



**THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY**

**ISSUE 792 NOVEMBER 2018**



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TB 43-PS-792, *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.

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# PS

★  
November  
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## THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-792

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Unlimited

THANK YOU  
FOR YOUR  
SERVICE,  
MA'AM.

YOU'RE WELCOME.  
TAKING CARE OF  
EQUIPMENT IS  
IMPORTANT...

...SO **MAKE SURE** YOU  
SHARE YOUR MAINTENANCE  
KNOWLEDGE WITH OTHERS.  
PS MAGAZINE CAN HELP!

# Happy Veterans Day!



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MARK A. MILLEY  
General, United States Army  
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# Don't Take Flying Visually Impaired Lightly

LOOKS LIKE WE'VE RUN INTO SOME DVE.

WE CAN MANAGE THIS! WE'VE TRAINED AND PLANNED FOR THESE SITUATIONS!

PILOTS, FORE-ARMED!  
IS FORE-ARMED!

ESPECIALLY WHEN IT COMES TO FLYING AIRCRAFT IN AN ENVIRONMENT WITH BAD VISIBILITY.

THERE'S A FLYING CONDITION THAT EVERY PILOT SHOULD BE READY FOR. IT'S CALLED DEGRADED VISUAL ENVIRONMENT (DVE) AND IT'S AN AVIATION KILLER.

DVE CAN TAKE OUT AN AIRCRAFT AND ITS OCCUPANTS IF IT'S NOT TAKEN SERIOUSLY. NO DOUBT EVERY PILOT EITHER HAS OR WILL EXPERIENCE THIS CONDITION WHEN FLYING AIRCRAFT.

DVE ISN'T SOMETHING YOU WANT TO PLAY AROUND WITH. IT LURKS IN DUSTY AND SANDY CONDITIONS THAT CAUSE DISORIENTATION, LOW LIGHT, POOR CONTRAST AND LIMITED VISIBILITY. THAT MEANS YOU CAN'T SEE WHERE YOU'RE FLYING!

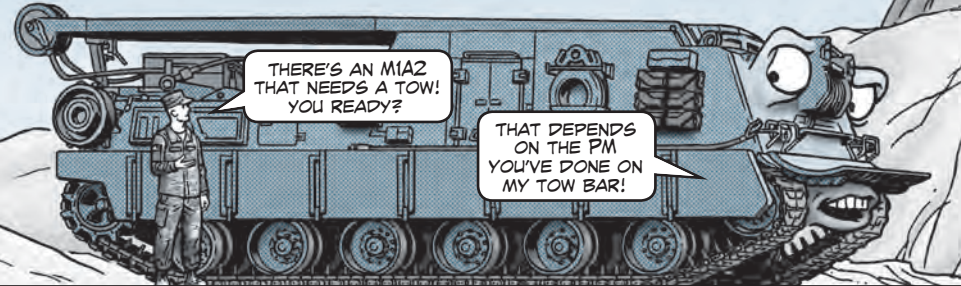
THE BEST DEFENSE AGAINST DVE IS PREPARATION, THOROUGH PLANNING AND TOUGH, REALISTIC TRAINING THAT'S DONE TO STANDARD.

THAT'S WHAT IT TAKES TO MANAGE THE RISKS.





# TOW BAR PM KEEPS RECOVERY ON TRACK

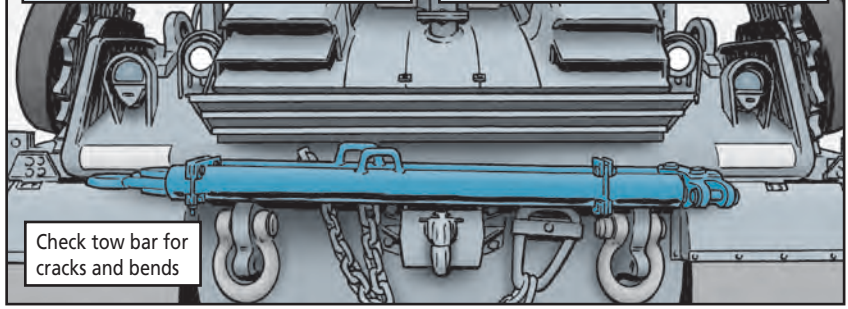


THERE'S AN M1A2 THAT NEEDS A TOW! YOU READY?

THAT DEPENDS ON THE PM YOU'VE DONE ON MY TOW BAR!

OPERATORS, BE SURE TO INSPECT YOUR M88A2'S TOW BAR, N6N 2540-01-434-8595, AS PART OF AFTER-OPERATIONS PMCS. THE INSPECTION IS QUICK AND EASY, BUT WILL GO A LONG WAY TOWARD KEEPING YOUR VEHICLE MISSION READY.

EYEBALL THE TOW BAR, INCLUDING THE WELDS, FOR CRACKS OR BENDS. IF YOU SEE ANY, DON'T USE THE TOW BAR AND ORDER A REPLACEMENT. THEN CHECK THE TOW PINTLE CLOSELY FOR SIGNS OF CRACKS AND TOW BAR LEGS FOR BENDS.



Check tow bar for cracks and bends

MAKE SURE THE PINTLE WORKS PROPERLY. IF IT LOOKS TOO WORN TO USE, ORDER A NEW PINTLE. IF IN DOUBT, ORDER A NEW ONE. **BETTER SAFE THAN SORRY!**

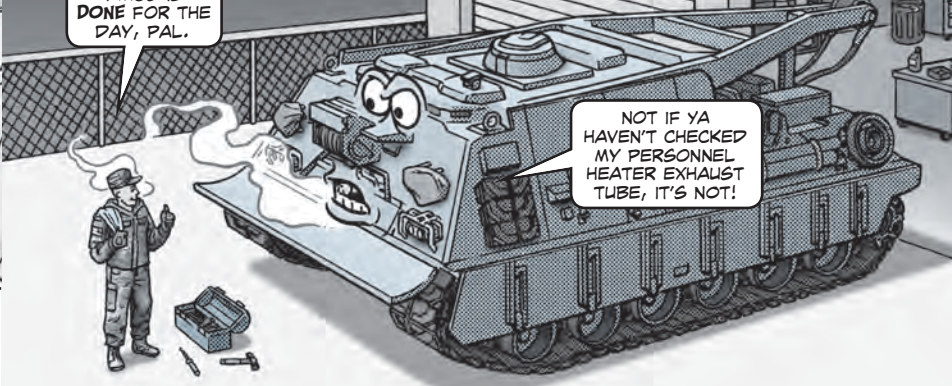
ALSO, WHEN ATTACHING THE M1-SERIES TANK TOW FOOT CLEVIS, BE SURE THE CLEVIS LETTERING IS **ON TOP** WITH THE ARROW (TOW BAR) POINTING **TOWARD** THE TOW BAR.

When towing, make sure clevis markings are facing upward with arrow pointing toward tow bar



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# Don't Overlook Heater Exhaust Tube

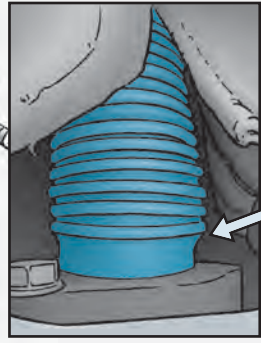


PMCS IS DONE FOR THE DAY, PAL.

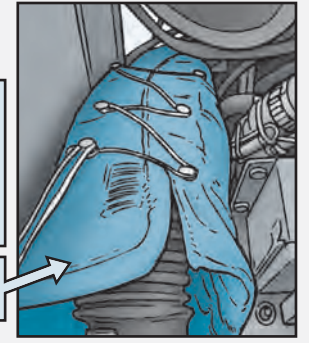
NOT IF YA HAVEN'T CHECKED MY PERSONNEL HEATER EXHAUST TUBE, IT'S NOT!

OPERATORS, MAKE SURE THE HEATER EXHAUST TUBE RUNNING BY YOUR M88A2'S AUXILIARY POWER UNIT (APU) IS PROPERLY CONNECTED.

IF IT *ISN'T*, A FIRE COULD BREAK OUT EITHER DURING OR AFTER USING THE PERSONNEL HEATER.



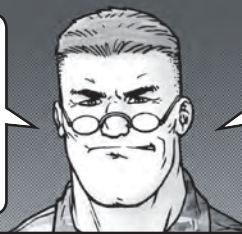
Make sure personnel heater exhaust tube is connected...



...and cover is installed

WHILE YOU'RE AT IT, MAKE SURE THE HEATER EXHAUST TUBE'S THERMAL INSULATION COVER IS SERVICEABLE AND IN PLACE.

RUNNING THE HEATER *WITHOUT* THE COVER INSTALLED CREATES A FIRE HAZARD. REPLACE A MISSING OR DAMAGED COVER WITH N6N 2540-01-533-3144.



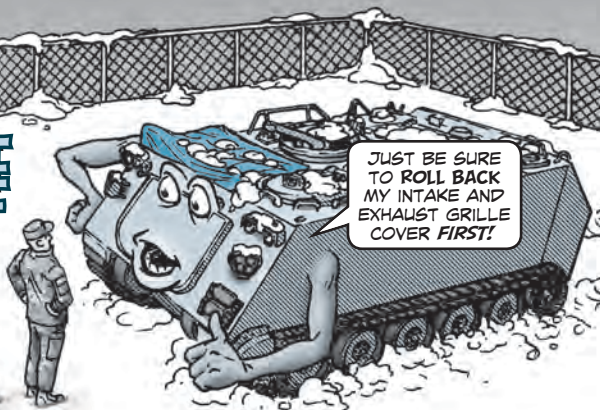
ALSO, BE SURE TO KEEP THE BACK DECK AREA WHERE THE EXHAUST COMES OUT FREE OF TRASH AND ANYTHING ELSE THAT'S FLAMMABLE.

[Click here for a copy of this article to save or email.](#)



# ROLL BACK COVER BEFORE ENGINE START

LET'S GET YOU STARTED UP SO WE CAN START THE MISSION!



JUST BE SURE TO ROLL BACK MY INTAKE AND EXHAUST GRILLE COVER FIRST!

SOME DRIVERS LEAVE THE CANVAS COVER FOR THE M113A2/A3 INTAKE AND EXHAUST GRILLES IN PLACE WHEN STARTING THE ENGINE BECAUSE THEY THINK THAT'LL HELP THE ENGINE WARM UP FASTER WHEN IT'S COLD OUTSIDE.



Canvas cover keeps out snow and ice



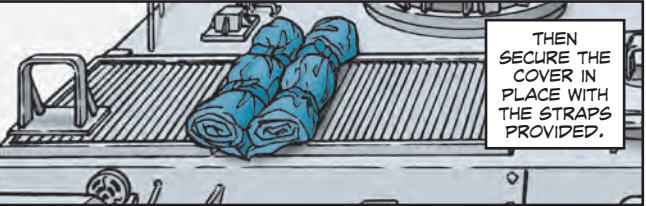
THAT'S A BAD IDEA.

THE COVER IS MEANT TO KEEP ICE, SNOW AND OTHER DEBRIS OUT OF THE ENGINE COMPARTMENT WHEN THE VEHICLE IS PARKED.

LEAVING THE COVER IN PLACE HEATS THE ENGINE TOO FAST. IT CAN EVEN BURN THE ENGINE UP. THAT'LL LAND YOU IN HOT WATER WITH YOUR COMMANDER AND COST YOUR UNIT SOME SERIOUS BUCKS.

**ALSO** FLAMES FROM THE ENGINE COMPARTMENT THAT WOULD NORMALLY BE VENTED THROUGH THE EXHAUST GRILLE ARE FORCED INTO THE DRIVER AND CREW COMPARTMENTS. **THAT CAN BE DEADLY.**

ALWAYS ROLL THE COVER BACK FROM THE EXHAUST AND INTAKE GRILLES BEFORE STARTING YOUR VEHICLE.

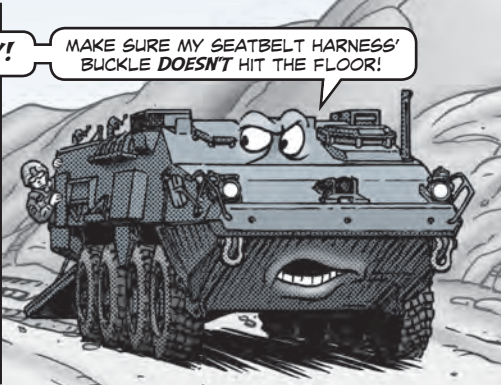


THEN SECURE THE COVER IN PLACE WITH THE STRAPS PROVIDED.

# Buckle Down on EA Seatbelt Damage



TIME TO GO DO THAT THING I DO!

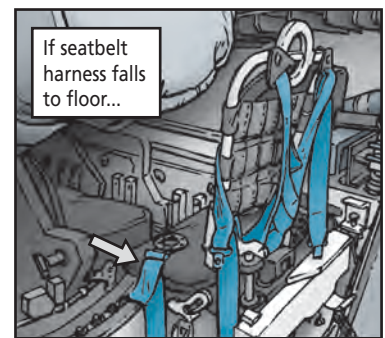


HEY!

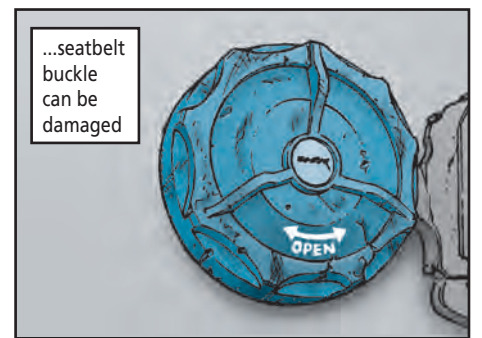
MAKE SURE MY SEATBELT HARNESS' BUCKLE DOESN'T HIT THE FLOOR!

Crewmen, your Stryker's energy attenuating (EA) seats can save you from serious injury—or worse—during a blast from a mine or IED. But the EA seat, NSN 2540-01-633-6805, can't do its job if the four-point seatbelt, NSN 2540-01-671-1897, is damaged.

When exiting your vehicle through the lowered ramp door, be careful not to let the seatbelt harness fall to the floor. That can damage the seatbelt buckle.



If seatbelt harness falls to floor...



...seatbelt buckle can be damaged

The buckle can also fall into the crack between the ramp door and the vehicle hull. When the ramp closes...CRUNCH! Not only is the buckle damaged but maybe even the ramp door or hull.

So don't get in such a hurry that you neglect to keep those seatbelt buckles safe from damage. If you do, your Stryker could end up NMC!

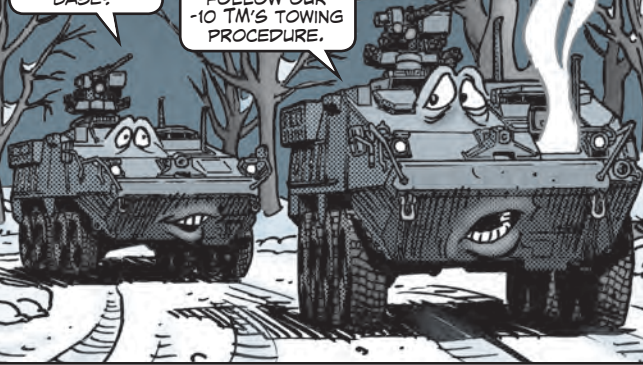


Stryker...

# TOW BY THE BOOK!

YA NEED A TOW BACK TO BASE?

OH YEAH! JUST MAKE SURE YOU FOLLOW OUR -10 TM'S TOWING PROCEDURE.



AND REMEMBER THAT IF A STRYKER IS SO DAMAGED IT CAN'T BE FLAT-TOWED, MECHANICS SHOULD'NT USE A HEMTT WRECKER TO TOW WITH THE STRYKER'S FRONT END SUSPENDED.

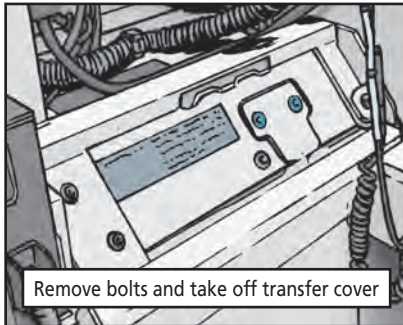
NOT ONLY WILL TOWING A STRYKER WITH THE FRONT END SUSPENDED DAMAGE THE REAR SUSPENSION AND HUBS ON THE STRYKER, BUT IT CAN ALSO BREAK THE HEMTT'S LIFT CYLINDERS. INSTEAD, CALL FOR AN M916 TRACTOR TRUCK WITH AN M870A1 SEMITRAILER.

FOR MORE INFORMATION ON STRYKER TOWING, CHECK OUT TACOM MAINTENANCE ACTION MESSAGE #18-007 AT: <https://tulsa.tacom.army.mil/Maintenance/message.cfm?id=MA18-007.html>

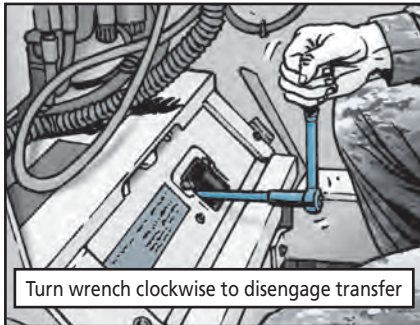
CREWMEN, IT'S VITAL THAT YOU CHECK OUT YOUR STRYKER'S -10 TM BEFORE TOWING TO ENSURE YOU DO IT THE RIGHT WAY. DOING IT WRONG RESULTS IN A DAMAGED VEHICLE.

IT COULD EVEN CATCH FIRE!

JUST LIKE IT SAYS IN THE TM, THE BEST WAY TO FLAT-TOW A DISABLED STRYKER IS WITH ANOTHER STRYKER USING A TOW BAR.



Remove bolts and take off transfer cover



Turn wrench clockwise to disengage transfer

ALWAYS BE SURE TO DISCONNECT THE TRANSFER CASE AND RELEASE THE PARKING BRAKE ON THE DISABLED VEHICLE BEFORE TOWING.



Make sure parking brake on disabled vehicle is disengaged

YOU CAN VERIFY THAT THE TRANSFER CASE IS DISCONNECTED BY REMOVING THE #4 ENGINE ACCESS PANEL. THEN USE YOUR HAND TO ROTATE THE DRIVE SHAFT TO MAKE SURE IT SPINS FREELY WITHOUT BINDING. IF THE SHAFT BINDS AND DOESN'T SPIN FREELY, TRY AGAIN TO DISENGAGE THE TRANSFER CASE.

YOU NEED TO FOLLOW ALL OF THE TOWING PROCEDURES EXACTLY AS THEY'RE SHOWN IN THE -10 TM. THAT WAY YOU CAN'T GO WRONG!

Stryker...

