



# THE PREVENTIVE MAINTENANCE MONTHLY

ISSUE 794 JANUARY 2019



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TB 43-PS-794, 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

January  
2019

## THE PREVENTIVE MAINTENANCE MONTHLY

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Approved for  
Public Release;  
Distribution is  
Unlimited

HALF-MAST'S  
SUPERBLAST  
PODCAST!

AND NOW THE  
NUMBER ONE  
REQUESTED HIT  
FROM THE PS  
SONGBOOK IS...

PS Magazine  
2018 Index

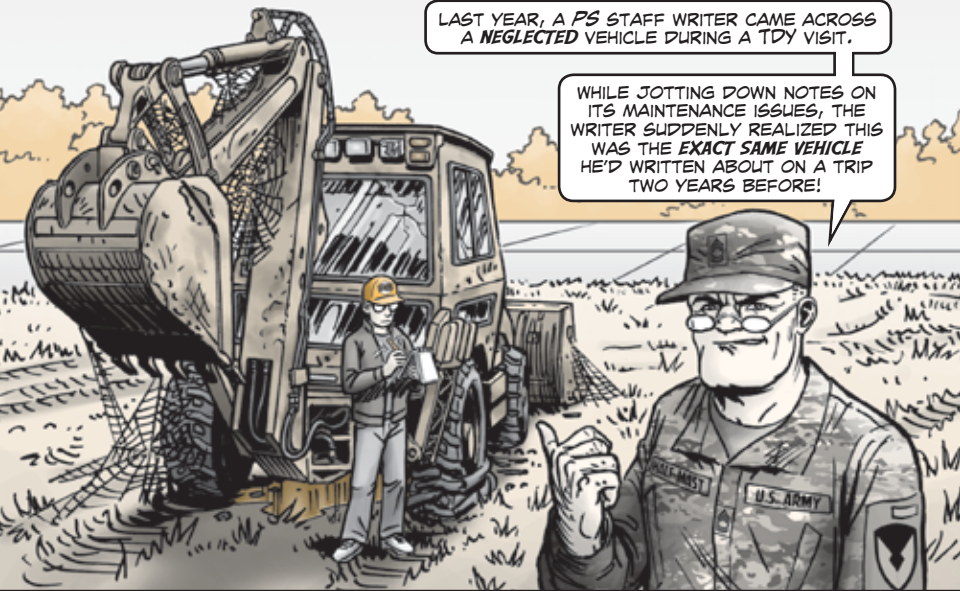
In This  
Issue: the  
2018 INDEX!  
See Pages  
27-34!



# WRECKED BY NEGLECT

LAST YEAR, A *PS* STAFF WRITER CAME ACROSS A **NEGLECTED** VEHICLE DURING A TDY VISIT.

WHILE JOTTING DOWN NOTES ON ITS MAINTENANCE ISSUES, THE WRITER SUDDENLY REALIZED THIS WAS THE **EXACT SAME VEHICLE** HE'D WRITTEN ABOUT ON A TRIP TWO YEARS BEFORE!

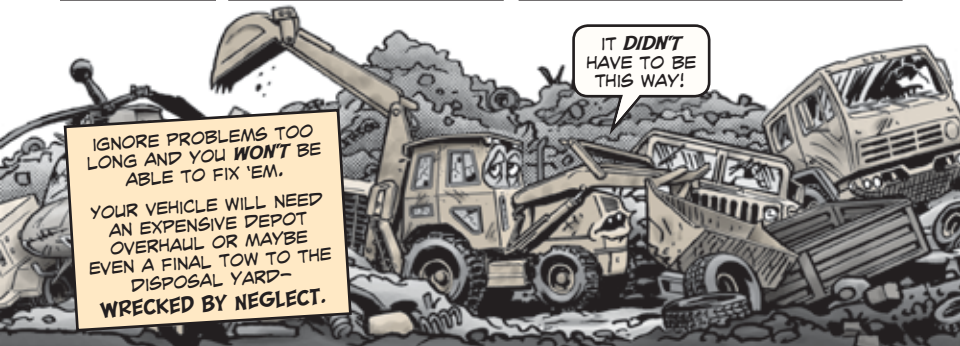


THE VEHICLE HADN'T BEEN MOVED, EXERCISED, OR EVEN STARTED THAT ENTIRE TIME.

ARMY EQUIPMENT NEEDS CONSISTENT, EVERY DAY PMCS. THAT'S NO SECRET.

ANY EXTRA TIME BETWEEN REQUIRED OIL CHANGES WILL GIVE RISE TO **SLUDGE**, A REAL ENGINE-CLOGGER. ENGINE COMPONENTS WEAR OUT MUCH FASTER WHEN OIL **CAN'T** REACH THEM.

AND FOR EVERY PMCS THAT'S MISSED, THE PROBLEMS GROW A LOT LARGER. SHORTCUTS AND NEGLECT WILL CUT **YEARS** OFF A VEHICLE'S LIFE. AND **DON'T FORGET** THE CORROSION, DRY ROT AND SEIZED PARTS THAT ARE **LURKING** JUST AROUND THE CORNER.



IT **DIDN'T** HAVE TO BE THIS WAY!

IGNORE PROBLEMS TOO LONG AND YOU **WON'T** BE ABLE TO FIX 'EM.

YOUR VEHICLE WILL NEED AN EXPENSIVE DEPOT OVERHAUL OR MAYBE EVEN A FINAL TOW TO THE DISPOSAL YARD—**WRECKED BY NEGLECT.**



# Follow the TM for Control Arm Assembly

I'M GONNA  
NEED TO  
REPLACE YOUR  
CONTROL ARM  
ASSEMBLY,  
PAL.

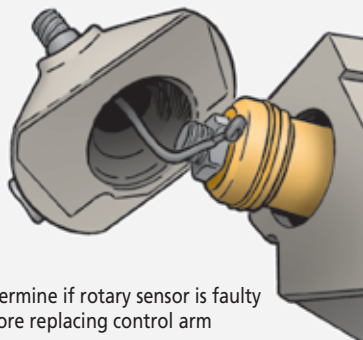
WHOA!  
YOU SURE  
IT ISN'T A  
BAD ROTARY  
SENSOR?

**M**echanics, make sure to follow the correct procedures when adjusting the double V-hull Stryker's control arm assembly on the first axle.

Stryker brigades are reporting that they have replaced dozens of control arm assemblies, mostly because of faulty or damaged rotary sensors.

Don't replace the control arm assembly before going through the calibration process for the rotary sensor. If an operator reports that their vehicle's height management system (HMS) indicates a faulty rotary sensor, make sure the control arm assembly is properly adjusted first so you get a good reading from the control arm sensors. That way you'll know for sure if the control arm needs replacing or if it just has a faulty sensor.

Follow TM to make sure control arm  
assembly is properly adjusted



Determine if rotary sensor is faulty  
before replacing control arm

While you're at it, remove the end caps from the control arm and apply a thin coat of GAA. That'll help keep the rotary sensors and rotary thrust piece assemblies from corroding.

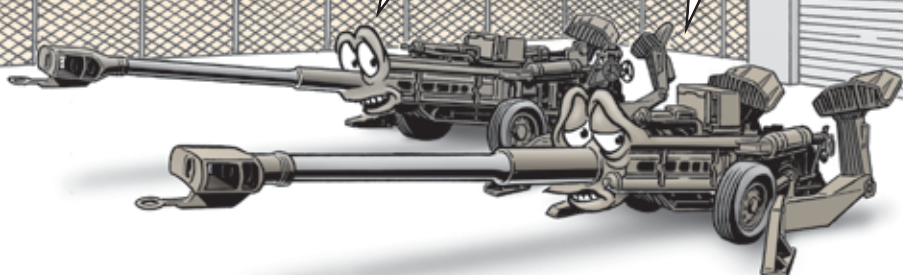
You'll find the complete procedure for adjusting the first control arm assembly in TM 9-2355-363-13&P in IETM EM 0362 (Sep 16).



M777A2 Towed  
Howitzer...

WHAT'S THE  
MATTER WITH  
YOU, PAL?

I'M OUTTA ACTION  
'CAUSE MY HYDROSTRUTS  
DON'T WORK ANYMORE!



## STOP CYLINDER CORROSION WITH CLP!



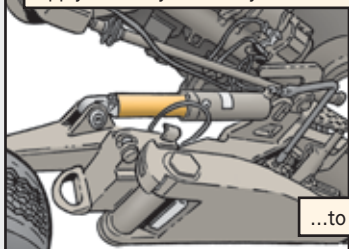
CREWMEN, THE  
GAS CYLINDERS  
ON YOUR M777A2  
TOWED HOWITZER'S  
HYDROSTRUTS  
CAN RUST AND PIT  
IF THEY AREN'T  
LUBED **REGULARLY**.

THAT CAN  
MAKE YOUR  
HOWITZER  
NMC!

THE CYLINDERS, NSN 1025-99-724-3742, **CAN'T** BE REPAIRED.  
REPLACING ONE WILL SET YOUR UNIT BACK NEARLY \$11,000.

SAVE YOURSELF SOME **SERIOUS** HEADACHES BY PUTTING CLP  
ON THE CYLINDERS **ONCE A WEEK** AND WIPING OFF ANY EXCESS  
LUBE WITH A CLEAN RAG, JUST LIKE IT SAYS IN WP 062-14 OF  
TM 9-1025-215-10 (JAN 16).

Apply CLP to hydrostrut cylinder once a week...



...to keep away rust and pitting

THAT'LL KEEP THOSE HYDROSTRUTS IN **GOOD WORKING ORDER**  
AND YOUR HOWITZER **COMBAT-READY**.

## M88A2 Full Vehicle Tarp

If your M88A2 recovery vehicle will be sitting in the motor pool for more than two weeks, protect it from the elements with a tarp that's big enough to cover the entire vehicle. Get a tan tarp with NSN 2540-01-578-4446 or a green tarp with NSN 2540-01-578-3927.

# Don't Let Loading Tray Get Gapped!

A LITTLE  
LOADING TRAY  
PM KEEPS  
ME FIRING  
DOWNRANGE!

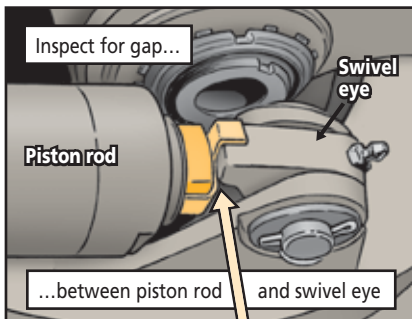


THERE'VE BEEN SEVERAL INSTANCES OF THE M777A2 TOWED HOWITZER'S BREACH CRANK STRIKING THE LOADING TRAY DURING RECOIL!

THIS CAN HAPPEN WHEN THE LOADING TRAY'S PISTON SWIVEL EYE LOOSENS, CAUSING A GAP BETWEEN THE LOADING TRAY PISTON ROD AND THE SWIVEL EYE.

THIS GAP KEEPS THE LOADING TRAY FROM REACHING THE FULLY STOWED POSITION.

THE GAP CAN WIDEN OVER TIME, DROPPING THE LOADING TRAY INTO THE RECOIL PATH.



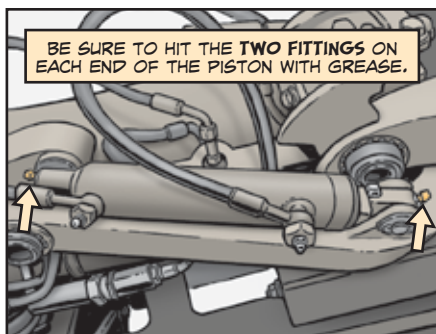
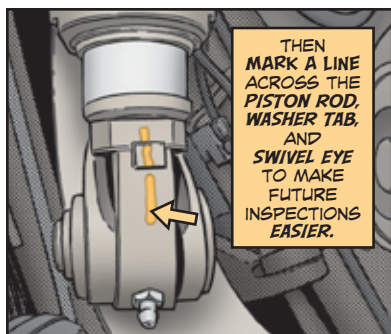
MECHANICS, INSPECT THE LOADING TRAY CYLINDER'S CONNECTION TO THE LOADING TRAY TO MAKE SURE THERE **ISN'T** A GAP BETWEEN THE PISTON ROD AND SWIVEL EYE AND THAT THE **TAB WASHER**, NSN 5310-99-273-0266, **ISN'T** LOOSE OR UNSERVICEABLE.

IF THE WASHER'S TABS HAVE FAILED OR A GAP IS PRESENT, **REPLACE** THE TAB WASHER.

THEN TIGHTEN THE PISTON ROD TO THE SWIVEL EYE AND **LOCK IT DOWN** WITH THE WASHER'S TABS.

MAKE SURE ONE **TAB IS BENT DOWN** ON THE PISTON ROD AND THE OTHER IS **BENT DOWN** ON THE SWIVEL EYE.

CHECK OUT  
WP 0336 OF  
TM 9-1025-  
215-23&P IN  
IETM EM  
0274 (SEP 16)  
FOR MORE  
INFO.



FOR MORE INFO, CHECK OUT TACOM MAINTENANCE ACTION MESSAGE 18-016:  
<https://tulsa.tacom.army.mil/Maintenance/message.cfm?id=MA18-016.html>

M113-Series FOV...

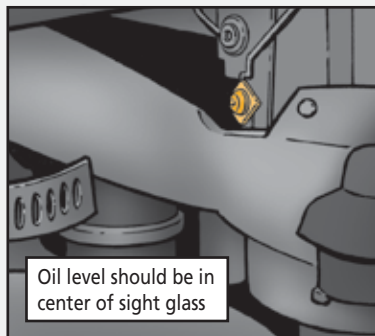
## KEEP FAN GEARBOX IN MIND



**C**rewmen, sometimes out of sight is out of mind. Because your carrier's fan gearbox sits so far back in the engine compartment, it's easy to forget to check its oil level.

But if the oil level gets too low, the bearings seize up and damage the gearbox. Then your vehicle is out of action until the gearbox gets repaired.

So don't rely on memory when it comes to the fan gearbox. Be sure to check its oil level every month, just like the -10 TM says.





# DON'T OVERLOOK APU PM!

WELL, ALL  
DONE WITH YOUR  
PREVENTIVE  
MAINTENANCE  
FOR TODAY!

DON'T FORGET  
ABOUT ME!

CREWMEN, YOUR COMMAND POST CARRIER'S 5-KW AUXILIARY POWER UNIT (APU) GENERATOR NEEDS **REGULAR PREVENTIVE MAINTENANCE** TO HELP KEEP IT WORKING HARD WHEN YOU NEED IT MOST.

WITHOUT DOUBT, THE **BEST** THING  
YOU CAN DO FOR YOUR APU IS...

...FOLLOW **ALL** OF THE **BEFORE, DURING AND  
AFTER** PMCS CHECKS FOUND IN THE TM.

CHECKING THE  
ENGINE OIL  
BOTH BEFORE  
AND DURING  
OPERATIONS  
IS **CRITICAL**.

WHEN THE  
ENGINE IS LOW  
ON OIL, PARTS  
CAN SEIZE AND  
THE ENGINE  
FAILS.

BE SURE TO  
CHECK THE  
OIL LEVEL  
**EVERY 10  
HOURS** DURING  
OPERATIONS.

DON'T DAMAGE  
YOUR COMMAND  
POST CARRIER'S  
APU BY **FAILING  
TO DO SUCH  
BASIC CHECKS**.

ALSO, **VIBRATION** DURING OPERATION CAN PUT A LOT OF **STRESS** ON  
THE APU'S MOUNTING BOLTS.

HAVE YOUR MECHANIC **REGULARLY CHECK** THE MOUNTING BOLTS TO  
MAKE SURE THEY'RE TORQUED TO SPEC.

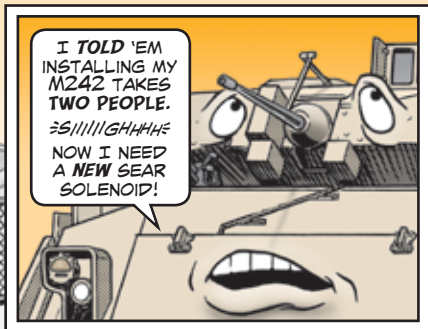
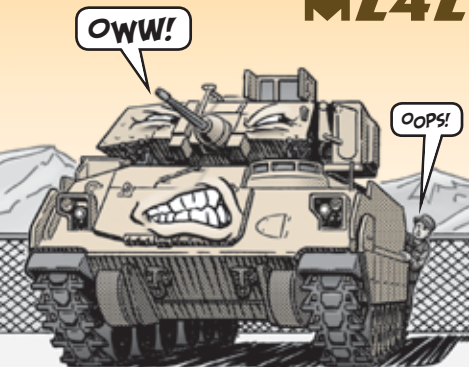
**DON'T FORGET** THAT THE APU  
IS MEANT FOR POWERING YOUR  
COMMAND POST CARRIER **ONLY**.

**DON'T** USE IT TO POWER  
ANY OTHER VEHICLES  
OR EQUIPMENT.

**EVERYTHING** YOU NEED TO  
KNOW TO KEEP THE APU IN  
GOOD WORKING ORDER—  
INCLUDING THE **COMPLETE  
LIST** OF PMCS CHECKS—  
CAN BE FOUND IN  
TM 9-6115-664-13&P.

YOU CAN'T  
GO WRONG  
BY FOLLOWING  
THE BOOK!

