

Issue 659

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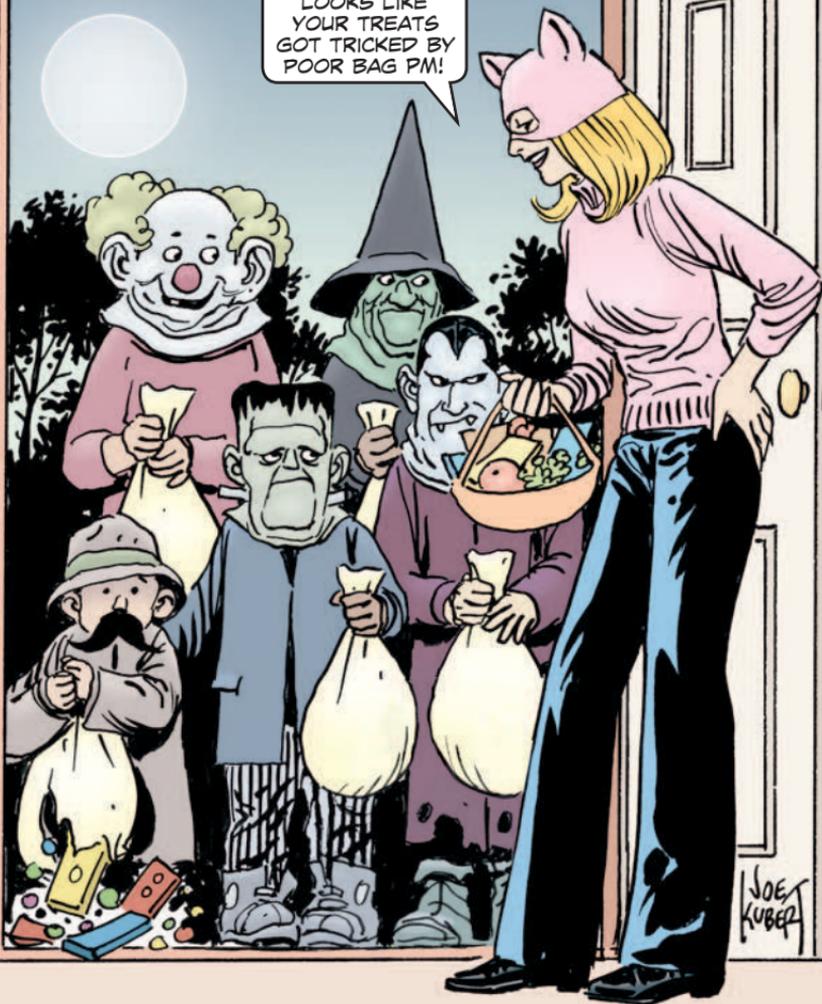
October
2007

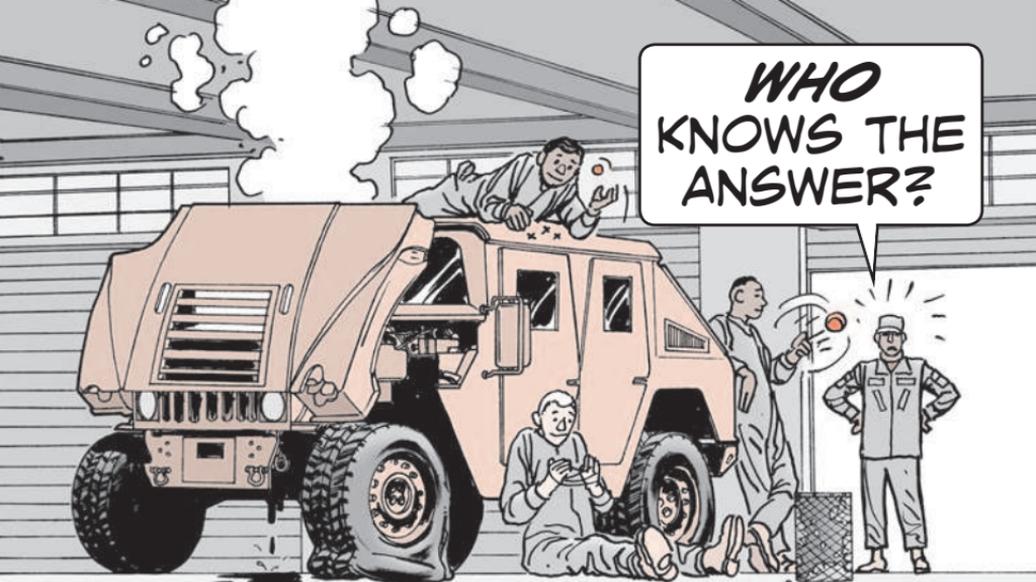
THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-659

Approved for
Public Release;
Distribution is
Unlimited

LOOKS LIKE
YOUR TREATS
GOT TRICKED BY
POOR BAG PM!





**WHO
KNOWS THE
ANSWER?**



HERE'S A HANDFUL
OF QUESTIONS THAT
YOU MIGHT WANT TO
ASK AROUND THE
WORK SITE.

THE ANSWERS YOU
GET WILL SAY A LOT
ABOUT THE STATE
OF PM IN YOUR
MOTOR POOL.

- Does your -10 TM look as new today as it did when you first got it?
- Does your vehicle have a permanent reservation on the NMC list?
- Does your equipment get maintained on a "hit-or-miss" basis? In other words, equipment doesn't get lubed when it should and oil levels aren't checked regularly?
- How about tire pressure? Do you ever check it?
- Do you do PMCS only when you start hearing strange noises and knocking sounds from your equipment?
- Are air filters only cleaned or changed when they're clogged to the point that an engine stops running?
- Do you drain condensation and gunk out of fuel filters only after you see black smoke or notice a rough-running engine?



DID YOU GET
ANY "YES"
ANSWERS?

IF SO, YOU NEED
TO START MAKING
PM A **PRIORITY**
IN YOUR MOTOR
POOL.

REMEMBER,
YOU'RE THE ONE
WHO'LL HAVE TO
ANSWER FOR IT!

PS**THE
PREVENTIVE
MAINTENANCE
MONTHLY****ISSUE 659 OCTOBER 2007**

TB 43-PS-659, 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.

**COMBAT VEHICLES**

Stryker Transmission Fluid
M1-Series Tank Turret Bolts
M1-Series Tank M240 Feed Tray Cover
Electric Impact Wrench Repair Kit
M109A6 Paladin Hydraulic Reservoir
M88A1 Recovery Vehicle Lifting Caution
MLRS Carrier Thermostat Regulator

**MISSILES**

MLRS Maintenance Tips
Avenger Missile System PM

**SMALL ARMS**

M16 Rifle, M4/M4A1 Carbine Buffer Springs
CLP Bottle Refilling
Small Arms Springs, Storage
TA31F ACOG, AN/PSQ-18A Sight Repairs
New Weapons Gauging
Machine Gun Tripod Parts Storage
Mortar Fastener Tightening

**CBRN**

CAM/CAM Storage Caution
M40-/M42-Series Masks Optical Inserts

**WHEELED VEHICLES**

M939-Series Trucks Anti-Lock Brakes
Up-armored HMMWV's Rollover Prevention
M1114 HMMWV A/C System Clogging
PLS/HET Air Filter Cover Clamping Ring
Wheeled Vehicles Drained Fuel Disposal
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invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems and questions or comments on material published in PS.

Just write to:

MSG Half-Mast

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half.mast@us.army.mil

Internet address:

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

By order of the Secretary of the Army:

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General, United States Army Chief of Staff

Official:

Joyce E. Morrow

JOYCE E. MORROW

Administrative Assistant to the Secretary of the Army

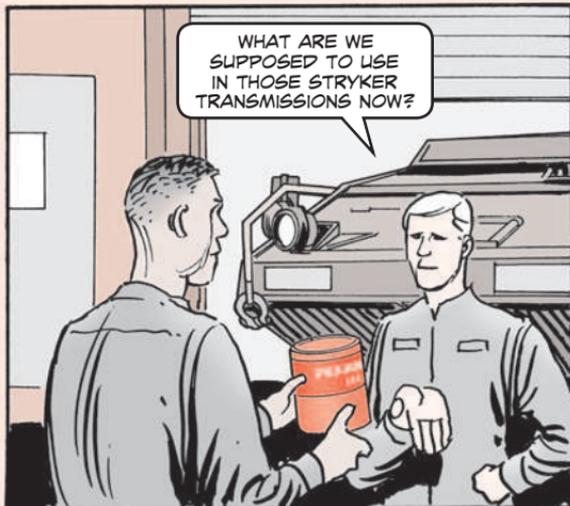
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Stryker...

Dexron III Disappearing?



Dear Half-Mast,

According to a message published by PM Stryker, you cannot use Dexron VI hydraulic fluid in Stryker transmissions. So we've continued to use Dexron III.

Our problem began when we started running low on Dexron III and tried to order more. We used the same NSNs that we always had before: 9150-00-698-2382 (1-qt), 9150-01-353-4799 (1-qt), 9150-00-657-4959 (5-gal), and 9150-01-114-9968 (55-gal drum). But this time we received Dexron VI instead.

