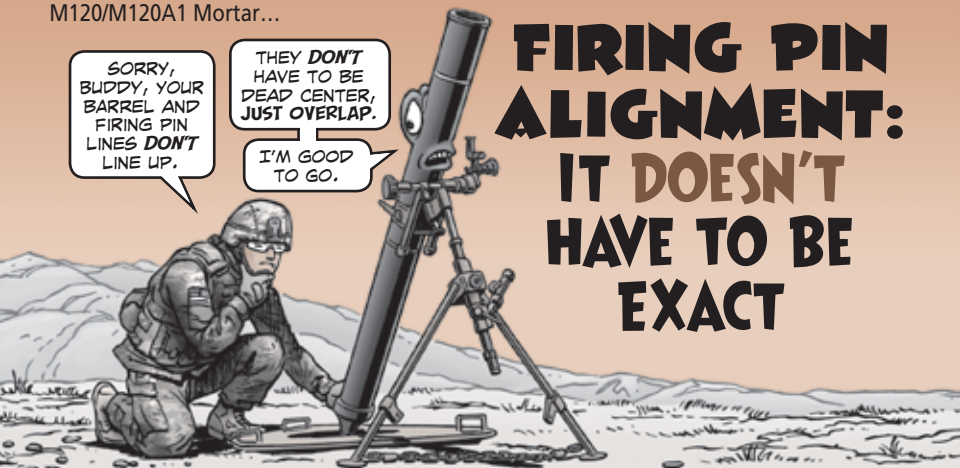
SO WHY NOT GO  
TO THE POLICE?





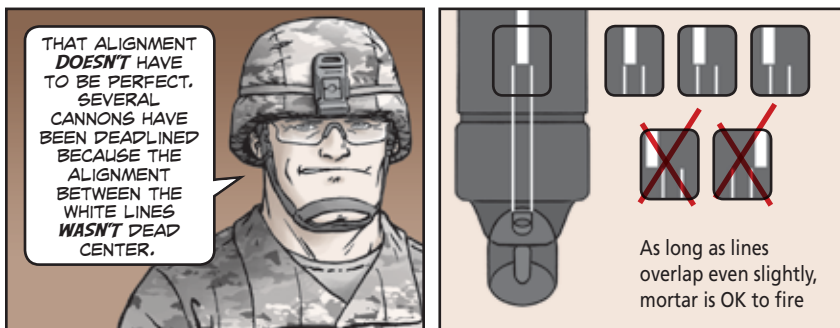






# FIRING PIN ALIGNMENT: IT DOESN'T HAVE TO BE EXACT

**TM:** 9-1000-202-14, 9-1015-250-10, 9-1015-250-23&P, AND 9-1015-256-13&P FOR THE M298 TUBE USED ON M120/A1 MORTARS SAY THE BARREL'S WHITE LINE SHOULD ALIGN WITH THE WHITE LINE FOR THE FIRING PIN ON THE BREECH (OR BASE) CAP.



IF THE WHITE LINES HAVE SOME OVERLAP, THE CANNON IS OK TO FIRE **AS LONG AS**:

- there is no evidence of gas leaks, metal discoloration or excessive erosion around the area where the barrel and breech cap meet.
- the breech cap is free of cracks, dents, bulges or other unusual wear.
- the firing pin is fully accessible for removal for misfire procedures while the mortar (cannon, baseplate and bipod) is emplaced.

IF THE WHITE LINES ARE WEARING OFF, THEY CAN BE TOUCHED UP. THE LINES SHOULD BE 0.39 INCH WIDE. OF COURSE, **DON'T** MAKE THE LINES WIDER TO CORRECT A MISALIGNMENT.

MORTAR FIRE CONTROL SYSTEM (MFCS) AND MORTAR COMPONENTS WILL WORK FINE WITH THE SLIGHT MISALIGNMENT OF THE LINES.

THE TMS WILL BE REVISED TO CLARIFY THE ALIGNMENT PROCEDURE.

FOR MORE INFORMATION, SEE TACOM MAINTENANCE ADVISORY MESSAGE MA18-035:  
<https://tulsa.tacom.army.mil/Maintenance/message.cfm?id=MA18-035.html>

# Avoid CCMCK DANGERS

I'B STILL GOT  
A PROJECTILE IN  
BY BARREL FROM  
DUH LAST TIMB  
WE TRAINED WID  
CCMCK.

I'B TOO  
**PLUGGED**  
UB TO FIRE.  
I'B GONNA  
NEEB  
CLEARING.

OH,  
MAN!

IF I'D  
ONLY  
DONE **REAL**  
PMCS  
ON YOU  
BEFORE  
WE LEFT  
BASE!



EACH YEAR, WEAPONS **BLOW APART**  
BECAUSE OF **STUCK** CLOSE COMBAT  
MISSION CAPABILITY KIT (CCMCK)  
PROJECTILES.

SO FAR NO ONE HAS SUFFERED **SERIOUS**  
INJURY, **BUT** THERE HAVE BEEN SEVERAL  
MINOR INJURIES, NOT TO MENTION THE  
**DAMAGE** TO THE WEAPONS.



THIS OFTEN HAPPENS AFTER SOLDIERS HAVE DONE  
URBAN TRAINING/HOUSE CLEARANCE EXERCISES  
USING CCMCK ROUNDS.



THEY THEN MARCH TO A RANGE TO DO REGULAR FIRING.  
BUT **BEFORE** THEY FIRE REAL ROUNDS, THEY **DON'T** DO  
THE NECESSARY PMCS TO ENSURE THE WEAPONS'  
BARRELS ARE **CLEAR OF OBSTRUCTIONS**.  
AND THAT'S WHEN THE TROUBLE STARTS.

THE PROBLEM WITH CCMCK IS THE  
ROUNDS CAN LEAVE AN ALUMINUM  
SLEEVE **STUCK** IN THE BARREL.

IF YOU **DON'T** PUSH OUT  
THE **SLEEVE**, THE BARREL  
ENDS UP **PLUGGED**.

SO HERE'S  
HOW TO  
PREVENT  
THAT...

BEFORE

CLEAN AND LUBE YOUR WEAPON WITH CLP LIKE IT SAYS IN THE WEAPON'S -10 TM. YOUR WEAPON SHOULD BE **AS CLEAN AS POSSIBLE** BEFORE FIRING CCMCK ROUNDS.

AFTER

DO THE SAME CLEANING AND LUBING PROCEDURE, BUT PAY SPECIAL ATTENTION TO THE **BARREL AND BORE**, MAKING SURE THERE ARE **NO OBSTRUCTIONS**.

WHEN YOU THINK YOU HAVE THE OBSTRUCTIONS CLEARED OUT OF THE BARREL, RUN YOUR CLEANING ROD FROM MUZZLE TO CHAMBER.

Check barrel by running cleaning rod from muzzle to chamber

LOOK FOR THE END OF THE CLEANING ROD IN THE CHAMBER.

IF YOU **CAN'T** SEE THE END OF THE ROD, YOU MAY HAVE A STUCK PROJECTILE. IF YOU CAN'T PUSH IT OUT, TELL YOUR ARMORER.

MAKE SURE THE BARREL IS CLEAR **BEFORE** YOU FIRE OR TURN IN THE WEAPON TO THE ARMS ROOM.

ARMORERS, **DON'T** USE A NEW M16/M4 BARREL THAT HAS FIRED FEWER THAN 200 STANDARD ROUNDS FOR CCMCK.

OLDER BARRELS HAVE **SMOOTHER** BORES AND ARE **LESS** LIKELY TO HAVE PROBLEMS WITH A STUCK CCMCK PROJECTILE.

M249 BARRELS COME FROM THE MANUFACTURER READY FOR CCMCK FIRING, BUT YOU NEED TO FIRST FIRE 200 REGULAR ROUNDS **BEFORE** FIRING CCMCK. THE **M9 PISTOL CONVERSION KIT**, NSN 1005-20-003-2362, HAS A BLUE BARREL FOR FIRING CCMCK ROUNDS.

FOR THE COMPLETE WORD ON CCMCK, SEE TM 9-6920-3700-10.