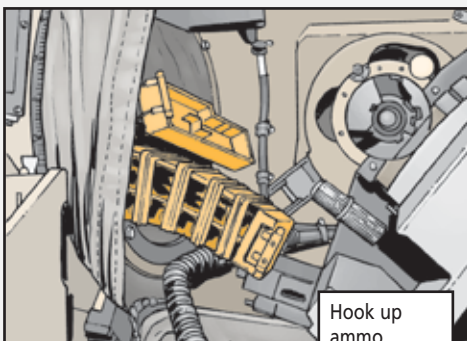
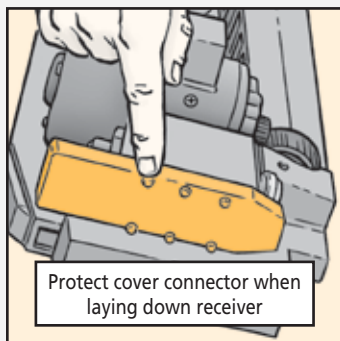
# Ins and Outs of M242 Installation



**M**aneuvering the M242 automatic gun in and out of the Bradley is no easy task. If you bang it around, you damage items like the sear solenoid.

Rule #1 is never try to install the M242 by yourself. Wrestling the 95-lb receiver into or out of the turret is definitely a two-man job.

Protect the sear solenoid by pointing it up so that it can't be hit by the sides of the turret. Never rest the receiver on its end where it can crush the cover connector support.



Once the receiver is installed, connect all four ammo chutes even if you don't plan to fire. Leave the chutes dangling and they'll catch on cables when the gun is raised or lowered. That damages the chute locking levers, rips out cables and wiring and locks up the turret.

Fix a damaged chute with the **latch assembly repair kit**, NSN 2590-01-268-7915.

When removing the receiver, don't twist it. Twisting lets the support bracket for the gun control panel tear off the solenoid. Just pull the receiver straight out.

M2/M3-Series  
Bradley...

HEY, THAT'S  
**MY** BOLT  
AND TRACK  
ASSEMBLY!

YOU **CAN'T** USE IT  
WITH ANOTHER M242.  
THAT'LL SCREW UP  
MY ROUND COUNT.

# No Swapping M242 Bolt and Track Assemblies!

Dear Editor,

Some Bradley units are not ensuring the same bolt and track assembly is **always** used with the same M242 automatic gun. They interchange assemblies between guns.

That causes problems because the firing pin is supposed to be changed every 12,000 rounds. If a firing pin is used with different M242s, there is no way to determine an accurate round count. Using a firing pin that is deformed from use risks catastrophic failure.

Units need to make sure they **always** use only one bolt and track assembly with each M242 and track rounds fired on a DA Form 2408-4.

Angel Roman-Rivera  
Ft Hood, TX

EXCELLENT  
POINT, ANGEL.

## BUT ONE NOTE:

NORMALLY IN A SITUATION LIKE THIS IT WOULD BE **MANDATORY** TO **REPLACE** THE FIRING PINS WITH NEW ONES. HOWEVER, BECAUSE THERE IS A **SHORTAGE** OF FIRING PINS, A TEMPORARY AUTHORIZATION TO USE PREVIOUSLY INSTALLED FIRING PINS WITH UNKNOWN ROUNDS COUNTS HAS BEEN GRANTED BY TACOM AND ARDEC.

THIS TEMPORARY AUTHORIZATION GIVES THOSE FIRING PIN ASSEMBLIES A REMAINING LIFE OF 6,000 ROUNDS AFTER THEY HAVE MET INSPECTION CRITERIA OUTLINED IN TACOM MAINTENANCE ACTION MESSAGE (MAM) 17-044:

<https://tulsa.tacom.army.mil/Maintenance/message.cfm?id=MA17-044.html>

THE CRITERIA OUTLINED IN THE MAM CAN BE USED TO RE-ESTABLISH ROUNDS COUNT ON FIRING PINS THAT HAVE BEEN MIXED UP WHEN BOLTS AND TRACKS HAVE BEEN ACCIDENTALLY SWAPPED UNTIL THE FIRING PIN SUPPLY SITUATION IMPROVES.

A **PERMANENT SOLUTION** TO ACCIDENTAL BOLT AND TRACK MIX-UPS IS TO **PERMANENTLY ETCH OR ENGRAVE** THE BOLT CARRIER ON THE **RIGHT SIDE** OF THE EJECTOR WITH THE **MATCHING GUN SERIAL NUMBER**.



Engrave serial  
number here



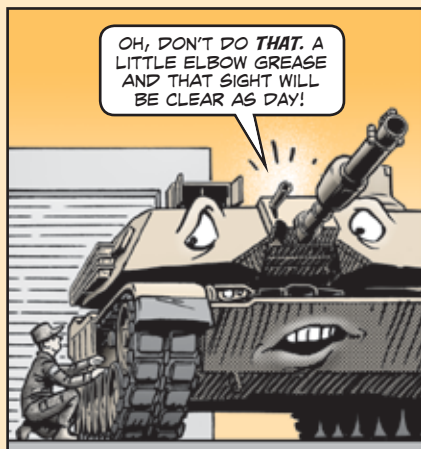
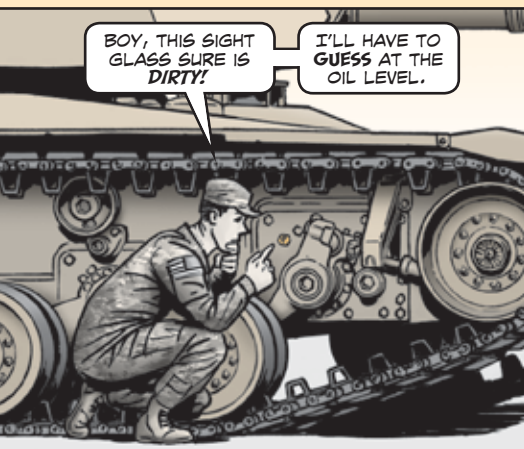


SOME UNITS ARE **ALREADY** DOING THIS AND IT HAS PROVEN TO BE AN EFFECTIVE AND PRACTICAL WAY TO MAINTAIN AN **ACCURATE** ROUNDS COUNT.

BUT **DON'T** USE STAMPING TOOLS. THEY CAN **DAMAGE** THE BOLT CARRIER.

M1-Series Tanks...

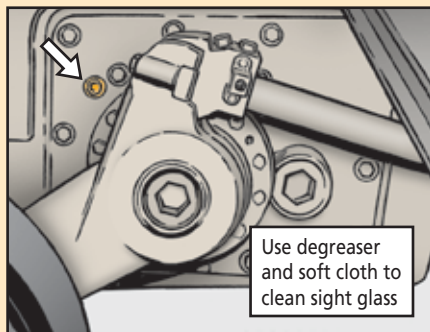
## KEEP THOSE SIGHT GLASSES **CLEAN**



**W**hen checking the shock absorber sight glass on your M1-series tank, what you see is what you get—unless the sight glass is clouded. In that case, figuring out the oil level is anybody's guess.

And when it comes to the oil level, you never want to guess. It should be between the middle and top of the sight glass. If the oil level is low or appears milky, tell your mechanic right away.

So you can always get a proper oil level reading, clean the sight glass the right way. Don't use wire brushes, knife blades or screwdrivers to clean the glass. A clean cloth and **degreaser**, NSN 6850-01-474-2319, will do the trick.



M3, M3A1  
CROP...

# Tied Down and Lovin' It!

DUDE, I'VE GOT **A LOT** RIDING ON THOSE CROP TIE-DOWNS. THEY'RE ALL IN GOOD SHAPE, RIGHT?

OF COURSE! NOW'S **NOT** THE TIME TO DISCOVER A WORN-OUT STRAP!

MAYBE YOU AVOID GETTING TIED DOWN IN YOUR **PERSONAL** LIFE, BUT IF YOUR **PROFESSIONAL** LIFE INVOLVES CONTAINER ROLL-IN/OUT PLATFORMS (CROPS), GETTING TIED DOWN IS DEFINITELY THE WAY TO GO!

THE **M3 CROP**, NSN 3990-01-442-2751, AND **M3A1 CROP**, NSN 3990-01-450-5671, **BOTH** RELY ON WEB TIE-DOWN STRAPS TO SECURE THEIR LOADS. THERE'S A LOT RIDING ON THESE TIE-DOWNS, BUT THEY'RE OFTEN OVERLOOKED DURING PMCS.

IN ADDITION TO ITEM 2 IN THE BEFORE OPERATIONS PMCS OF TM 9-3990-260-14&P, HERE ARE **10 SPECIFIC TIE-DOWN CONDITIONS** THAT MAKE THE CROP **NOT** FULLY MISSION CAPABLE:

1. HOLES, TEARS, CUTS...

...SNAGS OR MATERIALS EMBEDDED IN THE FABRIC.

2. KNOTS IN ANY PART OF WEBBING.

3. ACID OR ALKALI BURNS.

4. MELTING, CHARRING OR...

...WELD SPATTERS ON ANY PART OF THE WEBBING.

5. EXCESSIVE ABRASIVE WEAR OR...



...CRUSHED WEBBING.



6. SIGNS OF ULTRAVIOLET (UV) LIGHT DEGRADATION SUCH AS FADING, STIFFNESS OR FUZZY FIBER DUST WHEN YOU SLAP THE STRAP.

7. DISTORTION, EXCESSIVE PITTING, CORROSION OR OTHER DAMAGE TO BUCKLES OR END FITTINGS.

Good



Bad



8. BROKEN OR WORN STITCHES IN LOAD-BEARING SPLICES.

9. TIE-DOWN IDENTIFICATION TAG IS MISSING OR UNREADABLE.

10. ANY OTHER CONDITION THAT CAUSES DOUBT ABOUT TIE-DOWN STRENGTH.

**ALL** TIE-DOWN STRAPS SHOULD BE INSPECTED **BEFORE EVERY USE** TO ENSURE THEY'RE SERVICEABLE AND SAFE.



FOR MORE INFORMATION, CHECK OUT THE **SYNTHETIC TIE-DOWN SAFETY BULLETIN**, AVAILABLE AT:

<https://www.cargoequipmentcorp.com/pdf/tie-down-safety-bulletin.pdf>

FIND INSTRUCTIONS FOR **PROPER USE** OF TIE DOWN STRAPS IN TM 9-3990-260-14&P. ALSO SEE TACOM MA 18-028 FOR MORE SAFETY DETAILS, AVAILABLE WITH CAC-ACCESS AT:

<https://tulsa.tacom.army.mil/Maintenance/message.cfm?id=MA18-028.html>

## CROP Data Plates



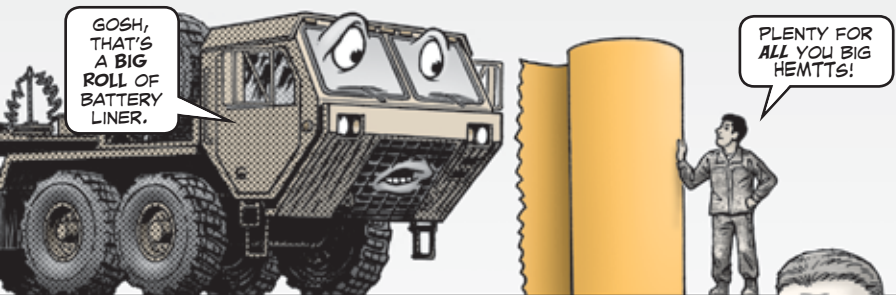
TWO NEW NSNs ARE NOW AVAILABLE FOR CROP DATA PLATES!

TO ORDER A DATA PLATE FOR THE M3 CROP, USE NSN 2590-01-657-7828.

TO ORDER A DATA PLATE FOR THE M3A1 CROP, USE NSN 2590-01-671-4252.



# BATTERY LINER SOAKS UP PROBLEMS



THINK OF STUFF DESIGNED TO **ABSORB** MESSY SPILLS. PAPER TOWELS, BABY DIAPERS AND KITTY LITTER PROBABLY COME TO MIND.

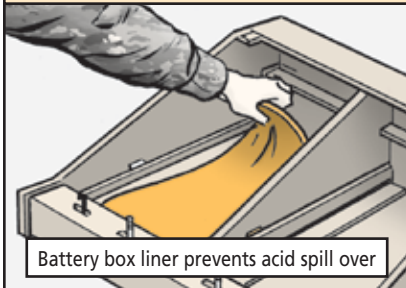
BUT THE THING TO THINK ABOUT UNDER THE HOOD OF A HEMTT IS A **BATTERY BOX LINER**.

BECAUSE THE HEMTT'S BATTERY BOX SITS DIRECTLY OVER THE AIR TANKS, THERE'S A POSSIBILITY THAT BATTERY ACID CAN **SPLATTER DOWN AND CORRODE** THE AIR TANKS.

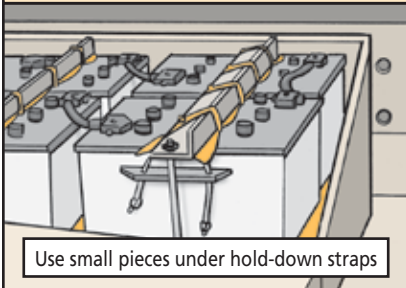
THIS COULD CAUSE THE BRAKES TO **LOSE AIR PRESSURE** IF THE CORROSION EATS AWAY THE MOUNTING HARDWARE OR CORRODES THE TANK FITTINGS.

THE **BEST WAY** TO PREVENT THIS PROBLEM IS TO USE A **BATTERY BOX LINER**, NSN 6160-01-389-1966, UNDER THE BATTERIES AND THE HOLD-DOWN STRAPS. COVER THE ENTIRE BOTTOM OF THE BATTERY BOX.

THEN PUT SOME SMALLER PIECES UNDER THE HOLD-DOWN STRAPS TO **SOAK UP** ANY ELECTROLYTE BOIL-OVER FROM THE BATTERY CELLS. THIS PREVENTS IT FROM DRIPPING DOWN TO THE BOTTOM OF THE BOX.



Battery box liner prevents acid spill over



Use small pieces under hold-down straps

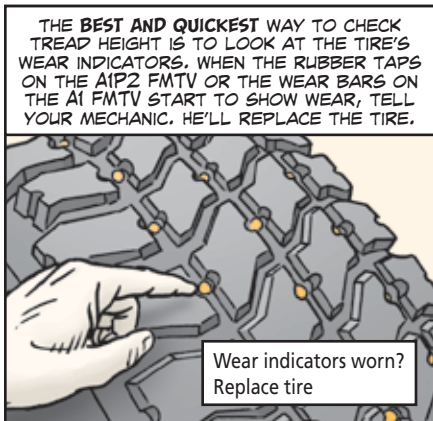
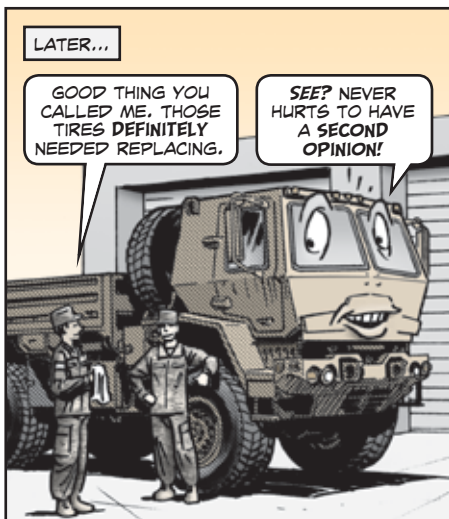
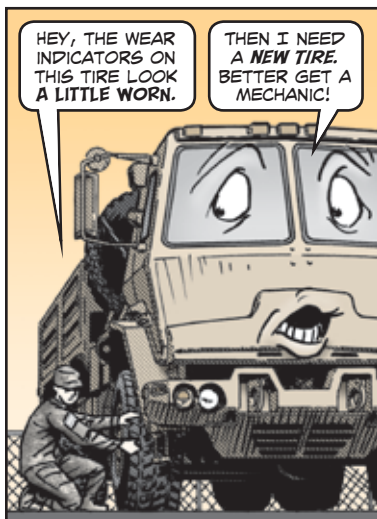
TO ATTACH THE SMALLER PIECES, USE 1/2-INCH ELECTRICAL TIES TO HOLD THE LINER STRIPS IN PLACE BY WRAPPING THE TIES AROUND THE HOLD-DOWN STRAPS.

THE TIES COME IN A **PACKAGE OF 100** WITH NSN 5975-00-074-2072.

THE LINER WILL NEED TO BE **CHANGED** WHEN IT BECOMES **SOAKED** WITH BATTERY ACID OR STARTS TO **DETERIORATE**.

BUT IT COMES IN A 1X100-FT ROLL, WHICH MAKES IT **EASY** TO CUT WHATEVER SIZES YOU NEED.

# CHECK TIRE WEAR INDICATORS



YOU'LL FIND THIS A1P2 BEFORE OPERATION CHECK LISTED AS ITEM 11 IN THE PMCS TABLES OF TM 9-2320-333-13&P IN IETM EM 0294 (JUN 15).

FOR THE 2 1/2-TON A1 LMTV, LOOK AT THE AFTER OPERATION CHECK LISTED AS ITEM 11 IN THE PMCS TABLES OF TM 9-2320-391-10-3 (OCT 17).

FOR THE 5-TON A1 MTV, YOU'LL FIND THE AFTER OPERATION CHECK AS ITEM 14 IN THE PMCS TABLES OF TM 9-2320-392-10-4 (OCT 17).

# Finding Tires in FedMall

Army units are reminded that in all but rare instances, **they should be ordering tire and wheel assemblies**, not individual tires and down parts.

HUNTING FOR TIRES, INNER TUBES, FLAPS, VALVES, RIMS, WHEEL ASSEMBLIES OR OTHER TIRE ACCESSORIES FOR YOUR EQUIPMENT?

**GOOD NEWS!** WE CAN ROLL YOU IN THE RIGHT DIRECTION. CHECK OUT THE DEFENSE LOGISTICS AGENCY (DLA) LAND AND MARITIME TIRE CATALOG IN DOD'S FEDMALL.