After using FED LOG for a little detective work, we discovered that the part numbers for each of those NSNs covers both Dexron III and VI.

Is there another NSN we can use to get Dexron III? Or should we go ahead and use Dexron VI in our Stryker transmissions?

CPT M.B.

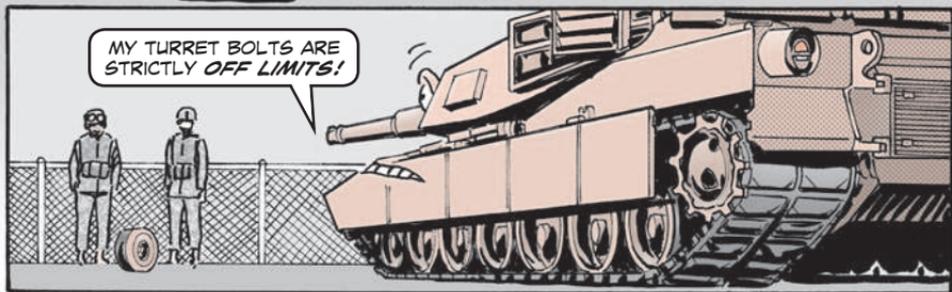
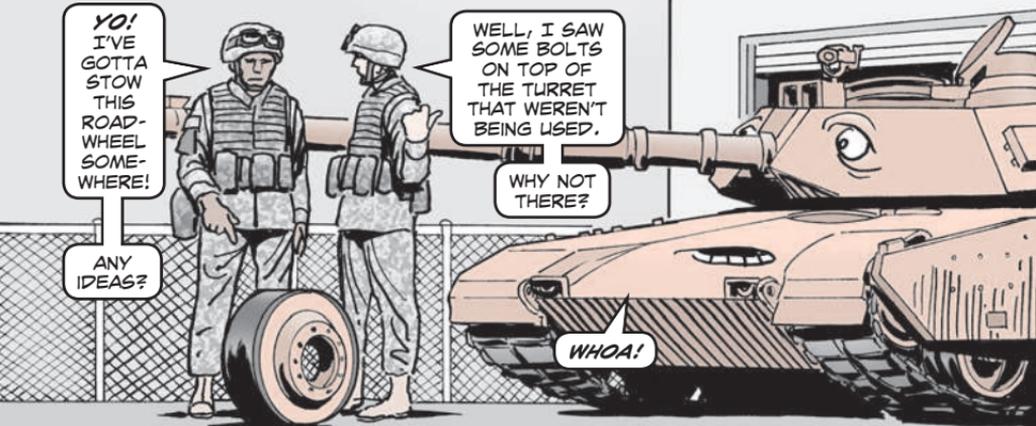
Dear Captain M.B.,

Do not use Dexron VI in your Stryker transmissions, Sir. That transmission fluid is incompatible with the 3000-, 4000-, AT-, MT-, HT- and CLT-series Allison transmissions used in the Stryker. In particular, it will ruin the seals and seal rings and can result in damage to the transmission.

Dexron III is no longer available. The replacement that's been identified for use in your Stryker transmissions is TES 295. Order a quart with NSN 9150-01-552-9119, a gallon with NSN 9150-01-552-9125, five gallons with NSN 9150-01-552-9157, and 55 gallons with NSN 9150-01-551-2796.

Half-Mast

LEAVE TURRET BOLTS ALONE!

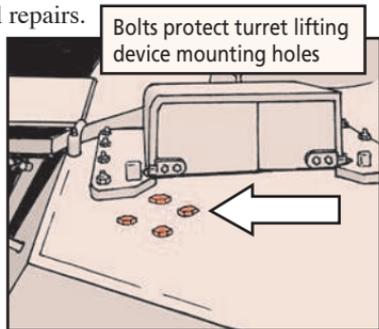


The 11 unused bolts on top of your tank's turret may look like prime locations for mounting flag brackets, roadwheels, lights or other items, crewmen. They're not!

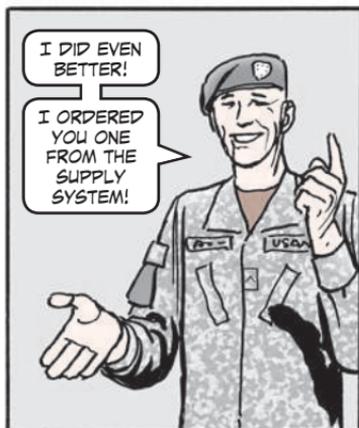
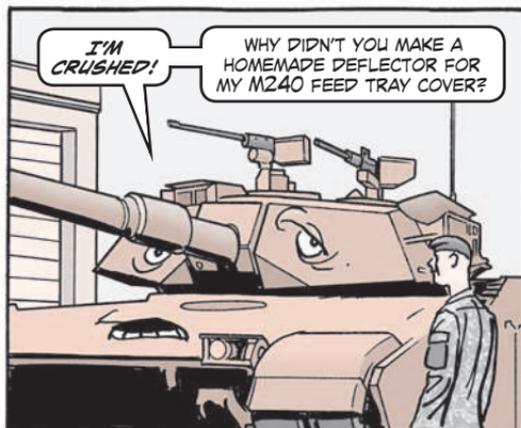
Those bolts, NSN 5305-01-014-5124, protect the threads inside each of the holes where the turret lifting device is attached. Mess up the threads and there's no way to separate the turret from the hull for support-level repairs.

If you've removed any of the bolts or some come up missing, check the holes to make sure they're clean and free of debris. Then, add a little antiseize compound, NSN 8030-00-597-5367, to the threads before reinstalling the bolt. That prevents corrosion and reduces wear and tear on the threads.

And don't forget to add a flat washer, NSN 5310-01-382-9030. It keeps the hole threads from being damaged by the bolt head.



DEFLECTION PROTECTION



For years, a homemade deflector was the best way to prevent the M240 machine gun's expensive feed tray cover from being crushed when the tank's main gun was lowered. But since units had to make the deflector themselves, a lot of trial and error was needed to get it just right. And a lot of tanks never got outfitted at all.

NOW A DEFLECTOR IS AVAILABLE THROUGH THE SUPPLY SYSTEM FOR LESS THAN \$13.

HERE'S WHAT TO ORDER...

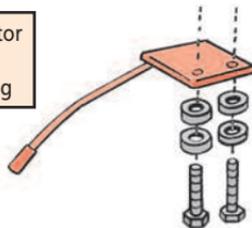
Item	NSN	Qty Needed
Tray deflector	5340-01-482-8376	1
Flat washer	5310-01-463-6363	2
Lock washer	5310-01-378-7852	2
Screw (3/8-16 x 5/8-in)*	5305-00-543-4372	2

*This NSN brings 100 screws.

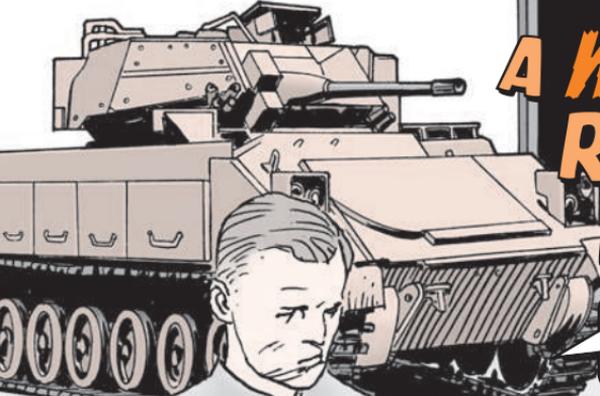
The new deflector fastens to an existing mounting point on the turret ceiling and automatically closes an open M240 cover when the main gun is depressed.

You'll find the new deflector listed as Items 17-20 of Fig 20 in TM 9-2350-264-24P-2.

New deflector screws into turret ceiling



A WRENCHING REPAIR PROBLEM!



UNLESS I GET THE BRUSHES REPLACED...

...THIS WRENCH **WON'T** MAKE MUCH OF AN IMPACT!

Dear Half-Mast,

Our unit has several electric impact wrenches, NSN 5130-O1-309-6589, for the M2A2/M3A2 Bradley. Most of them can't be used, though, because the brushes are worn out.

These wrenches are supposed to be repairable, but I'm having trouble finding parts for them. Can you help?

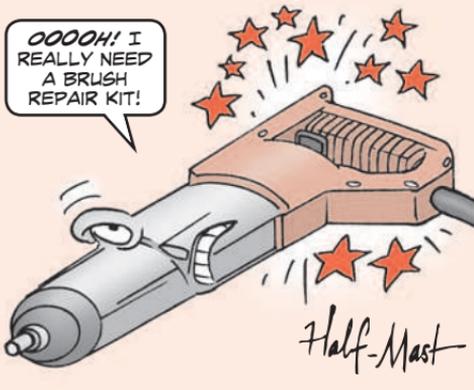
SGT J.A.S.

Dear SGT J.A.S.,

Sure can. There's a brush repair kit for the electric impact wrench. Get it with NSN 5977-01-316-0888.