IT'S ON THE LOGSA ETM WEBSITE:

<https://liw.logsa.army.mil/etmapp/#/etm/home>

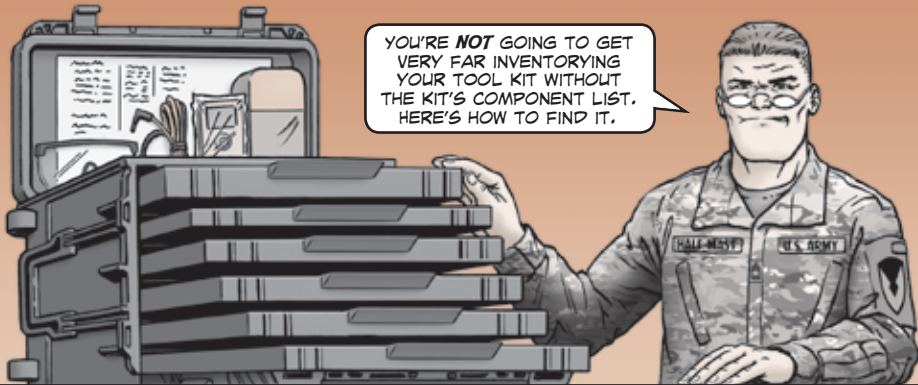
CONTACT ARDEC'S ROBERT WEISSMAN AT DSN 880-3056, (973) 724-3056 OR EMAIL: [robert.j.weissman.civ@mail.mil](mailto:robert.j.weissman.civ@mail.mil)

OR EDWARD GILLIGAN AT DSN 880-4992, (973) 724-4992, OR EMAIL: [edward.gilligan2.civ@mail.mil](mailto:edward.gilligan2.civ@mail.mil)

QUESTIONS?

JUST REMEMBER CCMCK **TRAINING** ROUNDS REQUIRE **REAL** PMCS!

# WHERE TO FIND TOOL COMPONENT LISTS



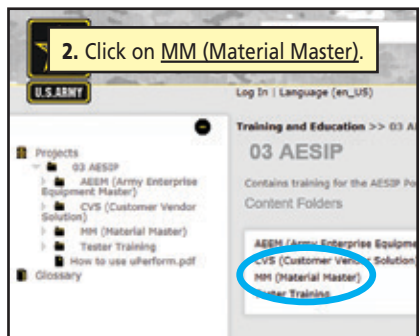
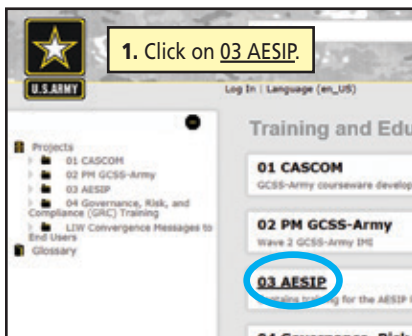
When it's time to inventory your tools sets, it's essential that you have the sets' component lists (CL). (CLs used to be called supply catalogs (SC) or SKOs.) The CL itemizes every tool in the set with their part numbers and NSNs, plus pictures of many of the tools.

But where do you find CLs? They should be in your unit's GCSS-Army account. But sometimes they're not or aren't in a usable format. That's when you turn to the Army Enterprise Systems Integration Program (AESIP). AESIP is what feeds CLs to GCSS-Army.

To access the CLs in AESIP, you must first establish an AESIP account. For instructions on how to do that, go to: <https://www.us.army.mil/suite/page/562>  
Accounts are usually approved within 15 days.

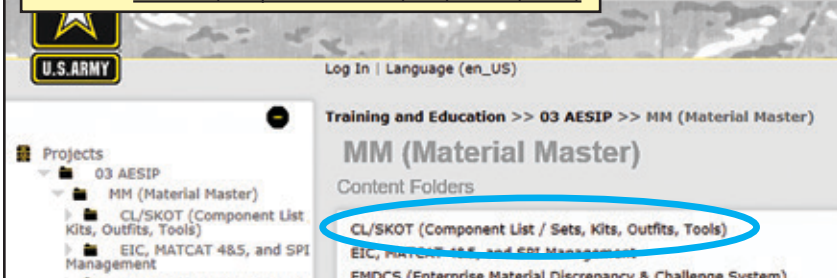
While waiting for approval, take the CL/SKOTs Viewer training. Go to:  
<https://www.uperform.redstone.army.mil/gm/>

Once there, follow these steps:



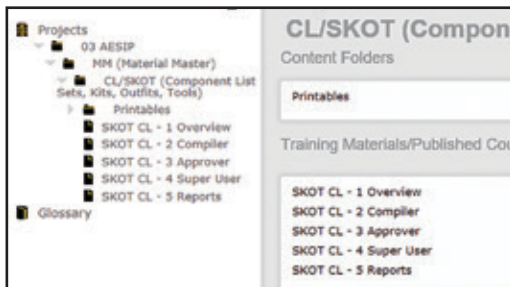


3. Click on CL/SKOT (Component List/Sets, Kits, Outfits, Tools).



Take the training for all of Module 1 (Overview) and the Hand Receipts Report portion of Module 5 (Reports).

When you receive approval, log in to AESIP and click CL/SKOT's Viewer tab and follow these steps:



1. In the Detailed Navigation panel, click the Reporting folder to expand the folder and show its menu items.
2. Click the Hand Receipts Report with Illustrations link.
3. Click the Publication Date drop-down menu and select the most current date. The date format is YEARMDD.
4. Type the desired NIIN into the Search By NIIN block or click the drop-down to search for NIIN.
5. Component List No. can be used, but isn't necessary to run the report.
6. Click Run.
7. The CL can be scrolled through electronically, printed or exported as a file to your computer.

To export the CL, click the export icon. The best file format is Microsoft Word (97-2003)-Editable, which will display in the export pop-up menu.

To print, click on the printer icon. Printer Setup will pop up. Select the desired printer and click Print.

If a current CL can't be found in AESIP, a historical CL may be available. Email the SKOT Team: [usarmy.detroit.tacom.mbx.ilsc-skot-group-actions@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-skot-group-actions@mail.mil)  
AESIP problems? Email: [usarmy.redstone.asc.mbx.service-desk@mail.mil](mailto:usarmy.redstone.asc.mbx.service-desk@mail.mil)  
GCSS-Army problems? Go to: <https://s4if.lee.army.mil>

# LOCK IN THESE FASTENER RULES



WELL, I GUESS I'VE GOT THOSE BOLTS ON TO STAY!

NO, YOU DON'T. YOU WERE S'POSED TO PUT ON LOCK WASHERS.

THOSE **BOLTS** ARE GOING TO **WORK LOOSE!**

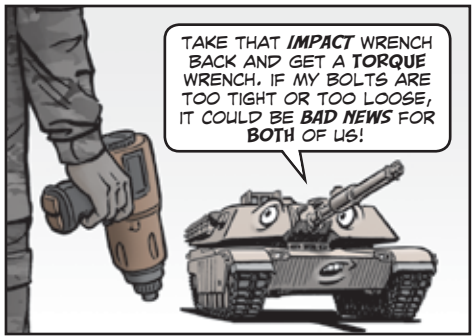
**T**he last thing you want is a critical part of your helicopter, tank, truck or weapon working itself loose while you're riding in or firing it. The result could be fatal.

That's why these fastener rules are critical:

**If the TM calls for a lock washer, use a lock washer!** Lock washers keep bolts from working loose. If the TM says a lock washer is needed, it's because the equipment engineers believe that bolt needs all the help it can get to stay tight. Remember, lock washers can't be reused.

**An impact wrench is no substitute for a torque wrench.** If the TM calls for a certain torque on a nut, you need to get out the torque wrench and give it the torque called for. That's the only way you know for sure you've got it right. An impact wrench leaves you guessing. It could leave a nut too loose and vulnerable to working off. A nut too tight could snap off.

**If the TM says to lockwire a nut or screw, lockwire it.** But you've got to do it right. First, use the right lockwire (or locking cable if that's what the TM specifies). Often the lockwire found around motor pools isn't strong enough. Use the wire called out in the equipment's -23&P TM's expendable supplies. If none is called out, use NSN 9505-00-293-4208.



TAKE THAT **IMPACT WRENCH** BACK AND GET A **TORQUE WRENCH**. IF MY BOLTS ARE TOO TIGHT OR TOO LOOSE, IT COULD BE **BAD NEWS** FOR **BOTH** OF US!

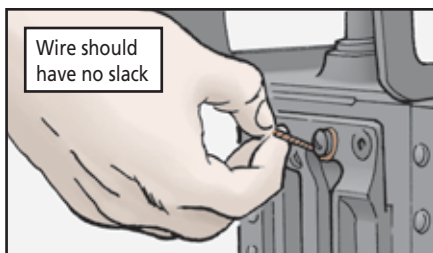


Lockwire should pull screw clockwise

Follow the lockwire procedure in the TM.