AFTER REGISTERING AND LOGGING INTO FEDMALL, YOU'LL BE ON THE MAIN SEARCH PAGE. YOU **CAN** SEARCH FOR SPECIFIC ITEMS BY KEYWORD OR NSN...

...BUT THE **BEST** WAY TO NARROW IN ON ALL TIRE-RELATED ITEMS IS TO NAVIGATE TO THE SEARCH TAB ON THE TOP LEFT SIDE OF THE PAGE...

GO TO FEDMALL AT: <https://www.fedmall.mil>  
IF IT'S YOUR FIRST VISIT, SELECT THE **SIGN IN/REGISTER** LINK AT THE UPPER RIGHT CORNER OF THE PAGE.  
YOU'LL NEED A CAC TO REGISTER.



**FEDMALL**

Corridor Tools Select Store

Search

**UNDER CORRIDOR DROPDOWN, CLICK TIRE...**

FedMall >

Federal Strategic Sourcing BPAs for Office Supplies

**Tire**

Warfighter Clothing and Textiles

Navy Contracts

NSNs Only >

Tents

**SUBCATEGORIES AUTOMATICALLY POP UP TO RIGHT**

Tires and Tubes

Vehicular Equipment Components

Aircraft Components and Accessories

Maintenance and Repair Shop Equipment

Hand Tools

**YOU'LL BE ON THE TIRES ECATALOG HOMEPAGE THEN, HERE YOU CAN SEARCH SUB-CATALOGS (TIRES AND TUBES, VEHICULAR EQUIPMENT COMPONENTS, ETC.) AND NARROW DOWN THE RESULTS EVEN MORE BY PRICE, SIZE OR OTHER FILTERS.**

**IF YOU STILL CAN'T FIND WHAT YOU'RE LOOKING FOR, EMAIL THE DLA TIRE TEAM AT: [DSCC.TiresTeam@dla.mil](mailto:DSCC.TiresTeam@dla.mil)**

NEED HELP FINDING OR ORDERING ITEMS FROM FEDMALL? CONTACT DLA CUSTOMER SERVICE AT 877-352-2255 OR EMAIL:

[DLAcontactcenter@dla.mil](mailto:DLAcontactcenter@dla.mil)

## Wire Rope for Securing Parts

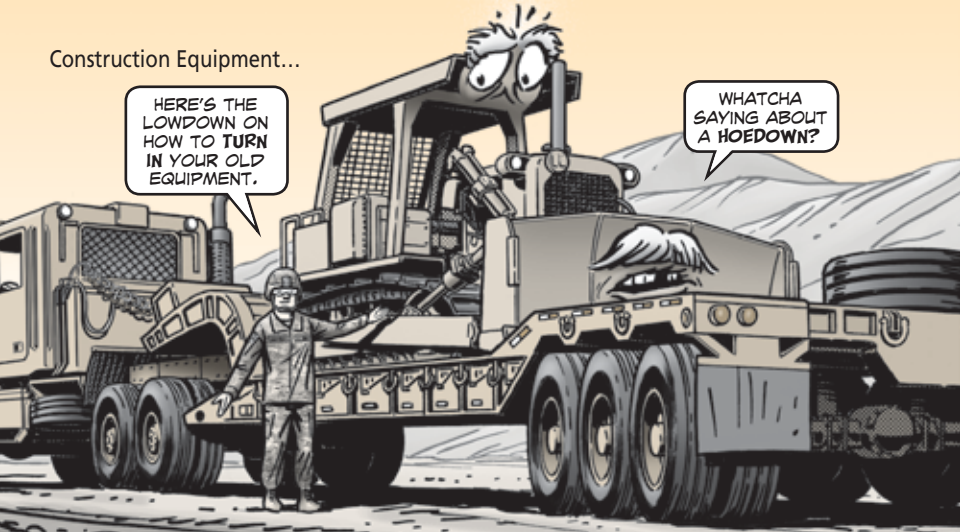
When you need to keep equipment parts from moving during rail transport, wire rope is a must-have. Order the size you need with these NSNs:

Size (in)	NSN 4010-	Nominal Strength (lb)	Required Clamp Torque (lb-ft)
1/4	00-269-9324	5,880	25
3/8	00-272-8849	13,120	45
1/2	00-272-8848	23,000	65
5/8	00-763-9361	35,800	130

## M878A2 Backup Alarm NSN

Get a new backup alarm for your M878A2 yard tractor with NSN 6350-01-412-3305. NSN 6350-01-503-4487, which is shown as Item 1 in Fig 148 of TM 9-2320-312-24P (Jun 12), brings the wrong alarm.

Construction Equipment...



# KNOW-HOW NEEDED FOR VEHICLE TURN-IN

**B**EFORE TURNING IN YOUR CONSTRUCTION EQUIPMENT AT DLA DISPOSITION SERVICES...

**...STOP  
AND TAKE  
A DEEP  
BREATH.**

THEN LOG INTO THE DECISION SUPPORT TOOL (DST) LOCATED IN LOGSA'S LOGISTICS INFORMATION WAREHOUSE (LIW) FOR INSTRUCTIONS AND KEY NOTES FOR YOUR EQUIPMENT'S DISPOSITION.

**NOTE:** TO USE THE DST APPLICATION, YOU'LL NEED TO USE THE MICROSOFT EXPLORER BROWSER RATHER THAN MICROSOFT EDGE.

1. Log in to LIW at: <https://liw.logsa.army.mil>

If you don't have an LIW account, register by clicking on the New User Registration link.

2. Scroll down and click on the App Warehouse icon.



3. In the Keyword Search box, type DST. When the orange DST icon appears, click Create Shortcut. Click the small x in the upper right-hand corner to exit.
4. Back at the LIW screen, click the DST app.
5. On the DST-SM homepage, click the DST-SM Home down arrow and click on Item Catalog in the second column.
6. Select the NIIN/MCN Catalog tab.
7. Type your equipment's NIIN in the Contains box. Then click the blue Load Data button.
8. Once the new page populates, you'll find the instructions/key notes for disposition listed under Auto Disposition.

NEED HELP OR HAVE  
MORE QUESTIONS  
ABOUT CONSTRUCTION  
EQUIPMENT TURN-IN?  
CONTACT ONE OF THE  
FOLLOWING...

**DOZERS**  
[usarmy.detroit.tacom.mbx.ilsc-dozers@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-dozers@mail.mil)

**GRADERS**  
[usarmy.detroit.tacom.mbx.ilsc-graders@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-graders@mail.mil)

**CONCRETE PAVING SYSTEM**  
[usarmy.detroit.tacom.mbx.ilsc-concrete-paving-sys@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-concrete-paving-sys@mail.mil)

**SKID STEER LOADERS**  
[usarmy.detroit.tacom.mbx.ilsc-skid-steer-loaders@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-skid-steer-loaders@mail.mil)

**SCRAPERS, WATER DISTRIBUTORS, COMPRESSORS,  
CRUSHING PLANTS, TCMMD-DENSITY TESTER**  
[usarmy.detroit.tacom.mbx.ilsc-compressors@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-compressors@mail.mil)

**EXCAVATORS, HMEE, BACKHOES**  
[usarmy.detroit.tacom.mbx.ilsc-excavators@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-excavators@mail.mil)

**LOADERS**  
[usarmy.detroit.tacom.mbx.ilsc-loaders@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-loaders@mail.mil)

**ASPHALT-MIXING PLANT/PAVING MACHINE,  
COMPACTORS, ROLLERS**  
[usarmy.detroit.tacom.mbx.ilsc-rollers@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-rollers@mail.mil)

Construction Equipment...

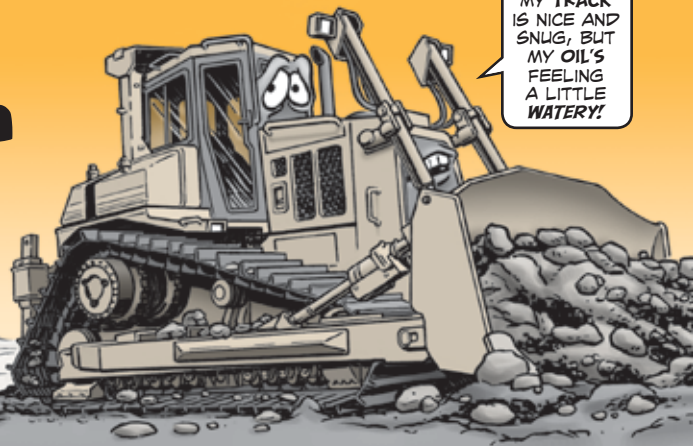
# Updated MEL Changes

USE THESE **UPDATED PERCENTAGES** TO DETERMINE THE LATEST **MAINTENANCE EXPENDITURE LIMIT (MEL)** FOR OLDER CAT CONSTRUCTION EQUIPMENT:

Item	NSN	MEL %
130G road grader	3805-01-150-4795	35
D7G tractor w/ripper	2410-01-233-0350	25
D7G tractor w/winch	2410-01-223-7261	25
D7G tractor w/winch, winterized	2410-01-253-2117	25
D7G tractor w/ripper, winterized	2410-01-253-2118	25
D7G tractor w/AOA and winch	2410-01-538-6780	25
D7G tractor w/AOA and ripper	2410-01-538-7793	40
621B scraper	3805-01-153-1854	25
621B scraper w/AOA	3805-01-538-6852	40

**QUESTIONS?** CONTACT TACOM'S COMBAT ENGINEERING GROUP  
AT: [usarmy.detroit.tacom.mbx.ilsc-compressors@mail.mil](mailto:usarmy.detroit.tacom.mbx.ilsc-compressors@mail.mil)

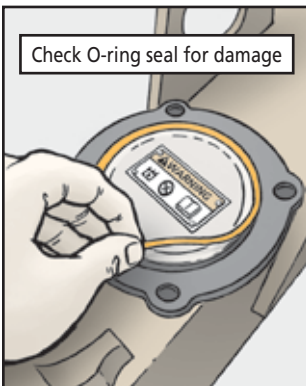
# O-ring Seal's a BIG DEAL!



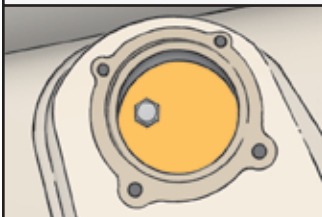
**O**PERATORS, AFTER A TRACK ADJUSTMENT ON YOUR D7R II DOZER, MAKE SURE THE TRACK ADJUSTER COVER IS **SNUG** ON THE RECOIL SPRING COMPARTMENT.

WHILE YOU'RE AT IT, CHECK THE CAP'S RUBBER O-RING SEAL.

Check O-ring seal for damage



IF THE SEAL'S **MISSING, SQUASHED** OR **TORN**, WATER CAN GET INTO THE OIL IN THE RECOIL SPRING COMPARTMENT. OIL AND WATER DON'T MIX, **ESPECIALLY** IN HARD-WORKING EQUIPMENT!

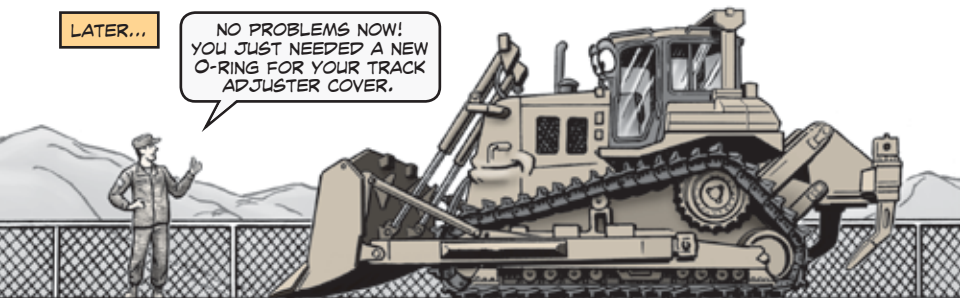


Contaminated oil turns milky green

REPLACE A BAD OR MISSING **O-RING SEAL** WITH NSN 5331-00-859-0396. YOU'LL FIND IT LISTED AS ITEM 7 IN FIG 63 OF TM 5-2410-241-24P (FEB 12).

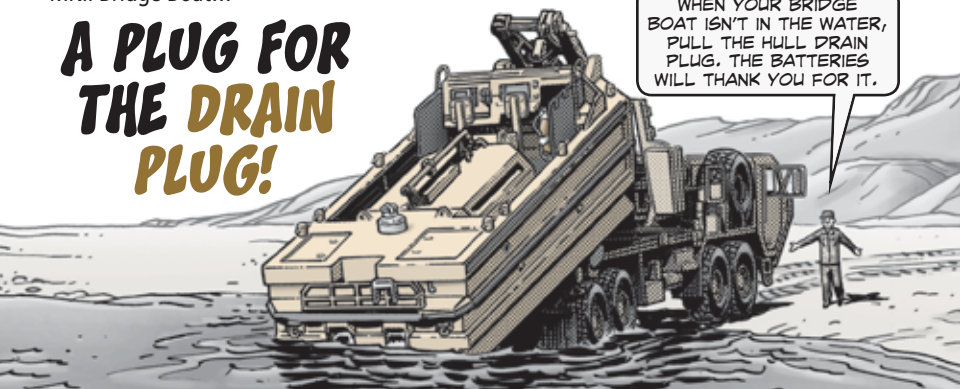
LATER...

NO PROBLEMS NOW! YOU JUST NEEDED A NEW O-RING FOR YOUR TRACK ADJUSTER COVER.





## A PLUG FOR THE DRAIN PLUG!



WHEN YOUR BRIDGE BOAT ISN'T IN THE WATER, PULL THE HULL DRAIN PLUG. THE BATTERIES WILL THANK YOU FOR IT.

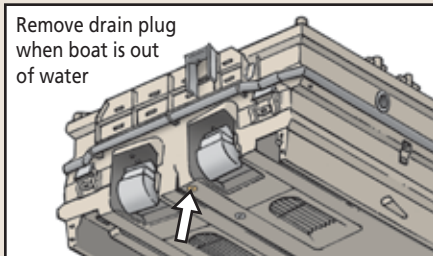
**R**ain can play havoc with the batteries on your MKII bridge boat. The batteries sit in the hull, so if enough rain collects there, the batteries short out!

Whether your boat is in the water or dry-docked, keep excess water out of the boat's hull!

Getting rid of that excess water is easy when dry-docked. Just open the boat's bilge drain plug. Leave it open if the boat won't be in the water for a while. You'll find the plug located between the left and right scoops on the back of the boat.

By the way, you'll find this same info on Pages 2-40 and -41 as Before and After PMCS Check #36 in TM 5-1940-277-10 (Sep 93, w/Ch 3, Aug 06).

Remove drain plug when boat is out of water



230LCRD HYEX...

## Get the Right Engine!



MECHANICS, MAKE SURE YOU CHECK THE DATA PLATE ON THE 230LCRD HYDRAULIC EXCAVATOR'S (HYEX) ENGINE BEFORE ORDERING A NEW ONE.

THERE ARE TWO DIFFERENT TYPE II ENGINES USED ON THESE VEHICLES...

- **Model T06068HT051 6-cylinder main engine,**  
NSN 2815-01-483-5846  
(Note: This engine is also used on the 230LCR Type I HYEX)
- **Model T04045TT050 4-cylinder air compressor engine,**  
NSN 2815-01-483-5854

A FEW SECONDS READING THE DATA PLATE CAN SAVE LOTS OF DOWNTIME FROM ORDERING THE WRONG ENGINE.

# Use the Right ILCA Jam Test Tool Before Flight



MAKE SURE YOU  
PERFORM THE JAM  
TEST DAILY...

...WITH  
THE **RIGHT**  
TOOL!

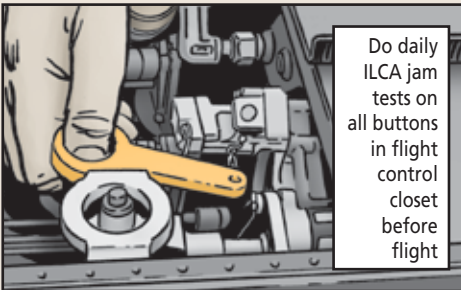


THE FLIGHT  
CONTROL  
CLOSET IS A  
**TIGHT AREA**  
IN YOUR  
CHINOOK.

BUT  
THAT'S **NO**  
EXCUSE FOR  
AVOIDING  
THE  
INTEGRATED  
LOWER  
CONTROL  
ACTUATOR  
(ILCA)  
JAM  
SIMULATION  
TEST  
PRIOR TO  
THE FIRST  
FLIGHT OF  
EACH DAY.

GOOD PM MEANS PERFORMING **ALL**  
PREVENTATIVE MAINTENANCE SERVICES (PMS)  
AND **NEVER** PUTTING YOUR AIRCRAFT AT RISK.

SO GET IN THE CLOSET AND DO THE ILCA JAM  
SIMULATION TEST LIKE IT SAYS IN WP 3398 OF  
TM 1-1520-271-23&P.



Do daily  
ILCA jam  
tests on  
all buttons  
in flight  
control  
closet  
before  
flight

DURING OPERATION, THE RED JAM SENSOR  
INDICATOR BUTTONS WILL POP OUT  
AUTOMATICALLY IF THERE'S A PROBLEM  
WITH THE ILCA.

THE JAM SIMULATOR BUTTONS ARE **HARD  
TO REACH**, AND SOME UNITS ARE USING  
SCREWDRIVERS, HARD METAL OR SHARP TOOLS  
TO PRESS DOWN ON THE PLUNGER.