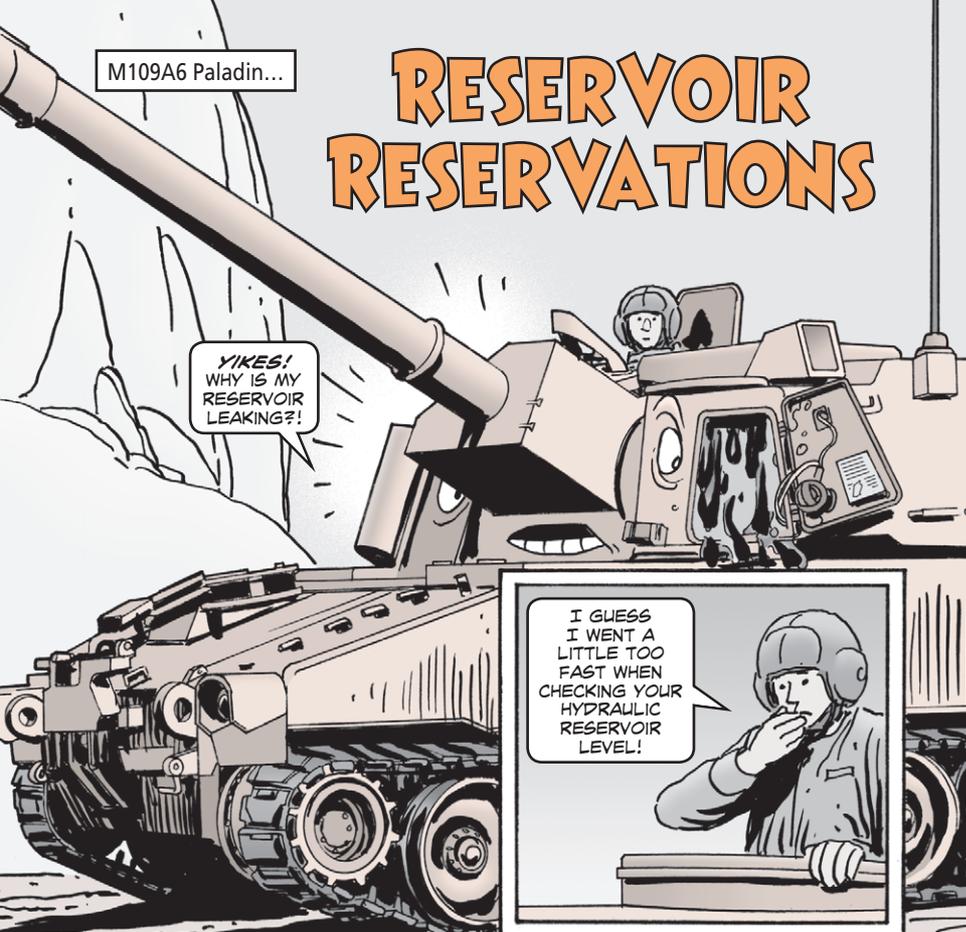
Here's what's in the kit:

Item	Qty
Brush, right hand (red)	1
Brush, left hand (black)	1
Brush spring	2
Brush holder assembly	2
Hex socket head screw (#6, 32 x 7/16")	2
Internal star washer (#6)	2
Hex wrench (7/16")	1
Instruction sheet	1



M109A6 Paladin...

RESERVOIR RESERVATIONS



YIKES!
WHY IS MY
RESERVOIR
LEAKING?!

I GUESS
I WENT A
LITTLE TOO
FAST WHEN
CHECKING YOUR
HYDRAULIC
RESERVOIR
LEVEL!

CREWMEN, IF YOU HAVE
RESERVATIONS ABOUT HOW
TO CHECK THE HYDRAULIC
RESERVOIR ON YOUR
PALADIN, JUST REMEMBER
TO GO **SLOW AND EASY.**

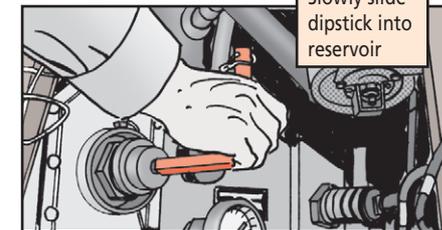
GETTING IN A HURRY IS
THE BEST WAY TO END
UP WITH A HYDRAULIC
LEAK THAT MAKES
YOUR VEHICLE NMC.



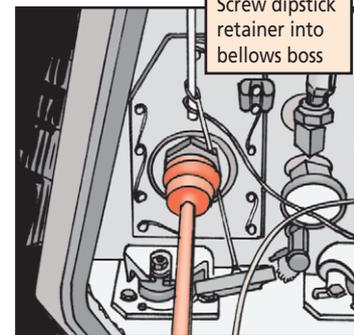
FOLLOW THESE
INSTRUCTIONS ON HOW
TO ACCURATELY MEASURE THE
HYDRAULIC LEVEL **BEFORE**
EVERY OPERATION...

1. Take a look at the oil level sight glass at the top of the hydraulic reservoir. If oil is visible and there are no signs of air in the system, you're good to go. If oil is not visible or you see air in the system, continue with Step 2.
2. Unscrew the dust cap from the bellows boss. Look for any hydraulic oil leaking from the bellows assembly. If you see any, tell your mechanic. Your Paladin is NMC.
3. Thread the dipstick retainer into the bellows boss.

5. Slide the dipstick into the reservoir until the mark that corresponds to the temperature gauge reading reaches the dipstick retainer. Go slow and easy. Jamming in the dipstick could puncture the bladder.



Slowly slide
dipstick
into
reservoir



Screw dipstick
retainer into
bellows boss

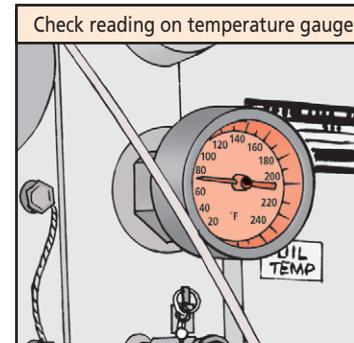
If the dipstick bottoms out before reaching the gauge temperature +10°F, you'll need to bleed some hydraulic oil from the reservoir. Page I-7 of TM 9-2350-314-10 tells how.

If the dipstick does not bottom out after reaching the temperature gauge reading -10°F, the system is low. See Para 3-8.11 starting on Page 3-126 of TM 9-2350-314-10 for instructions on how to add hydraulic oil.

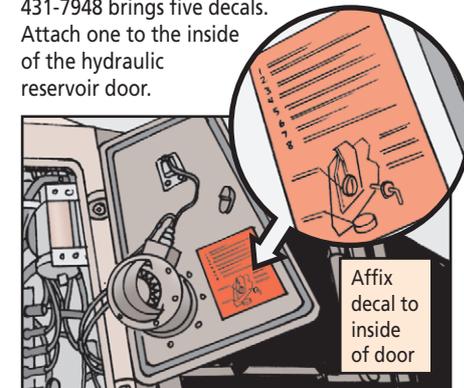
4. Check the temperature on the gauge next to the bellows boss.

6. Remove and stow the dipstick and replace the dust cap.

A decal that details how to check the hydraulic fluid level is available. NSN 7690-01-431-7948 brings five decals. Attach one to the inside of the hydraulic reservoir door.

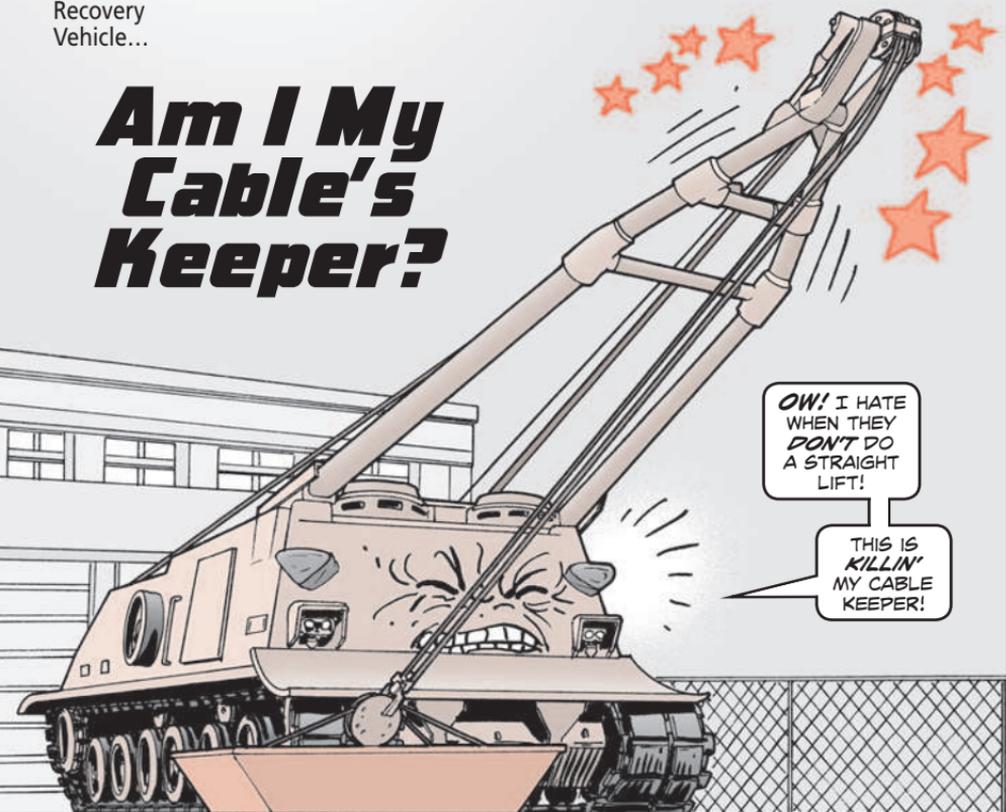


Check reading on temperature gauge



Affix
decal to
inside
of door

Am I My Cable's Keeper?