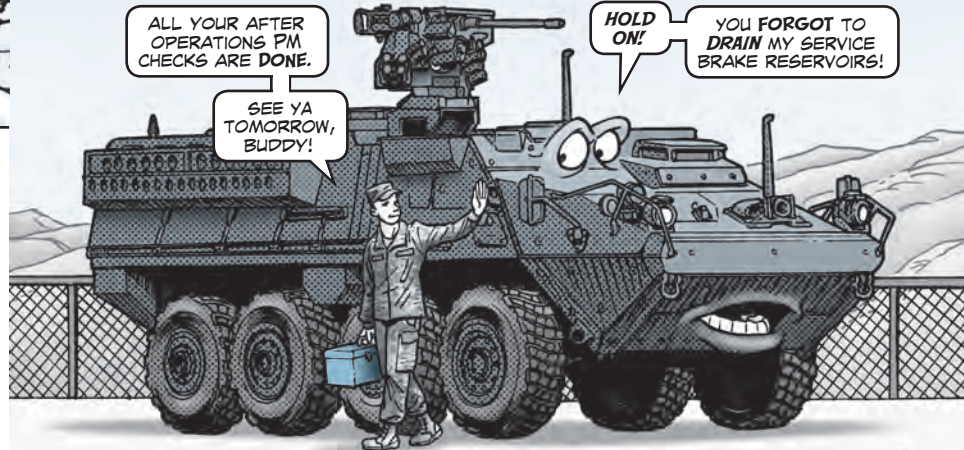
# PUT BRAKES ON VALVE CORROSION

ALL YOUR AFTER OPERATIONS PM CHECKS ARE DONE.

HOLD ON!

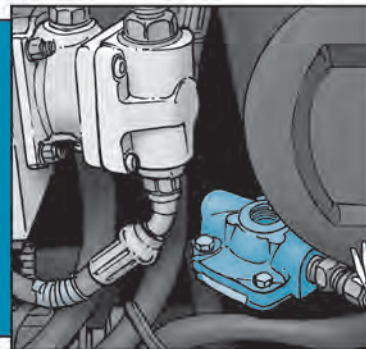
YOU FORGOT TO DRAIN MY SERVICE BRAKE RESERVOIRS!

SEE YA TOMORROW, BUDDY!



CREWMEN, your Stryker's parking brake can fail if the front and rear service brake reservoirs aren't drained after every operation.

If you don't drain the reservoirs, moisture gets inside the parking brake valve and corrodes it. So make draining them a regular part of after-operations PMCS. The -10 TM shows you how to do it right.



THE PARKING BRAKE VALVE CORRODES WHEN WET OR IF SERVICE BRAKE RESERVOIRS AREN'T DRAINED AFTER OPERATIONS.



The valve can also corrode if it's exposed to water when you wash your vehicle. Be sure to avoid spraying water directly on the valve. Better yet, cover it before washing your Stryker.

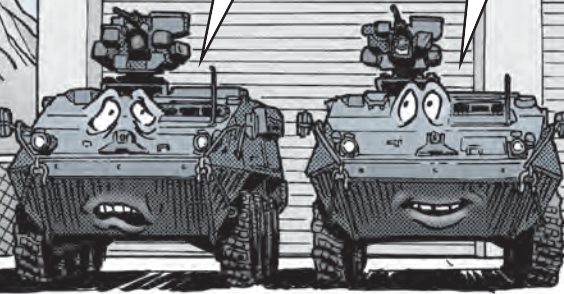


Stryker...

# Too Much Copper in Your Engine Oil?

MY AOAP REPORTS SAY MY ENGINE OIL HAS ELEVATED COPPER LEVELS!

I WOULDN'T WORRY TOO MUCH ABOUT THAT JUST YET!

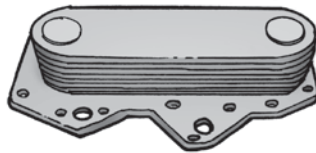


I GOT THE RESULTS BACK FROM MY STRYKER'S ARMY OIL ANALYSIS PROGRAM (AOAP) SAMPLE.

IT SHOWS THAT THE ENGINE OIL HAS ELEVATED LEVELS OF COPPER. SHOULD I BE WORRIED?



NOT NECESSARILY! AN AOAP ANALYSIS THAT SAYS ELEVATED COPPER LEVELS IN YOUR STRYKER'S ENGINE OIL "EXCEEDS WEAR METAL LIMITS" ISN'T ALWAYS REASON FOR CONCERN. A NEW ENGINE OIL COOLER COULD BE TO BLAME.



DEPENDING ON THE CIRCUMSTANCES, THERE MIGHT ACTUALLY BE LITTLE DANGER OF EXCESSIVE WEAR AND/OR COMPONENT FAILURE.

BUT YOU NEED TO UNDERSTAND WHY ELEVATED COPPER LEVELS SOMETIMES HAPPEN BEFORE YOU SUBMIT ANOTHER—MAYBE UNNEEDED—AOAP SAMPLE.

BOTH THE STRYKER CAT C7 AND 3126 ENGINES HAVE AN INTERNAL ENGINE OIL COOLER WITH COPPER TUBES.

WITH A NEW OIL COOLER, COPPER DISSOLVES FROM THE SURFACE OF THE OIL COOLER TUBES AND LEACHES INTO THE ENGINE OIL.

AS THE OIL COOLER BREAKS IN, A PROTECTIVE COATING EVENTUALLY FORMS ON THE COPPER TUBES AND THE LEACHING STOPS.

THE ENGINE ISN'T DAMAGED AND THE ELEVATED COPPER LEVELS GRADUALLY DECREASE.

COPPER LEACHING FROM THE OIL COOLER INTO THE ENGINE OIL TYPICALLY HAPPENS WITH NEW ENGINES WITHIN THE FIRST TWO OIL CHANGE INTERVALS.

LEACHING CAN ALSO HAPPEN IN USED ENGINES...

- if the engine is overdue for an oil change.
- that have had a new oil cooler installed.
- if a different type of oil is used.

SO WHEN SHOULD YOU BE CONCERNED ABOUT ELEVATED COPPER LEVELS IN YOUR STRYKER'S ENGINE OIL?

IF YOUR STRYKER IS NEW OR HAS A NEW ENGINE AND IT GETS AN AOAP REPORT INDICATING INCREASED COPPER LEVELS, COPPER LEACHING FROM THE OIL COOLER IS LIKELY TO BLAME.

YOUR STRYKER'S ENGINE IS PROBABLY OK AND YOU CAN CONTINUE SUBMITTING AOAP SAMPLES EVERY SIX MONTHS OR 3,000 MILES, WHICHEVER COMES FIRST.



HOWEVER, IF THE VEHICLE OR ENGINE IS USED AND HAS EVER OVERHEATED, THE INCREASED LEVELS OF COPPER COULD BE CAUSED BY WORN BRONZE BUSHINGS AND BEARINGS OR A COMBINATION OF BOTH.

THAT'S WHEN YOU NEED TO BE CONCERNED ABOUT ENGINE DAMAGE AND FURTHER AOAP SAMPLING.



CHECK OUT PS 772 FOR INFORMATION ABOUT STRYKERS AND THE AOAP PROGRAM: <https://www.logsa.army.mil/web2/archive/PS2017/772/772-06-08.pdf>

## AVLB... TORQUE AWAY TRANSMISSION WOES



IT'S ALL ABOUT THE TORQUE!

MECHANICS, IT'S VERY IMPORTANT TO APPLY JUST THE RIGHT AMOUNT OF TORQUE TO THE FILTER HOUSING AND DRAIN PLUG BOLTS ON THE AVLB'S TRANSMISSION.

TOO MUCH TORQUE CAN CAUSE CRACKS IN THE TRANSMISSION'S ALUMINUM FILTER HOUSING AND STRIP THE DRAIN PLUG BOLT HOLE THREADS.

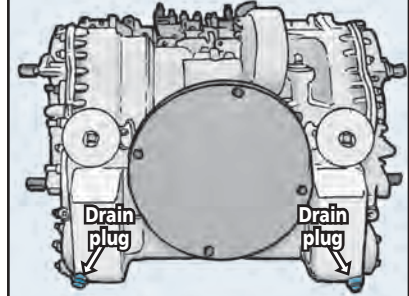
THAT CAN LEAD TO CATASTROPHIC TRANSMISSION FAILURE. A NEW TRANSMISSION WILL COST YOUR UNIT NEARLY \$75,000!

AVOID COSTLY DAMAGE AND KEEP COMBAT READINESS HIGH BY KEEPING THOSE BOLTS TORQUED TO 26-32 LB-FT.

WHILE YOU'RE AT IT, MAKE SURE THE HOLES ARE FREE OF DEBRIS BEFORE TIGHTENING THE BOLTS.

Over-tightening bolts can crack transmission filter housing and strip drain plug bolt holes

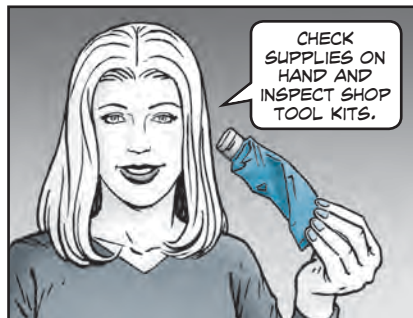
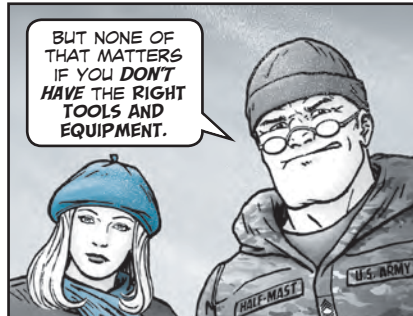
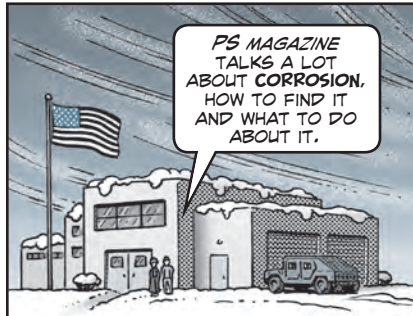
Filter housing





# RUST BUSTERS

## TIP OF THE MONTH



MAKE A LIST OF ANY MISSING, BROKEN OR SOON-TO-BE EMPTY ITEMS.

THEN ADD THOSE ITEMS TO THIS HANDY SHOPPING LIST.



### Corrosion Prevention Tools Shopping List

#### Surface Prep Tools

- Lube oil/grease
- Power grinder
- Scraping knife
- Shop vacuum
- Shop vacuum accessories
- Wire brush

#### Personal Protective Equipment

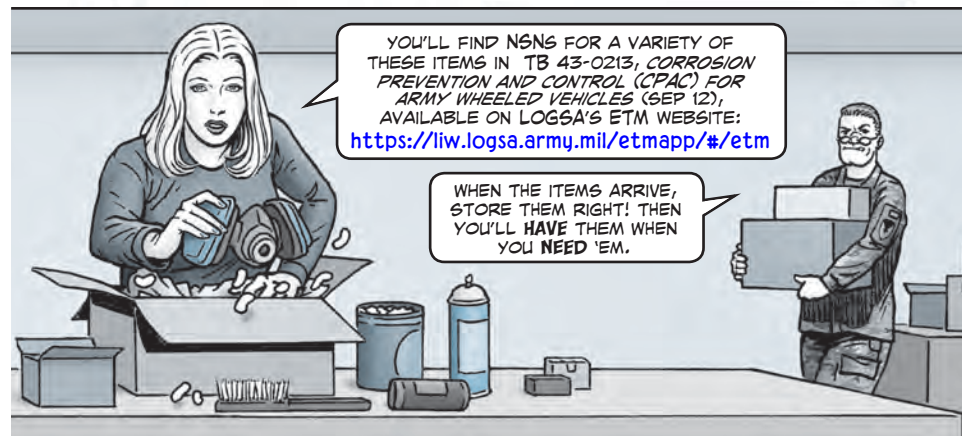
- Coveralls
- Ear plugs
- Face shield
- Gloves
- Goggles/eye protection
- Respirator & cartridge

#### CPC Application

- Applicator brush
- Corrosion inhibiting compounds (CIC)
- Petrolatum
- Pressurized spray applicator
- Rust inhibiting compound
- Sealant
- Solid film lubricant
- Thread compound

#### Touch-Up Painting

- Paint brush
- Wet film gauge



### QUESTIONS?

CONTACT TACOM'S CORROSION PREVENTION AND CONTROL OFFICE: [usarmy.detroit.tacom.mbx.ilsc-corrosion@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-corrosion@mail.mil)

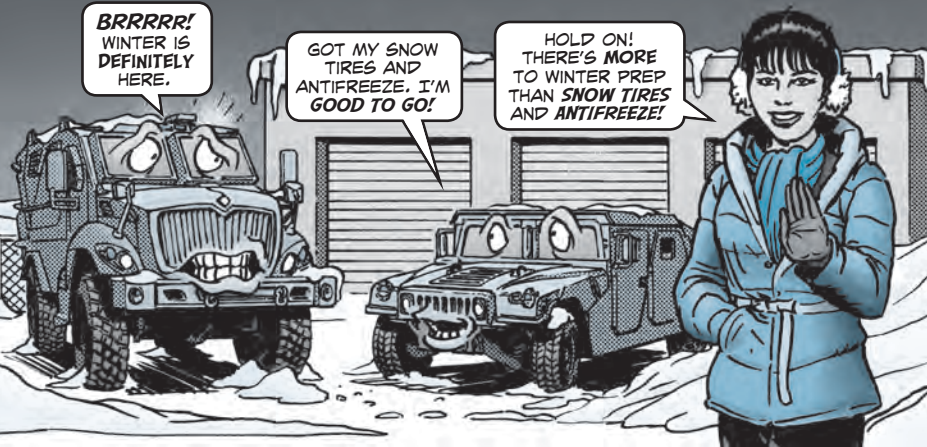


# WINTER STORMS: ARE YOU READY OR NOT?

**BRRRR!**  
WINTER IS DEFINITELY HERE.

GOT MY SNOW TIRES AND ANTIFREEZE. I'M GOOD TO GO!

HOLD ON! THERE'S MORE TO WINTER PREP THAN SNOW TIRES AND ANTIFREEZE!



WINTER WEATHER REQUIRES MORE PREPARATION AND MAINTENANCE FOR VEHICLES.

PART OF THAT PREPARATION SHOULD INCLUDE WINTER SURVIVABILITY TIPS IN CASE OF EMERGENCIES!

OF COURSE, THE -10 TM IS YOUR *FIRST STOP*. THE SECTION ON OPERATION UNDER UNUSUAL CONDITIONS HAS INFO ABOUT STARTING, OPERATING AND MAINTAINING VEHICLES IN COLD WEATHER.

A VIDEO, PRODUCED BY THE U.S. ARMY COMBAT READINESS CENTER, IS A GREAT RESOURCE, TOO. IT SHOWS WHAT TO DO IF YOU'RE *STRANDED IN A VEHICLE* DURING WINTER.

PRACTICAL TIPS LIKE THESE COULD **SAVE YOUR LIFE**:

- Raise the hood and display a trouble sign, like a bright cloth tied to the side mirror or fastened at the top of a door.
- Make sure snow drifts or debris don't block the tail pipe.
- Stay in the vehicle unless you can see help within 100 yards.
- Crank the vehicle once every hour and run the heater about 10 minutes.

WATCH THE VIDEO HERE:

<https://www.dvidshub.net/video/413415/stranded-vehicle>

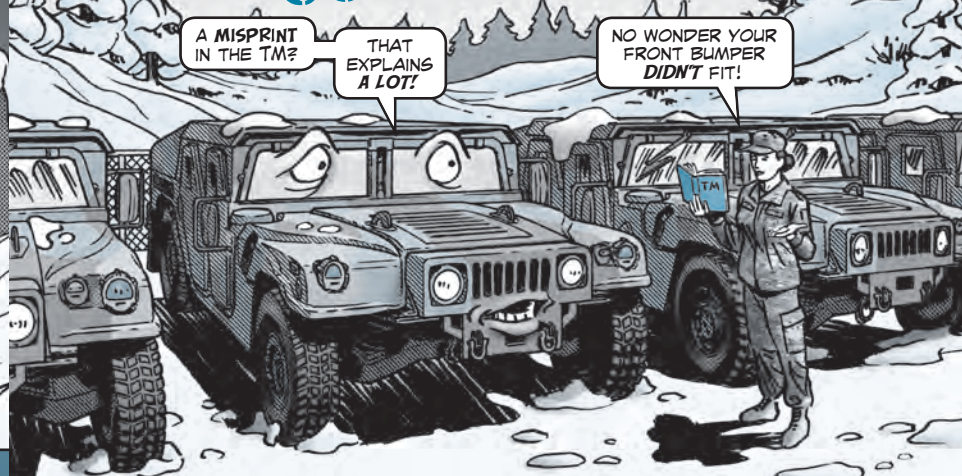
LEARN ABOUT ADDITIONAL WINTER DRIVING TIPS AT:  
<https://safety.army.mil>

# PARTS LIST CORRECTION

A MISPRINT IN THE TM?

THAT EXPLAINS A LOT!

NO WONDER YOUR FRONT BUMPER DIDN'T FIT!



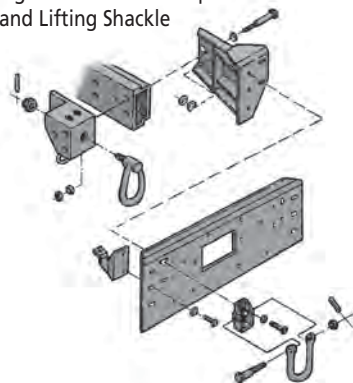
AN UPDATE TO THE HMMWV PARTS LIST IS ON THE WAY, THANKS TO AN ALERT *PS* MAGAZINE READER WHO NOTICED A DISCREPANCY BETWEEN PART NUMBERS AND FIGURES.

TACOM SAYS ITEMS 6 THROUGH 15 IN FIG 209 OF TM 9-2320-387-13&P IN IETM EM 0323 (MAR 14) **AREN'T** IN SYNCH WITH THE FIGURE CALL-OUTS.

THESE ITEMS WILL BE RENUMBERED AS SHOWN HERE TO CORRESPOND WITH THE PROPER CALL-OUTS AT THE NEXT TM UPDATE.

IN THE MEANTIME, HERE'S HOW THE PARTS LIST **SHOULD** READ:

1501: Frame Assembly  
Figure 209. Front Bumper and Lifting Shackle



Item Number	Item	NSN
6	Frame section LH	2510-01-358-1178
6	Frame section RH	2510-01-357-8789
7	Self-locking nut	5310-01-548-1848
8	Flat washer	5310-01-121-1703
9	Bumper, front	2540-01-412-8610
10	Pin cotter	5315-00-012-0123
11	Plain nut	5310-01-569-6094
12	Shackle	4030-01-316-1551
13	Screw cap	5305-01-264-3602
14	Screw cap	5305-00-071-2071
15	Bracket mount	5340-01-106-2516



# SIMPLE SOLUTION REVEALS AIR LEAKS



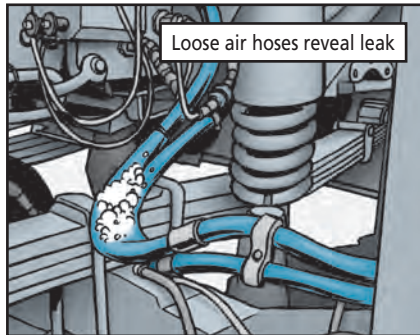
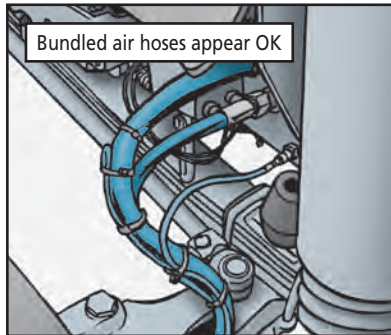
Dear Editor,

We recently had a tire deflation problem with the two front tires on an FMTV while the electronic control unit (ECU) showed five flashing lights. We swapped out both tires with spares, but the tires continued to deflate.