**THOSE ITEMS CAN MUSHROOM THE PLUNGER AND  
SEALS ON THE JAM SIMULATION BUTTONS.**

STUCK ILCA JAM SIMULATION  
BUTTONS **WON'T** POP OUT WHEN  
THEY SHOULD, SO THE ENTIRE  
ACTUATOR ASSEMBLY HAS TO  
BE REPLACED.

SO RATHER THAN PICKING UP WHATEVER'S HANDY, PRESS ALL EIGHT BUTTONS WITH A TOOL MADE OF WOOD OR SOFT METAL— LIKE ALUMINUM OR BRASS—THAT HAS A FLATTENED SURFACE AT ONE END.

IF THE RED BUTTONS POP OUT, THEN YOU'VE GOT THE TOOL TO RESET 'EM AND FORGET 'EM UNTIL THE NEXT FLIGHT.

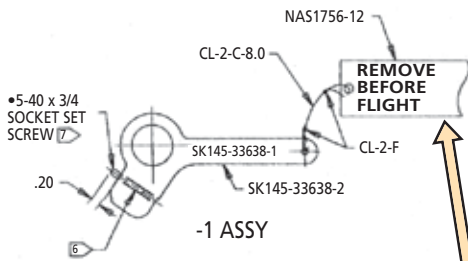
**NEED HELP WITH A TOOL FOR PUSHING THOSE ILCA JAM SIMULATION BUTTONS?**

HAVE YOUR LOCAL MAINTENANCE SHOP FABRICATE A TOOL USING THIS DRAWING:

1		NAS1756-12	STREAMER	
2	8	CL-2-F	CABLE FERULE	.138 ID. .212 OD
1	8	CL-2-C-8-0	COATED CABLE	.067 DIA
1		*5-40 UNC	SOCKET SET SCREW	CUP POINT. 3/4 LONG
1		-2	WRENCH BODY	4
X		-1	ASSEMBLY	
QTY ORDERED	CAGE NO.	PART OR IDENTIFY NUMBER	NOMINATING OR DESCRIPTION	MATERIAL AND SPECIFICATION

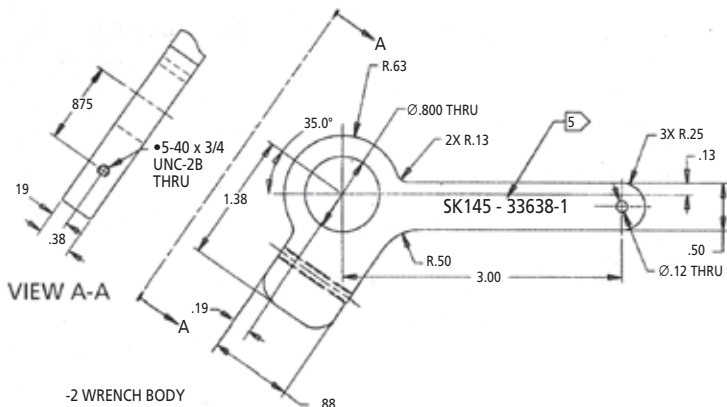
NOTES:

1. SK145-33638 TO BE USED TO DEPRESS THE JAM INDICATOR TEST BUTTON ON THE 145H7300 LOWER CONTROL ACTUATORS.
2. ALL DIMENSIONS IN INCHES:  
.X ± .1; .XX ± .03; .XXX ± .005
3. BREAK ALL NON-FUNCTIONAL SHARP EDGES WITH .02 RADIUS
4. MAKE FROM AVAILABLE ALUMINUM PLATE.
5. STEEL STAMP USING 1/8 CHARACTERS
6. BOND SOCKET SET SCREW WITH +243 THREADLOCKER, OR EQUIVALENT. (LOCTITE CORP. ROCKY HILL, CT)
7. FILE SPHERICAL SHAPE ON END OF SET SCREW PRIOR TO INSERTION.
8. CARR LANE MFG CO.  
SAINT LOUIS, MO 63119-2129  
CAGE: 99862



THERE ARE SIMILAR TOOLS IN THE FIELD.  
ONLY USE THEM IF THE TOOL IS MADE OF  
THE RIGHT MATERIAL AND HAS A FLAT HEAD.

ONCE YOU'VE GOT ONE IN HAND, ATTACH  
A REMOVE BEFORE FLIGHT STREAMER  
SO IT **DOESN'T** TURN INTO FOD.



AH-64,  
UH-60A/L,  
HH-60M...

# KEEP FEET OFF ENGINES!

LEMME COME  
OVER THERE AND  
HELP YOU OUT.

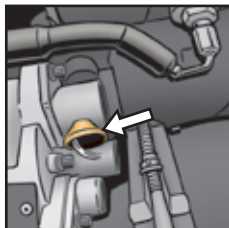
OK, BUT KEEP YOUR FEET  
OFF THE ENGINE. WE DON'T  
NEED ANY HEADACHES.

YOUR FEET CAN DO  
A LOT OF **DAMAGE** TO  
ENGINE PARTS, SO **DON'T**  
USE THE ENGINE AS A  
STEPPING STOOL.

ENGINES ARE A  
**NO-STEP ZONE!**

**M**ECANICS, BLACK HAWK AND APACHE  
ENGINES HAVE **DELICATE** CONNECTORS  
AND PARTS. SO **EVERY** TIME YOU STEP  
WHERE YOU **SHOULDN'T**, STUFF GETS  
**BROKEN**. AND THAT DEFEATS THE  
PURPOSE OF PREVENTIVE MAINTENANCE.

SOME OF YOU ARE STEPPING ON THE  
ENGINE'S ACCESSORY GEARBOX, HYDRO  
MECHANICAL UNIT AND IPS BLOWER  
TO TRAVERSE THE ENGINE NACELLE.  
THAT **DAMAGES** ENGINE SEALS, SENSOR  
WIRING, SPLINES, OVER SPEED DRAIN  
VALVES AND CONNECTORS.



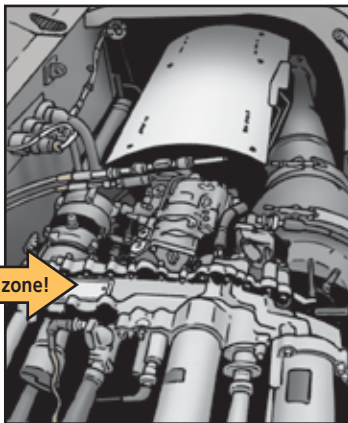
Over speed drain valve **cannot** withstand  
weight on Black Hawk engine

TMS AND IETMS FOR THE AH-64, UH-60A/L  
AND HH-60M HAVE REFERENCES TO **SAFE**  
**STEPPING AREAS**.

WHAT YOU **WON'T** FIND LISTED ARE REFERENCES  
TO **EVERY NO-STEP AREA**.

INCLUDING THEM ALL WOULD DOUBLE OR EVEN  
TRIPLE THE SIZE OF THE MANUALS!

WITH THAT SAID, YOU SHOULD CONSIDER THE  
ENGINE A **NO-STEP ZONE**. **DON'T** USE IT AS  
A STEPSTOOL OR A SHORTCUT ACROSS THE  
HELICOPTER.



Consider AH-64, UH-60A/L and HH-60M engines a **no-step zone!**

WHILE THE SHORTEST DISTANCE BETWEEN  
TWO POINTS IS A STRAIGHT LINE, ANY STRAIGHT  
LINE THAT INCLUDES THE ENGINE RESULTS IN  
**MISSION ABORTS, UNSCHEDULED MAINTENANCE**  
AND **DOWNTIME**.



ENGINE  
RELIABILITY  
DEPENDS ON  
KEEPING YOUR  
FEET OFF THE  
ENGINE.



IT'S A **GOOD IDEA** TO SPREAD  
THE WORD TO PEERS AND SUB-  
ORDINATES THAT **THEIR FEET**  
**DON'T** BELONG ON THE ENGINES.

**KEEP 'EM OFF!**

UH-60 Black Hawk Helicopter...

# M144 Gun Mount Check

Y'KNOW, I THINK I  
**LOST** MY AMMO CAN ON  
THAT LAST FLIGHT.

UH-OH, YOU  
PROBABLY HAVE  
A **PLUNGER**  
**PROBLEM** WITH  
YOUR GUN  
MOUNT.



**MWO**

9-1005-262-23-1  
ADDED A 400-ROUND AMMO CAN  
TO THE UH-60'S M144 GUN MOUNT.  
UNFORTUNATELY, THERE HAVE BEEN  
SEVERAL INSTANCES OF THE CAN  
FALLING OFF DURING FLIGHT.

INVESTIGATION REVEALED **WEAK SPRING TENSION**  
FOR THE MOUNT'S PLUNGER ASSEMBLY. IT **WASN'T**  
FULLY ENGAGING THE PLUNGER INTO THE MOUNT.

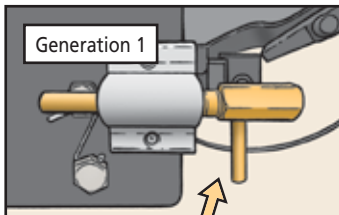
THIS IS TRUE FOR **BOTH**  
GENERATION 1 AND 2 PLUNGERS.

**UNITS NEED TO  
IMMEDIATELY  
CHECK THE PLUNGER  
ASSEMBLIES FOR  
PROBLEMS.**

## LOOK FOR:

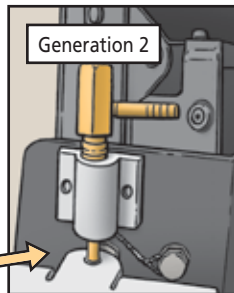
- any plunger defects
- weak spring tension
- failure of the plunger to fully engage when it's released into the mount.

Generation 1



Check plungers for defects, weak  
tension and failure to engage mount

Generation 2



INSPECT THE PLUNGER DURING REGULAR  
MAINTENANCE, WEAPON SYSTEM  
INSTALLATION AND PREFLIGHT CHECKS.

WHEN THE WEAPON SYSTEM **ISN'T** IN USE,  
RELIEVE TENSION ON THE PLUNGER SPRING TO  
AVOID WEAKENING THE SPRING OVER TIME.

IF YOU HAVE ANY M144 GUN  
MOUNT QUESTIONS, CONTACT  
YOUR LOCAL LAR...

...OR TACOM'S JAMES MATHEWS  
AT (586) 282-1368 OR EMAIL:  
[james.c.matthews16.civ@mail.mil](mailto:james.c.matthews16.civ@mail.mil)

ELSE...

# GOT UNDERWATER BREATHING DEVICE ISSUES?

NOT ME! I  
HAD A TRAINED  
TECHNICIAN  
CHECK OUT  
EVERYTHING...

... AND IT'S  
ALL GOOD!



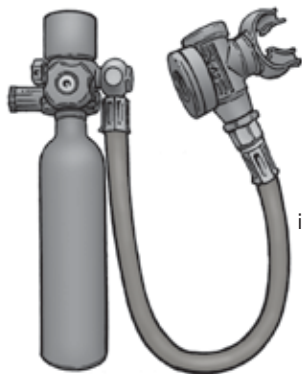
UNITS WITH  
THE AQUA LUNG  
SURVIVAL EGRESS  
AIR BREATHING  
SYSTEM, INCLUDING  
SEA-MK AND  
SEA/LV2 VERSIONS,  
LISTEN UP!



DURING RAPID PURGING SITUATIONS, THE HP SEAT DISC MATERIAL OF THE FIRST STAGE ON/OFF VALVE MAY POKE OUT FROM THE SEAT RETAINER, CUTTING OFF THE AIR SUPPLY. THE SEAT DOESN'T FULLY SEPARATE FROM THE RETAINER, BUT ONLY STICKS OUT A TINY BIT. IT CAN USUALLY BE RESET BY COMPLETELY CLOSING THE ON/OFF VALVE AND THEN REOPENING IT.

THIS PROBLEM IS ONLY KNOWN TO OCCUR IN HIGH-USE TRAINING FACILITIES WHERE **CHRISTO-LUBE** WAS APPLIED AND MAY HAVE ACCUMULATED OVER TIME.

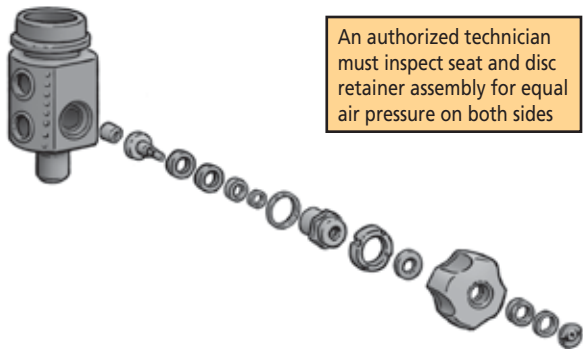
LUBRICATING THE SEAT AND DISC RETAINER ASSEMBLY OR THE INTERNAL THREADS OF THE FIRST STAGE BODY CAN KEEP AIR PRESSURE ON BOTH SIDES OF THE VALVE SEAT FROM EQUALIZING.



Have  
breathing  
device  
problems?  
Have a  
trained  
technician  
inspect seat  
and disc  
retainer  
assembly  
inside

ANY CORRECTIVE ACTION SHOULD BE DONE **ONLY** BY AN AUTHORIZED TECHNICIAN **TRAINED** TO REPAIR AND MAINTAIN THE SEA.

THE WORK MUST BE DONE **EXACTLY** AS THE COMMERCIAL TM SAYS.



An authorized technician must inspect seat and disc retainer assembly for equal air pressure on both sides

## Function Check

USING A FULLY CHARGED CYLINDER, OPEN THE ON/OFF VALVE AND FOLLOW THESE STEPS...



1. Start an extreme rapid purge by pressing the purge button fully on the second stage of the survival egress air (SEA). Wait until the cylinder is completely depleted. **Note: Monitor the high pressure indicator during the function check. A rapid drop of supply pressure indicates a malfunction.**
2. If air flow stops quickly before cylinder depletion, the system fails the function check. Remove it from service and proceed to Step 4.  
A gradual stop of the air flow (under 500 psi indicated) is normal as the cylinder pressure depletes.
3. If air flows without interruption while depleting the cylinder, recharge the system. Repeat Step 1, keeping the valve in the ON position. Again, a gradual stop of the air flow (under 500 psi indicated) is normal. If the unit passes this second test, return it to service.
4. For systems that fail the function check, replace the seat and disc assembly (PN 108322) and O-ring, (PN 520015) with new parts from Aqua Lung. Follow the modified instructions in the SEA TM listed on Page 26. **Note:** After removing the old parts, clean the threads of the body with a lint-free swab or cloth. Do not reapply lubricant to the seat and disc retainer. That can trap debris in the threads.
5. With the ON/OFF valve partial rebuild complete, fully charge the system and repeat a single test (Step 3.) If the unit passes this final test, return it to service.



THE MODIFIED PROCEDURE FOR REV 1/16 OF THE SURVIVAL EGRESS AIR TECHNICAL MANUAL, NEEDS THE FOLLOWING CHANGES:

UNDER **REASSEMBLY OF HANDWHEEL** IN PARA 17 ON PAGE 13, **DELETE** "Lubricate the threads of a new seat disc & retainer (29)."

**REPLACE IT WITH**  
"Do not lubricate the threads of a new seat disc & retainer (29)."

THIS CHANGE WILL BE ADDED TO THE NEXT TM UPDATE.

**GOT QUESTIONS?**

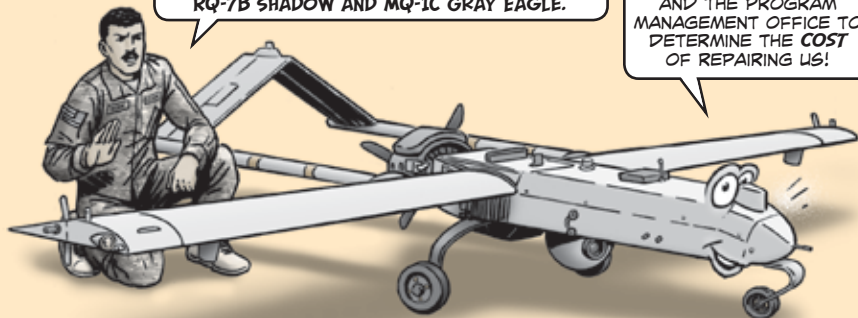
CONTACT **DAVID BATH** AT DSN 748-8027; (256) 842-8027  
OR EMAIL: [david.t.bath.ctr@mail.mil](mailto:david.t.bath.ctr@mail.mil)



## MEL TB Now Includes UAS Aircraft

**GOOD NEWS, MECHANICS!** TB 43-0002-3, **MAINTENANCE EXPENDITURE LIMITS FOR ARMY AIRCRAFT**, HAS BEEN **UPDATED** TO INCLUDE UNMANNED AIRCRAFT SYSTEMS SUCH AS THE RQ-7B SHADOW AND MQ-1C GRAY EAGLE.

THAT MEANS YOU HAVE TO RELY ON FIELD SUPPORT REPRESENTATIVES AND THE PROGRAM MANAGEMENT OFFICE TO DETERMINE THE **COST** OF REPAIRING US!



MAINTAINERS ARE NOW REQUIRED TO PERFORM AN ESTIMATED COST OF DAMAGE (ECOD) BY FOLLOWING AR 750-1, **ARMY MATERIEL MAINTENANCE POLICY** (AUG 17).