OW! I HATE
WHEN THEY
DONT DO
A STRAIGHT
LIFT!

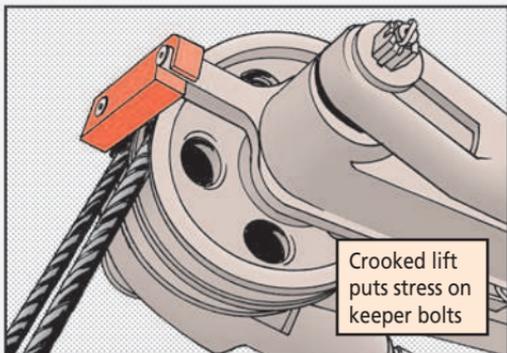
THIS IS
KILLIN'
MY CABLE
KEEPER!

You bet you are!

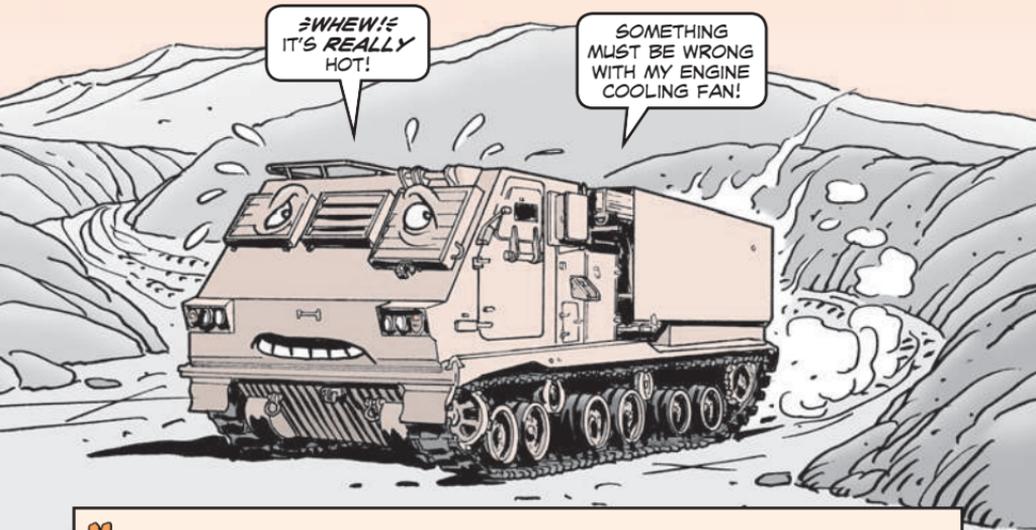
When you're using the M88A1's boom to lift something, it's up to you to keep the lift straight.

If you try to make the lift from a sideways angle, a lot of stress is placed on the cable keeper. The two bolts holding the keeper in place can shear and the cable comes off the pulleys. Boy, is that dangerous!

So when making a lift, keep the cable nice and straight. With the keeper protected, that cable will stay stable!

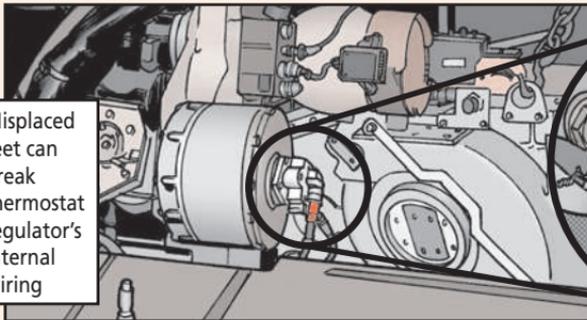


WATCH YOUR STEP!

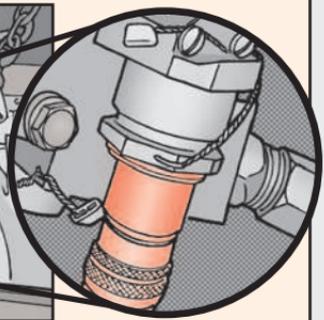


Mechanics, it only takes one misstep to cause some really expensive damage while working on an MLRS engine.

It's easy to accidentally step on the 300WP3 cable that connects to the thermostat regulator, NSN 4820-01-462-4859, especially if you're leaning over the engine to fix something else. That misstep can break the internal wiring in the connector.



Misplaced feet can break thermostat regulator's internal wiring



When that happens, the cooling fan will no longer run at high speed when extra cooling is needed. The engine can overheat.

Even if you manage to catch the problem before losing an engine, a new thermostat regulator will set your unit back more than \$4,000. So before you start any repairs on the engine, take a quick look at your feet and make sure they're nowhere near the thermostat regulator.

HEY! WATCH OUT FOR THESE!



YOUR MULTIPLE LAUNCH ROCKET SYSTEM (MLRS) WILL DEVELOP **MULTIPLE PROBLEMS** IF YOU DON'T REMEMBER TO WATCH OUT FOR THESE PROBLEMS...

Elevation Actuator

Especially in the extreme heat of Iraq, the seals for the elevation actuators tend to leak. If they leak too much, the actuator could be ruined. When you do your weekly PMCS, check the seals. Your mechanic will need to replace a leaking seal. Also check the fluid levels for all the actuators weekly. That prevents actuators from burning out.

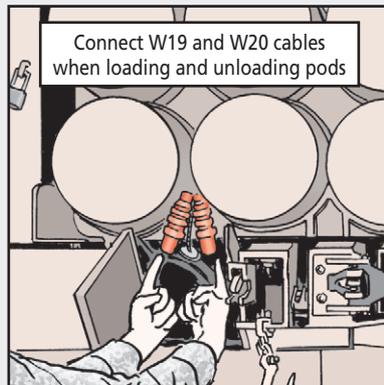
Check for leaking elevation actuator seals, especially in desert



W19 and W20 Cables

Both the W19 and W20 cables must be connected when you load and unload rocket pods. But at any other time the cables should be connected to the storage receptacles so they aren't damaged during travel.

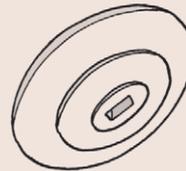
Connect W19 and W20 cables when loading and unloading pods



Hull Draining

The dry cell in the hull collects rain and condensation. That's why it has a drain plug. Unfortunately, most crews never drain it. Then the wiring harness connectors for the fuel pumps corrode and the pumps stop pumping. Pull the drain plug weekly and let the dry cell drain.

Dry cell plug has recessed square hole

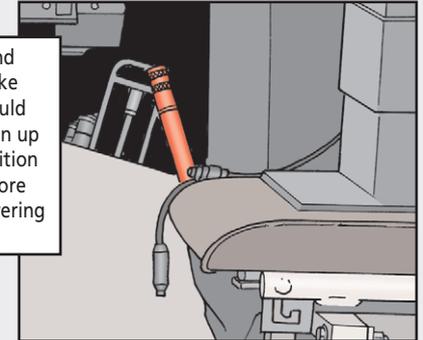


Lowering the Cab

Before you lower the cab, make sure you've cleaned stuff like bottles, empty grease tubes, and tools off the transmission. They can pinch and damage the linkages for the throttle cable and steering system.

Also make sure the parking brake is in the up position before lowering the cab. Otherwise, the brake handle will break off. The MLRS is deadlined until it's fixed.

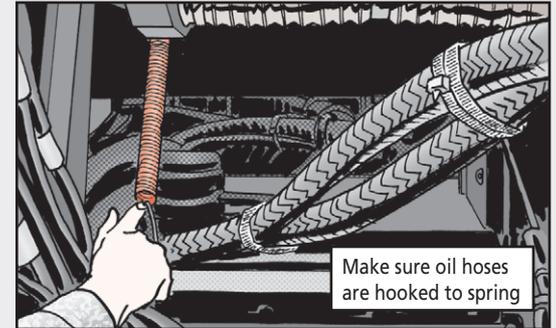
Hand brake should be in up position before lowering cab



Oil Hoses

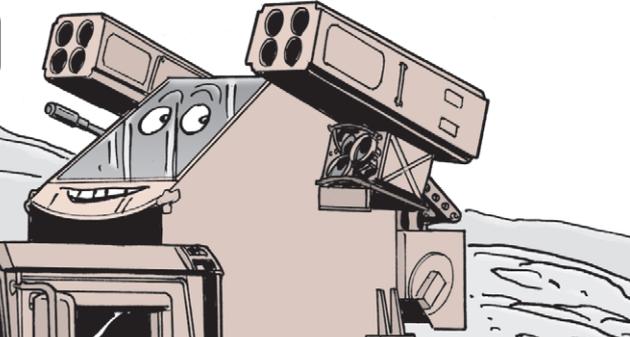
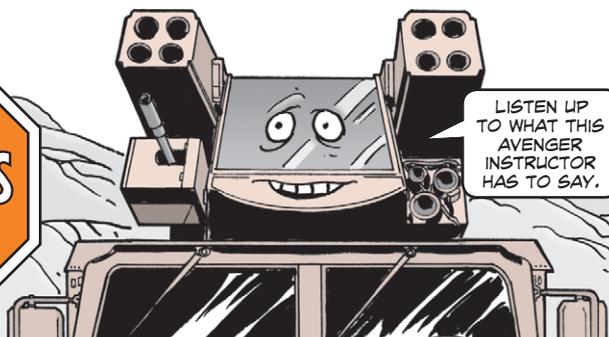
During weekly PMCS, check that the oil inlet and return hoses are hooked up to the spring that holds them up. Sometimes the hoses are disconnected when the batteries are checked or when the tool bag is removed. Then the hoses kink up and wear out fast. It's difficult to get replacements.