We followed the troubleshooting guide in the TM and replaced all the central tire inflation system (CTIS) components, including the quick release valve (QRV), wheel valve, pressure switch, pneumatic control unit (PCU), ECU, CTIS seals and wiring harness.

Then we sprayed soapy water on all the supply lines and tire hoses to look for an air leak. We found no signs of a leak, but the deflation problem continued.

Finally, I decided to cut the zip ties that secure the front air hoses together in a tight bundle. This allowed them to unwind and hang free. Then I sprayed soapy water on the hoses again.



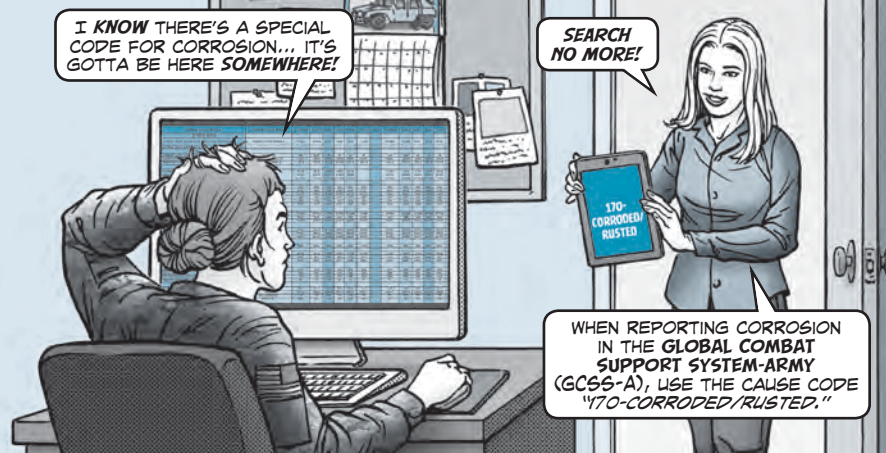
That did the trick! The soapy water bubbled up and made the leaks easy to detect. We replaced the front air hoses, and that fixed the deflation problem.

The moral of the story: when CTIS air hoses are tightly banded together, you can't always see or detect air leaks. Before you start replacing CTIS components, separate the tightly banded air hoses and check for air leaks first. This could save a lot of time and costly replacements!

Ricardo S. Iriarte  
Annville, PA

**Editor's note:** Many thanks, Ricardo. Soldiers, don't forget to re-secure the lines after the repair.

## What's That Corrosion Code?



ALL MAINTENANCE DEFICIENCIES, INCLUDING CORROSION, MUST BE REPORTED IN GCSS-A, FOLLOWING THE GUIDANCE IN DA PAM 750-8.

THAT WAY, YOUR CORROSION REPORT WILL GET RECORDED CORRECTLY AND PLAY A ROLE IN DEVELOPING FUTURE MAINTENANCE DECISIONS AND BUDGETS.

### LMTV Hydraulic Tank NSN

Get a new hydraulic tank for the 2 1/2-ton LMTV with NSN 4320-01-645-5255. This is the correct NSN for *all* FMTVs, but Item 13 in Fig 125 of TM 9-2320-333-13&P (Jun 15) lists NSN 4320-01-504-5020 for the LMTV. That's wrong, so make a note until the TM is updated.



# PM Tips for Tip-Top Performance

AHH! THIS IS JUST WHAT I NEEDED. A NICE WARM-UP FOR MY POWER STEERING BEFORE I START THE DAY!



BEFORE **AND** AFTER THE DAY'S RUN, KEEP THESE CHECKS IN MIND TO KEEP YOUR BUFFALO **MISSION-READY**:

## Fluid Warm Up

IN COLD WEATHER, LET THE POWER STEERING FLUID WARM UP **BEFORE** MOVING THE STEERING WHEEL (ABOUT 30 MINUTES).

**FOLLOW THE CAUTION PLACARD ON THE INSTRUMENT PANEL:**

**DO NOT FORCE THE STEERING WHEEL TO TURN WHILE VEHICLE IS STATIONARY.**

THAT WAY YOU'LL **AVOID** POWER STEERING LEAKS.

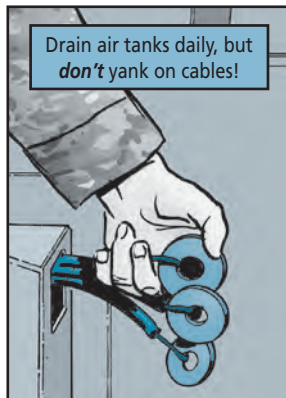
## Easy Pull on Cable

YOU'VE GOT TO DRAIN THE AIR TANKS ON YOUR BUFFALO **EVERY DAY** AFTER OPERATION. IF YOU FORGET, MOISTURE BUILDS UP AND CREATES **CORROSION** THAT PLUGS UP THE ENTIRE AIR SYSTEM, INCLUDING BRAKE VALVES AND CYLINDERS. THAT CAN ALSO LEAD TO BRAKE FAILURE. **SO DRAIN WATER** FROM THE PRIMARY AND SECONDARY AIR TANKS ON THE **DRIVER'S SIDE** OF THE VEHICLE.

THE TANK HAS THREE PULL CABLES. **JUST DON'T YANK ON THEM.** THE ADDED STRESS WILL EVENTUALLY **BREAK** A CABLE.

PULL ON THE CABLES JUST UNTIL YOU HEAR AIR COME OUT. THAT'S FAR ENOUGH. AND MAKE SURE YOU PULL **STRAIGHT OUT** ON THE CABLES. YANKING OR PULLING THE CABLES SIDEWAYS WEARS OUT THE PROTECTIVE SLEEVE AND EXPOSES THE METAL STRANDS.

EVENUALLY, THE CABLE DETERIORATES AND BREAKS, ESPECIALLY IF IT'S YANKED ON EVERY DAY DURING CHECKS AND SERVICES!



# STAY AWAY from Ether Spray!

JONES! WHAT HAPPENED TO YOU?



**T**AKE A QUICK WALK THROUGH ANY ENGINEERING BATTALION AND YOU'LL SEE LOTS OF CONSTRUCTION EQUIPMENT WITH BUILT-IN STARTING AIDS. THESE AIDS HELP VEHICLE ENGINES TURN OVER IN COLD WEATHER.

**BUT** IF YOU'RE LOOKING FOR ONE OF THESE STARTING AIDS ON THE BACKHOE LOADER (BHL), YOU'RE **OUTTA LUCK.** THERE **ISN'T** ONE.

UNFORTUNATELY, SOME OPERATORS THINK IT'S OK TO GRAB A CAN OF ETHER SPRAY TO CREATE THEIR OWN.

NOW, SAY IT ONCE, THEN SAY IT **OVER AND OVER AGAIN:**

**HANDS OFF THE ETHER!**

**DON'T EVEN THINK ABOUT HEADING BACK TO THE WORKBENCH, GRABBING A CAN OF ETHER SPRAY, AND GIVING IT A GO! SPRAYING ETHER IN YOUR BHL'S ENGINE WILL CRACK PISTONS, BEND RODS AND RUIN HEADS.**

## Personnel Risk

TO BRING THE POINT HOME, A **WARNING DECAL** IS MOUNTED ON THE STREET SIDE OF THE BHL:

### EXPLOSION HAZARD - DO NOT USE ETHER

THERE'S AN IMPORTANT REASON FOR THE DECAL. THE BHL'S ENGINE MANIFOLD INTAKE HEATER IS JUST ON THE OTHER SIDE. THAT HEATER GETS **OVEN HOT.** SO A SPRAY OF ETHER WILL **IGNITE** AND TRAVEL RIGHT BACK TO THE ETHER CAN. THAT CREATES AN **EXPLOSION** THAT CAN CAUSE **SEVERE BURNS, SCARS, BLINDNESS OR EVEN DEATH!**

SO IF YOU'RE HAVING PROBLEMS STARTING YOUR BHL, **KEEP YOUR HANDS OFF THE SPRAY CAN ETHER** AND GRAB A MECHANIC INSTEAD.





# PROTECT AIRCRAFT FROM OLD MAN WINTER

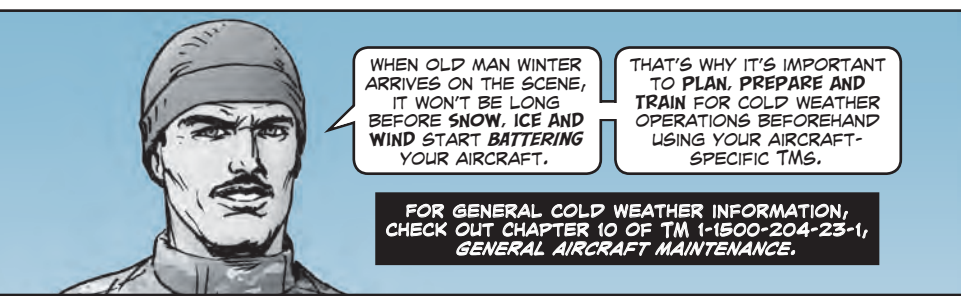


OH, MAN!  
WE GOTTA GET  
BACK HOME!



OLD MAN WINTER  
IS ABOUT TO HIT US  
WITH A VENGEANCE.

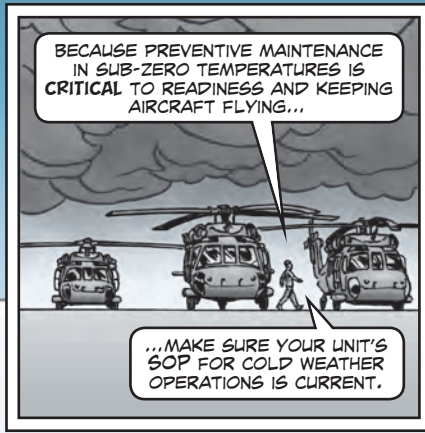
AFTER WE LAND,  
WE GOTTA GET  
THESE BIRDS  
COVERED UP!



WHEN OLD MAN WINTER  
ARRIVES ON THE SCENE,  
IT WON'T BE LONG  
BEFORE SNOW, ICE AND  
WIND START **BATTERING**  
YOUR AIRCRAFT.

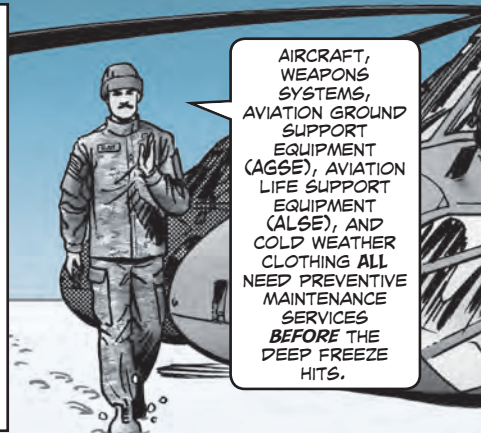
THAT'S WHY IT'S IMPORTANT  
TO **PLAN, PREPARE AND  
TRAIN** FOR COLD WEATHER  
OPERATIONS BEFOREHAND  
USING YOUR AIRCRAFT-  
SPECIFIC TMS.

FOR GENERAL COLD WEATHER INFORMATION,  
CHECK OUT CHAPTER 10 OF TM 1-1500-204-23-1,  
**GENERAL AIRCRAFT MAINTENANCE.**

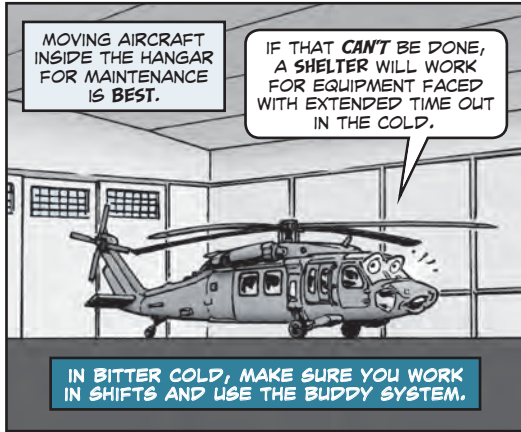


BECAUSE PREVENTIVE MAINTENANCE  
IN SUB-ZERO TEMPERATURES IS  
**CRITICAL** TO READINESS AND KEEPING  
AIRCRAFT FLYING...

...MAKE SURE YOUR UNIT'S  
SOP FOR COLD WEATHER  
OPERATIONS IS CURRENT.



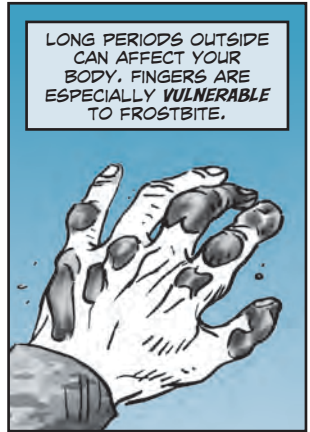
AIRCRAFT,  
WEAPONS  
SYSTEMS,  
AVIATION GROUND  
SUPPORT  
EQUIPMENT  
(AGSE), AVIATION  
LIFE SUPPORT  
EQUIPMENT  
(ALSE), AND  
COLD WEATHER  
CLOTHING ALL  
NEED PREVENTIVE  
MAINTENANCE  
SERVICES  
**BEFORE** THE  
DEEP FREEZE  
HITS.



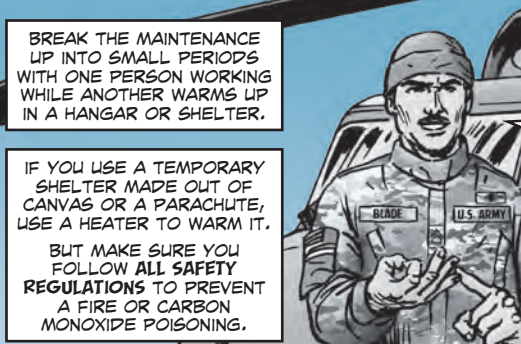
MOVING AIRCRAFT  
INSIDE THE HANGAR  
FOR MAINTENANCE  
IS **BEST.**

IF THAT **CAN'T** BE DONE,  
A **SHELTER** WILL WORK  
FOR EQUIPMENT FACED  
WITH EXTENDED TIME OUT  
IN THE COLD.

IN BITTER COLD, MAKE SURE YOU WORK  
IN SHIFTS AND USE THE BUDDY SYSTEM.



LONG PERIODS OUTSIDE  
CAN AFFECT YOUR  
BODY. FINGERS ARE  
ESPECIALLY **VULNERABLE**  
TO FROSTBITE.



BREAK THE MAINTENANCE  
UP INTO SMALL PERIODS  
WITH ONE PERSON WORKING  
WHILE ANOTHER WARMS UP  
IN A HANGAR OR SHELTER.

IF YOU USE A TEMPORARY  
SHELTER MADE OUT OF  
CANVAS OR A PARACHUTE,  
USE A HEATER TO WARM IT.

BUT MAKE SURE YOU  
FOLLOW ALL SAFETY  
**REGULATIONS** TO PREVENT  
A FIRE OR CARBON  
MONOXIDE POISONING.

IN WINTRY  
WEATHER,  
THE COLD  
WILL AFFECT  
FUEL, SEALS,  
TIRES,  
BATTERIES  
AND  
AIRCRAFT.

HERE ARE  
THE **COLD,  
HARD FACTS**  
YOU SHOULD  
KNOW TO  
HELP YOU  
**FIGHT AND  
WIN** THE  
COLD, ICY  
BATTLE...



## Fact 1: Cold Fuel



EVEN AFTER TOPPING OFF, THERE WILL BE A **GAP** BETWEEN THE TOP OF THE TANK AND THE FUEL. **THAT'S** WHERE AIR CONDENSES AND WATER MIXES WITH YOUR FUEL. SO WHEN YOU TAKE A FUEL SAMPLE EACH DAY, DRAIN ENOUGH FUEL TO GET RID OF ALL THE WATER.

**ALWAYS DRAIN** FROM THE LOWEST POINT OF THE FUEL CELL. WATER IS **HEAVIER** THAN FUEL AND WILL ACCUMULATE ON THE BOTTOM.

IF REFUELING IS DONE **OUTSIDE** IN **FREEZING** TEMPERATURES, **ALWAYS** CHECK THE AIRCRAFT'S FUEL LEVEL **BEFORE** MOVING IT INSIDE.

FUEL **EXPANDS** IN **WARMER** TEMPERATURES, SO TAKING A FULL AIRCRAFT INSIDE COULD GIVE YOU A FUEL SPILL TO CLEAN UP.

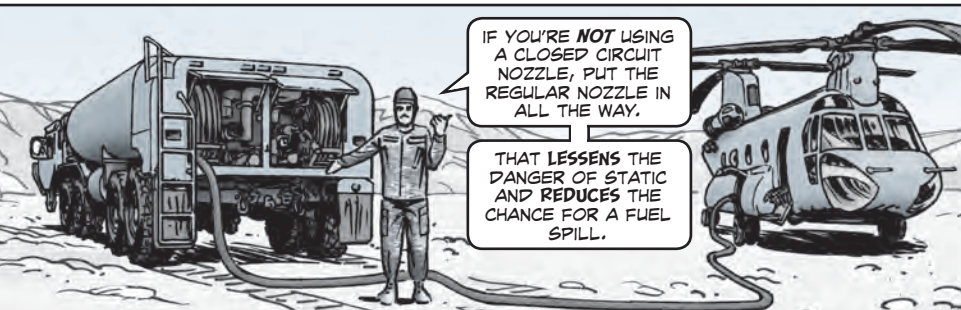


**BE EXTREMELY CAREFUL** ABOUT STATIC ELECTRICITY DURING REFUELING.

STATIC ELECTRICITY **INCREASES** WHEN THE TEMPERATURE AND HUMIDITY **DROP**.

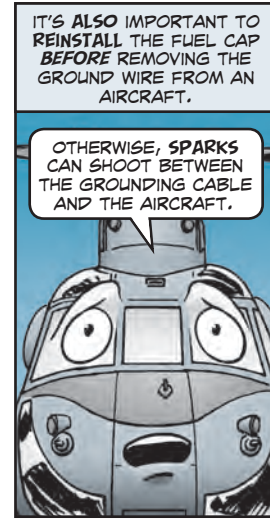
**COMBINED,** THEY CAN **FIRE UP** YOUR WINTER REAL FAST!

- WHEN DEALING WITH COLD FUEL AND AIRCRAFT. KEEP THESE GROUNDING POINTS IN MIND:
1. aircraft to ground
  2. aircraft to fuel tanker
  3. aircraft to fuel nozzle
- BEFORE REMOVING THE CAP!**



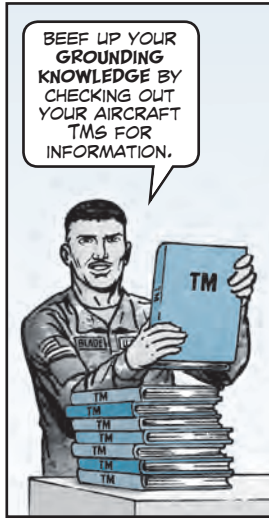
IF YOU'RE **NOT** USING A CLOSED CIRCUIT NOZZLE, PUT THE REGULAR NOZZLE IN ALL THE WAY.