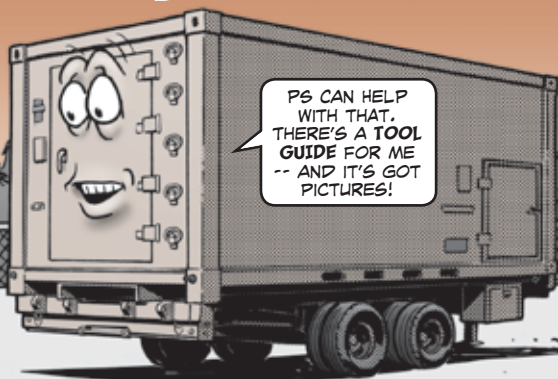
Route the wire in the correct direction. The wire should pull the screw or nut clockwise so it can't work loose.

Don't leave slack in the wire. That lets the screw or nut work loose. Pull the wire as tight as possible.



# SATS Inventory Made Easier

WELL, THE DAY HAS FINALLY COME. I HAVE TO INVENTORY EVERY ONE OF YOUR TOOLS. THIS IS GONNA TAKE **FOREVER!**



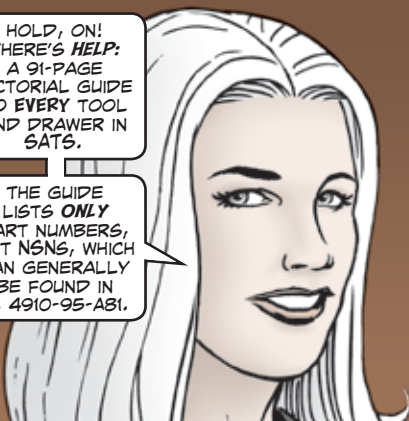
THERE ARE **MANY, MANY** TOOLS IN THE STANDARD AUTOMOTIVE TOOL SET.

YEAH! THAT MEANS DOING A SATS INVENTORY CAN MAKE FOR A **LONG, FRUSTRATING DAY.**



HOLD, ON! THERE'S **HELP:** A 91-PAGE PICTORIAL GUIDE TO EVERY TOOL AND DRAWER IN SATS.

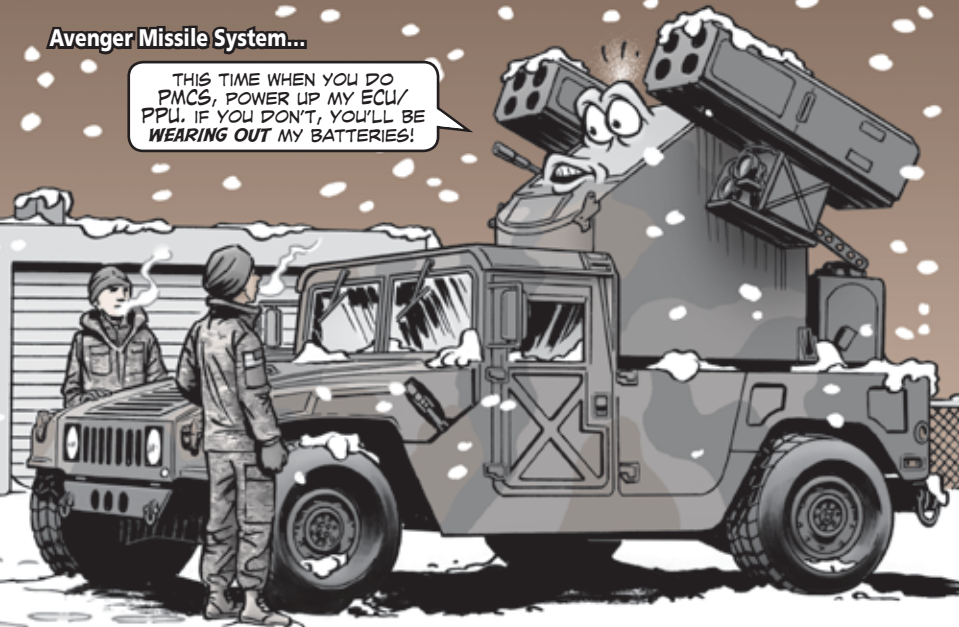
THE GUIDE LISTS **ONLY** PART NUMBERS, NOT NSNs, WHICH CAN GENERALLY BE FOUND IN CL 4910-95-AB1.



IF YOU'D LIKE A COPY OF THE GUIDE, EMAIL PS:  
[usarmy.redstone.asc.mbx.psmag@mail.mil](mailto:usarmy.redstone.asc.mbx.psmag@mail.mil)

## Avenger Missile System...

THIS TIME WHEN YOU DO PMCS, POWER UP MY ECU/PPU. IF YOU DON'T, YOU'LL BE WEARING OUT MY BATTERIES!



# ECU/PPU and You

Dear Editor,

The Avenger's environmental control unit/primary power unit (ECU/PPU) should normally be the crew's primary source of power.

But too often crews use the system batteries to do PMCS. That wears out batteries and leaves the ECU/PPU idle for too long. Then, of course, the ECU/PPU runs ragged or not at all when it's really needed.

The solution is to use the ECU/PPU during weekly PMCS. That gives it a workout, while saving the batteries.

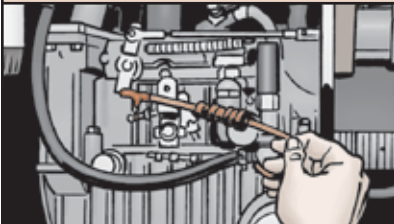
SGT Steven Kuczera  
Ft Bragg, NC





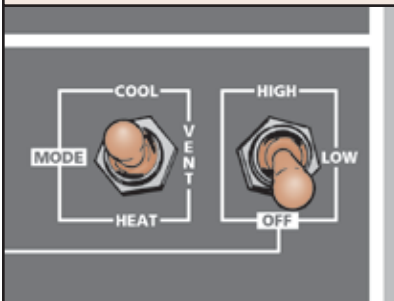
**Check the oil.** The ECU/PPU engine often doesn't have a heavy enough load. The result is wetstacking where oil is thrown on the exhaust system. That means the oil level is always dropping, which means you **always** need to check the oil before cranking up the ECU/PPU.

But measure as you fill it with oil. It holds only 3½ quarts. It's too easy to overfill, which leads to leaks. Pour in ½ quart and then measure. Keep doing that until oil reaches the FULL line.



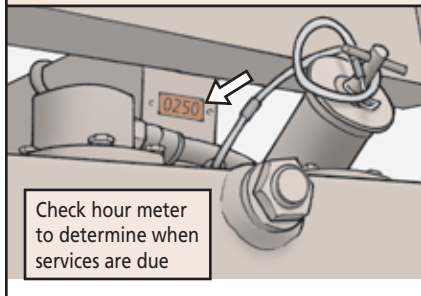
Check oil before operations and measure when adding

**Before turning on the ECU/PPU, turn off the blower and set the temperature selector to VENT.** Otherwise, it won't start and you'll think something major is wrong.

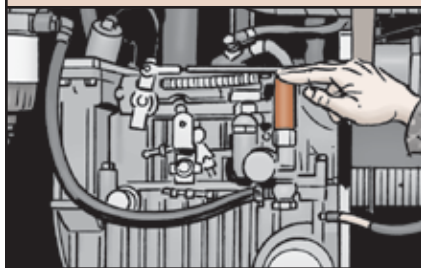


Before turning on ECU/PPU, turn off blower and set temperature to VENT

**Keep an eye on the hour meter.** The ECU/PPU should go to support every 250 hours of operation for services like replacing filters. If it doesn't get those services, it'll soon have problems.



**Pump to prime.** If the ECU/PPU won't start in cold weather, prime it. Keep pushing down on the primer until it's hard to move. The ECU/PPU should fire right up.



Push primer until it's difficult to move



READERS, IF YOU HAVE A SUGGESTION OR QUESTION FOR PS, EMAIL IT TO:

[usarmy.redstone.asc.mbx.psmag@mail.mil](mailto:usarmy.redstone.asc.mbx.psmag@mail.mil)

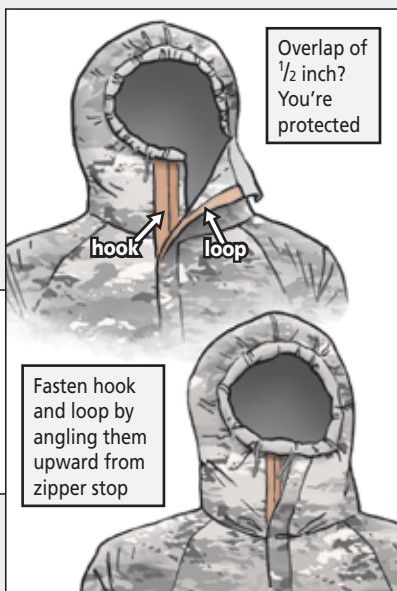
# JSLIST Hood and JSGPM Mask



SOME SOLDIERS FEEL THAT THE JOINT SERVICE LIGHTWEIGHT INTEGRATED SUIT TECHNOLOGY (JSLIST) HOOD FITS TOO TIGHT AROUND THE NECK WHEN WEARING THE JOINT SERVICES GENERAL PURPOSE MASK (JSGPM).