Make sure oil hoses are hooked to spring



Ethernet Cables

Leave them alone! Some crews are disconnecting them during cleaning. Then when they reconnect them, they tighten them too much and strip them. That ruins communication between MLRS components.

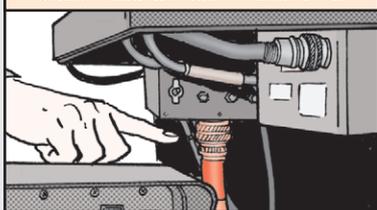


Dear Editor,

Through my work as an instructor at the Ft Bliss Avenger school, I see lots of expensive damage done to Avengers that could be prevented by doing things just a bit differently. I'm talking about:

J5 and J7 cables to the crew chief air situation display (CCASD). It's difficult to disconnect or connect the cables because there's so little room to maneuver them. As a result, the cables' pins or the security mounts are often broken.

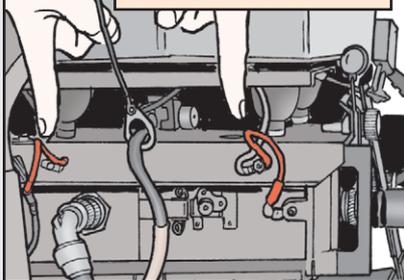
Connect and disconnect cables at CIP



Solution: Disconnect and connect the cables at the cab interconnect panel (CIP). It's much easier there, plus there's only one cable to disconnect.

CIP. It needs to be grounded or a surge of electricity can short it out. When crewmen reinstall the enhanced position location reporting system (EPLRS), they often forget to re-connect the two ground straps for the CIP.

Make sure two ground straps for CIP are connected

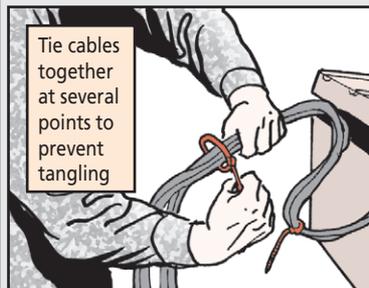


Solution: Make it part of your BEFORE PMCS to ensure the ground straps are hooked up.

PLGR power connector. You have to twist the cable to connect it. Eventually, that damages the wiring.

Solution: The PLGR cable that connects to the battery works better. It has a 90-degree connector that make it easy to plug into the PLGR. You do need to tape over the old connector so it can't be grounded out accidentally.

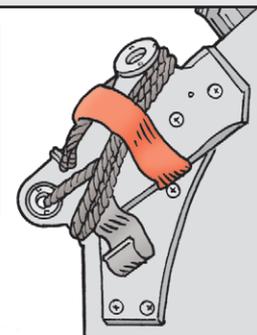
Remote control unit (RCU) and CCASD cables. The RCU WBO cable and the CCASD data cable are long and they constantly become tangled during remote operations.



Solution: Prevent much of that tangling by connecting the cables at several points with tape or plastic ties. Some units get a cable reel from their commo folks and use those for reeling out and in the two cables.

Antenna tiedowns. The tiedowns are either left hanging or they come untied during operations. Then when the Avenger is slewed, the tiedowns get caught between the cab and the turret and tear up the turret's wall.

Make sure tiedowns are tied down and then tape them in place



Solution: Prevent that by making sure that the tiedowns are snugged down before leaving the motor pool. Make sure they stay tied down by wrapping tape around them.

CCASD and TC batteries. Their batteries need to be replaced every two years. If you wait until they go dead, you can't boot up the CCASD and targeting console. What makes it difficult is that the batteries are soldered to the circuit boards and must be replaced at depot.

Solution: To prevent surprises, mark the date on the circuit board when the batteries were replaced. Then you will know when you need to get a new circuit board and send off the old one for battery replacement.

SSG Jason Williams
2-6 ADA
Ft Bliss, TX

Editor's note: Whew! That's a slew of good Avenger tips. Thanks, Sergeant.

PAPER WAD NOT THE SPRING SOLUTION



Dear Editor,

While repairing small arms here at the Ft Bliss DOL, we've run into several instances where soldiers tried to fix a weak buffer spring in their M16 rifle or M4/M4A1 carbine by sticking a wad of paper behind the spring.

That is not the solution to a weak spring! The paper wad gives too much tension to the spring, which means the bolt can't lock to the rear. The rifle jams. Stretching or compressing a spring doesn't help, either.

The only fix for a weak recoil spring is a new spring, which the unit armorer should have in stock. As long as an M16 spring measures between $11 \frac{3}{4}$ and $13 \frac{1}{2}$ inches ($10 \frac{1}{16}$ to $11 \frac{1}{4}$ for the M4), it should be ready for action. If it's shorter or longer, it's time for a new spring. Again, don't try to stretch or compress the spring.

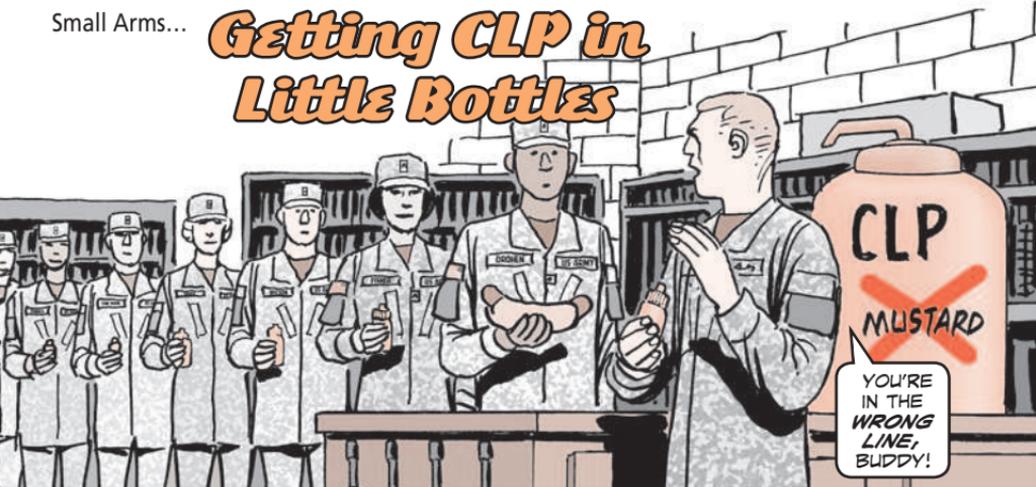
Eugene Perry
Don Whetstone
Eric Bostic
Ft Bliss, TX

M16 recoil spring should measure between
 $11 \frac{3}{4}$ and $13 \frac{1}{2}$ inches



Editor's note: Good points! Your rifle is definitely something you shouldn't experiment with. Take care of it like your -10 TM says.

Getting CLP in Little Bottles



Dear Editor,

We save our unit money by buying a gallon of CLP, NSN 9150-01-053-6688, for less than \$20 and using it to fill 1/2-oz bottles for our gunners' cleaning kits. You can get the bottles for 37 cents each with NSN 1005-00-242-5687 and use them over and over.

The only problem with that is that you make a royal mess trying to get CLP in those little bottles. I solved that problem by getting one of those big jars with a pump that you see at ballgames for mustard and ketchup.

After washing it and the pump thoroughly, I filled it with CLP and then used the pump to fill the bottles. I filled 200 bottles and spilled only four drops.

Jon Lewis
Ft Sam Houston
San Antonio, TX

Editor's note: How long did it take to eat all that mustard? Great idea for armorers. Thanks.

Relax Those Springs

Some armorers are storing rifles, machine guns and pistols cocked with the bolts or slides locked to the rear. Bad move!

While weapons sit cocked for weeks and weeks, the compression on their springs drains the springs' spring. When it's time again to fire, the weak springs cause poor recoil and feeding.

The M9 pistol has it even worse. If it's stored with the slide locked to the rear, the recoil spring guide rod is left exposed. The rod often ends up dented or bent and must be replaced.

So leave the bolt or slide forward for storage. And don't forget the spring for the sear, trigger and hammer. They should be relaxed, too, with the bolt forward, the safety set to FIRE, and the trigger pulled. The only time a weapon should be charged is when you're on a mission or at the range.

Small Arms...