THAT **LESSENS** THE DANGER OF STATIC AND **REDUCES** THE CHANCE FOR A FUEL SPILL.



IT'S **ALSO** IMPORTANT TO **REINSTALL** THE FUEL CAP **BEFORE** REMOVING THE GROUND WIRE FROM AN AIRCRAFT.

OTHERWISE, **SPARKS** CAN SHOOT BETWEEN THE GROUNDING CABLE AND THE AIRCRAFT.



**BEEF UP YOUR GROUNDING KNOWLEDGE** BY CHECKING OUT YOUR AIRCRAFT TMS FOR INFORMATION.



FUEL SPILLS CAN CREATE ENVIRONMENTAL HAZARDS, BUT SPILLING COLD FUEL ON BARE SKIN CAN LEAD TO **INSTANT FROSTBITE**.

## Fact 2: Cold Oil and Grease



**NOTHING** IS IMMUNE TO COLD, **NOT EVEN** OIL AND GREASE.

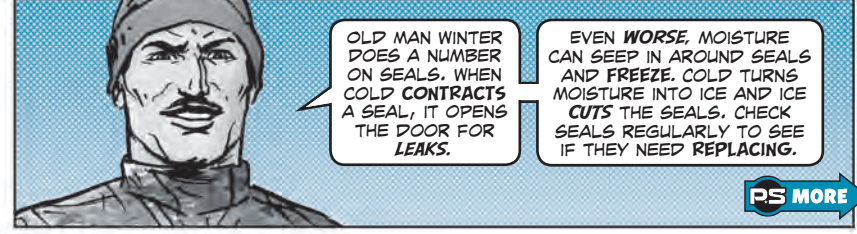
AS THE MERCURY DIPS, OIL GETS **THICKER** AND GREASE **GELS**.

USING THE **RIGHT** OIL, LUBE AND GREASE **MINIMIZES** THOSE PROBLEMS.

FOR EXAMPLE, WHEN SERVICING A **STONE COLD** AIRCRAFT'S OIL SYSTEMS, **NEVER** FILL IT TO THE BRIM. THAT'S BECAUSE OIL **EXPANDS** AS IT HEATS UP AND YOU'LL BE CLEANING UP AN **OVERFLOW MESS**.

BECAUSE OIL LEAKS ARE A **BIGGER** PROBLEM IN THE WINTER, **REGULARLY** EYEBALL CONNECTIONS, JOINTS AND SEALS.

## Fact 3: Cold Seals



OLD MAN WINTER DOES A NUMBER ON SEALS. WHEN COLD **CONTRACTS** A SEAL, IT OPENS THE DOOR FOR **LEAKS**.

EVEN **WORSE**, MOISTURE CAN SEEP IN AROUND SEALS AND **FREEZE**. COLD TURNS MOISTURE INTO ICE AND ICE **CUTS** THE SEALS. CHECK SEALS REGULARLY TO SEE IF THEY NEED REPLACING.





### Fact 4: Cold Batteries

COLD CAN AFFECT BATTERIES, BUT UNLESS THE TEMPERATURES DROP TO SUB-FREEZING LEVELS, SEALED LEAD-ACID BATTERIES (SLAB) OR NI-CAD BATTERIES SHOULD CONTINUE TO DO THEIR JOB.

HOWEVER, FREQUENT COLD STARTS WILL SHORTEN BATTERY LIFE.

THE H-60M HAS TWO SLAB BATTERIES IN THE NOSE.

THE HH-60L HAS THE SLAB BATTERY IN THE QUAD BAY.

AND THE UH-60A/L HAS THE BATTERY IN THE CABIN BEHIND THE PILOT SEAT. IT COULD BE EITHER A NI-CAD OR SLAB BATTERY.

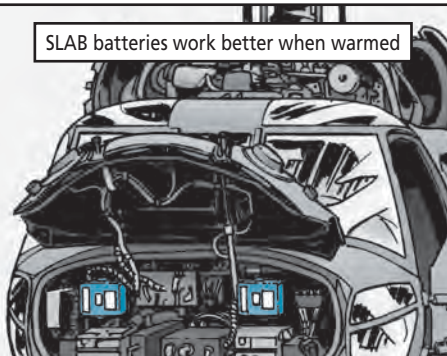


KEEP SLABS WARM. THE COLD CAN DRAIN THEIR CHARGE MUCH FASTER THAN IT DOES A NICKEL CADMIUM BATTERY.

WHEN BRINGING EITHER SLAB OR NICKEL-CADMIUM BATTERIES INSIDE, STORE THEM IN SEPARATE AREAS. FUMES FROM A SLAB BATTERY CAN CAUSE A NICKEL-CADMIUM BATTERY TO DISCHARGE.

ALWAYS STORE BATTERIES ON A SHELF OR ON TOP OF DUNNAGE BECAUSE BARE FLOORS WILL DRAIN THEM.

SLAB batteries work better when warmed



IF YOU'RE USING AN AVIATION GROUND POWER UNIT (AGPU), THE LOAD WILL WARM UP THE BATTERY BEFORE ENGINE STARTING.

IT'S ALWAYS BEST TO USE AN AGPU FOR AN AIRCRAFT'S FIRST START OF THE DAY. THAT HELPS PREVENT BATTERY DRAIN FROM THE COLD.

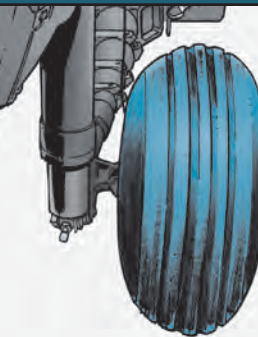


### Fact 5: Cold Tires

COLD CAN REDUCE TIRE AIR PRESSURE, SO CHECK YOUR HELICOPTER'S TIRE PRESSURE OFTEN LIKE IT SAYS IN EACH AIRFRAME'S TM.

WHEN TIRES FREEZE TO THE GROUND, YOU CAN USE LIQUID DEICER TO BREAK THEM LOOSE. AVOID PARKING AIRCRAFT IN WET OR SLUSHY AREAS AND IF POSSIBLE USE A PLATFORM SURFACE OF SOME KIND UNDER THE TIRES TO KEEP THEM OFF SNOW AND ICE.

IF YOU PARK YOUR AIRCRAFT ON MUD, THE NEXT DAY YOU MAY FIND THE TIRES HAVE SUNK INTO IT AND FROZEN IN PLACE.



Keep aircraft tires off wet ground

### Fact 6: Cold Aircraft

USE AIRCRAFT COVERS TO PROTECT EVERY PART OF YOUR AIRCRAFT.

KEEPING TRACK OF YOUR AIRCRAFT COVERS AND FLYAWAY GEAR COMES IN HANDY IN THE WINTER.



Remove snow from aircraft...



...and make sure covers are used



IF YOU *CAN'T* COVER THE ENTIRE AIRCRAFT, AT LEAST COVER:

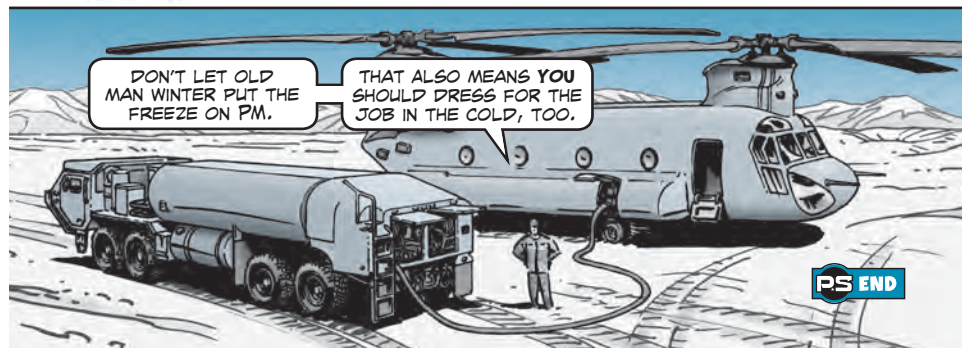
- the engine inlets
- exhaust openings
- pitot tubes
- the main rotor head and tail rotor

NEVER TAKE COLD WEATHER FOR GRANTED!

PREPARE TO DO MAINTENANCE WITH THE PROPER CLOTHING TO KEEP WARM SO THE JOB GETS DONE RIGHT.

DON'T LET OLD MAN WINTER PUT THE FREEZE ON PM.

THAT ALSO MEANS YOU SHOULD DRESS FOR THE JOB IN THE COLD, TOO.





# New Inspection for SATS Leaf Spring Wear



THERE'VE BEEN SOME ISSUES WITH THE SATS LEAF SPRING.

YEAH, SERGEANT BLADE, I WAS JUST READING THE ARTICLE ON THE PS APP.

I'LL GET RIGHT ON IT.

Mechanics, the leaf spring assemblies on the standard aircraft towing system (SATS), NSN 1740-01-575-5662, are experiencing excessive wear that can put the SATS in a non-mission capable status.

While not a safety issue, the distance between the vehicle frame and leaf spring assembly can exceed the design constraints over time. If that happens, the leaf spring assembly can rub against the drive train.

New leaf spring inspection criteria will be added to the SATS' TM 1-1740-221-13&P at the next update. In the meantime, here are the new criteria:

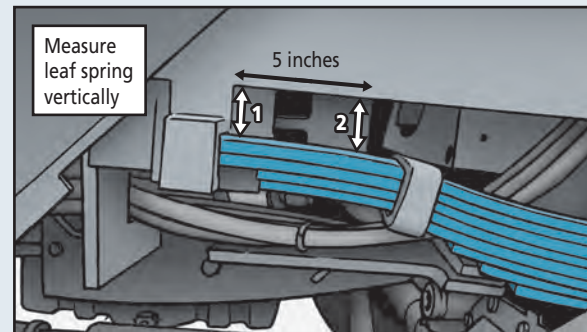
## Inspection Conditions



BEFORE STARTING, OBSERVE THESE PRE-INSPECTION CONDITIONS...

- With the engine shut down, make sure the transmission is in park.
- Chock the vehicle tires.
- Only use standard measurements such as 1/2 inch, 3/8 inch, 9/16 inch (+/- 1/16 inch).
- Take measurements at the rear, outboard edge of the front leaf spring assembly on the driver and passenger sides where the springs enter the housing block shackle.

## Leaf Spring Measuring



1. Measure vertically from the vehicle's frame to the point where the leaf spring assembly enters the rear housing block shackle.
2. Move the ruler forward five inches and measure vertically from the top of the leaf spring to the frame.

3. Subtract the lesser measurement from the greater one. If the result is less than one inch, no further action is necessary. If the difference is one inch or greater or the leaf spring assembly touches the vehicle frame, go to Step 4.
4. On the DA Form 2404 (manual) or 5988-E (electronic), enter a / status symbol with the following: "Left/right leaf spring assembly sag measures \_\_\_\_." Enter your measurement in the blank.

In the future, units should order and replace both the front left and front right leaf spring assemblies at the next 500-hour/semiannual service. Make sure you replace both assemblies at the same time.

## Got Aviation Corrosion Questions?

Fighting corrosion is a daily battle. And in that fight, sometimes questions come up about how best to fight corrosion. To get answers, contact the aviation corrosion team by email: [usarmy.redstone.rdecom-amrdec.mbx.amcom-corrosion@mail.mil](mailto:usarmy.redstone.rdecom-amrdec.mbx.amcom-corrosion@mail.mil)

## CREPS Reports Improve Readiness

Readiness is important to the warfighter. That's why TACOM provides a way for you to voice your concerns or comments about equipment or TMs. Just submit a Collaborative Readiness Problem Solving (CREPS) report. The website is:

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<https://youtube.com/user/USArmyPEOSoldier>

Also check them out on social media:



# SHADOW NEEDS PROTECTION!



I REALLY AM **NOT** MADE FOR THIS KIND OF WEATHER.

YOU NEED TO PROTECT ME FROM THE ELEMENTS.

THE RQ-7B SHADOW UAV NEEDS ALL THE PROTECTION YOU CAN GIVE IT FROM RAIN, WIND AND DIRT. ITS DELICATE PARTS CAN BE DAMAGED BY **TOO MUCH EXPOSURE** TO THE ELEMENTS.

THE BEST PROTECTION FOR ALL UAVS IS TO KEEP THEM PARKED **INSIDE** WHEN THEY'RE **NOT** FLYING.

BUT IN THE FIELD THAT'S **NOT POSSIBLE**.



THAT'S WHY IT'S A GOOD IDEA TO TAKE ALONG A TENT BIG ENOUGH FOR AT LEAST THREE SHADOWS.

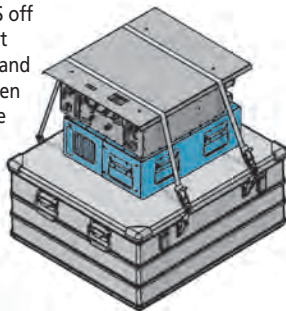
THE TENT NOT ONLY PROVIDES A GOOD PLACE TO PARK SHADOWS, BUT ALSO GIVES YOU A PROTECTED AREA FOR MAINTENANCE AND PMCS.

IF YOU **DON'T** HAVE A TENT, AT THE VERY LEAST KEEP SHADOWS COVERED WITH A TARP. IF WINDS ARE STRONG OR STORMS ARE RAGING, FIND SOMEPLACE ENCLOSED TO PARK SHADOWS TO PREVENT DAMAGE.

ONE SHADOW COMPONENT THAT SHOULD BE LEFT OUTSIDE **AS LITTLE AS POSSIBLE** IS THE UNINTERRUPTIBLE POWER SUPPLY (UPS) FOR THE UNIVERSAL AND PORTABLE GROUND DATA TERMINALS (UGDT AND PGDT).

**THE UPS IS ESPECIALLY SENSITIVE TO WATER AND DIRT.**

Keep UPS off ground at all times and cover when not in use

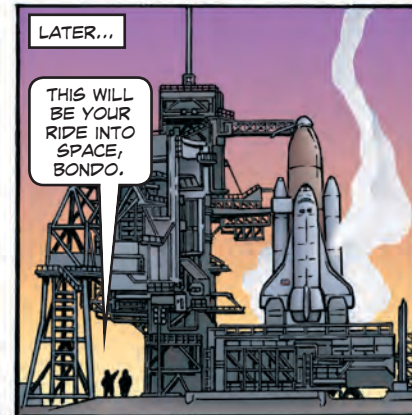
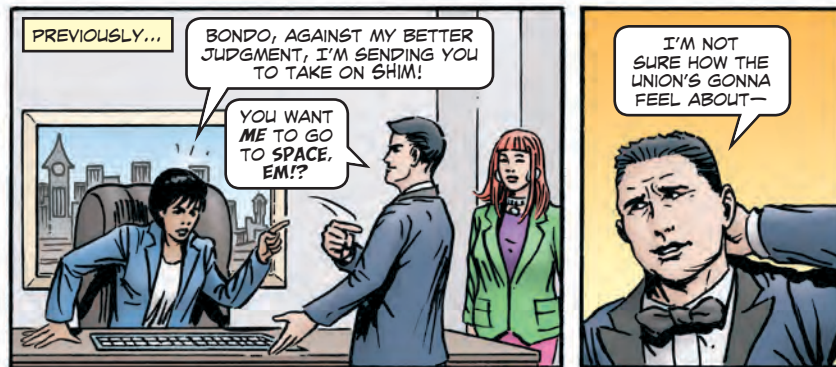


MAKE SURE THE UPS IS OFF THE GROUND ON A PLATFORM TO PREVENT STANDING WATER FROM GETTING IN THE UPS.

IF A UGDT OR PGDT IS GOING TO BE SITTING OUTSIDE VERY LONG, COVER THE UPS TO PROTECT IT FROM THE ELEMENTS.

FOR MORE INFO ON PROTECTING YOUR SHADOW, SEE TM 1-1550-1689-23&P AND TM 1-1550-689-23&P.

## presenting JAMES BONDO in MOONBREAKER (part 2)



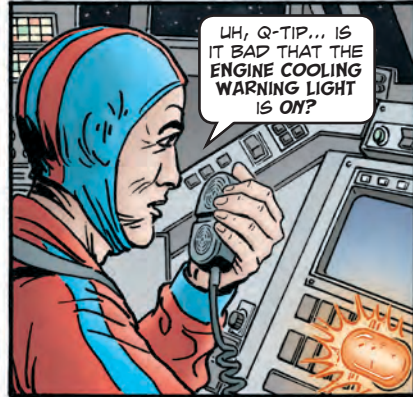
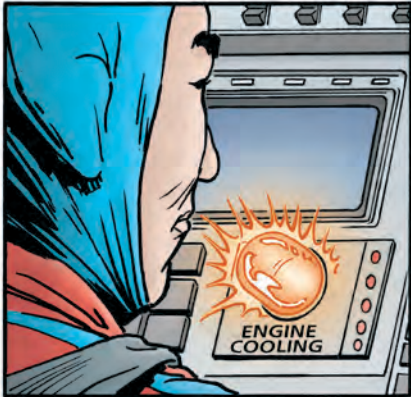
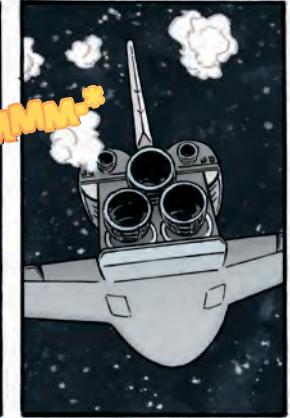




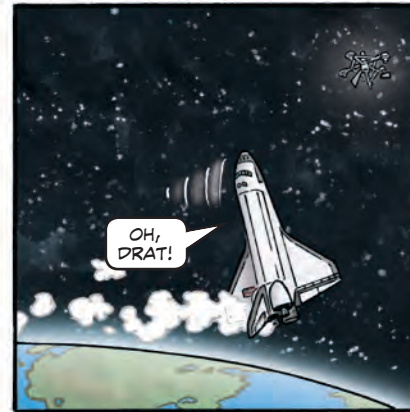
THAT WENT WELL!



YOU'RE GOING TO NEED IT IF YOU WANT TO REACH THE SHIM SPACE STATION!



UH, Q-TIP... IS IT BAD THAT THE ENGINE COOLING WARNING LIGHT IS ON?

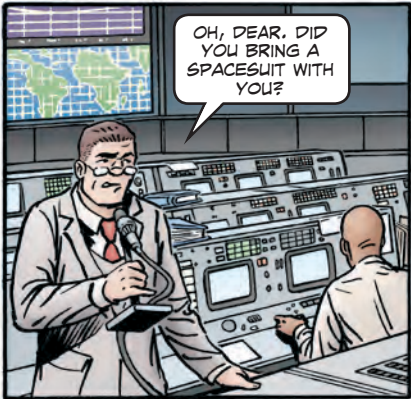


OH, DRAT!



GOOD OL' DOCTOR MAYBE. I'M SURPRISED HE GOT A DEVICE TO WORK!