SO SPREAD THE WORD TO ALL YOUR UAS COHORTS AND DOWNLOAD A COPY OF THE UPDATED AND NEWLY RENAMED TB 43-0002-3, **MAINTENANCE EXPENDITURE LIMITS FOR ARMY AIRCRAFT AND UAS** (FEB 17), AT THE LOGSA ETM WEBSITE:

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

CHECK OUT AVIATION MAINTENANCE ACTION MESSAGE GEN-17-AMAM-01 FOR MORE DETAILS ABOUT UAS REPAIR:

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



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SATS--Corrosion, generator weight...	792 41	A/C compressor belt seizing	787 11
Silicone spray, grease for rubber parts	787 41	CTIS air hose leak detection	792 14
Special tools go on hand receipt	785 47	Headlight drain holes not allowed	793 12
TK-101/G--Component listing	790 52	LMTV hydraulic tank NSN	792 15
<b>TRACTOR, D6K</b>		<b>TRUCK, HEMTT</b>	
Winch clevis, don't secure to tow pin	789 17	A2 Models--Boom control valve NSN	793 15
<b>TRACTOR, D7E/F/G/R</b>		A4 Models--Distribution manifold NSNs	792 61
D7R II--Fuse box corrosion	789 16	A4 Models--Weapon mount not authorized	785 15
D7R II--Messenger display codes important	793 45	Fuel tank repair kit change	792 61
D7R II--Parking brake engaged for start	793 45	Load test guidance	793 60
D7R II--Stabilizer mounting bolt replacement	793 44	MEL update	793 14
D7R II--Start up right to save turbocharger	782 17	<b>TRUCK, M915-SERIES</b>	
D7R II--Winch clevis, don't secure to tow pin	789 17	M915A5--Front speed sensor NSN	783 60
<b>TRAILERS</b>		M915A5--Oil change intervals	783 15
Linseed oil to preserve decks	782 60	M915A5--Radiator NSNs	787 61
M149A2--Brake hose assembly NSN	782 61	M915A5--Rear wheel seal NSN	787 61
M149A2--Landing leg NSN	793 60	M915A5--Taillight NSN	783 60
M149A2--Manhole gasket replacement	786 12	M915A5--VORAD sensor, bracket NSNs	782 60
M149-Series--Water only in tank	786 11	M915A5--VORAD side sensor NSN	783 60
M149A2, M1112--Diesel heater kit	790 61	M915A5--Windshield NSNs	783 60
M1101, M1102--Brake master cylinder cap	787 15	M917A2--Tire & wheel assembly components	782 15
Wheel assembly NSN correction (766)	790 61	<b>TRUCK, M1070 HET</b>	
<b>TRAILERS, SEMI</b>		A1--Axle breather PM	788 13
Linseed oil to preserve decks	782 60	A1--Belt tensioner NSN	787 61
M870A1--Hub wheel left out of conversion kit	787 14	<b>TRUCK, PALLETIZED LOADING (PLS)</b>	
M870A1--Wood decking kit	782 61	A1 Models--Distribution manifold NSNs	792 61
M1076/A1--MEL update	793 14	A1 Models--Engine control unit NSN	787 61
<b>TRAINING</b>		A1 Models--Weapon mount not authorized	785 15
Armorer training support package	785 59	CHU, E-CHU--MEL update	785 11
Army training devices catalog released	793 47	E-CHU hydraulic manifold NSN	783 60
<b>TRANSPORTATION</b>		E-CHU roller beam parts	783 60
Bradley OCONUS rail transport info	793 02	Flatrack ratchet strap replacement NSN	783 15
<b>TRUCK, 1 1/4-TON, HMMWV</b>		Maintenance team email address	793 15
Accelerator pedal linkage lubing	785 13	MEL update	793 14
		Radio installation kit NSN	787 49

Subject	Issue/Pg	Subject	Issue/Pg
<b>TRUCKS, GENERAL</b>			
B-Kit accountability	790 58	Coolant, fluids, hub oil	785 03
Cargo cover bulk tie-down cord	793 61	EA seat shear pins	790 04
CBRN filter replacement	789 14	EA troop seats, no storage underneath	793 07
Jack stand FAQ	783 46	Engine coolant checks	786 06
Rust Busters tip of the month, #1	782 14	Engine hatch gas springs	790 02
Rust Busters tip of the month #2	783 11	Engine oil copper levels	792 08
Rust Busters tip of the month #3	784 11	Engine rpms, keep below 2,900	789 05
Rust Busters tip of the month #4	785 12	Hub nut tightening sequence	789 04
Rust Busters tip of the month #5	786 14	M1127, M1131A1--GLU switch damage	788 08
Rust Busters tip of the month #6	787 12	M1128 MGS--Gun tube pitting	782 07
Rust Busters tip of the month #7	788 10	M1129, M1133, M1134--EA seatbelt buckle	792 05
Rust Busters tip of the month #8	789 12	M1129E1, M1252--Mortar tube inspection	790 06
Rust Busters tip of the month #9	790 11	M1134 ATGM--Basic Skills Trainer tips	791 40
Rust Busters tip of the month #10	791 10	M1134 ATGM--MITAS BITS	787 42
Rust Busters tip of the month #11	792 10	M1134 ATGM--TOW sight door damage	783 08
Rust Busters tip of the month #12	793 10	M1135 NBCRV--CBMS, SIM, PMCS...	791 35
Wheel lift for mounting tires	785 14	M1135 NBCRV--PM tips	787 44
Winter storm vehicle preparation	792 12	Rear service brake reservoir draining	792 07
<b>VEHICLE, FIGHTING, M2/M3 BRADLEY</b>		Towing procedures	792 06
AFES hydrostatic test interval	793 05	Voltage regulator cable caution	793 08
Ammo box covers vibrate loose	789 03	Wheel hub fill plug O-ring	783 07
Idle wheel nuts loosening	791 05	Wheel hub fluid contamination	782 09
M242--91F only repairer allowed	787 06	Wheel hub leaks	782 08
M242--Gun card mandatory	786 08	Wheel hub seals, wire cutter, exhaust cover...	787 04
OCONUS rail transport info	793 02	<b>VEHICLES, COMBAT</b>	
Periscope thumbscrew rust	790 09	LRUs, check for serviceability before turn-in	787 03
Transmission oil dipstick gasket	791 04	<b>VEHICLES, GENERAL</b>	
<b>VEHICLE, RECOVERY, M88-SERIES</b>		CBRN filter replacement	789 14
A1--Boom pivot pin lubing	784 08	Jack stand FAQ	783 46
A2--Engine oil check 2 hours after shutdown	791 07	Rust Busters tip of the Month #1	782 14
A2--Ground hop kit components	782 61	Rust Busters tip of the month #2	783 11
A2--Heater exhaust tube check	792 03	Rust Busters tip of the month #3	784 11
A2--Tarp for complete vehicle coverage	791 06	Rust Busters tip of the month #4	785 12
A2--Tow bar inspection, replacement	792 02	Rust Busters tip of the month #5	786 14
Hydraulic wrench PM	782 04	Rust Busters tip of the month #6	787 12
Spare roadwheel rust prevention	785 08	Rust Busters tip of the month #7	788 10
Stow boom to stop hydraulic problems	782 05	Rust Busters tip of the month #8	789 12
Towing app to improve recovery operations	788 05	Rust Busters tip of the month #9	790 11
Towing app to improve recovery operations	793 61	Rust Busters tip of the month #10	791 10
Track end connector, center guide PM	793 06	Rust Busters tip of the month #11	792 10
Winch cable kinking	785 09	Rust Busters tip of the month #12	793 10
<b>VEHICLE, STRYKER</b>		<b>WATER SUPPLY</b>	
AC inverter access door, keep closed	782 06	Hydration systems	786 50
Alternator troubleshooting	789 06	<b>WELDING</b>	
Brake chamber exhaust hose, two wrenches	786 07	Gas cylinder ordering, returns	783 44
Cargo net NSNs	790 07	<b>WIRE AND EQUIPMENT</b>	
		Cable & wire handbook released	790 49



**SEE BARREL THREADS?  
DON'T FIRE!**



Dear Editor,

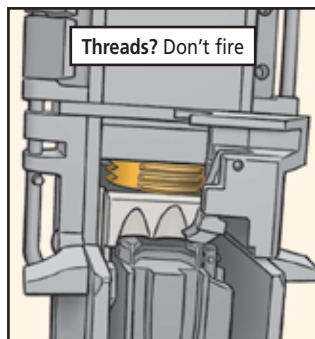
M2A1 machine gun barrels continue to be shot off because Soldiers don't have the barrel completely screwed into the barrel extension.

That's not only dangerous, but expensive. It costs more than \$800 to replace a barrel.

Soldiers get the barrel alignment pin in the barrel support J-slot, but fail to fully screw in the barrel. That leaves space between the barrel and bolt assembly. Disaster follows.

A simple check can prevent that. Before firing, check for barrel threads in front of the barrel extension. If you see threads, the barrel is not fully screwed in. No threads? You're good to fire.

Douglas Wolcott  
Ft Indiantown Gap, PA



**Editor's note:** An excellent tip, Doug. Another good check is to charge the M2A1 after closing the cover assembly. If the barrel moves forward and rearward during charging, the barrel is secure.

Since improper barrel installation has been such a big problem, units should review the barrel installation steps before Soldiers fire at the range. It will save replacing an \$800 barrel.

# What Makes Receiver NMC?

THE M2 AND M2A1 TMS COME UP A BIT **SHORT** ON WHAT MAKES THE RECEIVER NMC.

TO CLEAR THAT UP, NEW CRITERIA ARE BEING ADDED TO THE QUARTERLY PMCS FOR THE M2'S TM 9-1005-213-23&P AND THE M2A1'S TM 9-1005-347-23&P.



TO DO THIS INSPECTION, FIRST **REMOVE** THE FOLLOWING COMPONENTS FROM THE RECEIVER...

- back plate
- barrel
- barrel extension
- buffer recoil mechanism
- bolt
- drive rod spring

## 1. CHECK TOP PLATE:

OPEN THE FEED TRAY COVER AND TRY TO MOVE THE TOP PLATE BY HAND ONLY.

IF THE TOP PLATE HAS **OBVIOUS** MOVEMENT, THE M2/M2A1 NEEDS TO GO TO SUPPORT. IT'S NMC.

IT'S OK, THOUGH, FOR THE RECEIVER RIVETS TO TURN.

Feel top plate for looseness



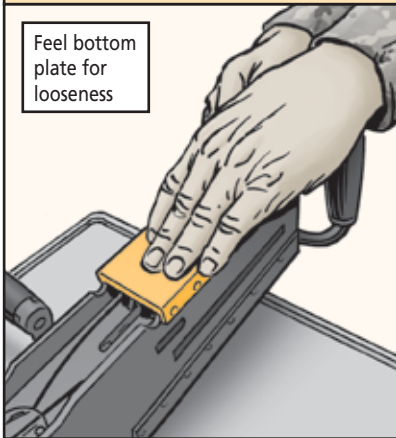
## 2. CHECK BOTTOM PLATE:

TURN THE RECEIVER OVER ONTO THE TOP PLATE. GRASP THE BOTTOM PLATE AND TRY TO MOVE IT.

IF THE BOTTOM PLATE HAS **OBVIOUS** MOVEMENT, IT NEEDS TO GO TO SUPPORT. IT'S NMC.

AGAIN, THE RIVETS CAN TURN.

Feel bottom plate for looseness



### 3. CHECK THE TRUNNION:

TURN THE RECEIVER OVER ONTO THE TOP PLATE. WHILE HOLDING THE RECEIVER, GRASP THE BARREL SUPPORT AND TRY TO MOVE IT.

IF THE TRUNNION HAS **OBVIOUS** MOVEMENT, THE M2/M2A IS NMC AND NEEDS TO GO TO SUPPORT.

Feel trunnion  
for looseness



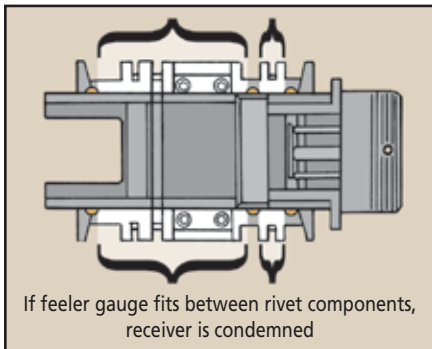
THE INSPECTION RESULTS SHOULD BE RECORDED ON A DA FORM 2028.



SUPPORT SHOULD DO THE FOLLOWING INSPECTION...

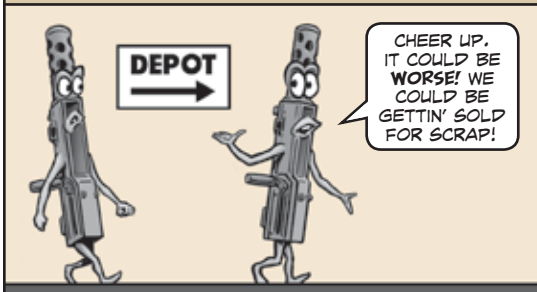
USING A **0.010-IN FEELER GAGE**, NSN 5210-00-221-1999, MEASURE BETWEEN THE RIVETED COMPONENTS AT THE RIVET HEAD SITE LOCATIONS.

CHECK THE LEFT AND RIGHT-SIDE RIVETS OF THE TOP PLATE, THE LEFT-SIDE RIVETS OF THE BOTTOM PLATE AND THE LEFT AND RIGHT-SIDE RIVETS OF THE TRUNNION AREA.

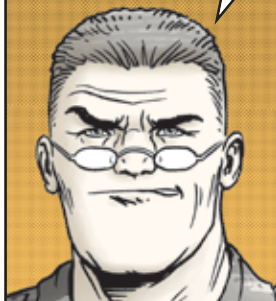


THE BOTTOM PLATE RIGHT-SIDE RIVETS **DON'T** NEED TO BE CHECKED WITH THE CHARGING HANDLE ATTACHED.

IF THE FEELER GAUGE CAN FIT BETWEEN THE RIVETED COMPONENTS AND CONTACT THE RIVET FOR THE ENTIRE LENGTH OF THE INSPECTION AREA (AT EACH RIVET, IN OTHER WORDS), THE RECEIVER IS **CONDEMNED** AND NEEDS TO GO TO DEPOT FOR OVERHAUL.

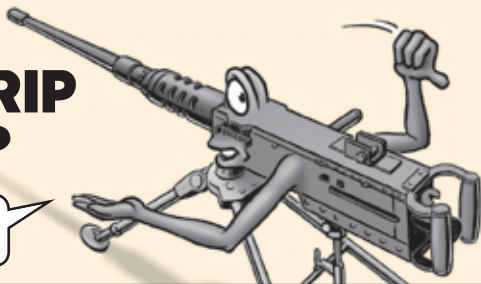


THIS CHECK DOES **NOT** APPLY TO THE FEED PAWL BRACKETS.



## CAN SPADE GRIP BE LOOSE?

IF MY SPADE GRIP IS LOOSE, YOU **DON'T** WANT TO FIRE ME. TAKE MY WORD FOR IT.



Dear Half-Mast,

Can the M2/M2A1 spade grip be loose? Item 8 in the PMCS in TM 9-1005-213-10 says the M2 is NMC if the grip is loose. But Item 85 in the PMCS in TM 9-1005-347-23&P says the M2A1 is NMC if the grip is cracked or missing screws, and doesn't mention looseness. Please clarify.

SGT K.S.

Dear Sergeant,

Yes, the M2/M2A1 is NMC if the spade grip is loose. However, if the grip is loose, its screws can be tightened or the grip tube assembly replaced.

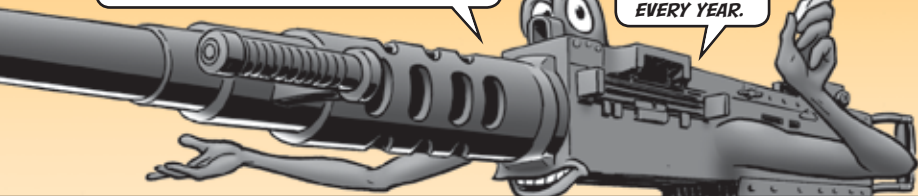
The new TM 9-1005-213-23&P, which will cover both the M2 and M2A1, will make this clear in its PMCS.

Half-Mast

## M2A1s Need Headspacing, Too

BEFORE I LEAVE THE ARMS ROOM, I NEED TO BE CHECKED WITH THIS WEAR LIMIT/TIMING GAGE, OTHERWISE I COULD HAVE **SERIOUS PROBLEMS**.

AND DON'T FORGET TO GET THIS GAGE GAGED **EVERY YEAR**.



**T**HE **GOOD NEWS** IS THAT, **UNLIKE** THE M2 MACHINE GUN, THE M2A1 **DOESN'T** NEED TO BE HEADSPACED AND TIMED BY GUNNERS EVERY TIME THEY FIRE. THE **NOT-SO-GOOD NEWS** IS THAT THE M2A1 **STILL** NEEDS TO BE HEADSPACED AND TIMED. **AND WITH DIFFERENT GAGES.**

FIELD MAINTENANCE SETS THE HEADSPACE AND TIMING FOR EACH M2A1. BUT SMALL ARMS REPAIRMEN SHOULD BE CHECKING THE HEADSPACE AND TIMING **BEFORE** AN M2A1 LEAVES THE ARMS ROOM. AND THEY SHOULD BE DOING IT WITH THE **WEAR LIMIT/TIMING GAGE**, NSN 5220-01-580-6602, **NOT** WITH THE OLD M2 HEADSPACE AND TIMING GAGES.

IF THE M2A1 **FAILS** THE WEAR LIMIT OR TIMING CHECKS, IT NEEDS TO **GO BACK** TO FIELD MAINTENANCE FOR ADJUSTMENT OF THE HEADSPACE AND TIMING.

THE M2A1 GAGE NEEDS TO BE CALIBRATED EVERY 12 MONTHS BY TMDE OR IT'LL GIVE BAD READINGS. IT'S A GOOD IDEA TO HAVE TWO GAGES ON HAND SO YOU CAN STAGGER THEIR CALIBRATION.