HEY, WE'RE
IN LUCK! YOU
HAVE A LIFETIME
WARRANTY!



SO I'M NOT
ENDING UP ON
THE JUNK PILE?
GREAT.

HELP FOR ACOG, AN/PSQ-18A?

Dear MSG Half-Mast,

We have the new TA31F ACOG (advanced combat optical gunsight) and the new AN/PSQ-18A day/night sight. Are there TMs for these sights and how do you get them repaired?

R.S.

Dear Mr. R.S.,

Neither sight has a technical manual. They do come with manufacturer's manuals, though, which give instructions on how to use the sights.

There are no repair parts in the Army system for either sight. Trijicon, the ACOG manufacturer, has a lifetime warranty for the sight. To get one repaired, contact:

ACOG-Trijicon (Bill Taggart)

47 Jack Ellington Rd
Fredericksburg, VA 22406

Phone: (540) 286-1827

email: billt@trijicon-va.com

The AN/PSQ-18A is considered non-reparable. If it breaks, your only course of action is to buy a new one.

Half-Mast

Small Arms...

SHOULD NEW WEAPONS BE GAUGED?

The answer is no, new weapons don't need to be gauged. And neither do weapons coming back from overhaul at depot.

New and overhauled weapons are proof-fired and gauged prior to being shipped to your unit. So they don't need to be gauged for a year if you're active Army or two years if you're non-deployed Guard or Reserve.

Of course, any time armorers suspect problems with a weapon or when the bolt or barrel is replaced, the weapon should be gauged. And make sure the gauges themselves have been gauged. The gauges should have a gauge card showing when they were last calibrated. If it's been more than a year, the gauges need to go to TMDE for calibration.

What armorers do need to do upon receipt of new or overhauled weapons is the Service Upon Receipt checks in the weapon's -20 TM.

Where's Your T&E?

HEY, WE DEPLOY NEXT WEEK AND I CAN'T FIND MY T&E.

WHERE THE HECK DID YOU PUT IT?

SKRITCH

GOSH, I KNOW I'VE SEEN IT AROUND HERE SOMEWHERE.



Dear Editor,

Many units when they are getting ready to deploy are finding that they are missing parts for their M3 and M122/M122A1 machine gun tripods. Without the traversing and elevation mechanism (T&E) or the pintle or the adapters for the various machine guns, the tripods can't be used.

These parts usually disappear because of sloppy storage practices. You can stop these losses by getting something like the mechanic's tool pouch, NSN 5140-00-329-4306, and keeping the tripod's accessories in it. Mark the tripod's ID on the bag and use a bungee cord to attach it to the tripod during storage. That way the accessories always stay with the tripod.

CW3 (retired) Greg Lupton
Defense Supply Center
Columbus, OH

Editor's note: Thanks for the suggestion, Chief. It will save lots of pre-deployment headaches. The mechanic's pouch costs \$23. Armorers can probably find something cheaper at their local discount store. Remember to remove the pouch before firing.

Mortars...

Tight, But Not Too Tight

It's a great idea to check the tightness of clamps and any nuts, bolts, and screws on your mortars. But if you get carried away tightening these fasteners, you cause more harm than good.

If you muscle them too tight, you can strip the threads or break the nuts, bolts, or screws, which makes your mortar NMC. The usual victims are the 60mm's mortar barrel/handle clamp and the 120mm's cross-leveling clamp handle. Tighten these items snug and then stop. That's tight enough.

HEAT TEST



The chemical agent monitor/improved chemical agent monitor (CAM/ICAM) can be safely stored in temperatures from -65 to 158°F.

But unfortunately in Iraq, the extremely hot weather combined with storage in a sealed CONEX container can actually top 158°F! As a result, some CAM/ICAMs may have been damaged. It's easy enough to check yours for problems.

Do the self-test and confidence test. Run the CAM/ICAM for at least 30 minutes until it passes the confidence test. Continue to run it at least five minutes after the bars from the confidence test clear. If the CAM/ICAM still shows three dots on the right side of the display after the WAIT light goes off, you've got problems.

Try putting on a new nozzle protective cap, NSN 6665-01-380-9974, and running the CAM/ICAM for 72 hours. Restart it and do the confidence test again. If the dots haven't disappeared, your CAM/ICAM needs to go to support for repair.

You can prevent these problems by not storing CAM/ICAMs in the desert in closed containers. Almost all CAM/ICAM problems can be prevented by doing the weekly PMCS, which includes running it at least 30 minutes.

For more info, see TACOM maintenance advisory message 04-033:

https://aeqs2.ria.army.mil/commodity/mam/tacom_wn/04/mam04-033.html

Optical Insert NSN?

Dear Half-Mast,
How do you get the
optical insert for your
M40-, M42-series
mask that holds the
prescription lenses?

R.R.

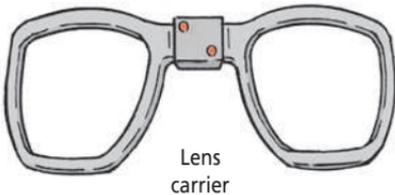


Dear Mr. R.R.,

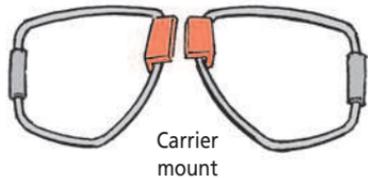
You need the prescription lens carrier, NSN 6540-01-264-1348, which is used with the M40-, M42-series adapter mount, NSN 6540-01-389-7152. You get the prescription lenses through your post clinic.

To install the prescription carrier, you must first loosen its set screws so they don't stick out and are flush with the carrier mount block. Otherwise, the screws can cut a divot in the plastic adapter and cause it to break.

Loosen set screws until they're
flush with mount block or...



...screws will cut a divot in plastic
mount and mount will break



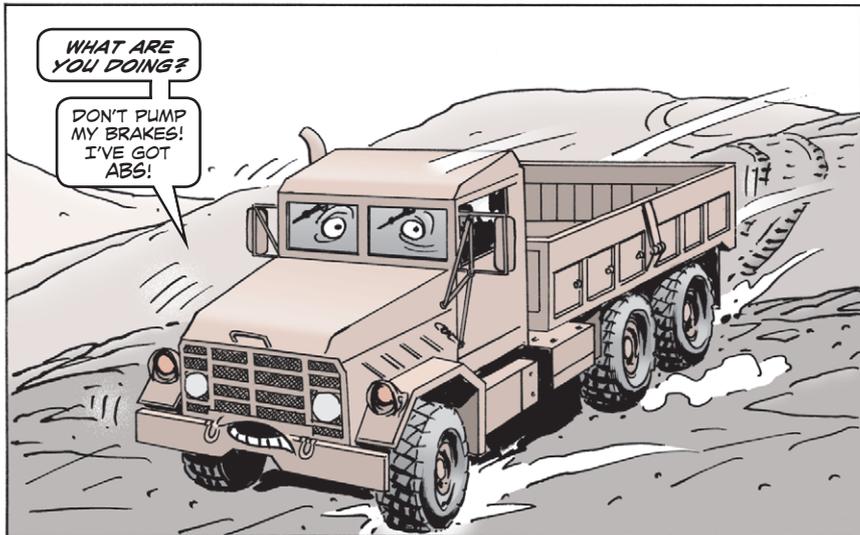
Align the mount block with the groove of the mount frame and slide the carrier into place.

After adjusting the carrier up or down to the proper position, fold the lens carrier to one side and tighten the set screw just until it makes contact with the mount frame. Don't tighten the screw any more or the lens carrier could pop out during use. Fold the lens carrier to the other side and tighten the other set screw the same way.

If you have the **M45 mask**, use NSN 4240-01-443-5489 to get its prescription lens carrier.

Half-Mast

Pressing Hard's OK



for Anti-Lock Brakes



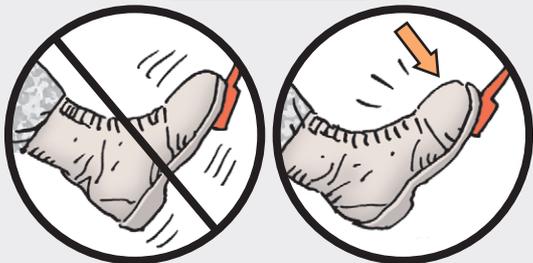
Dear Editor,

I've got some tips for your readers that drive M939-series trucks with anti-lock brakes (ABS). Old hands know how to pump the brakes when slowing down on slippery pavement to avoid locking the wheels and causing a skid. But when it comes to ABS, the name of the game should be "press hard and steer".

Press hard and steer

Anti-lock brakes merely add another layer of control and can mean safer stopping under emergency conditions—if you apply them correctly. Don't treat ABS gingerly as you would ordinary brakes. Instead of pumping, press hard on the pedal and don't let up. Any pulsing you feel or noise you hear is the ABS doing its thing.

ABS onboard computers are tied to individual wheel sensors which automatically pump the brakes faster and better than humans. The computers also apply pressure selectively by sensing which wheels are close to locking up. Then they lower the braking pressure to those wheels until they rotate properly.



Remember that ABS provides steering ability in a skid by design. They won't necessarily stop you faster, but they will stop you straighter.