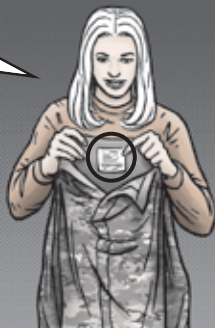
AS A RESULT, THE JSLIST'S TM 10-8415-220-10 IS BEING REVISED TO INCLUDE THREE COURSES OF ACTION:

1. **Live with the discomfort.** If the tightness doesn't bother you too much, do nothing.
2. **Lessen hood fastener overlap.** The inside flap has a green  $\frac{1}{2}$ -in fastener strip. If you can secure the left side overlapping flap to it—green on green—you're good to go. Secure the hook and loop fasteners by angling them upward from the zipper stop to the draw cords.
3. **Obtain a larger JSLIST Type II coat.** This should be a last resort and done only if you feel the hood is still too tight around the neck.



JSLIST HAS AN AGE LIMIT OF 15 YEARS FROM DATE OF MANUFACTURE.

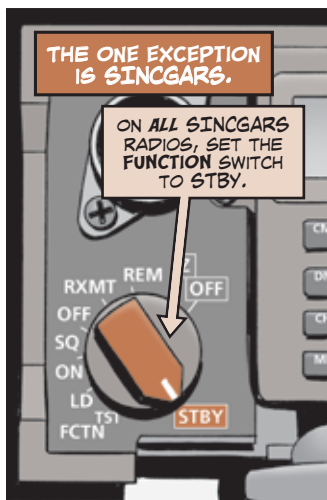
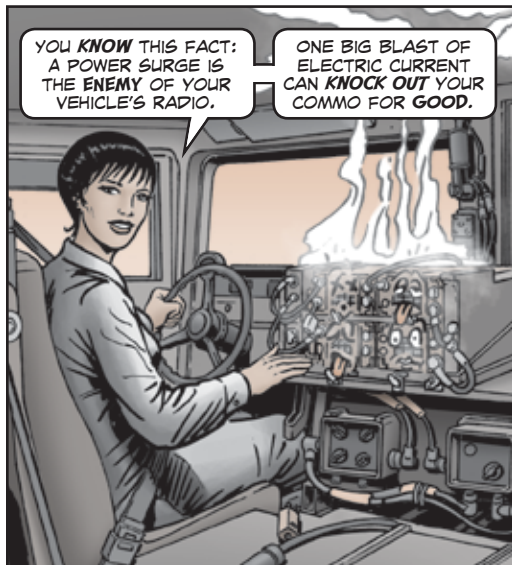
AFTER THAT, IT CAN BE USED **ONLY** FOR TRAINING. CHECK THE SUIT'S LABEL FOR THE DATE.



NATIONAL STOCK NO  
OVERGARMENT, TR  
OUTER SHELL: 50%  
LINING: JSLIST A  
SIZE: MEDIUM/  
CONTRACT NO: A1-13-D-X001/0001  
DATE PACKAGE: 01/13  
**MANUFACTURE DATE: 11/2**  
INSPECTION DATE: MM/YY 2/

If manufacture date label says JSLIST is more than 15 years old, suit can be used **only** for training

# SLASH RISK OF POWER SURGE!



THIS STEP IS ALL TOO  
EASY TO FORGET IF  
YOU'RE IN A HURRY!

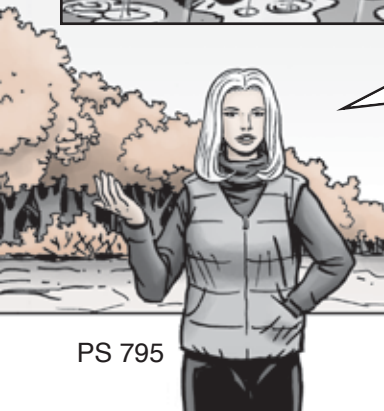
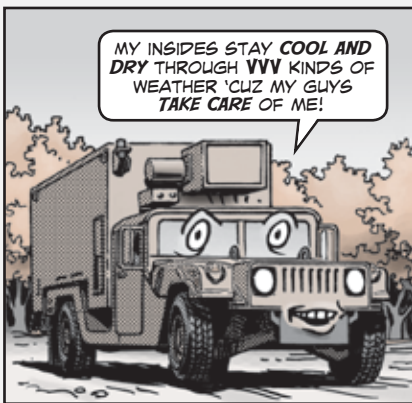
ORDER A CAUTION DECAL,  
NSN 7690-00-942-7067,  
TO REMIND YOU.

PUT IT NEXT TO THE VEHICLE'S START SWITCH.  
THE DECAL READS:

**CAUTION**  
**TURN OFF ALL**  
**COMMUNICATION**  
**EQUIPMENT BEFORE**  
**STARTING OR STOPPING**  
**ENGINE**

ONE SIMPLE LITTLE REMINDER CAN SAVE THE ARMY  
**BIG BUCKS** AND SAVE YOU A LOT OF HEADACHES!

# THE INSIDE SCOOP



EXTREME WEATHER AND WEATHER EXTREMES CAN **PUNISH** YOUR COMMO SHELTER.

BUT IT'S UP TO THOSE OF YOU WHO WORK AND DO MAINTENANCE INSIDE THE SHELTER TO MAKE SURE THOSE EXTREMES STAY **OUTSIDE**.





THE IDEAL INSIDE-SHELTER ENVIRONMENT IS **COOL AND DRY**.

THAT MEANS YOUR MAINTENANCE WAR IS WAGED AGAINST **HEAT, HUMIDITY AND CONDENSATION**.

HERE ARE A FEW TIPS TO HELP YOU WIN THE BATTLE:

## Ventilation

CLOSING THE DOOR TO YOUR SHELTER MAKES IT NEARLY **AIRTIGHT**.



IF THE OUTSIDE TEMPERATURE **CHANGES**, CONDENSATION FORMS IN THE CLOSED SHELTER.

BUT WHAT IF IT'S **DRY** WHERE YOU ARE?

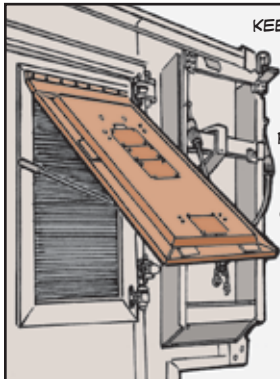


YOU'RE STILL **NOT** HOME FREE. ALL THE WATER YOU'RE DRINKING TO STAY HYDRATED IS LOST IN **SWEAT**.

INSIDE YOUR SHELTER, SWEAT TURNS INTO **CONDENSATION**.



KEEP THINGS **DRY** BY OPENING THE DOOR'S VENT COVER. TURN ON THE VENTILATING FAN AND OPEN THE FAN VENT COVERS. THAT WILL GET **FRESH AIR** FLOWING THROUGH THE SHELTER AND ACROSS THE GEAR AND HELP KEEP YOUR COMMO **DRY**.



WHEN WEATHER PERMITS, OPEN THE SHELTER'S DOOR FOR AN HOUR OR SO EACH DAY TO **GET RID** OF MOIST AIR.



**DON'T FORGET** THOSE CLOSED-UP SHELTERS IN STORAGE. THEY SUFFER MOST FROM **CONDENSATION**. CHECK THEM OFTEN AND LET THEM BREATHE WHEN NECESSARY.

MORE PROTECTION FROM INSIDE MOISTURE INCLUDES **BOTH** VAPOR CORROSION INHIBITORS (VCIs) AND DESICCANT.

PLACING FOAM PADS IMPREGNATED WITH VCI THROUGHOUT A SHELTER ALLOWS THE VAPORS TO CHEMICALLY BOND TO METAL SURFACES AND PROVIDE A ONE-MOLECULE THICK BARRIER BETWEEN THE METAL AND MOISTURE.