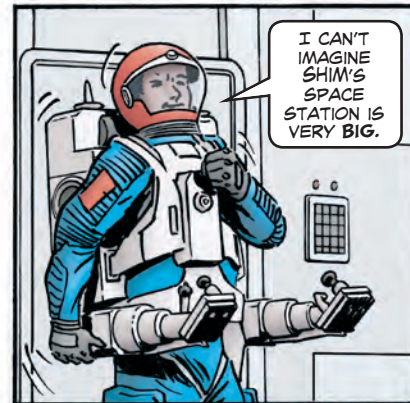
THO' THERE'S GOTTA BE A CATCH WITH THAT GUY! THERE ALWAYS IS.



OH, DEAR. DID YOU BRING A SPACESUIT WITH YOU?



SURE, WHY?

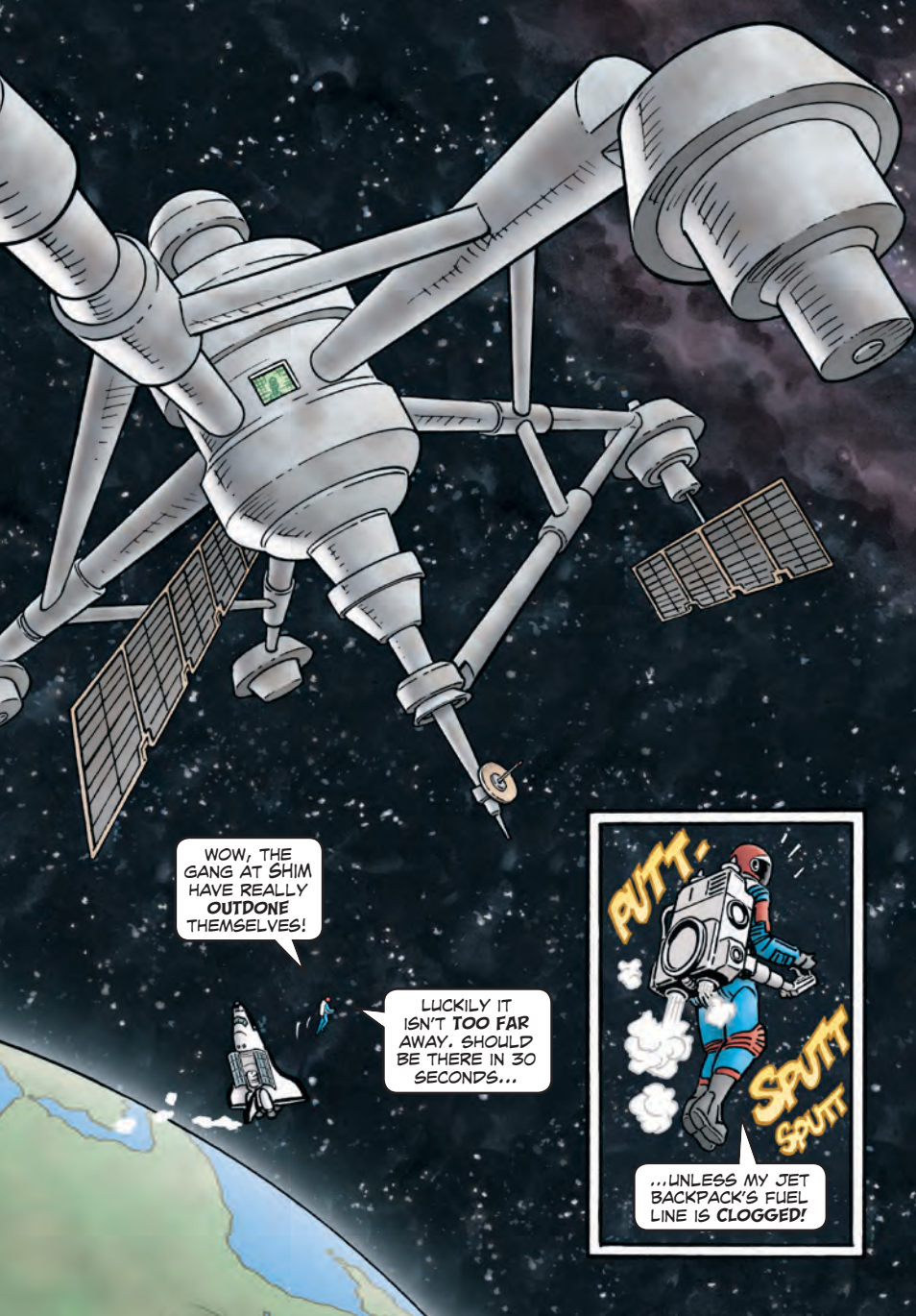


I CAN'T IMAGINE SHIM'S SPACE STATION IS VERY BIG.



I HOPE I CAN FIND IT ON MY OWN.





WOW, THE GANG AT SHIM HAVE REALLY OUTDONE THEMSELVES!

LUCKILY IT ISN'T TOO FAR AWAY. SHOULD BE THERE IN 30 SECONDS...

...UNLESS MY JET BACKPACK'S FUEL LINE IS CLOGGED!

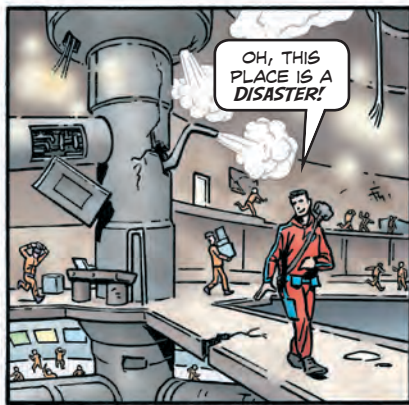
I SHOULD BE ABLE TO COAST THE REST OF THE WAY.

**SHEESH!** THIS SPACE STATION SURE HAS SEEN BETTER DAYS.

I CAN'T BELIEVE HOW BADLY THEY'VE NEGLECTED PM!

SERIOUSLY, WHO DOES THAT?!





OH, THIS PLACE IS A DISASTER!



WHAT THE HECK HAPPENED?



DON'T FEEL SO BAD, DOC. MAYBE YOU CAN BUILD ANOTHER ONE THAT DOESN'T WORK SO WELL.

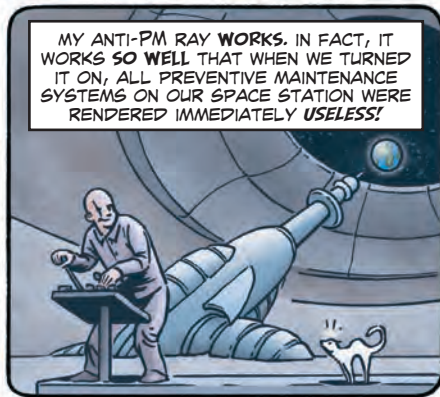


CALL FOR YOU, MR. BONDO.



DOCTOR MAYBE?!

OH, IT'S YOU, BONDO. I'LL TELL YOU WHAT HAPPENED.



MY ANTI-PM RAY WORKS. IN FACT, IT WORKS SO WELL THAT WHEN WE TURNED IT ON, ALL PREVENTIVE MAINTENANCE SYSTEMS ON OUR SPACE STATION WERE RENDERED IMMEDIATELY USELESS!

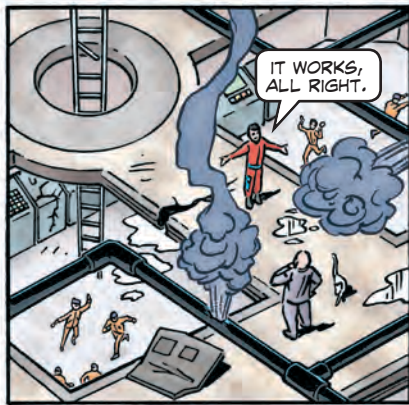


BONDO? I NEED AN UPDATE. WERE YOU ABLE TO SHUT DOWN THAT RAY GUN?

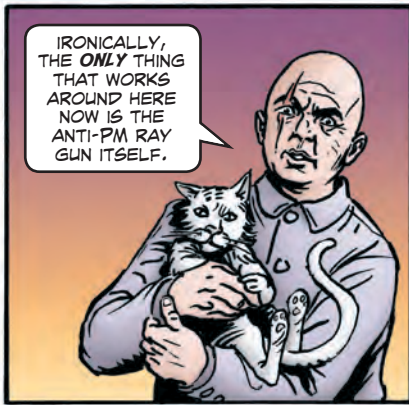


NOT QUITE YET, BUT YOU NEEDN'T WORRY. I'LL EXPLAIN WHEN I GET BACK.

SO WHEN EXACTLY WILL YOU BE BACK?



IT WORKS, ALL RIGHT.



IRONICALLY, THE ONLY THING THAT WORKS AROUND HERE NOW IS THE ANTI-PM RAY GUN ITSELF.



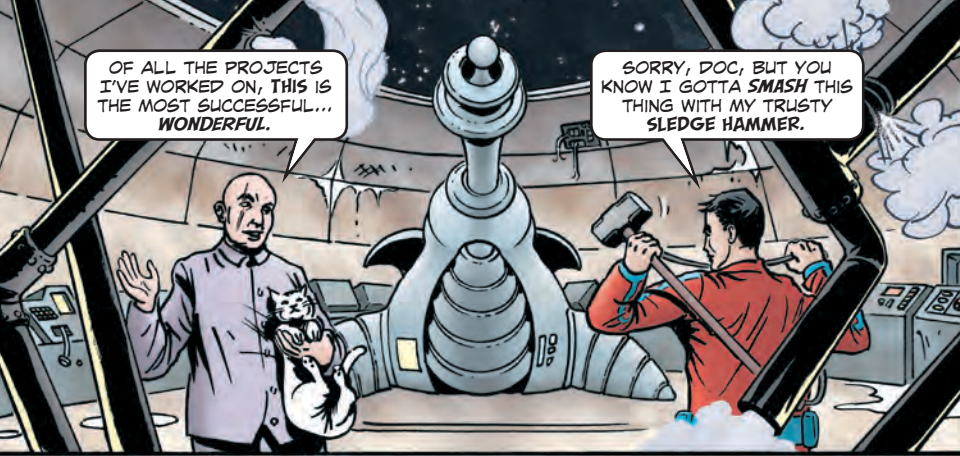
ABOUT THAT, IT APPEARS THAT THE SPACE SHUTTLE—

DON'T SAY ANOTHER WORD.



SHIT... WE'LL SEND ANOTHER ONE TO PICK YOU UP.





OF ALL THE PROJECTS I'VE WORKED ON, THIS IS THE MOST SUCCESSFUL... **WONDERFUL.**

SORRY, DOC, BUT YOU KNOW I GOTTA **SMASH** THIS THING WITH MY TRUSTY **SLEDGE HAMMER.**



PREVENTIVE MAINTENANCE IS JUST **TOO IMPORTANT** TO ALLOW YOU TO **DESTROY** IT!



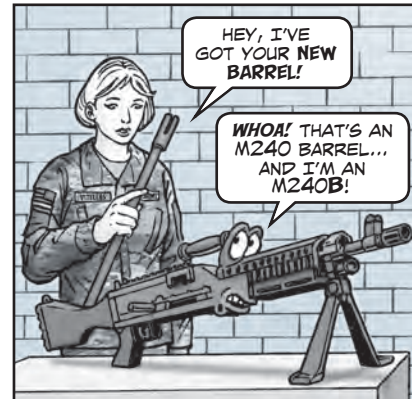
DO WHAT YOU HAVE TO DO, **BONDO.** ONCE AGAIN MY PLANS HAVE BEEN FOILED.



OH, **JAMES,** WHEN WILL YOU EVER LEARN?

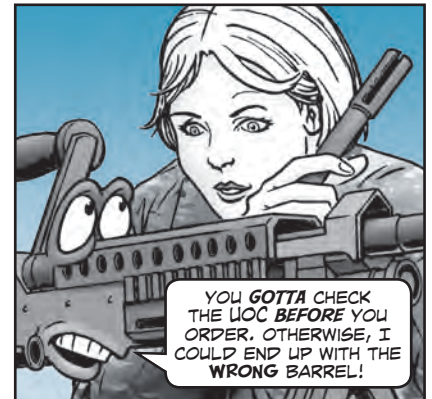
M240 Machine Gun, M16-Series Rifle, M4/M4A1 Carbine...

# UOC Makes All the Difference



HEY, I'VE GOT YOUR **NEW BARREL!**

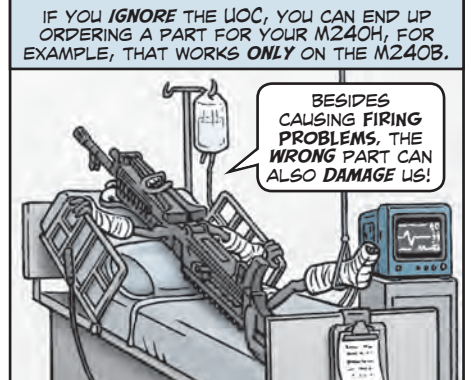
**WHOA!** THAT'S AN **M240 BARREL...** AND I'M AN **M240B!**



YOU GOTTA CHECK THE **UOC BEFORE** YOU ORDER. OTHERWISE, I COULD END UP WITH THE **WRONG BARREL!**



SMALL ARMS REPAIRMEN, THE **UOC (USABLE ON CODE)** MAKES ALL THE DIFFERENCE WHEN YOU ORDER PARTS FOR YOUR **M240 MACHINE GUN, M16 RIFLE OR M4/M4A1 CARBINE.**



IF YOU **IGNORE** THE **UOC,** YOU CAN END UP ORDERING A PART FOR YOUR **M240H,** FOR EXAMPLE, THAT WORKS **ONLY** ON THE **M240B.**

BESIDES CAUSING **FIRING PROBLEMS,** THE **WRONG PART** CAN ALSO **DAMAGE US!**

SO WHEN YOU'RE LOOKING UP REPLACEMENT PARTS IN THE WEAPON'S -23&P, CHECK THE PART'S **UOC** TO MAKE SURE IT'S THE RIGHT ONE FOR YOUR WEAPON.

THE **UOC** IS A SERIES OF NUMBERS AND/OR LETTERS NEXT TO THE PART'S DESCRIPTION. THE **UOC** TELLS YOU WHAT MODELS THE LETTERS AND NUMBERS REPRESENT.



IF **NO UOC** IS LISTED, THE PART FITS ALL MODELS.

## Here are the M240 UOCs:

- M240: G69
- M240B: BB2
- M240C: L04
- M240D: BC2
- M240E1: AG8
- M240G: BC6
- M240H: BN4
- M240N: BJ8

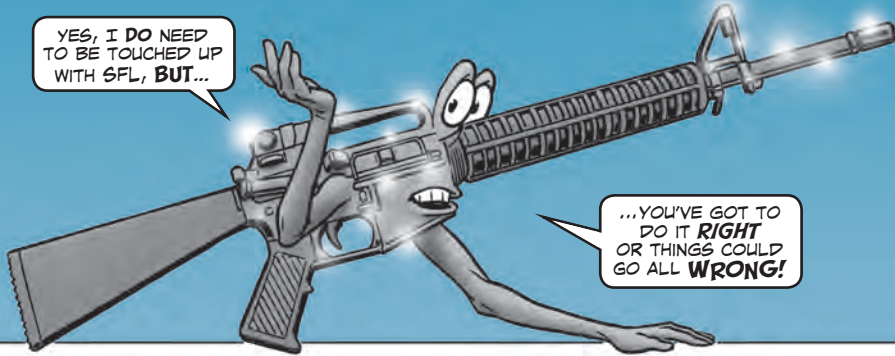
## Here are the M16 and M4 UOCs:

- M16A2: AR8
- M16A3: AW4
- M16A4: AZ1
- M4: AS1
- M4A1: AY6



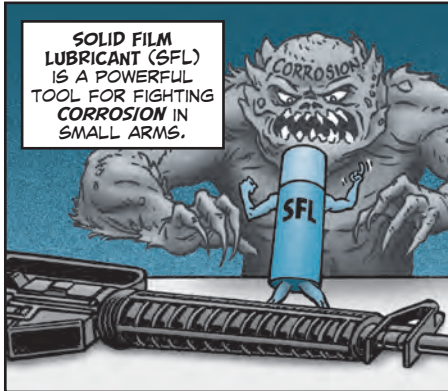
# DEGREASING AND SFL GO HAND-IN-HAND

YES, I DO NEED TO BE TOUCHED UP WITH SFL, BUT...



...YOU'VE GOT TO DO IT **RIGHT** OR THINGS COULD GO ALL **WRONG!**

**SOLID FILM LUBRICANT (SFL)** IS A POWERFUL TOOL FOR FIGHTING **CORROSION** IN SMALL ARMS.



WHEN A WEAPON'S PROTECTIVE COATING WEARS OFF, SFL COMES TO THE **RESCUE**.



BUT YOU **MUST** FOLLOW THIS SFL PROCEDURE OR YOU MAY BE HURTING MORE THAN HELPING YOUR WEAPON!



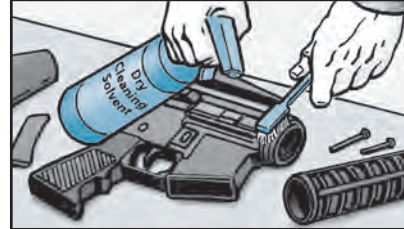
A WEAPON MUST BE THOROUGHLY DEGREASED AND INSPECTED FOR CORROSION AND DAMAGE **BEFORE** USING SFL.

A WEAPON SHOULD **ALSO** BE THOROUGHLY DEGREASED EVERY TIME YOU **CHANGE LUBES**.

IF THE WEAPON IS CORRODED OR DAMAGED, IT MUST BE REPAIRED **BEFORE** USING SFL.

TO DEGREASE, USE **MIL-PRF-680 TYPE II DRY CLEANING SOLVENT**, NSN 6850-01-474-2317.

UNFORTUNATELY, IT'S **NOT ENOUGH** TO SOAK A WEAPON'S PARTS IN THE SOLVENT. YOU MUST **ALSO** SCRUB THE PARTS WITH THE SOLVENT AND A NON-METALLIC BRUSH TO CLEAN OUT ALL DIRT AND GREASE.



LET THE WEAPON THOROUGHLY DRY.

HOLD UP! I THINK I NEED ANOTHER HOUR BEFORE I'M ALL DRIED OUT!



THEN APPLY AN **EVEN COATING** OF SFL TO THE AREAS THAT NEED TOUCHUP.



LET THE SFL FULLY CURE FOR 24 HOURS BEFORE RELUBING THE WEAPON AND RETURNING IT TO SERVICE.

SEE THE WEAPON'S -23&P FOR THE LIMITS ON HOW MUCH OF THE WEAPON CAN BE TOUCHED UP WITH SFL.

NSN 9150-01-260-2534 WILL BRING YOU A 16-OZ AEROSOL CAN OF SFL.

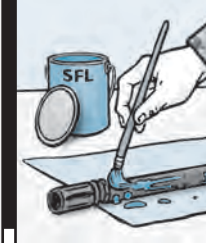


YOU CAN ALSO GET A 1-GAL CAN WITH NSN 9150-00-142-9361.