Finally, there is an amber ABS warning light on the dashboard of your M939. When you start your truck, that light will illuminate for three seconds and then will go out. That is a *normal* ABS self-test.

But if that amber warning light comes on while you're driving, there's a problem with the ABS. So don't drive faster than 40 mph and use extreme caution until a mechanic fixes your ABS system.

TACOM's SOUM 06-007 directed the application of ABS warning sticker, NSN 7690-01-530-5506, in your M939-series trucks with anti-lock brakes. That sticker clearly tells you what the ABS warning light means.

If this sticker isn't in all of your M939s with ABS, order and install them right away. Place the ABS warning sticker on the ledge directly below the ABS malfunction light, ensuring the sticker is centered.

Terry Callahan
M939 FOV Team Leader, TARDEC
Warren, MI

Place this warning sticker,
NSN 7690-01-530-5506, below ABS light

ABS WARNING!

STEADY ILLUMINATION LAMP INDICATES
MALFUNCTIONING ANTILOCK BRAKE SYSTEM

IF MALFUNCTIONING, USE GRADUAL BRAKING
TECHNIQUES LISTED IN TM 9-2320-272-10
(OPERATION W/O ABS)

40 MPH MAX SPEED WITH STEADY LAMP

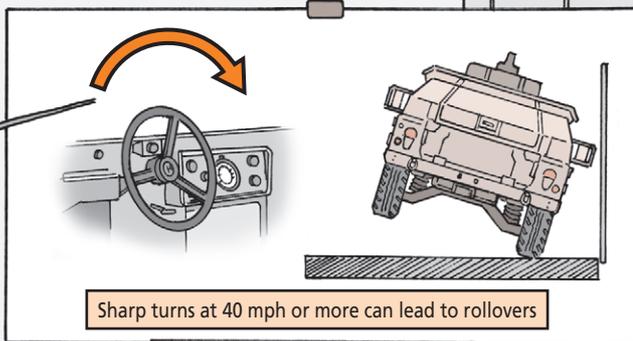
Editor's note: Thanks for braking to share this info, Mr. Callahan.

Up-armored HMMWVs...

Preventing Rollovers

WHILE DRIVING OUTSIDE THE WIRE, YOU WANT TO GET WHERE YOU'RE GOING AS QUICKLY AS POSSIBLE!

BUT FOR UP-ARMORED HMMWVs, SHARP TURNS AT 40 MPH OR MORE CAN LEAD TO ROLLOVERS, AND YOU DON'T WANT THAT!



Sharp turns at 40 mph or more can lead to rollovers

HERE'S WHAT CONTRIBUTES TO ROLLOVERS...

- Cargo placed high in the vehicle
- Lack of driver experience and training
- Overloading
- Poor road conditions



BUT YOU CAN REDUCE POTENTIAL ROLLOVERS BY...

- Getting driver training
- Staying within recommended payloads
- Securing cargo as low as possible in the vehicle
- Reducing speed when you expect sharp maneuvers
- Maintaining tire pressures of 40 psi in front and 50 psi in rear tires
- Maintaining tire pressures of 50 psi in front and rear tires *when frag kit 5 is applied*
- Checking tire pressures when tires are cold (haven't been used in three hours)



Safe Stopping Distances

For up-armored HMMWVs, gross vehicle weight (GVW) is 12,100 pounds. That includes an unloaded vehicle plus four crew with basic gear. If your HMMWV has the frag kit 5, it is over the GVW by at least 1,000 pounds.

At GVW, allow 13 vehicle lengths to safely stop at 60 mph. And for GVW plus 2000 pounds (or 14,100 pounds), use 15 vehicle lengths for your stopping distance at 60 mph.

Note that increased overloading or road conditions such as sand, debris, gravel or rain will *increase* stopping distances.

OPERATORS, DO YOU KNOW HOW TO PREVENT ROLLOVERS?



IF NOT, YOU NEED THE GTA HMMWV ROLLOVER PRECAUTION SMART CARD.

IT TELLS YOU WHAT LEADS TO ROLLOVERS AND WHAT YOU CAN DO TO REDUCE THEM IN YOUR UP-ARMORED HMMWVs.

FOR MORE DETAILS, ACCESS THE GTA HMMWV ROLLOVER PRECAUTION SMART CARD ONLINE ON AKO.

OR DOWNLOAD IT FROM THE REIMER DIGITAL LIBRARY: <https://atiam.train.army.mil/soldierPortal/>



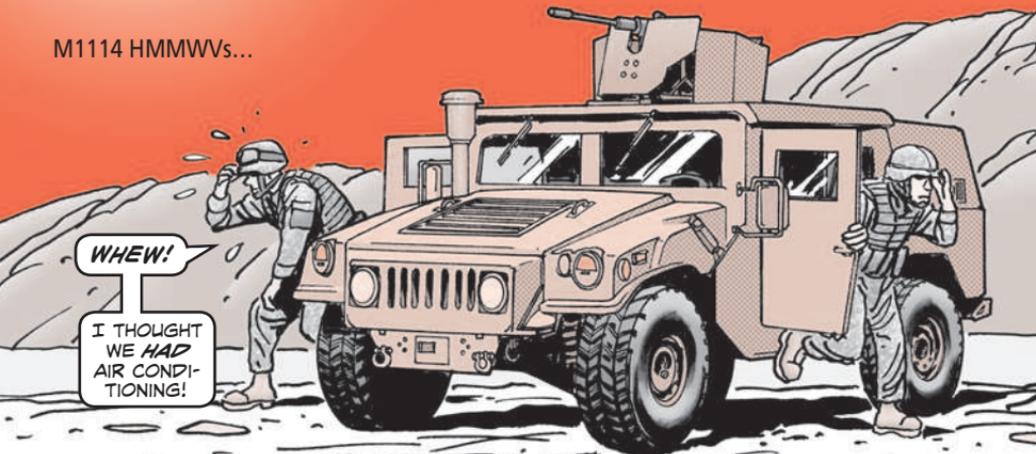
FROM THERE, CLICK ON THE RDL SERVICES TAB.

THEN SELECT GRAPHIC TRAINING AIDS UNDER "TYPE" AND TYPE IN 55-03-030 IN THE KEYWORD BLOCK.

CLICK SUBMIT AND GTA 55-03-030 SHOULD APPEAR.

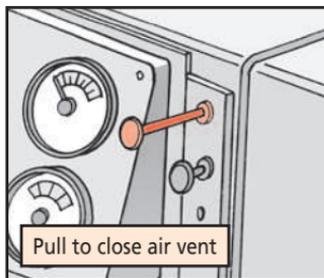
THEN YOU CAN DOWNLOAD, PRINT, AND SAVE THE SMART CARD.





Open Vents Clog A/C

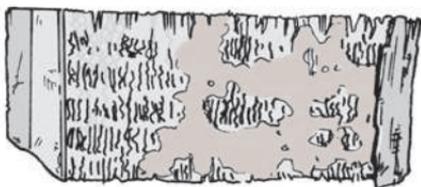
Operators, **don't** leave the A/C system's air vent open in your M1114 HMMWVs! When it is open—knob in the pushed-in position—the A/C evaporator coils get clogged with dirt, *hindering your A/C's performance*. You may open the vent long enough to de-fog windows, but then **close the air vent**. When the air vent is closed—knob in the pulled-out position—air re-circulates in the cab, reducing clogging.



If you notice a decrease in air flow, tell your mechanics. Then they might not have to replace the clogged A/C front and rear evaporator coils.

Mechanics, de-clog the coils by thoroughly rinsing them with low-pressure potable water while using a fin comb, PN 55719, to straighten and clean condenser and evaporator fins. That fin comb comes with the refrigeration equipment tool kit, NSN 5180-00-596-1474.

Clogged coils? Thoroughly rinse with low-pressure potable water

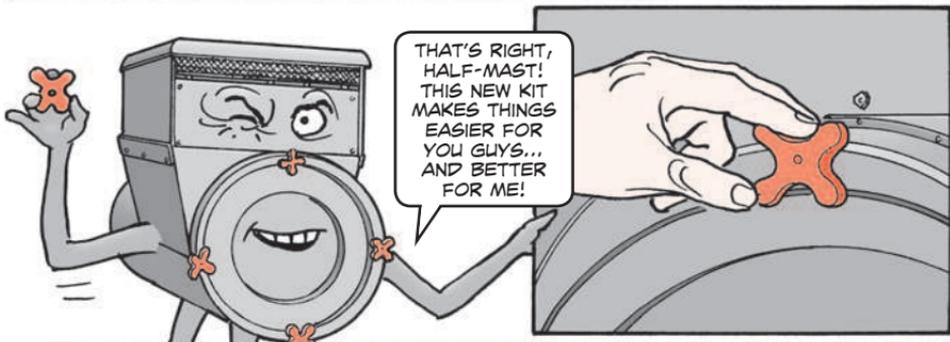


PLS/HET...

AIR FILTER CLAMPING RING

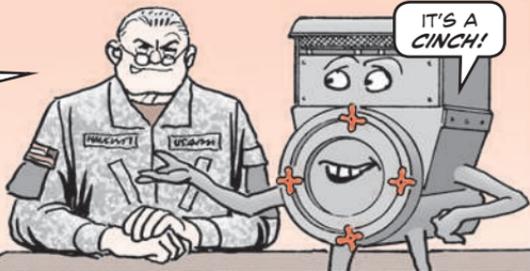
FORGET THE NUTS.