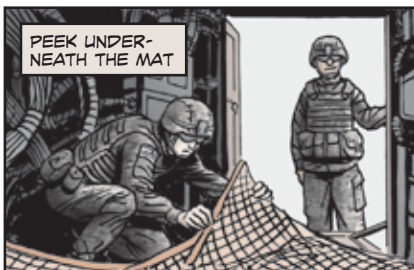
IN AN S-250 SHELTER IN STORAGE, SEVEN 10X10-INCH FOAM PADS SHOULD PROVIDE A **YEAR'S WORTH** OF MOISTURE PROTECTION.

IN AN S-280 SHELTER, YOU'LL NEED **11 PADS**.

DESICCANTS ADD PROTECTION BY ABSORBING MOISTURE AND HUMIDITY. USE INDICATOR CARDS ALONG WITH DESICCANTS. THESE CARDS CHANGE COLOR TO SHOW THE MOISTURE LEVEL IN THE DESICCANT AND LET YOU KNOW WHEN TO CHANGE THE DESICCANT.

## Mats Matter

IF YOUR SHELTER HAS RUBBER FLOOR MATS, TAKE A PEEK **UNDERNEATH**. MOISTURE HAS A WAY OF COLLECTING UNDER THEM AND FORMING **MOLD AND MILDEW**. IF YOU FIND MOISTURE, PULL UP THE MATS AND HANG THEM OUT TO DRY. WIPE THE SHELTER FLOOR DRY WITH A MOP OR RAG.



DUST AND SAND FIND THEIR WAY UNDER SHELTER MATS, TOO. KEEP 'EM OUT OF YOUR SHELTER BEFORE THEY FIND THEIR WAY INTO COOLING SYSTEMS.

**DON'T VIGOROUSLY SWEEP YOUR SHELTER!** THAT STIRS UP DUST AND SAND.

MAKE IT A RULE FOR EVERYONE TO SHAKE THE SAND AND DUST OFF THEIR CLOTHING AND BOOTS **BEFORE** THEY ENTER THE SHELTER.

SHAKE  
OFF  
THE  
DUST!



## Overheating

ODDS ARE GOOD THAT YOUR COMMO SHELTER OPERATES IN **HOT-WEATHER** TEMPERATURES—120°F OR MORE. COMPARED TO WHERE YOU'RE SITTING, THAT MAY EVEN SOUND **COOL!**

RADIOS RUN HOT AND DON'T NEED MUCH OUTSIDE HELP TO OVERHEAT.

YOU MUST KEEP YOUR SHELTER AND THE EQUIPMENT IN IT **COOL**.

REMEMBER THESE **THREE WORDS** TO COMBAT OVERHEATING—**SHADE, SHADE, SHADE.**

SHADE YOUR SHELTER **WHENEVER AND HOWEVER** POSSIBLE. USE **ANYTHING** THAT'LL MAKE SHADE.



REMEMBER, TOO, THAT SHADE **MOVES** AS THE SUN GOES UP AND DOWN AND AS YOU CHANGE THE POSITION OF YOUR SHELTER.

GET A **CANOPY**, NSN 4940-00-937-2553, FOR YOUR **S-280** SHELTER. IT COMES WITH ITS OWN MOUNT HARDWARE.

THERE'S **NO CANOPY** FOR THE **S-250** SHELTER, BUT YOU CAN GET A **TARP**. NSN 2540-00-927-5530. IT COMES WITH A TIE ROPE, BUT NO MOUNTING HARDWARE.

BE SURE TO RIG THE TARP SO THERE'S SOME SPACE BETWEEN THE TARP AND THE SHELTER TO LET AIR **CIRCULATE**.

THE EQUIPMENT IN YOUR SHELTER AND THE SHELTER ITSELF HAVE COOLING SYSTEMS TO AID IN YOUR FIGHT AGAINST OVERHEATING.

SOME COOLING SYSTEMS CAN **BARELY** KEEP UP UNDER NORMAL HOT-WEATHER CONDITIONS.

**WHEN IT'S REALLY HOT, YOU'VE GOT TO DO YOUR PART TO HELP!**

YOUR PART IS KEEPING FILTERS AND FANS, FINS AND GRILLS, SCREENS AND COVERS **SQUEAKY-CLEAN**.

TO DO THIS JOB RIGHT, YOU HAVE TO CHECK THOSE CRITICAL CLOGGING AREAS REPEATEDLY.

IF YOU **WAIT** UNTIL THE COOLING SYSTEM IS CLOGGED UP, YOU'VE WAITED **TOO LONG**.

MAKE SURE **EVERYONE** ON YOUR SHELTER TEAM KNOWS THEIR COOLING-SYSTEMS CHECK RESPONSIBILITIES. PROBLEMS POP UP WHENEVER SOMEONE ON THE TEAM THINKS THEIR CHECKS ARE SOMEONE ELSE'S JOB.

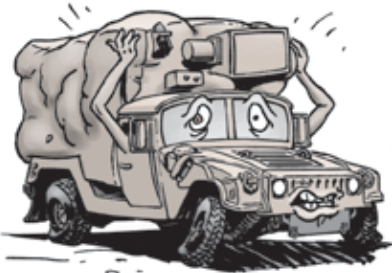
## Keep Out Clutter

ODDS ARE A LOT OF THINGS HAVE FOUND A HOME IN YOUR SHELTER THAT **DON'T** BELONG THERE. SOME SHELTERS HAVE THE **DIRTIEST, GRIMIEST GEAR STACKED RIGHT NEXT TO—OR WORSE, RIGHT ON TOP OF—SENSITIVE COMMO EQUIPMENT.**



MAYBE TOO MANY FOLKS SEE THE CENTER OF YOUR SHELTER AS UNOCCUPIED TERRITORY TO BE CONQUERED BY THEIR CAMOUFLAGE NETTING, TENTS AND TENT PEGS, OR PERSONAL GEAR. IF THAT'S THE CASE WITH YOUR SHELTER, IT'S TIME TO PUT OUT THE **UNWELCOME MAT.**

SOME OF YOU COMMO TYPES ARE GUILTY, TOO, AS YOU PITCH OR PACK ANTENNAS, CABLES AND GENERATOR-RELATED STUFF INTO YOUR SHELTER!



**EVERY SHELTER SHOULD HAVE A LOAD PLAN THAT MINIMIZES THE THINGS THAT CAN BE CARRIED INSIDE.**

WITH A PLAN IN HAND, IT'S EASIER TO DENY REQUESTS FOR TRANSPORT OF UNAUTHORIZED EQUIPMENT.

EVEN WITH A LOAD PLAN, **NOTHING** SHOULD COME INSIDE YOUR SHELTER THAT HAS **NOT** BEEN CLEANED BEFOREHAND AND NOTHING SHOULD BE TOSSED INSIDE. **EVERYTHING SHOULD BE CLEANED AND CAREFULLY PLACED.**

ARE THERE TIMES WHEN **SPEED** MAY BE THE **MOST IMPORTANT** CONSIDERATION, EVEN OVERRIDING CLEANLINESS AND PLACEMENT?



**YES. LIFE-AND-DEATH SITUATIONS ARE A PRESENT REALITY. BUT MAKE SURE THE URGENCY IN PACKING OUTWEIGHS THE REAL POSSIBILITY OF EXPENSIVE DAMAGE TO YOUR COMMO EQUIPMENT.**



## Clean Wins the Day

WHEN IT COMES TO COMMO SHELTERS, STRIVE FOR **CLEANLINESS.**

A **DIRTY, CLUTTERED SHELTER** LEADS TO **DAMAGED AND DOWNED** COMMUNICATIONS EQUIPMENT.

**DAMAGED OR DOWNED EQUIPMENT LEADS TO A FAILURE TO COMMUNICATE.**

AND ON TODAY'S BATTLEFIELD, THAT'S **DEADLY!**

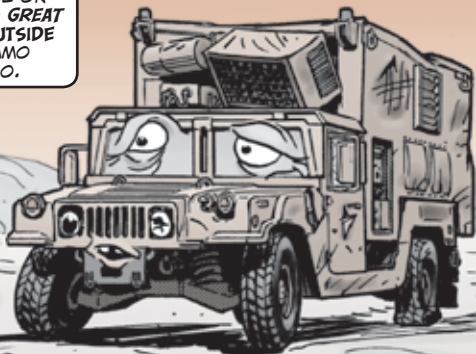
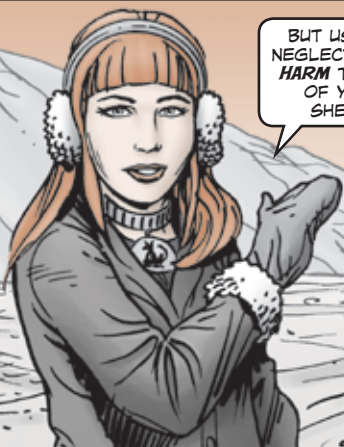


# ON THE OUTS

ON PAGES 46-49, WE TALKED ABOUT THE IMPORTANCE OF KEEPING COMMO SHELTERS SHIPSHAPE **INSIDE**.