Small Arms...

I'VE **LOST** THE  
BOLT TO MY M16  
AND I NEED A  
NEW ONE.

BSB



YOU NEED A  
**STATEMENT FROM  
YOUR CO BEFORE**  
I CAN GIVE YOU A  
NEW BOLT.

**TOLD  
YA!**



## CONTROLLED PARTS **MUST BE CONTROLLED!**

Dear Editor,

Units sometimes don't realize many small arms parts are controlled items.

Support shops are sometimes asked to replace parts like rifle bolts. But we can't replace a bolt unless we have either the damaged bolt to be replaced or a statement from the unit commander that the bolt was lost in the field.

So if a Soldier loses a part from his weapon, he needs to notify his commander so he can prepare a missing part statement. That lets us replace the part.

SSG Sean Small  
Ft Hood, TX

**Editor's note:** *A paper trail for a missing small arms part keeps everyone out of trouble.*

## M150 Sight Lens Covers NSNs?

Dear Half-Mast,

We have several broken lens covers for the M150 sight that's used on the M4 carbine and M16 rifle. Item 1 in Fig 2 in WP 0016-4 of TM 9-1240-416-13&P lists the NSN for the cover as NSN 6650-01-560-0133. But that NSN is terminal. Is there a good NSN?

Lens cover



Objective  
lens cover

Order lens cover with NSN 6650-01-560-0133 until stock is exhausted

Mr. S.T.

ALTHOUGH THAT NSN IS TERMINAL, SIR, THERE ARE STILL PLENTY OF COVERS IN STOCK. SO CONTINUE TO ORDER COVERS WITH THAT NSN. ONCE THE SUPPLY IS EXHAUSTED, ORDER COVERS WITH NSN 6650-01-663-1289.

NSN 6650-01-559-3862 FOR THE **OBJECTIVE LENS COVER** (ITEM 10 IN FIG 2) IS **ALSO** TERMINAL. ORDER THE **REPLACEMENT COVER** WITH NSN 6650-01-657-7657.







# ...CLET Filter Facts

Dear Editor,

The Filters for the Patriot AN/MPQ-65 and -65A radar's cooling liquid electron tube (CLET) are critical. If they can't keep the coolant clean, you get faults in the engagement control station (ECS) and the radar shuts down. If the CLET itself is damaged, you're talking repairs or replacement for a \$3M item.

Normally, the CLET Filters are changed semiannually or whenever CLET components are replaced. But when you're operating in the field, you may need to change the Filters much more often.

Two important things Patriot units need to remember about the Filters: They have an expiration date and if damaged, they are unusable.

The expiration is easy to check. The label on the filter's box shows the "Last allowable date of installation." As long as that date hasn't been reached, the Filter's good to go.

Damaged Filters are a bigger problem. If a filter's plastic tube is broken, the Filter is unusable. And, for some reason, the tube is often broken during shipment. We've had instances where 40 percent of the filters we received were damaged.

Unfortunately, you can't remove the Filter from its box until it's needed. So you don't know until then if the Filter's usable.

Units need to order a quantity of the Filters and assume some are unusable. After removing a filter from its box, carefully examine its plastic tube for cracks. And before removing old Filters make sure you have enough good replacement Filters. You can't reinstall the old Filters.

There are three CLET Filters available:

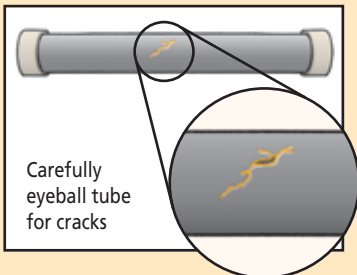
- NSN 4330-01-232-2061 (PN 11463994)
- NSN 1430-01-228-1363 (PN 11463995)
- NSN 1430-01-227-4809 (PN 11463996)

The last NSN is actually a combined filter and tube that repairers stick together. It doesn't have an expiration date and doesn't seem to crack as much. The **tube** comes with NSN 4240-01-308-4400 and the **filter element** with NSN 4330-01-272-2941.

Arben Enterprises, Inc.  
Chelmsford, MA, USA  
Cage Code #OGJ88  
Mixed Bed Cartridge  
Part Number 18876-11463996 Rec C  
Date of Manufacture: 05/16

Last allowable date of installation: 05/18

Check expiration date *before* installing filter



**Editor's note:** More good Patriot tips from you, Chief. Thanks.

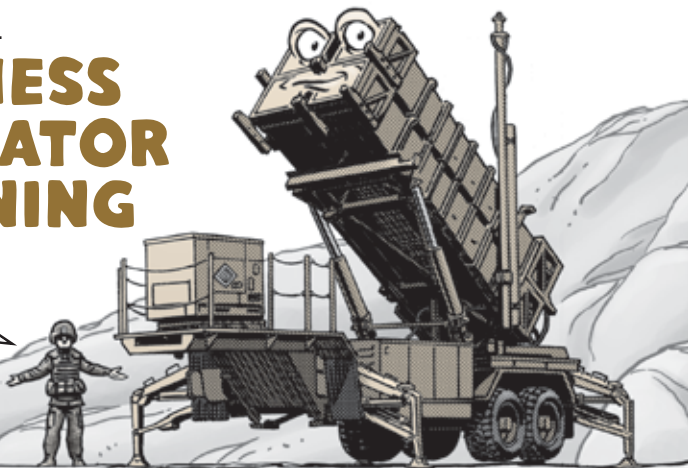
Here are two other CLET tips: Don't rely on the CLET gauge for tracking its coolant level. It's not always accurate. Use the rod to check for the proper coolant level. Order coolant with NSN 6810-01-229-9828.

The CLET refill pump comes with a nipple. **Don't lose that nipple!** You need it for the pump and it's nearly impossible to get a replacement.

Patriot Missile System...

## NO MESS GENERATOR DRAINING

HERE'S A TIP  
FROM FT HOOD  
ON HOW TO  
**AVOID A MESS**  
WHEN DRAINING  
OIL OUT OF THE  
LAUNCHER'S  
GENERATOR.



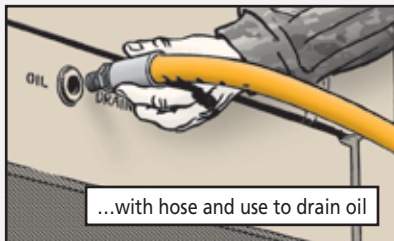
Dear Editor,

It's difficult to drain the oil from the Patriot launcher's 15-kW generator without making a real mess. When you remove the generator's drain plug, the oil goes everywhere.

We took the mess out of that operation by substituting a fitting with a hose.

We remove the drain plug, install the fitting, put the hose in a container and start draining. Once we're finished, we reinstall the drain plug.

Get fitting...



There's probably a fitting in the motor pool that will work. If not, your local big box store has fittings and hoses for a few dollars. It's worth it not to have to mop up an oil mess.

SSG Salvador Morales  
Ft Hood, TX

**Editor's note:** Your suggestion makes maintenance easier. That's always a good thing.

# WHAT OILS TO USE IN M26 DECON



THERE IS A **DIFFERENCE** WHEN IT COMES TO **LUBRICATING** THE M26 JOINT SERVICE TRANSPORTABLE DECONTAMINATING SYSTEM'S (JSTD6-66) WATER PUMP AND ITS ENGINE.

PLEASE **DON'T** MIX UP MY OILS!

THE **WATER PUMP'S OIL** SHOULD BE CHANGED ANNUALLY WITH **PUMP OIL**, NSN 1040-01-612-3498.

AFTER DRAINING THE WATER PUMP'S OIL, REFILL IT UNTIL THE OIL IS VISIBLE IN THE MIDDLE OF THE OIL LEVEL SIGHT GLASS. IT SHOULD TAKE ABOUT 2.1 QUARTS.

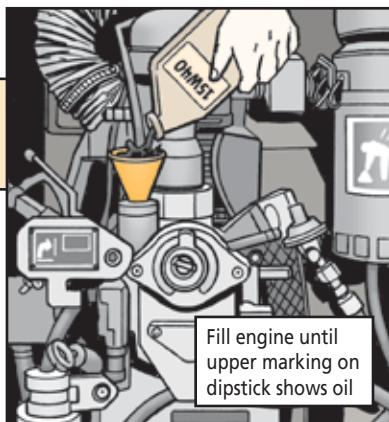
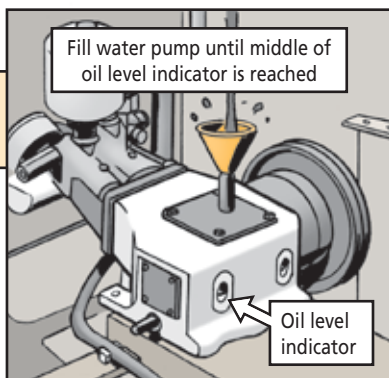
THE ENGINE ITSELF USES **15W40 OIL**, NSN 9150-01-421-1427. THE ENGINE OIL SHOULD BE CHANGED EVERY 100 HOURS OF OPERATION OR QUARTERLY, WHICHEVER COMES FIRST.

THE **EXCEPTION** IS IF THE M26 HAS BEEN OPERATING IN **ADVERSE CONDITIONS**, SUCH AS EXTREME DUST OR EXTENDED OPERATING OR IDLING. THEN THE OIL SHOULD BE CHANGED **MORE OFTEN**.

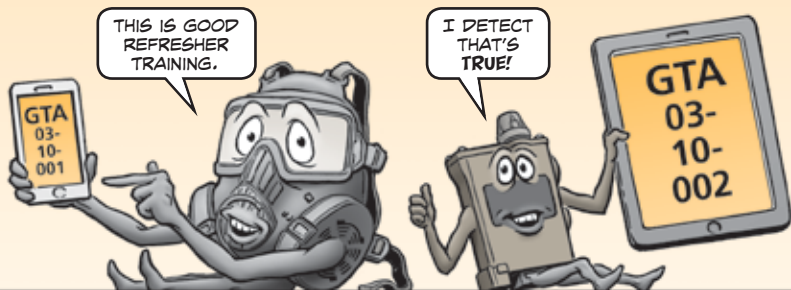
BEFORE CHANGING THE ENGINE'S OIL, RUN THE ENGINE FOR A FEW MINUTES TO WARM UP THE OIL.

AFTER DRAINING THE OIL, ADD ENGINE OIL UNTIL IT REACHES THE **UPPER MARKING** ON THE DIPSTICK. IT SHOULD TAKE ABOUT 1 QUART. THE PROCEDURE IS IN TM 3-4230-238-23&P (NOV 09, W/CH 1, DEC 12).

THE ENGINE OIL FILTERS SHOULD BE CHANGED WHENEVER THEY ARE **CONTAMINATED, CLOGGED**. EVERY 300 HOURS OR SEMI-ANNUALLY.



# GRAPHIC AIDS HELP CBRN TRAINING



Two graphic training aids (GTAs) are available to help your unit stay familiar with their CBRN equipment: GTA 03-10-001, *CBRN Individual Protective Equipment*, and GTA 03-10-002, *Small Unit CBRN Detection Equipment*. To download, go to: <http://www.train.army.mil/>

Click on Sign in to the Central Army Registry (CAR) and sign in with your CAC. Click the Product Type dropdown in the left-hand column. Scroll down and click on GTA-Graphic Training Aid. On the next screen, click Start New Search and type in GTA 03-10-001 or GTA 03-10-002. Click Search the CAR.

## Don't Let AN/PSS-14s Sit



If you're not using your AN/PSS-14 mine detectors, turn them in. The Army needs them for repair requests and to upgrade them to AN/PSS-14Cs.

Turn in all versions of the AN/PSS-14: AN/PSS-14, -14A and -14B.

Send them to:

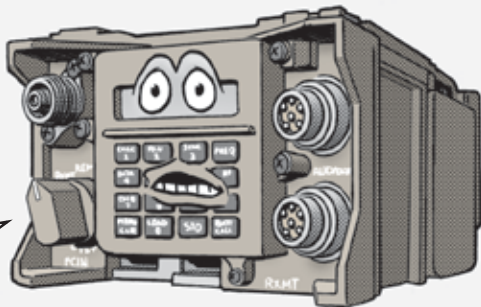
DLA Distribution Tobyhanna W25G1W  
Gibbs and 5th St. Warehouse 6 Bay 4  
Tobyhanna PA 18466-5059 394-1404  
RIC B16 Project Code 9HN

For complete turn-in instructions,  
contact Lauren Scicchitano at (443)  
394-1404 or email:

[lauren.n.scicchitano.civ@mail.mil](mailto:lauren.n.scicchitano.civ@mail.mil)

# TURN IN SINGARS RF AND SYNTHESIZER CCAs

THE CIRCUIT CARD ASSEMBLIES (CCAs) LISTED IN THE CHART BELOW ARE USED IN SINGARS RT-1523E, RT-1523F AND RT-1523G. THESE CCAs ARE NON-REPAIRABLE.



HOWEVER, IF RADIO MAINTAINERS FIND **DEFECTIVE** CCAs, THEY SHOULD TURN THEM IN TO THEIR LOCAL SUPPLY SUPPORT ACTIVITY (SSA) FOR FURTHER EVALUATION AND DISPOSITION.

Description	NSN 5998-
RF circuit card assembly	01-455-9639
Synthesizer circuit card assembly	01-455-9650

## CAUTION!

ENSURE CCAs ARE **PROPERLY HANDLED AND PACKAGED** TO PREVENT DAMAGE CAUSED BY ELECTROSTATIC DISCHARGE (ESD).

## QUESTIONS?

## CONTACT:

**JONATHAN FERNG,**  
DSN 648-6293,  
(443) 395-6293, EMAIL:  
[jonathan.ferng.civ@mail.mil](mailto:jonathan.ferng.civ@mail.mil)

OR **DAVID YANOSIK,**  
DSN 648-6232,  
(443) 395-2632, EMAIL:  
[david.w.yanosik.civ@mail.mil](mailto:david.w.yanosik.civ@mail.mil)

Publications...

# AN/TSQ-232 TM Correction

**ALERT! THERE'S AN ERROR IN WP 0027-10 OF THE COEI SECTION OF TM 11-5895-1812-10, DATED OCTOBER 2010.**



THE CURRENT INFO READS:

ITEM #33, NSN 6130-01-514-5107 [FBCB2/BFT KIT], ALH-102802 (318U3) (HMMWV CAB), CONSISTING OF:

- Switch box assembly, PN A1-36044D-001
- Display unit, NSN 7025-01-526-5612
- FBCB2 CPU, NSN 7021-01-522-1216
- Computer keyboard, NSN 7025-01-496-9879
- MT-2011E BFT antenna

HOWEVER, ITEM #33 AND ALL ASSOCIATED PARTS **AREN'T** PART OF THE COMMAND POST PLATFORM (CPP) SYSTEM. THESE ARE STAND-ALONE ITEMS.

THAT MEANS ITEM #33 **SHOULDN'T** BE INCLUDED IN THIS TM. BLUE FORCE TRACKER (BFT) EQUIPMENT FALLS UNDER ASSOCIATED SUPPORT ITEMS OF EQUIPMENT (ASIOE).

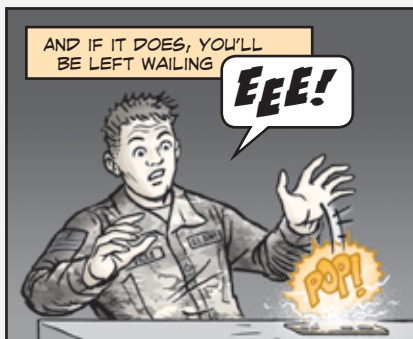
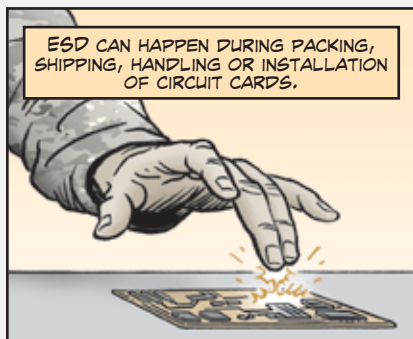
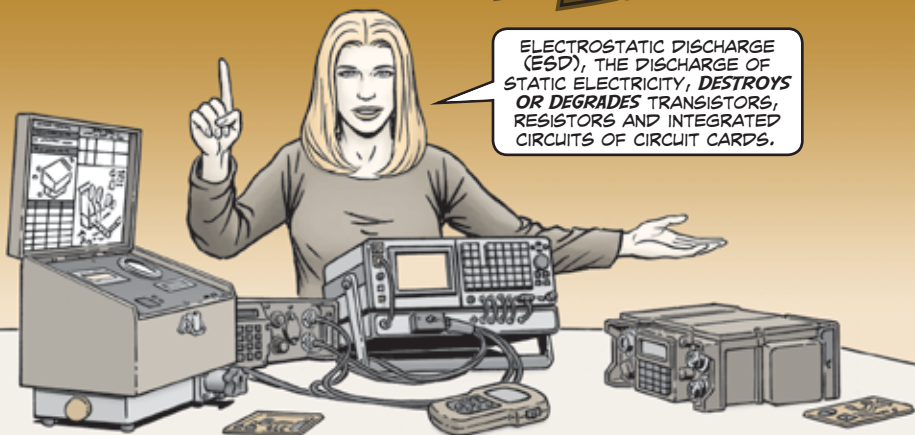
**NOTE:** ALTHOUGH ITEM #33 IS CURRENTLY LISTED IN TM 11-5895-1812-10, THAT'S **WRONG**. IT'S **NOT** THE RESPONSIBILITY OF THE UNIT, AND **SHOULDN'T** BE ATTACHED TO THE UNIT'S HAND RECEIPT.