AND THERE'S NOW A **PAINT PEN DISPENSER**, NSN 9150-01-646-0099, AVAILABLE THAT MAKES IT MUCH **EASIER** TO TOUCH UP NICKS, SCRATCHES AND SHINY SPOTS.

THESE ARE **NON-AEROSOL** AND **MUST** BE APPLIED WITH A BRUSH, WHICH WILL PRODUCE A MORE EVEN APPLICATION THAN SPRAYING SFL.

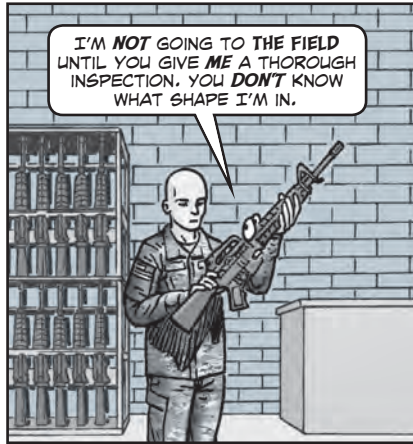


REGARDLESS OF WHICH KIND YOU USE, **CAREFULLY FOLLOW** THE INSTRUCTIONS ON THE CAN FOR BEST RESULTS.





# Check Weapons GOING and COMING



Dear Editor,  
Please emphasize to your readers the critical importance of inspecting weapons before transferring them to other units. And the receiving units also need to do their own inspections before letting weapons out of the arms room.  
We've received several weapons that weren't up to 10/20 standards. In one case, a cleaning rod was stuck in the barrel. The weapon would've blown apart if fired!

WO1 Robert Mitchell  
ALARNG

**Editor's note:** Yes, weapons should be inspected going and coming. Every weapon's -23&P TM lists the PMCS that should be done when a unit receives a weapon, new or old.

## M16-Series Rifle, M4/M4A Carbine...

# NEED A FRONT SIGHT TOOL? YOU HAVE CHOICES!

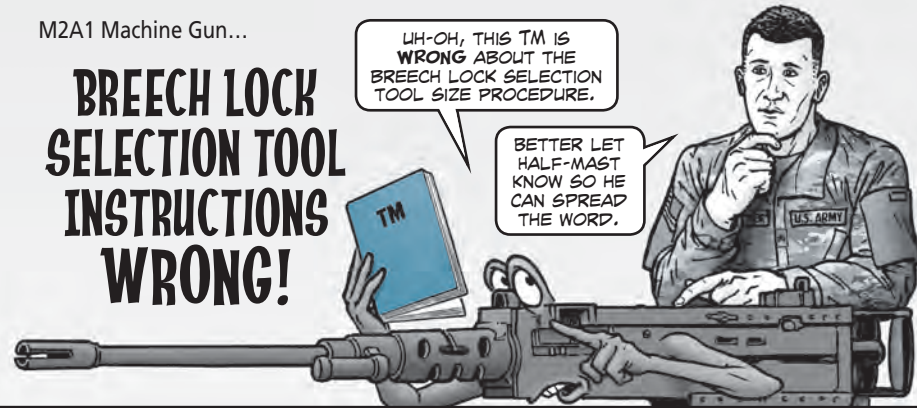
Dear Half-Mast,  
How do you get the tool to adjust and remove the M16 rifle and M4 carbine's front sight post?

SSG D.R.

Dear Sergeant,  
Now you have two choices. In the past your support had to fabricate the tool following the instructions in WP 0030-2 in TM 9-1005-319-23&P. You can still go that route. Or you can order the tool with NSN 1005-01-660-5283 for \$35.

*Half-Mast*

# BREECH LOCK SELECTION TOOL INSTRUCTIONS WRONG!



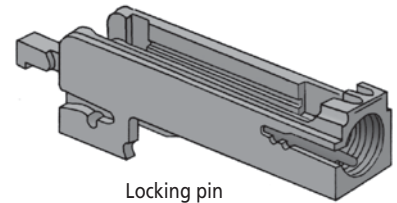
Dear Editor,  
The M2A1 machine gun's TM 9-1005-347-23&P (Jul 11) gives the wrong info on using the breech lock selection tool.  
The WP 0033 00-4 says to retract the bolt until the barrel extension has separated no more than  $\frac{1}{16}$  inch from the trunnion block. This lets you use the breech lock selection tool to get the correct breech lock size.  
The problem comes when the TM says to slowly release the retracting slide. That's wrong. You'll need to hold the retracting slide handle in place to maintain the  $\frac{1}{16}$ -in separation until the right breech lock selection tool size has been determined.  
If you do it the way the TM says, you could get the wrong reading.

SGT Nick Rucker  
NEARNG

**Editor's note:** You're absolutely right, Sergeant. This will be corrected in the next revision to the TM.

## M2A1 Machine Gun... MISSING BARREL LOCKING SPRING NSN

Dear Editor,  
The M2A1 machine gun's TM 9-1005-347-23&P *doesn't* list the NSN for the barrel locking spring or show its picture in the repair parts and special tools list (RPSTL).  
Repairmen need to make a note in WP 0016 00-10 that they can order the spring with NSN 1005-00-726-6134. That way they won't have to order the entire barrel extension assembly.  
Follow the procedure in WP 0016 00-10 to install the spring into the barrel extension assembly.



Locking pin

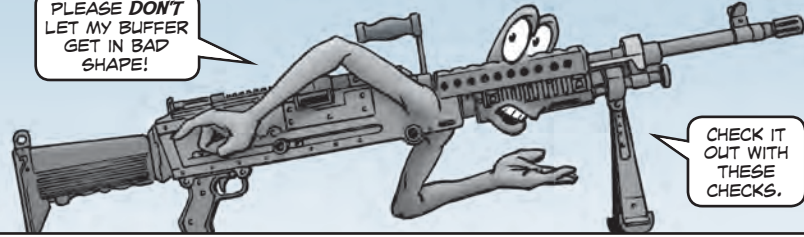
James Wood  
JBLM, WA

**Editor's note:** Great tip, James. The M2 and M2A1 -23&Ps are being merged and this mistake will be corrected in the new TM.



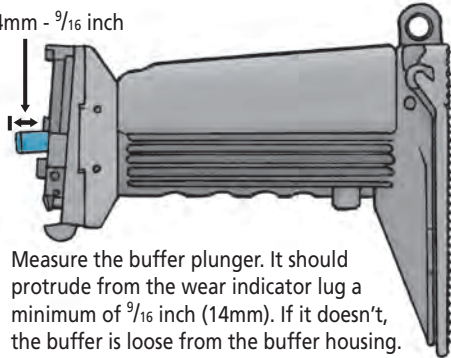
# DON'T LET BUFFER SUFFER!

PLEASE DON'T LET MY BUFFER GET IN BAD SHAPE!

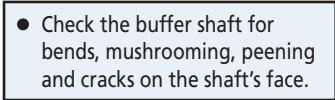
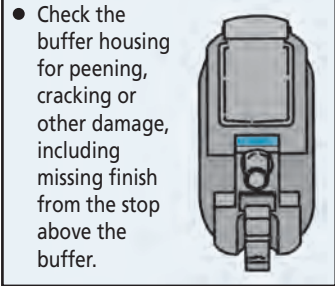


If the buffer on your M240B or M240L machine gun suffers, so will your entire weapon. These checks spot buffer problems early:

14mm - 9/16 inch

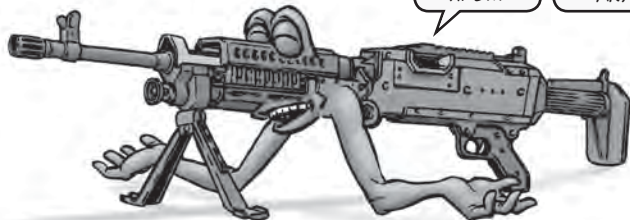


- Measure the buffer plunger. It should protrude from the wear indicator lug a minimum of 9/16 inch (14mm). If it doesn't, the buffer is loose from the buffer housing. Your weapon is NMC until the buffer is replaced.



- Check the shaft for oil residue. Work the buffer to check for fluid leakage. The buffer shaft should depress smoothly without chatter and return promptly when released.

Problems? Tell your small arms repairman.



AHH! WITH THESE PM TIPS...

... MY BUFFER DOESN'T SUFFER ANYMORE!

# ...That's the SATS Fact!

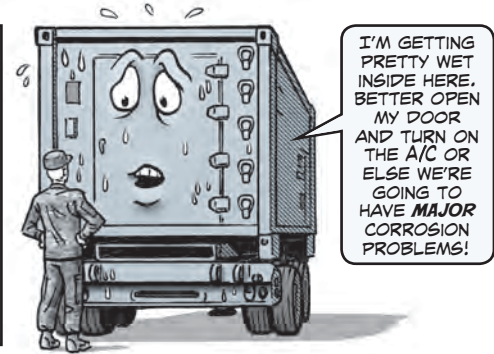
FOLLOWING THESE TIPS WILL KEEP ME READY FOR ACTION AND...



Dear Editor,

We've found these tips keep our Standard Automotive Tool Set (SATS) ready for action:

- **Fight corrosion by running A/C.** We know PS has talked about how desiccants can help prevent corrosion doing a number on tools and other equipment stored inside SATS. But we've found the best way to beat corrosion is simply opening up SATS every week and running the A/C for 45 minutes. That does a good job drying up any moisture inside.

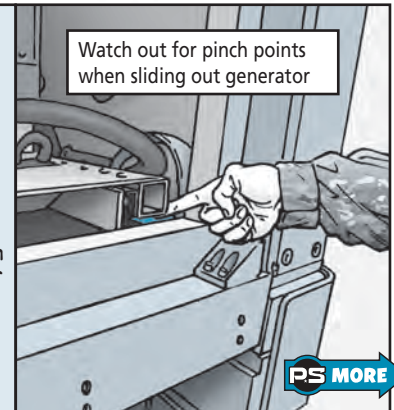


- **Use two people to slide out the generator.** The generator is very heavy. If the stops on the slide rails fail, the generator could slide out right on top of you! That's bad for you and the generator. Wear gloves, too. Your hands need protection from the pinch points between the door frame and the front of the rails.

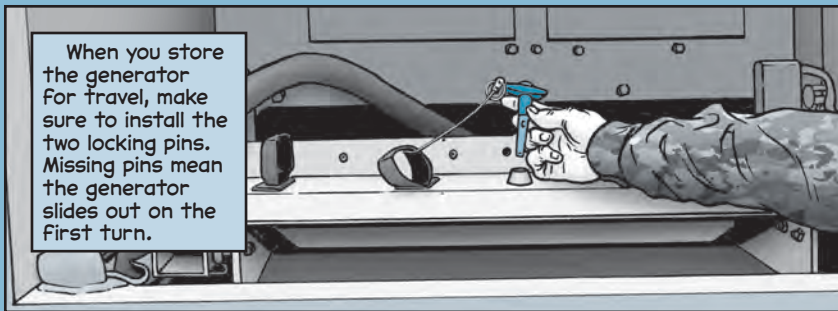
It's best to have one person pushing from the rear while the other pulls from the front. Do it slowly so the generator has no momentum. Don't depend on the rail stops to stop the generator.

Try to park the SATS on level ground. That makes it easier to slide the generator in and out safely.

Watch out for pinch points when sliding out generator

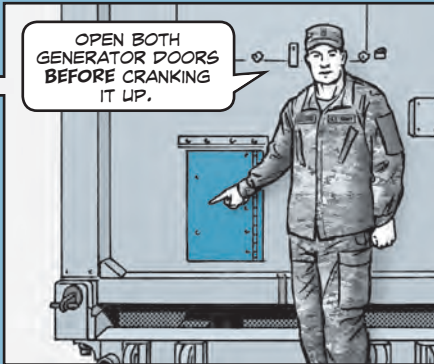






When you store the generator for travel, make sure to install the two locking pins. Missing pins mean the generator slides out on the first turn.

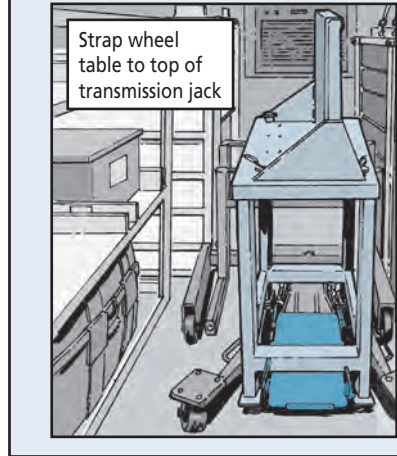
- Give the generator air. Open the generator's two doors whenever it's running. That lets exhaust go outside instead of inside the trailer.



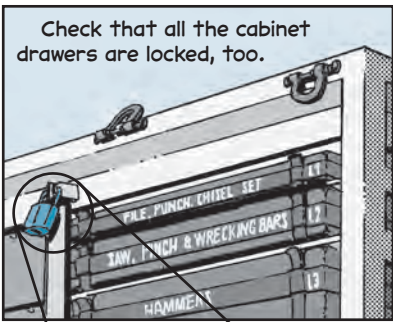
OPEN BOTH GENERATOR DOORS BEFORE CRANKING IT UP.

- Make sure everything is securely strapped down before hitting the road. You don't want large objects flying around inside the trailer. Every single item in the trailer should have its own ratchet strap with that strap tightly locked in place before you travel.

Pay special attention to the air compressor, tire jack and transmission jack. You sure don't want those heavy items bouncing around. It's easier if you strap the wheel table to the top of the transmission jack. They make a good fit.

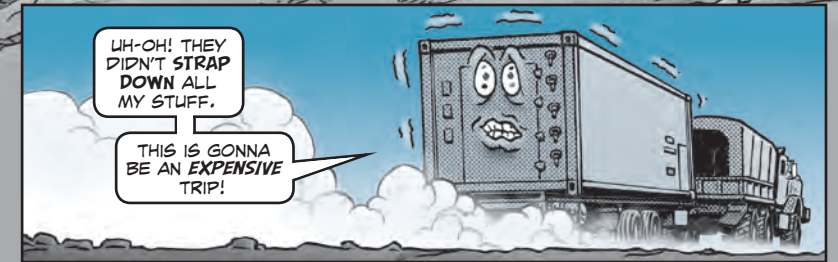


Strap wheel table to top of transmission jack



Make sure all cabinet drawers are locked

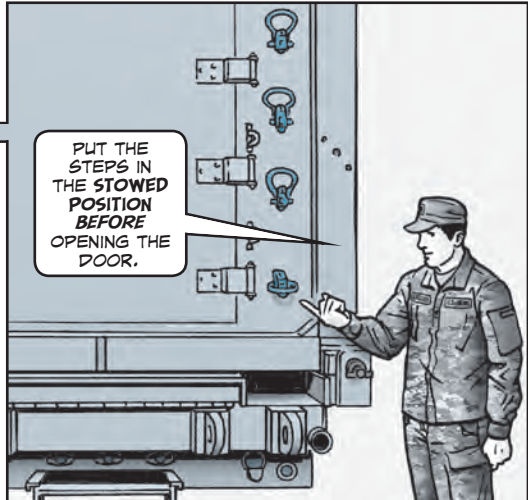
**CRASH!**  
**BANG!**  
**SHATTER!**



UH-OH! THEY DIDN'T STRAP DOWN ALL MY STUFF.

THIS IS GONNA BE AN EXPENSIVE TRIP!

- Before opening the door, make sure the steps are in the stow position. Otherwise, you can damage the door when you open it.



PUT THE STEPS IN THE STOWED POSITION BEFORE OPENING THE DOOR.

SSG Jason Firestine  
SPC Detreu Gregory  
Ft Bragg, NC

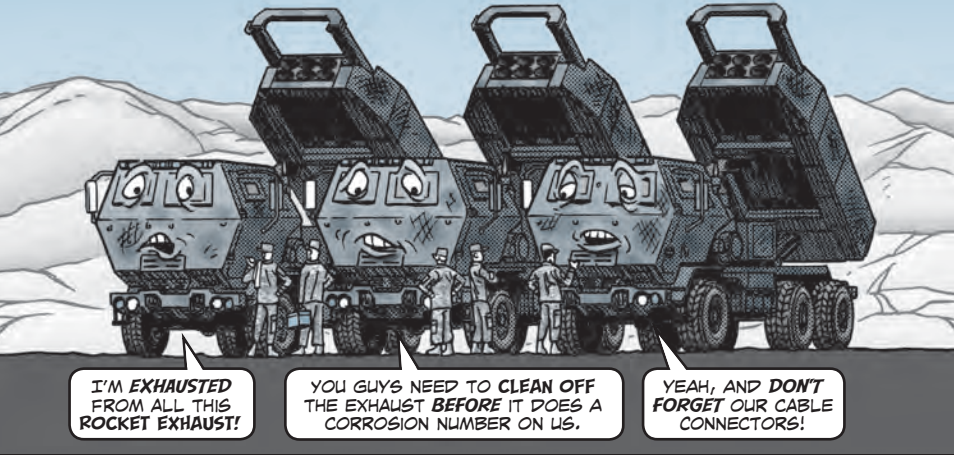
Editor's note: Those are, in fact, good SATS tips. Thanks.





HIMARS, MLRS...

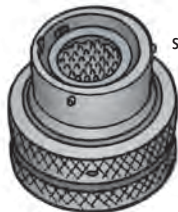
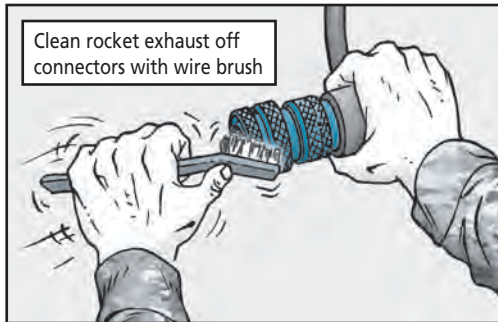
# Connect to Cable Connector PM



**HIMARS** and M270A1 MLRS rocket exhaust can do a real number on the cable connectors. The exhaust is extremely corrosive. If it's allowed to do its worst, you'll soon get system faults and it becomes harder and harder to connect and disconnect cables.

A little PM after firing can make short work of corrosion. Use a wire brush to rub off any corrosion from the outside of connectors. Then use a soft brush and isopropyl alcohol to clean inside the connectors. Pay special attention to the HIMARS' W519 and W520 and the MLRS' W19 and W420 cables. They usually have the most problems with corrosion.

Use the cable second-chance (SAV-CONS) adapters. The adapters are fairly cheap—cables are not. If you bend the pins on an adapter, you can just put on another adapter and you're back in business. That's why it's a good idea for HIMARS and MLRS units to keep a stock of second-chance adapters. You don't want to take a chance damaging the cable connector because you have no adapter.



Always use second-chance adapters

HIMARS units can get more adapters free from the contractor with pseudo NSNs 0000-HO-000-0028 and 0000-HO-000-0029. MLRS units order the adapters with NSN 5935-01-155-9847 and NSN 5935-01-238-5896.