BUT USER ABUSE OR NEGLECT CAN DO **GREAT HARM** TO THE **OUTSIDE** OF YOUR COMMO SHELTER, TOO.



HERE ARE A FEW TIPS TO HELP SAVE **YOUR SHELTER** FROM HARM...





## Thin-Skinned

PUNCTURES IN THE SHELTER'S SKIN AND SPLIT SEAMS INVITE LEAKS. LOOK FOR PUNCTURES AND TEARS DURING OPERATOR PMCS.

IF YOU FIND ANY, HAVE YOUR UNIT REPAIRER PATCH THEM RIGHT AWAY.

TB 43-0124, *MAINTENANCE AND REPAIR PROCEDURES FOR SHELTERS* (JUN 88), TELLS YOU WHAT UNIT-LEVEL MAINTENANCE CAN REPAIR, AS WELL AS THE TOOLS AND MATERIALS NEEDED.

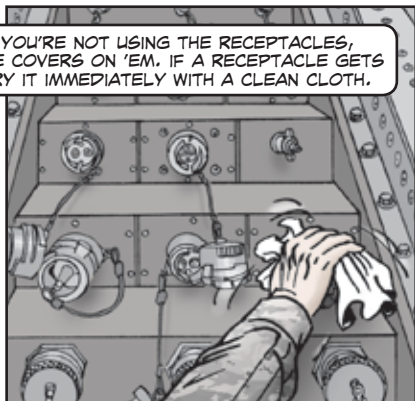
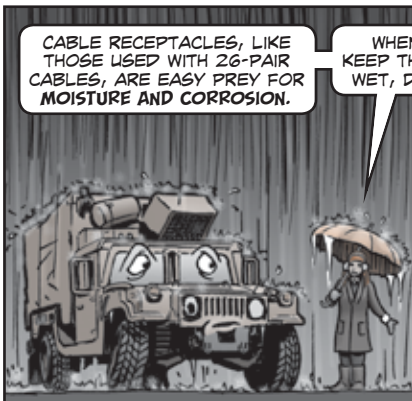
ALSO CHECK OUT TM 10-5411-205-13 (AUG 05) FOR THE S-250 SHELTER AND TM 10-5411-207-13&P FOR THE S-280C SHELTER (APR 16). THEY'LL GIVE YOU ADDITIONAL TIPS.



## Dry Receptacles

CABLE RECEPTACLES, LIKE THOSE USED WITH 26-PAIR CABLES, ARE EASY PREY FOR MOISTURE AND CORROSION.

WHEN YOU'RE NOT USING THE RECEPTACLES, KEEP THE COVERS ON 'EM. IF A RECEPTACLE GETS WET, DRY IT IMMEDIATELY WITH A CLEAN CLOT.



### CORROSION ON THE CONTACTS?

CLEAN IT OFF WITH **ISOPROPYL ALCOHOL**, NSN 6810-00-753-4993.

APPLY A LIGHT COAT OF **SILICONE**, NSN 6850-00-880-7616, ON THE RECEPTACLE'S GASKET.

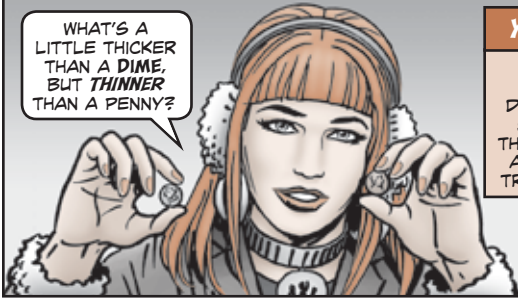


THE SILICONE HELPS PRESERVE THE GASKET, WHICH MAKES FOR A **TIGHT, WATERPROOF CONNECTION.**



## On Top of the Shelter

WHAT'S A  
LITTLE THICKER  
THAN A DIME,  
BUT **THINNER**  
THAN A PENNY?



### YOUR SHELTER'S ROOF!

IT'S MADE FROM **20-GAGE ALUMINUM**, WHICH NOT ONLY DECREASES THE WEIGHT OF THE SHELTER, BUT **ALSO** REDUCES THE ABILITY TO USE THE ROOF AS A PLATFORM FOR STORAGE OR TRANSPORTATION OF EQUIPMENT.

THE #1 SHELTER DAMAGE PROBLEM IS CAUSED BY PILING STUFF ON TOP OF THE ROOF.



CONCERTINA WIRE, GROUND RODS, ANTENNA ELEMENTS, AND EVEN TARPS AND TENTS CAN **PUNCTURE** THE SHELTER'S THIN ROOF.

TO SOLVE THIS PROBLEM, SOME SOLDIERS PLACE PALLETS OR PLYWOOD BETWEEN THE ROOF AND THE EQUIPMENT PILED ON TOP.

**THIS DOESN'T WORK! IT ONLY MAKES IT WORSE.**

ITEMS WITH **PROTRUDING NAILS AND SHARP EDGES** CAN **PUNCTURE** THE ROOF'S SKIN.

HEAVIER LOADS LIKE PALLETS CAUSE THE FOAM BONDING BETWEEN THE OUTER ROOF AND THE INNER CEILING TO SEPARATE AND DESTROY THE SUPPORTING SPOT-WELDS.

ONCE THIS HAPPENS, THE ALUMINUM RIBBING, PLYWOOD THERMAL BARRIER AND FOAM MATERIAL FILLING THE 2-IN SPACE BETWEEN THE OUTER ROOF AND INNER CEILING ARE EXPOSED TO THE ELEMENTS. YOU'VE LOST YOUR FIRST LINE OF SHELTER PROTECTION.

THE **ONLY** WAY TO PROTECT YOUR SHELTER IS TO PROTECT YOUR SHELTER TOP.

**NEVER, EVER, PUT ANYTHING ON TOP OF IT!**

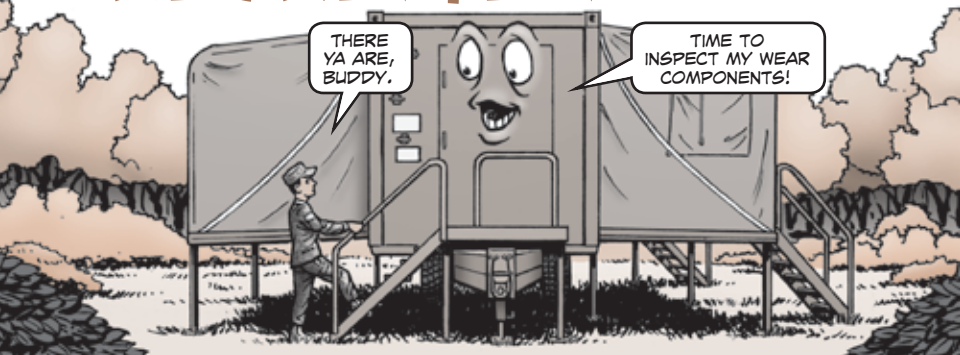


TO REINFORCE THIS PRACTICE, GET YOUR COMMANDER'S AUTHORIZATION TO STENCIL "THIS IS NOT A LOAD-BEARING SURFACE" ON TOP OF YOUR SHELTERS. NOW **EVERYONE** WILL GET THE MESSAGE.

**THIS IS NOT A  
LOAD-BEARING  
SURFACE**

**PS END**

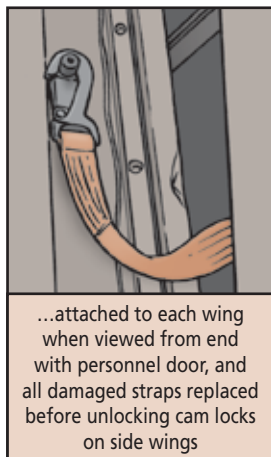
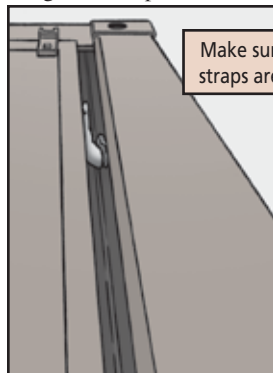
# TAKE CARE WHEN WINGING IT



**D**anger looms during containerized kitchen (CK) setup when raising or lowering either side's wing wall. Each wall is operated by a single manual winch assembly located inside the CK wall. The winch action raises and lowers the wing wall using a wire rope.