A FUTURE TM UPDATE WILL INCLUDE MANY MORE EDITS, ALONG WITH THE EDIT/REMOVAL OF SUBJECT ITEM "MT-2011E, ANTENNA, BFT." THIS EQUIPMENT SHOULD BE ASIOE AND **NOT** PART OF THE COEI.



ESD...

# KILLER EEEs!



## What Causes ESD?



ESD COMES FROM ELECTRICALLY CHARGED OBJECTS IN YOUR WORK AREA...

- clothing
- rugs
- chairs
- paper
- ordinary packaging materials
- the work surface itself



YOU BUILD UP **THOUSANDS OF VOLTS** OF STATIC ELECTRICITY BY DOING **SIMPLE** THINGS LIKE WALKING ACROSS THE FLOOR OR COMBING YOUR HAIR.



THEN, JUST BY TOUCHING A CIRCUIT CARD, YOU'LL DISCHARGE STATIC ELECTRICITY, OFTEN **WITHOUT REALIZING IT.**



A SPARK AS LITTLE AS 30 VOLTS **RUINS** A SENSITIVE ELECTRONIC DEVICE.

YOU MAY NOT FEEL THE DISCHARGE OR SEE THE DAMAGE, BUT YOU CAN BET IT'S HAPPENED.

THE CIRCUIT CARD MAY FAIL NOW OR...

...BE **WEAKENED** ENOUGH TO FAIL SOON.



## Static-safe Workstations

### PROTECT YOUR CIRCUIT CARDS FROM ESD.

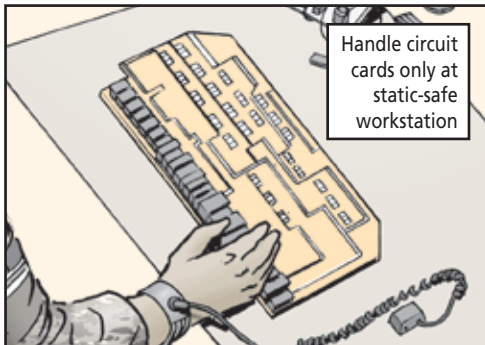
HANDLE THEM **ONLY** AT A STATIC-SAFE WORK-STATION THAT INCLUDES A GROUNDED STATIC-DISSIPATIVE TABLE MAT, FLOOR MAT AND WRIST STRAP.

THEY'RE DESIGNED TO LIMIT STATIC BUILDUP AND CARRY ALREADY-EXISTING CHARGES TO GROUND.

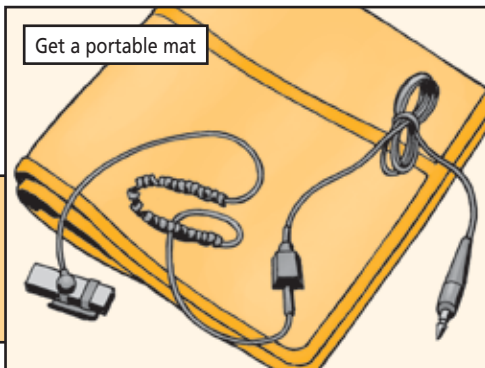
HERE'S WHAT'S GENERALLY AVAILABLE:

NSN 5920-01-250-4236 BRINGS A **STATIC DISSIPATIVE TABLE MAT, COMMON POINT GROUND SYSTEM, AND WRIST STRAP** FOR USE IN ALL AREAS OTHER THAN CLEAN ROOMS OR LAMINAR FLOW BOOTHS. IT ALSO INCLUDES **SMALL/MEDIUM AND LARGE/X-LARGE WRIST CUFFS.**

NSN 5920-01-250-4237 GETS YOU A **PORTABLE WORK SURFACE, COMMON POINT GROUND SYSTEM, AND WRIST STRAP** FOR USE WHERE OTHER STATIC CONTROL STATIONS AREN'T AVAILABLE. IT ALSO INCLUDES **SMALL/MEDIUM AND LARGE/X-LARGE WRIST CUFFS.**



Handle circuit cards only at static-safe workstation



Get a portable mat

NSN 5920-01-253-5368 BRINGS  
A FIELD SERVICE KIT THAT HAS:

- **three pouches,**  
**MIL-DTL-81997, Type II,**  
NSN 8105-01-197-7846,  
12 X 10 INCHES
- **three barrier bags,**  
**MIL-PRF-81705, Type III,**  
NSN 8105-01-385-6281,  
12 X 10 INCHES
- **two wrist straps,**  
**one grounding cord and**  
**a work surface mat\*.**

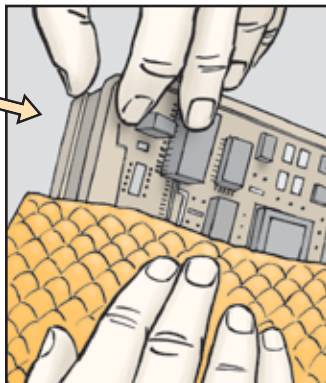


\*INSTRUCTIONS FOR A SELF-TEST AND HOW TO USE  
THE KIT ARE PRINTED ON THE WORK-SURFACE MAT.

IF YOU'RE GOING  
TO **PACKAGE**  
ESD-SENSITIVE,  
OR ESDS, CIRCUIT  
CARDS, HERE  
ARE A COUPLE  
OF WAYS TO  
**PROTECT** THEM...

**FIRST, WRAP ESDS CARDS  
IN ANTI-STATIC BUBBLE WRAP.**

NSN 8135-01-234-6649  
BRINGS A 500-FT ROLL.  
YOU'LL NEED TO ORDER IT  
ON A DD FORM 1348-6 FROM  
RIC GSA AND PUT  
"NSN NOT ON AMDF"  
IN THE REMARKS BLOCK.



**THEN MAKE A BAG  
FROM STATIC SHIELDING  
BARRIER MATERIAL.**

NSN 8135-01-185-6816.  
HEAT SEAL THE BAG WITH  
A **HANDHELD SEALER.**  
NSN 3540-01-456-4286.

IF THE PIECE OF  
ELECTRONIC EQUIPMENT  
IS SMALL ENOUGH, PUT  
IT INTO ONE OF THESE  
ESD-FREE FLEXIBLE  
CUSHION POUCHES:

Pouch size (inches)	NSN 8105-
8x8	01-215-0462
10x10	01-197-2966
10x12	01-215-0462
11x15	01-215-4752
12x12	01-197-2965



**FINISH THE JOB  
WITH A FAST PACK:**

Fast pack (inches)	NSN 8115-
10x10x3 1/2	01-057-1244
12x18x3 1/2	01-019-4084

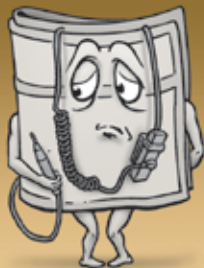
**PS MORE**

## Charged Items

THE SLOW DISCHARGE PATH OF A STATIC-SAFE WORKSTATION CAN PROTECT YOUR CIRCUIT CARD FROM DISCHARGING CONDUCTORS SUCH AS METAL OR YOUR BODY.



UNFORTUNATELY, THEY CAN DO **NOTHING** AGAINST THE EFFECT OF COMMON HIGHLY CHARGED, NON-CONDUCTING ITEMS.



CANDY WRAPPERS, FOLDERS, PAPER, FOAM CUPS, CIGARETTE PACKS, PLASTIC AND MASKING TAPE, PLASTICS, VINYL, HEAT GUNS WITH BLOWERS AND COMMON PACKING MATERIALS CAN HAVE A HIGH STATIC CHARGE.



**KEEP 'EM AWAY FROM THE WORK SITE.**

HERE'S HOW THESE HIGHLY CHARGED ITEMS CAN **DAMAGE** CIRCUIT CARDS:

- Direct contact between the circuit card and the charged item triggers a discharge. A sudden flow of electric current rushes from the charged item and through the card's circuitry.

- A circuit card is placed near a charged item—a **foam cup**, for example. The cup could have a static charge of up to 20,000 volts. That charge creates an electrostatic field. If the circuit card lies within the field, it takes on a charge. The damage comes later, when an unsuspecting technician reconnects (grounds) the card. **BAM!** The card is zapped by the discharge as surely as if it was touched directly by the charged foam cup.





A FEW PRECAUTIONS AND REGULAR PM AROUND YOUR WORKSTATION WILL KEEP HIGH-STATIC ELECTRICITY UNDER CONTROL.

ABSORB THE FOLLOWING TIPS:

- Keep your work area clutter-free.
- Whenever you leave your workstation, protect the circuit board, even if you think you're coming right back. Put it in an ESD-free pouch or wrap it in static-shielding barrier material.

- If you must have TMs and paperwork at your workstation, store them in anti-static bags. **Never** use regular tape or ordinary rubber bands to fasten the bags. Tape and rubber hold static electricity.

HEY, DON'T FORGET ME!

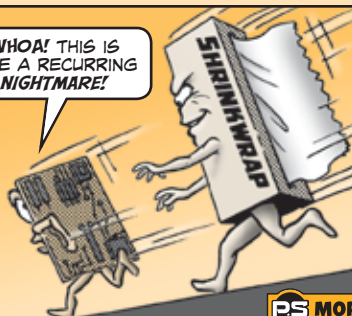
SORRY, HERE'S ONE TRIP YOU **DON'T** GET TO GO ON, BUDDY!

- Magnets, radios and phones create electro-magnetic fields, too. Keep them out of your workstation when you're handling ESDS items.



- If you package an ESDS item in stretch wrap or shrink wrap, do it away from your workstation. Packaging an item with these materials generates static electricity.

WHOA! THIS IS LIKE A RECURRING NIGHTMARE!



PS MORE



## Clean Means Safe

DIRT AND DUST ON THE TABLE AND FLOOR MATS ACT AS **INSULATORS**, MAKING IT **HARDER** FOR THE MATS TO CARRY ELECTRICAL CHARGES TO GROUND.

SO YOU NEED TO **CLEAN MATS** WITH A **SOFT CLOTH**, OR **BRUSH THEM** WITH A **WHISK BROOM**.

USE **ONLY** BRUSHES MADE WITH **NATURAL BRISTLES**, SUCH AS HORSEHAIR.

BRUSHES MADE WITH **NYLON** OR **OTHER SYNTHETIC BRISTLES** WILL GENERATE **STATIC ELECTRICITY**.



**NEVER** WAX OR POLISH THE TABLE OR FLOOR MATS!

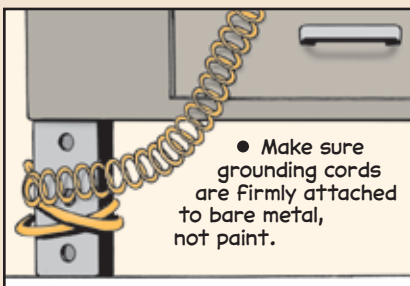
THAT LEAVES A RESIDUE THAT **INSULATES** THE MATS.



## Grounding

HERE ARE SOME **GROUNDING TIPS...**

- Connect the table and floor mat grounding cords directly to the shop ground.
- Ground each workstation individually. **Never** connect workstations in a series.



## Resistance Checks

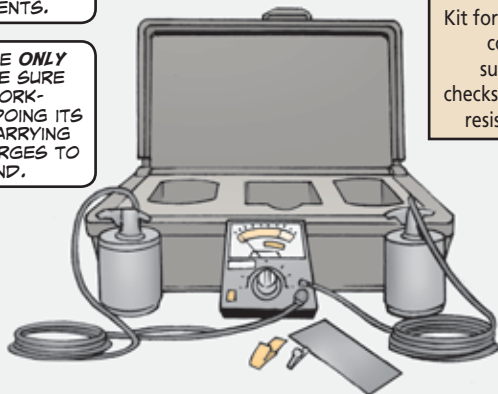


FOLLOW THE MANUFACTURER'S INSTRUCTIONS FOR MEASURING THE RESISTANCE OF YOUR WORKSTATION COMPONENTS.

THAT'S THE **ONLY** WAY TO BE SURE YOUR WORKSTATION'S DOING ITS JOB OF CARRYING STATIC CHARGES TO GROUND.

MEASURE THE MAT'S RESISTANCE WITH A TEST KIT FOR STATIC CONTROL SURFACES. GET THE KIT FROM THE GSA ADVANTAGE WEBSITE:  
<https://www.gsaadvantage.gov/>

Kit for static control surfaces checks mat's resistance



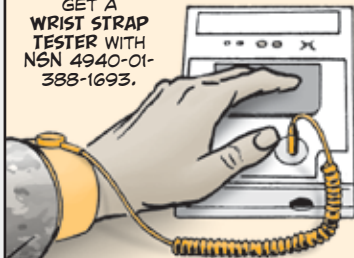
FROM THE HOME PAGE, DO A SEARCH FOR "701C STATIC CONTROL." YOU'LL FIND THE KIT, MATS, GLOVES AND OTHER GROUNDING ITEMS.

MEASURING RESISTANCE IN THE WRIST STRAP IS ESPECIALLY **IMPORTANT**.

THE STRAP TAKES MORE WEAR AND TEAR THAN ANY OTHER PART OF YOUR WORKSTATION. MEASURE IT **AT LEAST DAILY**.



GET A **WRIST STRAP TESTER** WITH NSN 4940-01-388-1693.



ORDER IT ON A DD FORM 1348-G FROM RIC SMS AND PUT "NSN **NOT** ON AMDE" IN THE REMARKS BLOCK.

Measure wrist strap's resistance every day

THE WRIST STRAP HAS A RESISTOR TO **PROTECT** YOU AGAINST HIGH-VOLTAGE SHOCKS.

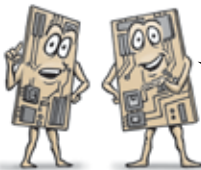
IF THE RESISTANCE IS **TOO LOW**, THE STRAP **CAN'T** PROTECT YOU.

**TOO MUCH** RESISTANCE MEANS THE STRAP **CAN'T** DRAW STATIC ELECTRICITY AWAY FROM YOUR BODY.

**EITHER WAY, YOU'LL NEED TO REPLACE IT.**



HAVE YOUR WORKSTATION TESTED FOR RESISTANCE FROM THE SURFACE OF THE TABLE OR FLOOR MATS TO GROUND. THAT TAKES SPECIAL TESTING EQUIPMENT AND SPECIAL SUPPORT.



CONTACT YOUR LOCAL TMDE SUPPORT FOLKS OR A CECOM LAR FOR HELP.

FOR MORE INFORMATION ON ESD PROTECTION, GET THESE PUBLICATIONS:

- **MIL-HDBK-773A**,  
*Electrostatic Discharge Protective Packaging* (Jun 05)
- **MIL-HDBK-263B**,  
*Electrostatic Discharge Control Handbook* (Jul 94)
- **MIL-STD-1686C**,  
*Electrostatic Discharge Control Program* (Oct 95)

IF YOU **CAN'T** FIND THESE PUBLICATIONS LOCALLY, THEY'RE AVAILABLE ON THE DEFENSE LOGISTICS AGENCY (DLA) DOCUMENT SERVICES ASSIST QUICK SEARCH WEBSITE:

<http://quicksearch.dla.mil/qsearch.aspx>

## Experts on Call

### CAUTION!

ANYONE HANDLING ESDS ITEMS SHOULD BE TRAINED IN PRECAUTIONARY PROCEDURES.

UNTRAINED PERSONNEL **SHOULDN'T** HANDLE ESDS ITEMS WHEN THE ITEMS ARE OUTSIDE THEIR PROTECTIVE PACKAGING.

IT'S A GOOD IDEA TO CHECK WITH YOUR COMMAND FOR THE NAME OF AN ESD POC. IF YOUR COMMAND **DOESN'T** HAVE ONE, YOUR ELECTRONIC REPAIR SHOP MIGHT.

THEY CAN **ADVISE** YOU ON THE LATEST ESD METHODS AND EQUIPMENT AND **RECOMMEND** THE BEST PRODUCTS FOR YOUR NEEDS.



THE LOGISTICS SUPPORT ACTIVITY'S PACKAGING, STORAGE, AND CONTAINERIZATION CENTER (PSCC) ALSO HAS THE SCOOP ON PACKAGING ESDS ITEMS.

CHECK OUT LOGSAP 746-1, **PACKAGING-THE BASICS** (JAN 18). TO GET A COPY, GO TO:

[https://liw.logsa.army.mil/res/documents/Packaging\\_The\\_Basics\\_JAN\\_2018\\_sml.pdf](https://liw.logsa.army.mil/res/documents/Packaging_The_Basics_JAN_2018_sml.pdf)

YOU'LL NEED TO LOG IN TO LIW WITH YOUR CAC.

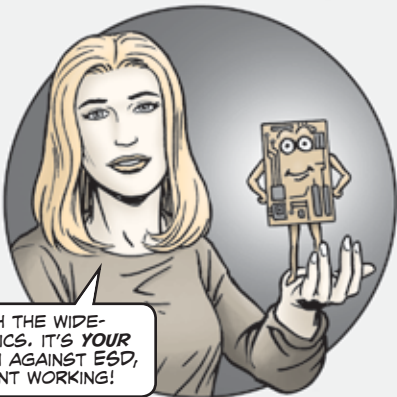
### QUESTIONS?

EMAIL PSCC AT:

[usarmy.tyad.usamc.mbx.pt@mail.mil](mailto:usarmy.tyad.usamc.mbx.pt@mail.mil)

THINK OF ESD AS A TINY VERSION OF **LIGHTNING**.

IT'S A **BIG PROBLEM** WITH THE WIDE-SPREAD USE OF ELECTRONICS. IT'S **YOUR** JOB TO ACT AS A GUARDIAN AGAINST ESD, AND KEEP YOUR EQUIPMENT WORKING!