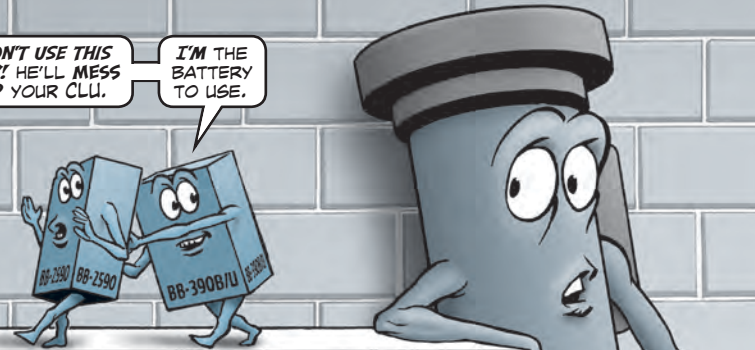
When cables become difficult to take off or you get system faults, first try changing the second-chance adapter. That often fixes the problem.

Javelin Missile System...

## WHY CAN'T YOU USE BB-2590?

DON'T USE THIS GUY! HE'LL MESS UP YOUR CLU.

I'M THE BATTERY TO USE.



Dear Half-Mast,  
Why does the sticker on BB-2590 batteries say NOT FOR USE WITH JAVELIN CLU? I've never seen an explanation for that.

SFC J.R.

Dear Sergeant,

The BB-2590 is **not approved** for use in the command launch unit (CLU). The higher voltage of the BB-2590 will damage the CLU electronics.

What should you use? Primarily the BB-390B/U, NSN 6140-01-490-4317, since it's rechargeable and will save you money.

For live fires, use the BA-5590, NSN 6135-01-438-9450, for both the M98A1 and M98A2. You can also use the BA-5390, NSN 6135-01-517-6060, for both CLUs. Both NSNs bring a package of four batteries.

It's important not to store these batteries with BB-2590s. All the batteries look basically alike, so it's easy to accidentally grab a 2590 instead of a correct battery.

*Half-Mast*



# Plumb Common Sense

W-WHY D-DID Y-YOU D-DO THIS T-T-O M-ME?

HEY, I GOT NO BEEF WITH YOU! I'M JUST DOING WHAT COMES NATURAL!

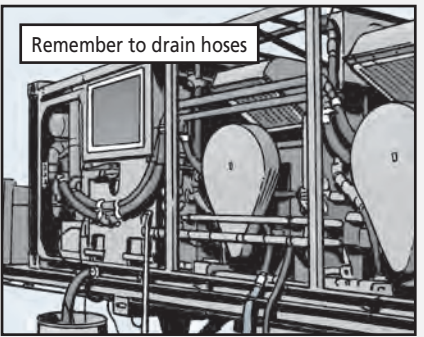


FOLLOW THE INSTRUCTIONS IN TM 10-3510-221-10 (JUL 08). WP 0016 TELLS YOU HOW TO DRAIN THE LADS MODEL C. WP 0017 COVERS THE LADS MODEL D.

MAKE SURE TO COMPLETE THE ENTIRE WORK PACKAGE FOR EACH MODEL. USE THESE GUIDELINES ALONG WITH THE TM...

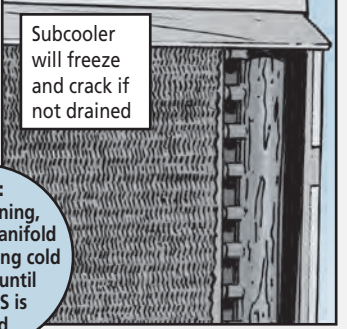


- Flush water from the anti-foam and detergent hand pumps.
- Drain the water tanks. Disconnect the bright green utility hose and open the faucet.
- Even after you run the DRAIN CYCLE, a little water stays in the LADS. Drain leftover water in the water pumps, distillate pump and still by opening their ball valves (drain cocks). Make sure the valves are left open. That way freezing water has room to expand and won't crack pipes and valves. **Note:** Drain cycle *can't* be done manually.



- Also drain the 10-ft and 50-ft water supply hoses, the 5-ft and 50-ft drain hoses, the utility hose and the water supply pump.

- A common mistake is forgetting to drain the recycle system's distillate pump assembly particulate filter housings and subcooler. Check that all eight of its valves are opened.



AS WINTER APPROACHES AND TEMPERATURES PLUNGE, YOU NEED TO THOROUGHLY DRAIN THE LAUNDRY ADVANCED SYSTEM (LADS) AT THE END OF EACH DAY.

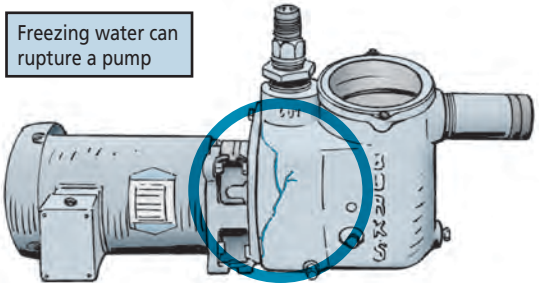


DRAINING PREVENTS OVERNIGHT FREEZE DAMAGE TO THE LADS PLUMBING.

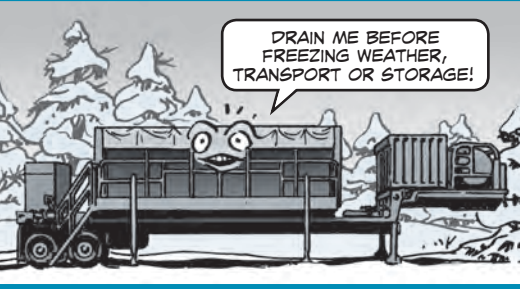
IF WATER FREEZES INSIDE THE LADS, IT CAN RUPTURE A SUBCOOLER OR WATER PUMP. IT CAN ALSO BURST PIPES AND VALVES.

THAT'S AN EXPENSIVE AND MESSY PROBLEM. SO YOU **MUST** RUN THE DRAIN CYCLE.

Freezing water can rupture a pump

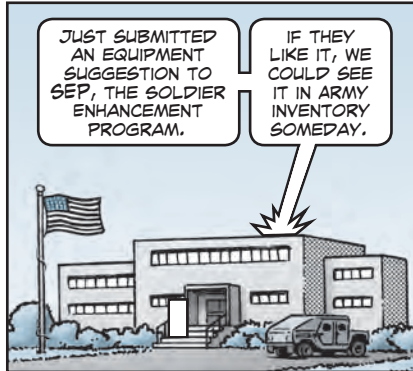


**IMPORTANT!**  
DRAIN THE LADS NOT ONLY BEFORE TEMPERATURES DROP TO FREEZING, BUT ALSO BEFORE YOU TRANSPORT OR STORE IT. HAULING THE LADS WITH FULL WATER TANKS CAN CAUSE THE TANKS TO CRACK. STORING THE LADS WITH WATER IN IT ALSO SETS UP A BREEDING GROUND FOR BACTERIA.





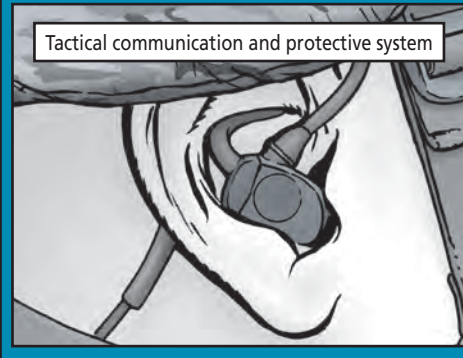
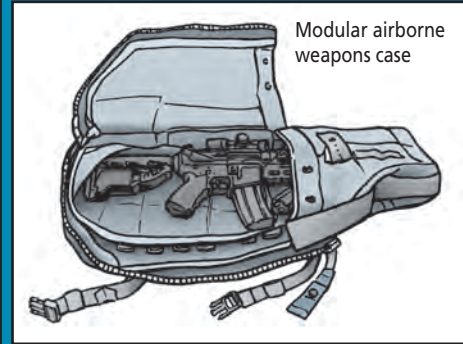
# SEP: By Soldiers, for Soldiers



YOU MAY BE SURPRISED TO LEARN THAT SOLDIERS HAVE A VOICE IN ARMY PURCHASING DECISIONS.

IN FACT, MORE THAN 40 PERCENT OF CURRENT PROGRAM EXECUTIVE OFFICE SOLDIER (PEO SOLDIER) EQUIPMENT BEGAN IN THE SOLDIER ENHANCEMENT PROGRAM (SEP).

## SEP suggestions have led to Army equipment additions



SEP HAS BEEN AROUND FOR 28 YEARS, TAKING A 'BUY, TRY, AND DECIDE' APPROACH TO RECOMMENDED PRODUCTS.

FOR EXAMPLE, THE MODULAR AIRBORNE WEAPONS CASE, CLIP-ON SNIPER NIGHT SIGHT, AND TACTICAL COMMUNICATION AND PROTECTIVE SYSTEM ALL STARTED AS SEP RECOMMENDATIONS FROM THE FIELD.

COMMERCIAL OFF-THE-SHELF (COTS), GOVERNMENT OFF-THE-SHELF (GOTS), OR NON-DEVELOPMENTAL ITEMS (NDIS) ARE ALL CANDIDATES FOR SEP EVALUATION AND IMPLEMENTATION.

THE RECOMMENDED ITEM OR EQUIPMENT SHOULD DO ONE OR MORE OF THE FOLLOWING:

- Improve ability to execute a combat mission
- Improve the current program of record of COTS/GOTS/NDI products
- Assist in the refinement and/or generation of requirements. SEP identifies COTS/GOTS/NDIs capabilities. These can be evaluated during low-cost, low-risk evaluations. The data can help developers validate and approve an item.
- Bridge a capability gap
- Improve a combat platform interface.

SINCE PRODUCTS UNDER SEP CONSIDERATION ARE ALREADY COMMERCIALY AVAILABLE, SAVINGS COME FROM A STREAMLINED ACQUISITION PROCESS AND REDUCED RESEARCH AND DEVELOPMENT COSTS.

**NOW'S YOUR CHANCE TO MAKE A REAL DIFFERENCE NOT ONLY IN UNCLE SAM'S POCKETBOOK, BUT IN YOUR FELLOW SOLDIERS' LIVES.**

IF YOU THINK THERE'S A TECHNOLOGY OR EQUIPMENT ITEM THAT THE ARMY SHOULD CONSIDER, VISIT:  
<http://www.peosoldier.army.mil/sep/>

## QUESTIONS?

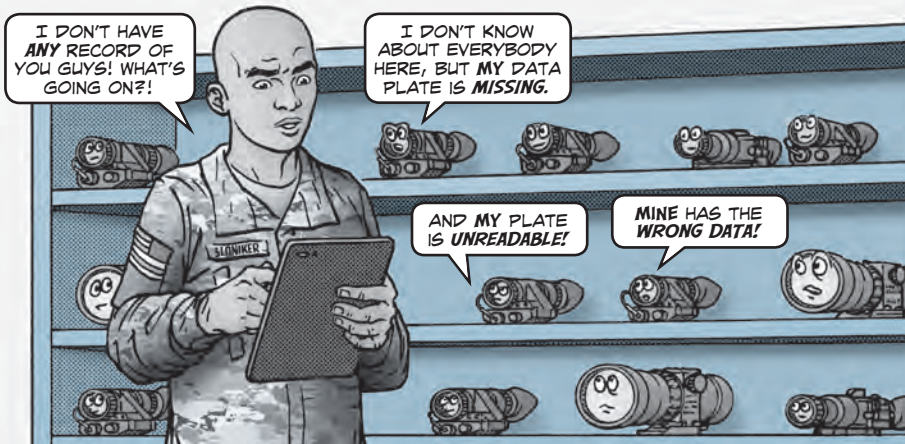
EMAIL:  
[usarmy.belvoir.peo-soldier.mbx.peo-soldier-g7-sep@mail.mil](mailto:usarmy.belvoir.peo-soldier.mbx.peo-soldier-g7-sep@mail.mil)

READY TO TAKE THE PLUNGE?

PRESS THE SUBMIT AN ITEM BUTTON AND FILL OUT THE FORM.



# DATA PLATES: BUMP UP READINESS



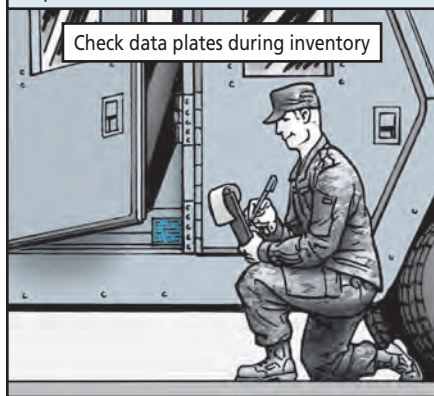
- If it's ground equipment and data plates are not addressed in the TM, check with your nearest TACOM LAR, who will contact the equipment program manager to coordinate data plate replacement, if possible. To find your TACOM LAR, see Pages 14-15 in PS 759: <https://www.logsa.army.mil/web2/archive/PS2016/759/759-14-15.pdf>  
TACOM's Logistics Assistance Directorate is another resource at: <https://www.tacom.army.mil/ilsc/lad/>
- To request night vision goggle data plates (AN/PVS-14, AN/PVS-7 and AN/AVS-6), email: [usarmy.apg.cecom.mbx.lrc-night-vision-support@mail.mil](mailto:usarmy.apg.cecom.mbx.lrc-night-vision-support@mail.mil)
- Alternatively, new data plates can often be made at depots at unit cost. For more info, see Letterkenny Army Depot's website at: <http://www.letterkenny.army.mil/UIDworks/howto.html>  
Or email AMC at: [usarmy.redstone.usamc.mbx.iuid@mail.mil](mailto:usarmy.redstone.usamc.mbx.iuid@mail.mil)

**A** RECENT ARMY AUDIT FOUND THAT **NOT** ALL EQUIPMENT IS BEING PROPERLY RECORDED AND REPORTED IN GCSS-ARMY.

ONE REASON FOR THIS IS THAT SOME EQUIPMENT DATA PLATES ARE MISSING, UNREADABLE OR INCLUDE WRONG DATA.

UNITS SHOULD FOLLOW THESE STEPS TO RESOLVE DATA PLATE ISSUES AND IMPROVE EQUIPMENT READINESS:

1. During inventory, identify any equipment with missing, illegible or incorrect data plates.



2. Check the equipment TM to see if the data plate is a field-level replacement item that can be ordered through the normal supply process.



OE-254 Antenna...

## HUNTING DOWN ANTENNA MAST PARTS



Dear Half-Mast,  
I need to order OE-254 parts for our unit. The antenna mast group is NSN 5985-01-063-1574. I'm trying to find the mast section part that connects to the feed cone. It's the AB-24/GRC antenna element listed as Item 1 of TM 11-5985-357-23P (Jun 88). I've hunted high and low and gone over the TM with a fine-toothed comb, but I can't find an NSN for this part. Any tips?

SGT G.J.

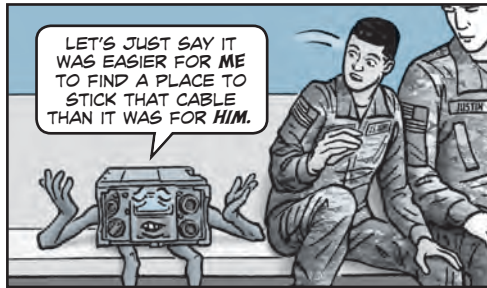
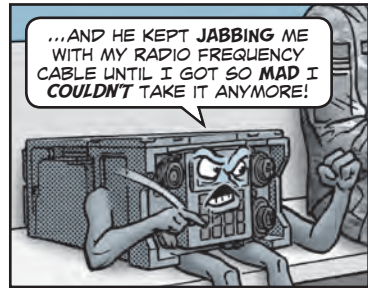
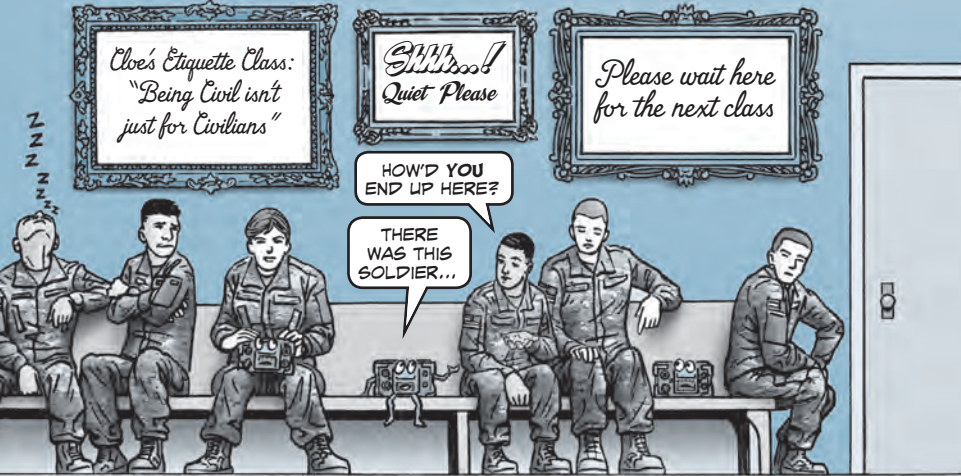
Dear Sergeant,

Yup. I'm all about raising pointed antenna tips! Here's a couple: the TM misidentified some parts. The mast section part that connects to the feed cone assembly is the MS-116A antenna element, NSN 5985-00-199-8831. The AB-24/GRC antenna element, NSN 5985-00-240-3720, is the antenna tip mast section part. For reference, see Pages 1-0 and B-2 of TM 11-5985-357-13 (Feb 91). Antennas up!

Half-Mast



# Aim for a Tender Touch



A TENDER TOUCH IS NEEDED WHEN YOU CONNECT AND DISCONNECT THE RADIO FREQUENCY CABLE (W2), NSN 5995-01-304-2026, ON YOUR SINGGARS VEHICULAR RADIO.

ROUGH HANDLING OR BLINDLY RAMMING N' JAMMING THE CABLE CAN BREAK OFF THE CONNECTOR PIN.

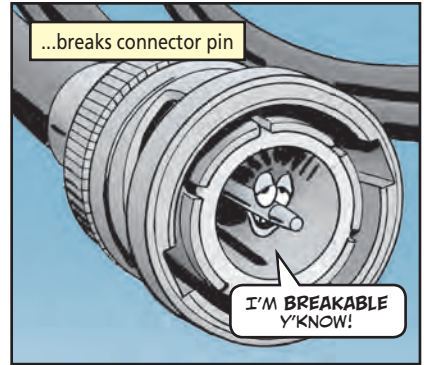
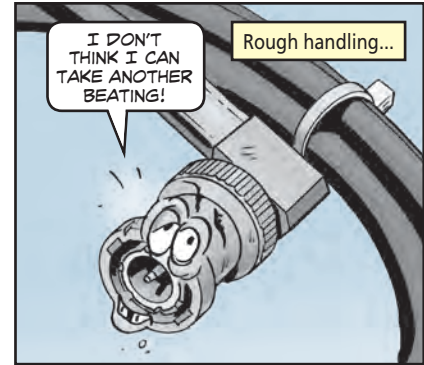
IF A PIN GETS STUCK AND BREAKS OFF INSIDE THE RT'S ANTENNA CONNECTOR OR THE POWER AMPLIFIER'S J2 CONNECTOR, YOU'LL BE SINGING THE BUSTED BLUES.