The affected models include the CK with trailer, NSN 7360-01-473-3408 (PNs 47010001 or 25670002, LIN C27633).

The CK configuration includes an orange safety strap that **must** be engaged before operators are under the CK wing wall to operate the cam locks.



The winch also has wear components, which must be inspected annually to ensure the winch brake mechanism is functioning correctly. Badly worn winches will not brake and may release unexpectedly.

Over time the wire rope can become damaged, frayed or flattened. Wire rope failure may cause an inadvertent wall release, so it needs to be inspected annually.

The safety strap is constructed of 1-in webbing, which is exposed to the elements and may suffer deterioration over time. In the event the safety strap and winch or wire rope fail, the wing wall may release while Soldiers are operating the cam locks.

Each wing wall weighs about 1,500 pounds. A falling wing wall could strike someone, injuring or even killing them. Already there have been reports of Soldiers struck by falling wing walls, in one case resulting in a broken leg.



OPERATING THE CK WING WALLS WITH **WORN OR DAMAGED** PRIMARY WINCH COMPONENTS, CABLE ASSEMBLY AND SAFETY STRAPS PRESENTS A **SIGNIFICANT RISK** TO ANYONE DEPLOYING THE SYSTEM.

OPERATORS **AREN'T** ALLOWED TO BE UNDER THE WING WALL DURING RAISING AND LOWERING THE WALL **WITHOUT** THE SAFETY STRAP ENGAGED.

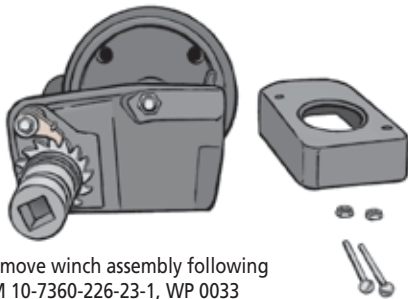
IF THE WINCH, SAFETY STRAP AND/OR CABLE ARE INOPERABLE WHEN CAM LOCKS ARE OPENED, THE WING WALL CAN FALL AND INJURE SOMEONE.

## Steps for Resolving Issues and Enhancing Safety

- **CK winch assembly.** Inspect both CK winch assemblies for component wear. Inspection requires winch removal. Follow WP 0033 in TM 10-7360-226-23-1. Ensure all warnings are observed and wear recommended protective gloves when handling wire rope. Primary wear points include the winch pawl, brake pads and pinion gears, though other components may be missing or damaged.

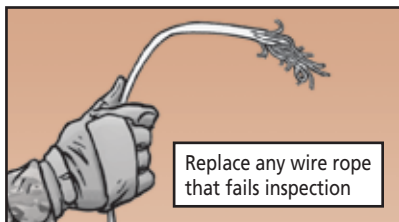
A **winch repair kit**, NSN 3650-01-666-4542, is now available to replace worn components, in conjunction with a supplied work package.

Note that this is the interim solution until the replacement winch assembly is available (estimated 3QFY19). Any CK is NMC if either wing wall winch assembly is unserviceable.



Remove winch assembly following TM 10-7360-226-23-1, WP 0033

- **Winch cable (wire rope).** Fully inspect the CK wire rope for both wing walls. The winch must be removed prior to inspecting the full length of wire rope. Replace any wire rope that fails inspection criteria with NSN 4010-01-486-3503. The CK is NMC until unserviceable wire rope is replaced.



Replace any wire rope that fails inspection



- **Wing wall safety strap.** Inspect both orange safety straps for damage due to abrasion or environmental exposure. Do this inspection as a before- and after-PMCS check. Note that the strap may appear faded from the original orange color. Replacement of faded safety straps is recommended but not required. All hardware should be present and in working order.
- **Immediately replace broken or missing safety straps.** Order single safety straps with NSN 5340-01-486-1936. The CK is NMC if any safety strap is broken or missing.

## Important Pointers

INSPECTIONS **MUST** OCCUR BEFORE THE CK'S **NEXT** USE.

USE THE PROCEDURES IN TM 10-7360-226-23-1-2 TO INSPECT HARDWARE AND APPLY REPAIR COMPONENTS. ORDERING INFORMATION IS FOUND IN TM 10-7360-226-23P.

- Dispose of all damaged hardware IAW local regulations.
- 1. **Follow-up actions:** Qualify replacement of new winch assemblies for CK wing walls. Coordinate with DLA to procure winch assemblies, safety straps and wire rope.
- 2. **Field assistance:** The project manager/Product Support Integration Directorate will assist units as needed.
- **Supply Status:**
  - **Parts required:**
    - wire rope, NSN 4010-01-486-3503
    - safety strap, NSN 5340-01-486-1936
    - winch repair kit, NSN 3650-01-666-4542
- **Disposition/availability:** Legacy CK winches, NSNs 3950-01-511-1191, 3950-01-486-3816 and 3950-01-515-2999, are obsolete and out of stock.
- **Cost Impact:**
  - wire rope, NSN 4010-01-486-3503 (\$130 each);
  - safety strap, NSN 5340-01-486-1936 (\$160 each);
  - winch repair kit, NSN 3650-01-666-4542 (\$160 each)

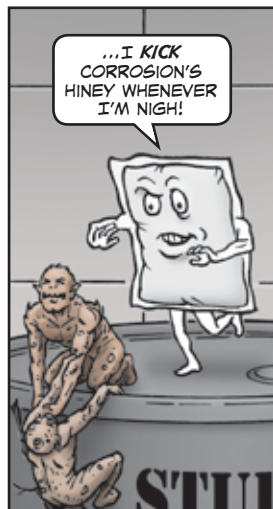
FOR MORE INFO, SEE TACOM SAFETY OF USE MESSAGE 18-008:  
<https://tulsa.tacom.army.mil/Safety/message.cfm?id=SOU18-008.html>

### QUESTIONS?

CONTACT **WESLEY SHAW**, DSN 256-4059, (508) 233-4059, OR EMAIL:  
[wesley.s.shaw.civ@mail.mil](mailto:wesley.s.shaw.civ@mail.mil)



# KEEP CORROSION AT BAY!



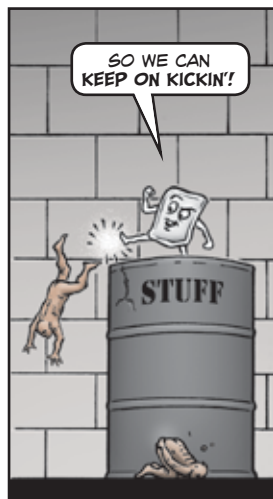
TO HELP **PREVENT**  
CORROSION, KEEP **PLENTY**  
OF DESICCANT ON HAND.

GET A **DRUM OF 300**  
**DESICCANT BAGS** WITH  
NSN 6850-00-264-6571.



**TUCK BAGS IN**  
**MOISTURE-PRONE**  
**SPOTS TO KEEP**  
**EQUIPMENT DRY.**

PUT DESICCANT BAGS WHERE THEY  
**WON'T** BLOCK VENTS, FALL INTO  
MOVING PARTS OR OTHERWISE MESS  
UP YOUR EQUIPMENT.



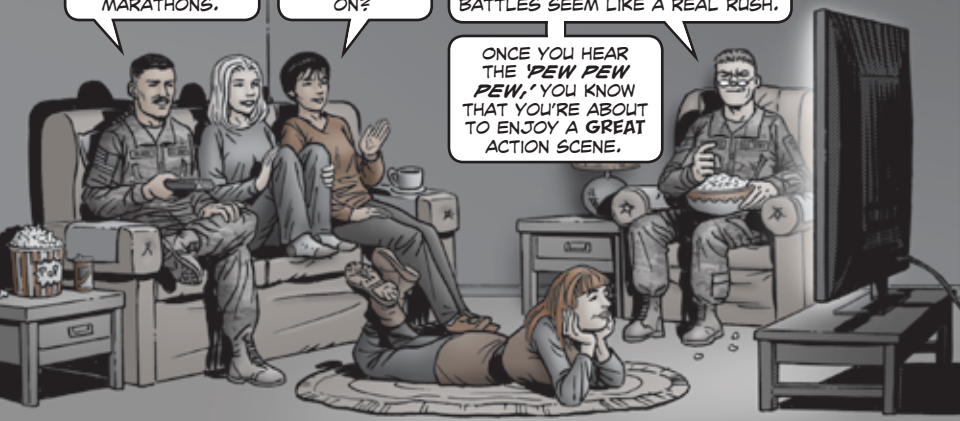
# PEW, PEW, PEW!