# GETTING SANITATION GUIDANCE

WASH, RINSE,  
SANITIZE...

WE'VE  
GOT THE  
RHYTHM  
NOW!

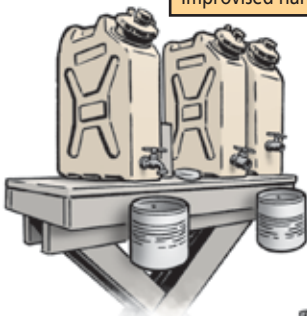


IT'S **TRUE**. IN THE  
US ARMY'S LONG HISTORY,  
DISEASE AND NON-BATTLE  
INJURIES HAVE CAUSED  
**MORE** DEATHS THAN  
BATTLEFIELD WOUNDS.

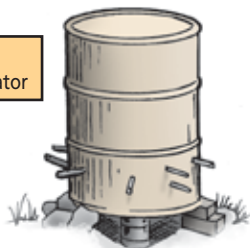
THAT'S WHY PARAGRAPHS 1-7  
AND 2-29 OF AR 40-5, **PREVENTIVE  
MEDICINE**, DATED MAY 2007,  
REQUIRE **EVERY** COMPANY-SIZED  
ARMY UNIT TO HAVE A **FIELD  
SANITATION TEAM, OR FST.**

Improved handwashing facility

UNITS CAN GET  
A JUMP ON  
FST DUTIES BY  
READING ARMY  
TECHNIQUES  
PUBLICATION  
(ATP) 4-25.12,  
*UNIT FIELD  
SANITATION  
TEAMS*  
(APR 14).

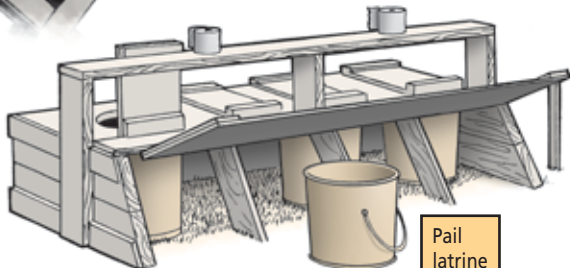


Barrel  
incinerator



## THE ATP COVERS:

- water and food sanitation
- waste management
- pest control
- heat and cold injuries
- toxic industrial and material hazards
- noise hazards



Pail  
latrine

TO VIEW OR DOWNLOAD ATP 4-25.12, VISIT:  
<https://armypubs.army.mil/ProductMaps/PubForm/ATPaspx>

Safety...

# ***MORE CHOICES FOR EYE PROTECTION***



MORE CHOICES FOR  
GOGGLES AND SPECTACLES  
IS WHAT I NEED.

PROTECTING  
YOUR EYES  
**AT ALL TIMES**  
IS IMPORTANT  
FOR MISSION  
SUCCESS.

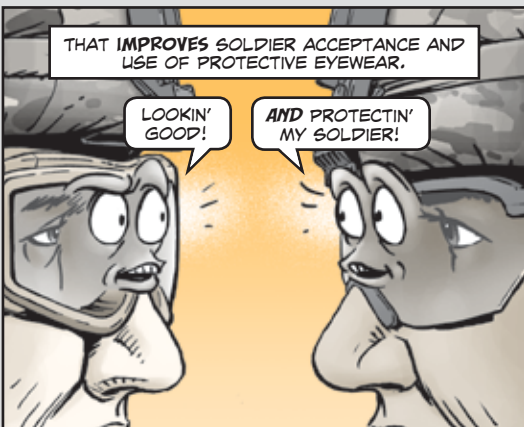


THE AUTHORIZED PROTECTIVE EYEWEAR LIST (APEL)  
ALLOWS PEO SOLDIER TO OFFER **MORE CHOICES** IN  
PROTECTIVE EYEWEAR THAN EVER BEFORE.

THAT **IMPROVES** SOLDIER ACCEPTANCE AND  
USE OF PROTECTIVE EYEWEAR.

LOOKIN'  
GOOD!

**AND** PROTECTIN'  
MY SOLDIER!



THE APEL FOR BALLISTIC PROTECTIVE EYEWEAR CAN BE FOUND AT:  
<https://peosoldier.army.mil/equipment/eyewear/>



## Universal Prescription Lens Carrier (UPLC)

UPLC	NSN 6540-
UPLC Carrier EA/1	01-600-6532
UPLC Carrier PG/10	01-600-6536

HERE ARE  
A FEW LISTS  
OF MILITARY  
COMBAT EYE  
PROTECTION  
(MCEP).

CHOOSE FROM  
THESE LISTS OF  
SPECTACLES  
AND GOGGLES  
DEPENDENT ON  
MISSION...



More choices for goggles or spectacles!



## Spectacles

Item	NSN 4240-
ESS Crossbow (UPLC)	01-630-8327
ESS Crosshair (UPLC)	01-630-6352
ESS Rollbar	01-630-8249
Honeywell (UVEX) Genesis	01-552-4131
Honeywell (UVEX) XC	01-516-5361
Oakley SI Ballistic M Frame 2.0	01-525-3095
Oakley SI Ballistic M Frame 3.0	01-630-6064
Revision Exoshield	01-633-9521
Revision Sawfly (UPLC)	01-607-7512 (SM) 01-527-4051 (RG) 01-527-4018 (LG)
Revision Stingerhawk (UPLC)	01-630-6503 (RG)
Smith Optics Aegis (UPLC)	01-630-7853 (SM) 01-630-7992 (RG)
Wiley X Valor	01-630-7802
Wiley X Vapor (UPLC)	01-665-0678 (SM) 01-630-7493 (RG) 01-665-0701 (LG)
Wiley X Talon (UPLC)	01-583-5158

## Goggles

Item	NSN 4240-
ESS Influx	01-630-6343
ESS Land OPS	01-540-5580
ESS Profile NVG (UPLC)	01-630-7259
Honeywell (UVEX) XMF (UPLC)	01-630-8058
Oakley SI Ballistic 1.0 (UPLC)	01-630-6910
Oakley SI Ballistic 2.0 (UPLC)	01-630-5999
Revision Bullet Ant	01-630-6281
Revision Wolfspider (UPLC)	01-630-6906
Revision Desert Locust (UPLC)	01-592-8619
Smith Optics Boogie	01-640-9052
Smith Optics (OTW) (UPLC)	01-641-0158
Wiley X Nerve	01-630-6743
Wiley X Spear (UPLC)	01-630-6712

HAZMAT...

# PROPER Placarding and Warning Labels PROTECT PROFICIENCY

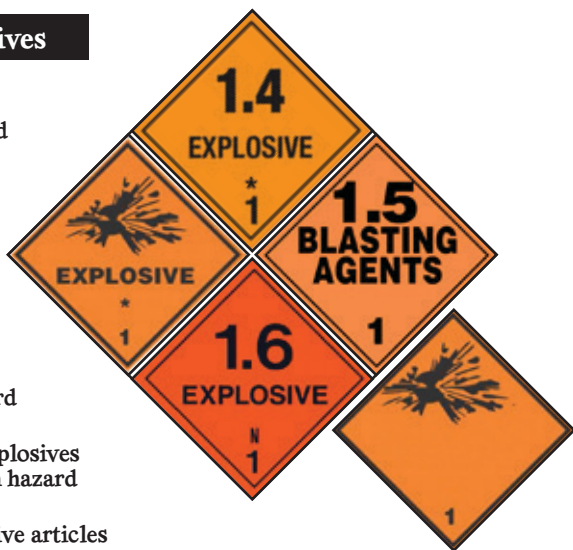


THE HAZMAT CLASSIFICATION SYSTEM SPLITS HAZMAT INTO CLASSES AND DIVISIONS. HAZARDOUS MATERIALS WARNING LABEL AND SHIPPING PLACARDS ARE USED TO WARN OF THE TYPES OF HAZMAT BEING SHIPPED, SO YOU KNOW WHAT HAZARDS TO EXPECT WHEN YOU OPEN A PACKAGE OR SHIPPING CONTAINER.

HERE ARE WHAT THE MOST BASIC WARNING LABELS AND PLACARDS MEAN:

## Class 1: Explosives

- ★ **Division 1.1:**  
Explosives with a mass explosion hazard
- ★ **Division 1.2:**  
Explosives with a projection hazard
- ★ **Division 1.3:**  
Explosives with predominantly a fire hazard
- ★ **Division 1.4:**  
Explosives with no significant blast hazard
- ★ **Division 1.5:**  
Very non-sensitive explosives with a mass explosion hazard
- ★ **Division 1.6:**  
Extremely non-sensitive articles



## Class 2: Gases

- ★ Division 2.1:  
Flammable gases
- ★ Division 2.2:  
Non-flammable, non-toxic gases
- ★ Division 2.3:  
Toxic gases. Keep in mind  
that the words **poison** and  
**poisonous** mean the same  
thing as toxic



### Class 3: Flammable and combustible liquids

## Class 4: Flammable solids, spontaneously combustible materials, and dangerous when wet materials/water-reactive substances

- ★ Division 4.1:  
Flammable solids
- ★ Division 4.2:  
Spontaneously combustible  
materials
- ★ Division 4.3:  
Water-reactive substances/dangerous  
when wet materials



## Class 5: Oxidizing substances and organic peroxides

- ★ Division 5.1:  
Oxidizing substances
- ★ Division 5.2:  
Organic peroxides



## Class 6: Toxic substances and infectious substances

- ★ Division 6.1:  
Toxic substances
- ★ Division 6.2:  
Infectious substances

## Class 7: Radioactive materials



**Class 8:  
Corrosive  
substances**



**Class 9: Miscellaneous hazardous  
materials/products, substances or  
organisms**

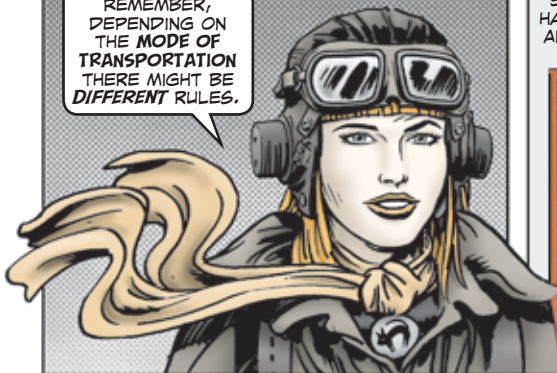


REMEMBER TO CHECK YOUR 49CFR, HAZMAT TRANSPORTATION, FOR THE LATEST RULES AND REGULATIONS. SEE 49CFR, PART 172, SUBPART E FOR COMPLETE LABELING REGULATIONS AND...

...FOR COMPLETE PLACARDING REGULATIONS SEE 49CFR, PART 172, SUBPART F.



REMEMBER, DEPENDING ON THE MODE OF TRANSPORTATION THERE MIGHT BE DIFFERENT RULES.



FOR EXAMPLE, IF YOU ARE SHIPPING HAZMAT BY AIR, YOU'LL HAVE TO CHECK THE INTERNATIONAL AIR TRANSPORTATION ASSOCIATION (IATA) RULES.



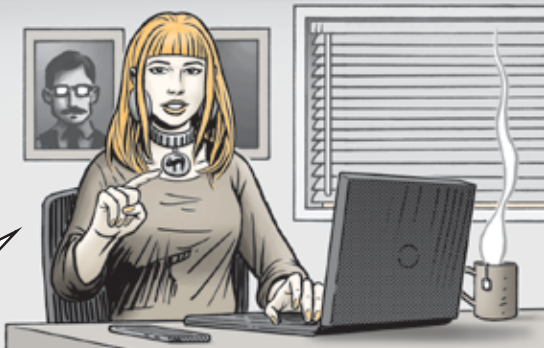
IF YOU HAVE QUESTIONS ABOUT SHIPPING OR RECEIVING HAZMAT, EMAIL LOGSA'S PACKAGING STORAGE AND CONTAINERIZATION CENTER: [usarmy.tyad.usamc.mbx.itad@mail.mil](mailto:usarmy.tyad.usamc.mbx.itad@mail.mil)





# MMDF Welcomes the TMC/MCS

THE MAINTENANCE MASTER DATA FILE—OR MMDF—IS AN AMC LOGSA PRODUCT THAT IDENTIFIES ARMY READINESS REPORTABLE EQUIPMENT AND SYSTEMS.



RECENTLY THE TACTICAL MISSION COMMAND/MANEUVER CONTROL SYSTEM (TMC/MCS) WAS ADDED TO THE MMDF. THAT MEANS THE LINS AND NSNs THAT MAKE UP THE TMC/MCS ARE NOW MONTHLY REPORTABLE READINESS ITEMS.

Here are the LINS and NSNs that were added:

Item	NSN	LIN	PM MC System
AN/TYQ-137 v4	7010-01-623-7119	C27963	CPOF M6700
AN/TYQ-137A v4	7010-01-642-2349		CPOF M6800
AN/TYQ-137B v4	7010-01-642-2349		CPOF Dell 5414
AN/TYQ-155A v4	5895-01-587-6599	C61290	BCCS Server Stack
AN/TYQ-155B v4	5895-01-591-9665		BCCS Server Stack
AN/TYQ-155C v4	5895-01-591-9020		BCCS Server Stack
AN/TYQ-155D v4+	5895-01-595-7160		BCCS Server Stack
AN/TYQ-155E 4.1	5895-01-619-8708		BCCS Server Stack
AN/TYQ-155F v5	5895-01-642-6459		BCCS Server Stack
AN/TYQ-155G v1	5895-01-658-0030		TSI v1 Server Stack
AN/PYQ-16D	7010-01-620-6775	C18891	SMC M6700
AN/PYQ-16E	7010-01-641-3481		SMC M6800
AN/PYQ-16F	7010-01-658-3415		SMC M6800 Single
AN/PYQ—16G	7010-01-667-0902		SMC Dell 5414
AN/PYQ-12C	7010-01-614-6042	C18641	MC Gateway Dell XFR E 6420
AN/PYQ12-D	7010-01-645-1834		MC Gateway Dell M6800
AN/PYQ-12E	7010-01-667-5414		MC Gateway Dell 5414

WANT TO SEE THE MMDF FOR YOURSELF? IT'S ONLINE IN THE LOGSA LOGISTICS INFORMATION WAREHOUSE (LIW): <https://liw.logsa.army.mil/>

YOU'LL HAVE TO REQUEST ACCESS TO LIW THROUGH YOUR SUPERVISOR AND SECURITY MANAGER BY FILLING OUT A SYSTEM ACCESS REQUEST. AFTER LOGGING IN, CLICK ON THE APP WAREHOUSE ICON AND SEARCH FOR LIW RSRCS. THEN CLICK GO TO APPLICATIONS.

NEED HELP WITH THE MMDF? EMAIL: [usarmy.redstone.logsa.mbx.mmddf@mail.mil](mailto:usarmy.redstone.logsa.mbx.mmddf@mail.mil)

## Connie's POSTSCRIPTS

### M1272 Buffalo Generator NSN

Get a new generator for your M1272 Buffalo with NSN 2920-01-425-5604. This NSN replaces the generator only. For the regulator, use NSN 6125-02-422-1841. The pulley comes with NSN 3020-01-568-4497. The complete generator with regulator and pulley is no longer available. See Fig 54 of TM 9-2355-352-23P (Jun 18) for more details.

### Diving Equipment, Boats and Motors POC

For questions about logistics support for diving equipment, boats and motors, contact TACOM's Sets, Kits, Outfits, and Tools (SKOT) Group at:

[usarmy.detroit.tacom.mbx.](mailto:usarmy.detroit.tacom.mbx.usarmy.detroit.tacom.mbx)  
[ilsc-skot-group-actions@mail.mil](mailto:ilsc-skot-group-actions@mail.mil)

### SATCOM Pub Points Way

Army Techniques Publication (ATP) 6-02.54, *Techniques for Satellite Communications* (Jun 17), helps units plan, establish and operate satellite communications (SATCOM) networks. Get it at the Army Publishing Directorate:

<https://armypubs.army.mil>

Or the Central Army Registry:

<https://atiam.train.army.mil/catalog/dashboard>

### AN/PVS-14 MNVD Eyeguard and Eyecup

Page 59 in PS 788 (Jul 18) talked about the importance of replacing missing parts on the AN/PVS-14 monocular night vision device (MNVD). That includes the eyeguard, NSN 6650-01-444-1229. One reader thought the part should have referred to the eyeshield (commonly called eyecup), NSN 5855-01-246-8273, since the article showed a helmet-mounted AN/PVS-14. The eyecup, which is not a component of end item (COEI), is only used with the helmet-mounted version. The eyeguard, which is COEI, is used with the weapon-mounted version. Both parts are essential to maintain light security and prevent detection by the enemy. If either is missing, replace them ASAP.

### M1070A1 HET Engine Fan Clutch NSN

Get a new engine clutch fan for your M1070A1 heavy equipment transporter (HET) with NSN 2930-01-668-5049. NSN 2930-01-573-9081, which is shown as Item 1 in Fig 49 of TM 9-2320-427-13&P in IETM EM 0310 (Jan 11), is a terminal item.

### GET GROUNDED

Every Soldier should know grounding procedures. Army Training Circular (TC) 6-02.6, *Grounding Techniques for Tactical Equipment and Systems* (Nov 17), covers various grounding techniques, including the Surface Wire Grounding Kit. It can help units set up safe and effective earth grounding systems for tactical equipment, systems and shelters. It replaced TC 11-6 (Mar 89). Find it at the Army Publishing Directorate:

<https://armypubs.army.mil>

Or the Central Army Registry:

<https://atiam.train.army.mil/catalog/dashboard>

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