**YOU'LL HAVE TO SEND YOUR SINGGARS TO SUSTAINMENT-LEVEL MAINTENANCE TO EXTRACT THE PIN.**

IN OTHER WORDS, ONE MOMENT OF ROUGH HANDLING CAN TRANSLATE INTO A LOT OF REPAIR TIME, BIG BUCKS AND MAJOR HASSLES.

THE SAME CAUTION APPLIES TO THE CG-3855/VRC RADIO FREQUENCY CABLE, WHICH CONNECTS THE POWER AMPLIFIER TO THE VEHICULAR ANTENNA.

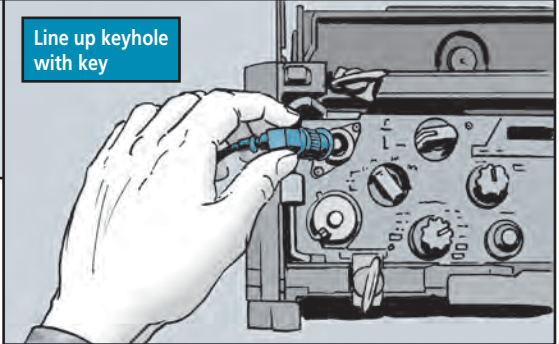
IF YOU'RE TOO ROUGH, THE CONNECTOR PIN COULD BREAK OFF AND GET STUCK INSIDE THE POWER AMPLIFIER'S J1 CONNECTOR.



**A GENTLE AND STEADY HAND IS THE KEY TO PRESERVING THOSE CONNECTIONS.**



1. Line up the keyhole on the cable connector with the key on the RT's antenna connector (or the power amplifier's J1 or J2 connector).



2. Push the cable connector straight in.
3. Turn the cable connector clockwise until it doesn't move any more.

**AND HERE'S THE CORRECT WAY TO DISCONNECT THE CABLES...**

1. Turn the cable connector counter-clockwise until the keyhole on the cable connector lines up with the key.
2. Pull the cable connector straight out and off.



# SHARE YOUR WISDOM WITH PS!

YOUR ARTICLE ACTUALLY MADE PS, SPECIALIST HILL? THAT'S CRAZY!

HOW DID YOU COME UP WITH IT? HOW DID YOU *SUBMIT* IT?

WHAT DID YOU HAVE TO DO?

OK, OK... GUYS... IT ALL STARTED A FEW MONTHS AGO...

SPECIALIST HILL

HERE ARE A FEW QUESTIONS TO HELP YOU GET STARTED:

- What is the problem with your equipment or error in your TM?
- What caused the problem?
- What is the solution to the problem or needed correction to the TM?
- What is the potential cost to the Army if the problem isn't corrected?
- What is the solution to the problem or the correction for the procedure in the TM?

ONCE YOU'VE **OUTLINED** THE PROBLEMS AND SOLUTIONS, IT'S TIME TO **SUBMIT** YOUR INFORMATION. DON'T WORRY ABOUT THE FORMAT. ONE OF OUR WRITERS WILL TAKE THE INFORMATION YOU PROVIDE AND WRITE THE ARTICLE IN THE PS STYLE.

WE'LL ALSO HAVE A SUBJECT MATTER EXPERT FROM THE RESPONSIBLE LCMC REVIEW THE INFORMATION. ALL PS ARTICLES ARE **APPROVED** BY AN ARMY AUTHORIZED PROPONENT **BEFORE** THEY ARE PUBLISHED.



MAKE SURE TO INCLUDE ANY HELPFUL PHOTOGRAPHS AS JPG ATTACHMENTS IN YOUR EMAIL. **DON'T** EMBED THE PICS IN A WORD OR POWERPOINT DOCUMENT, THOUGH, THAT **DEGRADES** THEIR QUALITY AND MAKES THEM **UNUSABLE**.

**PS ARTISTS USE THOSE PICTURES AS TECHNICAL REFERENCES WHEN THEY ILLUSTRATE THE ARTICLE.**

...WHEN SERGEANT SCHELL TOLD ME TO PCMS THE HMMWV BEFORE WE TOOK IT OUT INTO THE FIELD, I REALIZED HOW TO **IMPROVE** THE PROCESS...



THAT WOULD MAKE THINGS EASIER. I'VE GOTTA TELL THE FOLKS AT PS ABOUT THIS IDEA!

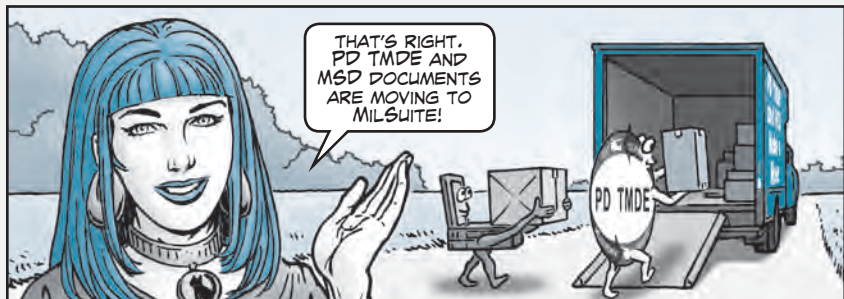
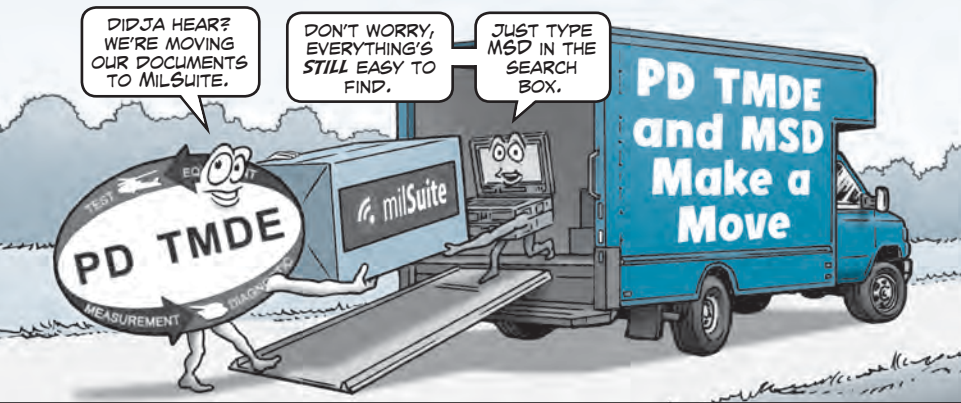
IF YOU FIND OUT THAT A TM IS **INCORRECT** OR FIGURE OUT A **SAFER** WAY TO PERFORM A MAINTENANCE PROCEDURE OR A WAY TO SAVE THE ARMY MONEY, SHARE YOUR WISDOM WITH PS MAGAZINE.

PS MAGAZINE CAN **SHARE** YOUR SOLUTIONS WITH SOLDIERS WORLDWIDE AND IT'S PRETTY EASY TO **SUBMIT** AN ARTICLE.

WE CAN'T WAIT TO HEAR FROM YOU...

...AND HELP YOU HELP YOUR FELLOW SOLDIERS ALL OVER THE WORLD!



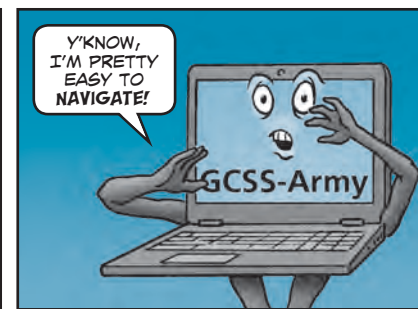


ONCE YOU LOG IN, DO A SEARCH FOR MSD.

THEN CHECK OUT THE APATS MILSUITE LIBRARY FOR THE PD TMDE AND MSD DOCUMENTS AS WELL AS COURSES ON MILUNIVERSITY. YOU'LL NEED YOUR CAC TO GAIN ACCESS:  
<https://www.milsuite.mil/>

IF YOU NEED HELP, EMAIL THE MSD/ICE HELP DESK:  
[apats@redstone.army.mil](mailto:apats@redstone.army.mil)

OR GIVE THEM A CALL:  
 877-564-1137



## GCSS-ARMY

OPERATES ON TACTICAL ENTERPRISE LOGISTICS SYSTEM (TELS) HARDWARE THAT IS WINDOWS 10-COMPLIANT AND MEETS TRUSTED PLATFORM MODULE (TPM) 2.0 REQUIREMENTS.

THE TELS HARDWARE COMPONENTS ARE ESTABLISHED IN THE ARMY STANDARD SUPPLY SYSTEM FOR REQUISITIONING. THIS REDUCES OVERALL SUSTAINMENT COSTS, WHILE ALSO SUPPORTING RAPID TECHNOLOGY "REFRESH" REQUIREMENTS.

IT **ALSO** ENHANCES THE UNIT'S CAPABILITIES BY ALLOWING THEM TO REQUISITION TELS COMPONENTS WITH THE STANDARD HARDWARE CONFIGURATION, A FIVE-YEAR WARRANTY WITH A 72-HOUR TURNAROUND, AND THE PRE-LOADING OF THE GCSS-ARMY SOFTWARE.

The following TELS hardware is available:



Computer system, digital (laptop),  
 NSN 7010-01-663-4963

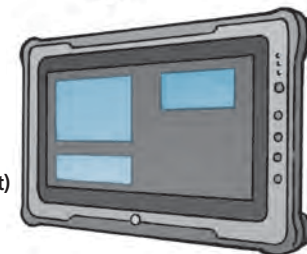


Printer, automatic data processing  
 NSN 7025-01-662-7823



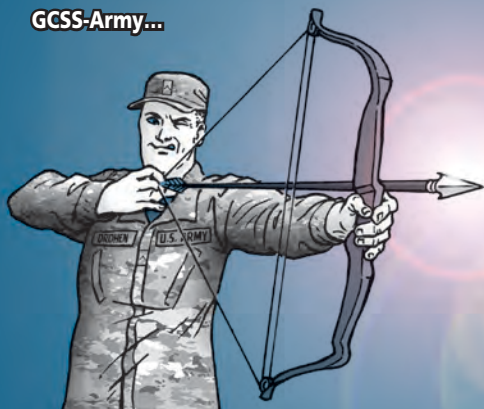
Optical reader, data entry (scanner)  
 NSN 7025-01-663-3407

Computer system, digital (tablet)  
 NSN 7010-01-662-5022



QUESTIONS? EMAIL VANESSA RAMAGLIA AT:  
[vanessa.e.ramaglia.civ@mail.mil](mailto:vanessa.e.ramaglia.civ@mail.mil)

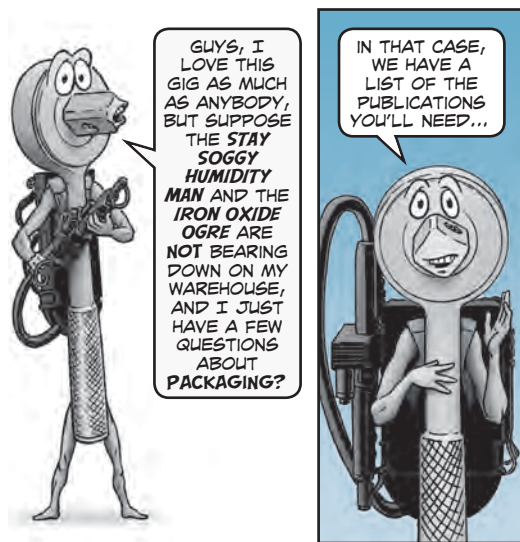
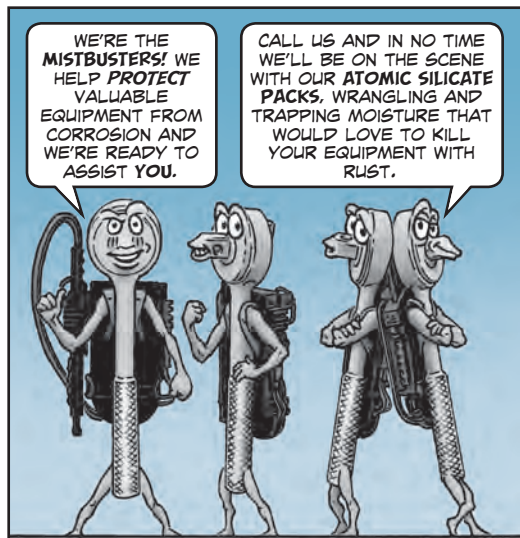
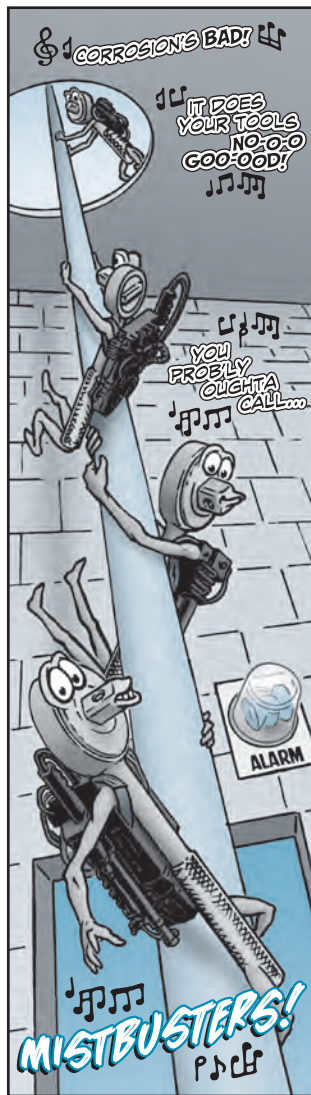
GCSS-Army...



**AIM  
 TO GET  
 LATEST  
 TELS**



# CALL THE MISTBUSTERS!



## **MIL-STD-2073-1, DoD Standard Practice for Military Packaging (Jan 11)**

Here, you'll find information about the standard processes for developing and documenting military packaging, which is different from commercial packaging. It covers preservation methods to protect materiel against corrosion caused by the environment, physical or mechanical damage and other dangers during storage, handling or shipment.

## **SB 746-1, Publications for Packaging Army General Supplies (Apr 79)**

This document lists publications that relate to packaging and processing Army general supplies, except for maintenance and ammo pubs. It provides guidance on procuring, storing, handling, shipping, issuing, caring and preserving general supplies.

## **MIL-HDBK-773, Electrostatic Discharge (ESD)-Protective Packaging (Jun 05)**

Look here for detailed guidance on handling, packaging or storing items that can be damaged by electrostatic discharge.

## **TM 38-700, Packaging of Materiel, Preservation (Dec 99)**

In this document you'll find instructions for cleaning, drying, preserving, packing, blocking and bracing, cushioning, reinforcing, weatherproofing and marking to prepare materiel for shipment or storage.

## **TM 38-701, Packaging of Materiel, Packing (Dec 99)**

Contains detailed information about the requirements for packing operations, including:

- use of exterior shipping containers; assembling items or packs in the container.
- anchoring, blocking, bracing and cushioning items or packages in containers.
- weatherproofing.
- strapping of containers.
- testing exterior packs palletization and unitization of loads.
- parcel post.

The TM also covers general exterior marking in accordance with MIL-STD-129.

## **DA PAM 700-32, Packaging of Army Materiel (Jan 08)**

This pub gives uniform Army packaging guidelines.

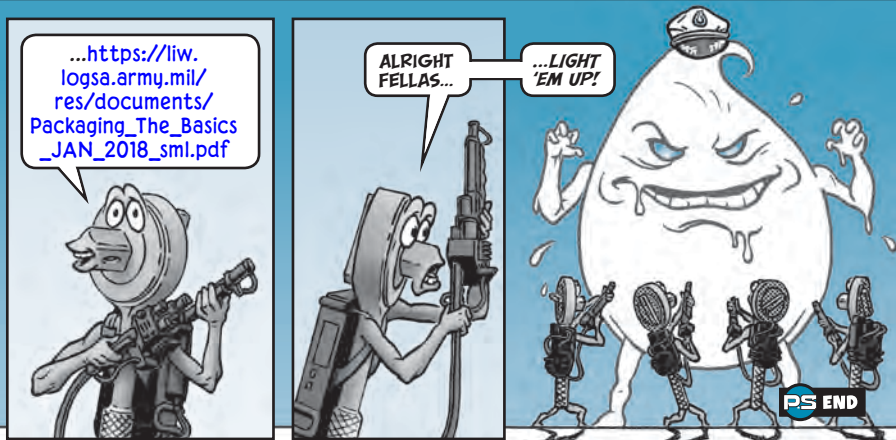
## **MIL-STD-129, Military Marking For Shipment and Storage (Feb 14)**

Provides the minimum requirements for uniform military marking and procedures for their application. Use it for the application of military specific markings for items transported and stored within the military distribution system. Markings for commercial packaging are discussed in ASTM D 3951.



**MIL-STD-147, Palletized Unit Load (May 08)**

This standard explains the methods, materials and techniques used in the formation of bonded palletized unit loads of military supplies on 40 x 48-in pallets. These instructions can be modified for use with different sized pallets.



**NO COMMERCIAL REFRIGERANTS**

On Page 51 of PS 787 in Step #5 under "Unit Instructions," the article stated that local purchase is authorized through LARs. That's *wrong*. Commercial purchase of all refrigerants is prohibited. They must be sole-sourced through DLA.

**HEMTT A4, PLS A1 Distribution Manifold NSNs**

Need a new distribution manifold for your HEMTT A4 or PLS A1 vehicle? Look no further. Each of the distribution manifolds below also come with installed solenoids:

Vehicle	Item	Fig	TM	UOC	NSN 4730-
PLS A1	1	768	9-2320-319-13&P	741, 751	01-670-7782
HEMTT A4 CBT	1	423	9-2320-326-13&P	L13	01-669-8492
HEMTT A4 (M977A4, M983A4, M985A4, M984A4 GMT)	1	423	9-2320-326-13&P	LH2, LH5, LH9, L10	01-667-3000
HEMTT A4 (M978A4, M983A4 LET, M984A4, M1120A4 LHS)	1	423	9-2320-326-13&P	LH4, LH7, L11, L14	01-564-7505

**HEMTT Fuel Tank Repair Kits Get Makeover**

The field repair kit for the HEMTT fuel tank sealant system, NSN 2540-01-577-2372, has changed. That kit contained a sealant with a shelf life that, when expired, required disposal of the entire kit. To avoid this waste, the kit now comes in two parts. Order the repair tools from the old kit with NSN 4940-01-661-4758. Order the sealant with NSN 8030-01-661-4763.

**LTAS Cab Lift Cylinder NSN**

Order a new front cab lift cylinder assembly for your M1078A1P2 LTAS with NSN 3040-01-665-1836 (PN 12505544-001). The old NSN 3040-01-567-2729 no longer appears on FED LOG, and the old part number crosses to a terminal NSN.

**Now Showing: ESAPI Test Videos**

Like any equipment, body armor needs to be inspected before use. For step-by-step videos showing the right way to do tap and torque tests on your enhanced small arms protective inserts (ESAPI), visit: <https://www.dvidshub.net/video/473427/peo-soldier-armored-plate-tap-test-training>

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



# THE *BEST* SOLDIERS SOAK UP MAINTENANCE INFO LIKE A *SPONGE*...



... THEN *SHARE* WHAT THEY'VE LEARNED!



[Click here for a copy of this article to save or email.](#)