I LOVE THESE OLD SCI-FI SERIAL MARATHONS.

WHAT TIME IS DAX TORTHON ON?

VIDEO GAMES, MOVIES AND TELEVISION SHOWS MAKE LASER BATTLES SEEM LIKE A REAL RUSH.

ONCE YOU HEAR THE 'PEW PEW PEW,' YOU KNOW THAT YOU'RE ABOUT TO ENJOY A GREAT ACTION SCENE.



BUT, REAL LASERS, WHILE HELPFUL FOR COMPLETING THE MISSION, ARE DOWNRIGHT DANGEROUS IF USED THE **WRONG** WAY.

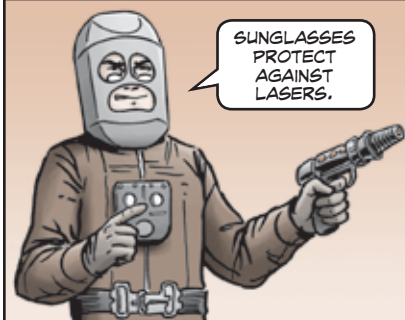
THE EYES AND SKIN ARE AT THE **GREATEST RISK** FROM REAL WORLD LASERS.

EVEN LOW-POWERED LASERS CAN **DAMAGE** YOUR EYES.

HERE ARE A FEW HARD FACTS TO **QUASH** THOSE LASER MYTHS AND KEEP YOUR EYES **SAFE**.

PS MORE

MYTH:



FACT:

SUNGLASSES ARE **NOT** A FORM OF LASER EYE PROTECTION.

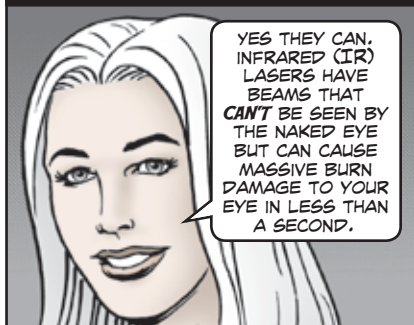
LASERS OPERATE AT SPECIFIC WAVELENGTHS AND SUNGLASSES **DON'T** BLOCK ANY OF THEM, OPENING YOU UP TO BLINDNESS OR INJURY.

IF YOU NEED PROTECTION, IT WILL BE ISSUED TO YOU IN ADVANCE AND RATED TO BLOCK WHICHEVER LASERS YOU'LL BE USING DURING THE MISSION. DON'T TRY TO MAKE YOUR OWN.

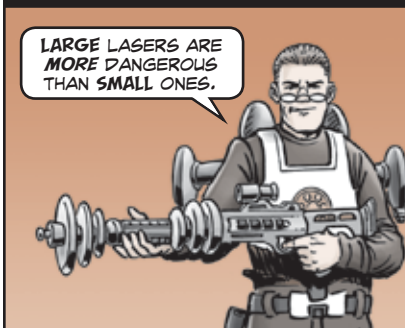
MYTH:



FACT:



MYTH:



FACT:



THE ARMY PUBLIC HEALTH CENTER HAS RELEASED A TRAINING VIDEO ON LASER SAFETY THAT WALKS YOU THROUGH SEVERAL **MORE** LASER MYTHS AND FACTS:

<https://www.youtu.be/watch?v=HvbXlX-WH9g>



# COLD WEATHER CAUSES PROBLEMS, TOO

MOST SOLDIERS ARE AWARE OF INJURIES CAUSED BY HOT WEATHER.

BUT DID YOU KNOW THAT OLD MAN WINTER CAN CAUSE SOME OF THE **SAME** PROBLEMS AS HOT WEATHER...

...WHILE BRINGING A FEW **UNIQUE** CHALLENGES, TOO?

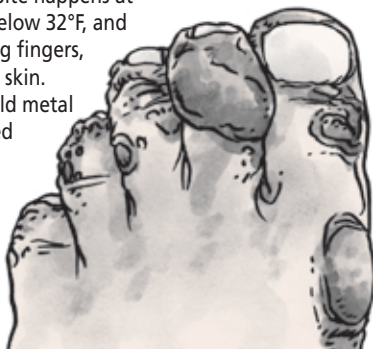
THE INJURIES THAT MOST PEOPLE ASSOCIATE WITH COLD WEATHER ARE:

- **Hypothermia:**

A person's core temperature drops below 95°F. Hypothermia can also happen in temperatures above freezing if a person is wearing wet clothes.



- **Frostbite:** Frostbite happens at temperatures below 32°F, and includes freezing fingers, toes or exposed skin. Contact with cold metal and super-cooled liquids can also cause frostbite.



PS MORE

- **Chilblain:** A non-freezing cold weather injury that can occur after prolonged exposure to cold, wet conditions. There aren't any permanent effects associated with chilblains, but the swelling and itching will make you mighty uncomfortable.



- **Immersion Foot:** This is also known as *trench foot* and is caused by prolonged exposure of tissue (usually on the feet) to cold, wet temperatures between 32 and 60°F.



THESE INJURIES AND OTHERS LIKE CARBON MONOXIDE POISONING FROM IMPROPERLY VENTED HEATERS AND FALLING INJURIES FROM SLIPPING ON THE ICE ARE UNIQUE TO WINTER WEATHER.



BUT YOU **ALSO** FACE THE DANGERS OF DEHYDRATION AND SUNBURN.

SO GET SMART ON COLD-WEATHER INJURIES AND PREVENTION!



THE ARMY PUBLIC HEALTH CENTER PRODUCED A SHORT, INFORMATIVE TRAINING VIDEO ON THE SYMPTOMS AND WAYS TO PREVENT COLD-WEATHER INJURIES. FIND IT HERE: [https://youtu.be/MD6Fp1p\\_BCY](https://youtu.be/MD6Fp1p_BCY)



# Connie's POST SCRIPTS

## Find it in EIR Digest

EIR Digest covers all TACOM-managed equipment and serves as a handy reference for TACOM publication changes, plus safety and maintenance messages. Access it on LOGSA's ETM web site:

<https://www.logsa.army.mil/etms>

Select Pub Number in the Search Type block and search for TM 43-0001-62-%. Questions? Email:

[usarmy.detroit.tacom.mbx.ilsc-tech-pubs@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-tech-pubs@mail.mil)

### GET UPDATED BATTERY TB

TB 43-0134, *Battery Disposition, Handling and Disposal* (May 18), has been updated, replacing a May 2008 version. Download it at the LOGSA ETM website:

<https://liw.logsa.army.mil/etmapp/#/etm/home>

### Ordering Parts Without NSN Revisited

AMCOM's email address for ordering parts without an NSN on Page 24 of PS 789 (Aug 18) has changed. The new email address to send a completed DD Form 1348-6 is:

[usarmy.redstone.amcom.mbx.alc-part-number-requisition-redstone@mail.mil](mailto:usarmy.redstone.amcom.mbx.alc-part-number-requisition-redstone@mail.mil)

## New UBC TM Available

TM 10-6130-523-10 (Feb 18) is the new operator manual for the universal battery charger (UBC), NSN 6130-01-659-7090. Distribution is restricted, so you'll need to log in with your CAC to the Logistics Information Warehouse at: <https://liw.logsa.army.mil/>

Choose the "ETM/IETM" icon and search for the TM.

## TB 43-180 Revised

The AMCOM headshed has revised TB 43-180, *Calibration and Repair Requirements for the Maintenance of Army Materiel* (Nov 18). Grab your CAC and go to the LOGSA LIW website:

<https://liw.logsa.army.mil>

### ATLAS 10K Forklift Wheel Assembly NSN

Page 15 of PS 766 (Sep 16) listed the wrong NSN for the ATLAS 10K forklift's right side wheel assembly. The correct NSN is 2530-01-446-1035. Make a note until a new chart is published.

### FUN FACToid FOR US BLOKES

Did you know PS has a British army counterpart? True story: KiT! Magazine was inspired by PS, but has their own unique comic style. Cheers to the KiT! staff, who celebrated 25 years of publication last year.

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

# Make Preventive Maintenance

VALLEY FORGE  
TAUGHT US NEVER  
TO FORGET PMCS.

YOU'VE  
GOT THAT  
RIGHT,  
GEORGE!

MY ROUGH-  
RIDERS **NEVER**  
MISSED ANY  
SCHEDULED  
PMCS.

FOUR SCORE  
AND SEVEN YEARS  
AGO, PMCS MADE  
A DIFFERENCE...  
...AND **STILL** DOES  
TODAY!

## a Monumental Priority!