GET A NEW CLAMP RING KIT THAT MAKES SERVICING AIR FILTER ELEMENTS ON YOUR PLS AND HET A WHOLE LOT EASIER.



WITH THE NEW KIT IN PLACE, YOU **DON'T** HAVE TO REMOVE THE 12 NUTS NEEDED TO KEEP THE FILTER ELEMENT INSIDE THE AIR CLEANER HOUSING.

INSTEAD, THE NEW CLAMP RING IS POSITIONED OVER FOUR EXISTING STUDS AND HAND-TIGHTENED IN PLACE BY FOUR HAND KNOBS.



USE NSN 2940-01-547-4159 TO GET A KIT THAT'S PAINTED CARC GREEN. NSN 2940-01-547-3724 GETS A TAN KIT.

EACH KIT COMES WITH A CLAMPING RING, ANTISEIZE COMPOUND FOR THE STUD NUTS, TWO REPLACEMENT STUDS/RETAINERS AND INSTALLATION INSTRUCTIONS.

**SAVED FUEL
WILL COST YOU!**



Dear Editor,

I have seen soldiers and mechanics dumping the fuel from the old fuel filter into the *new* fuel filter. That's a no-go!

When they do this, they are also dumping some of the dirt into the new fuel filter. This can clog the new filter more quickly than necessary.

Help me get the word out so this can stop.

SFC Hiram Grimm
FMS #6A
Show Low, AZ

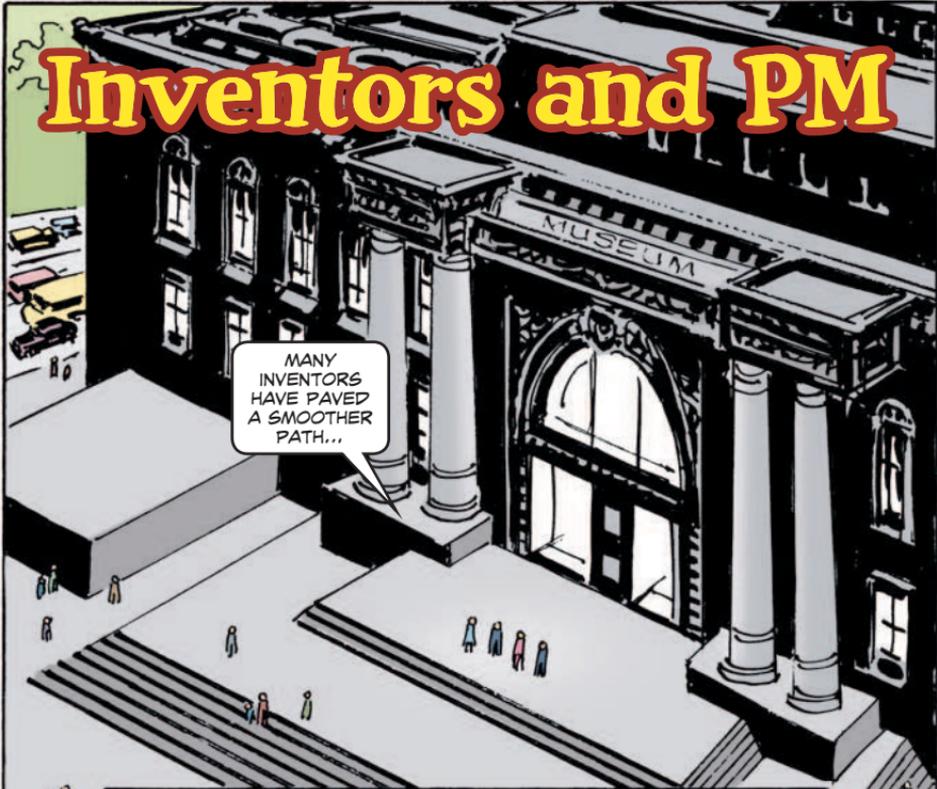
Editor's note: Thanks for the tip! They're probably doing this so they don't have to properly dispose of the fuel. A good rule to follow: If the TM doesn't tell ya' to do it, don't.

Wipers for M44A2, M809

Want an electric windshield wiper for your older 2¹/₂-ton and 5-ton trucks? Accessory kit, NSN 6105-01-461-7073, is available as a replacement for air-actuated units on M44A2-series 2¹/₂-ton trucks and M809-series 5-ton trucks. TACOM's EIR Digest, TB 43-0001-62-5 (Apr 00), approved this switch so that drivers—not the engine—determine how fast the wipers work. See your TACOM LAR for a copy of the EIR Digest info, or email

Half.mast@us.army.mil

Inventors and PM



MANY INVENTORS HAVE PAVED A SMOOTHER PATH...



...FOR OPERATORS AND MECHANICS DOING PREVENTIVE MAINTENANCE, AND FOR SOLDIERS IN GENERAL.

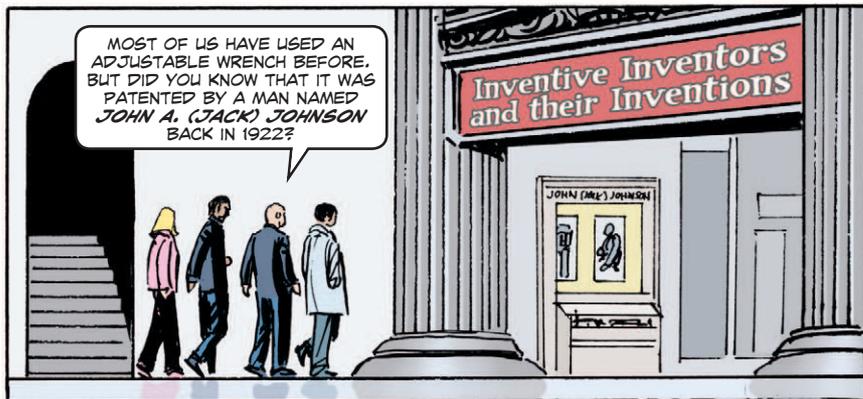
MOST PEOPLE KNOW ABOUT VARIOUS INVENTIONS, BUT DON'T NECESSARILY KNOW WHO INVENTED THEM.



SO TAG ALONG WITH US AS WE STROLL DOWN THIS EXHIBIT CALLED, "INVENTIVE INVENTORS AND THEIR INVENTIONS".

AND ENJOY THE LEARNING EXPERIENCE.

JOE KUBER



MOST OF US HAVE USED AN ADJUSTABLE WRENCH BEFORE, BUT DID YOU KNOW THAT IT WAS PATENTED BY A MAN NAMED JOHN A. (JACK) JOHNSON BACK IN 1922?



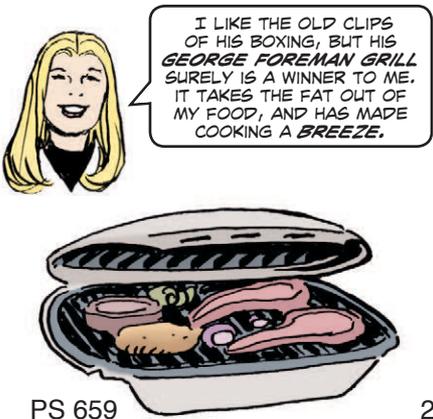
HE WAS ALSO THE WORLD'S FIRST BLACK HEAVYWEIGHT BOXING CHAMPION.



WELL, THE WRENCH SURE HELPS KNOCK OUT MAINTENANCE TASKS A LOT QUICKER.



HEY! THAT REMINDS ME OF ANOTHER BOXER/INVENTOR - GEORGE FOREMAN.



I LIKE THE OLD CLIPS OF HIS BOXING, BUT HIS GEORGE FOREMAN GRILL SURELY IS A WINNER TO ME. IT TAKES THE FAT OUT OF MY FOOD, AND HAS MADE COOKING A BREEZE.

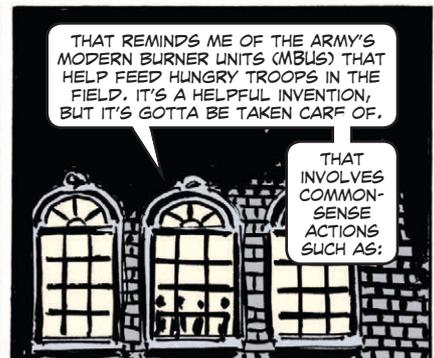


I LIKE THE GRILL, TOO, BUT THERE'S A TWIST TO THAT.



AN UNKNOWN COMPANY INVENTED IT, AND ASKED GEORGE FOREMAN TO ENDORSE IT. SO HE'S NOT THE TRUE INVENTOR OF THE GRILL AFTER ALL.

IMPRESSIVE, SERGEANT BLADE!



THAT REMINDS ME OF THE ARMY'S MODERN BURNER UNITS (MBUS) THAT HELP FEED HUNGRY TROOPS IN THE FIELD. IT'S A HELPFUL INVENTION, BUT IT'S GOTTA BE TAKEN CARE OF.

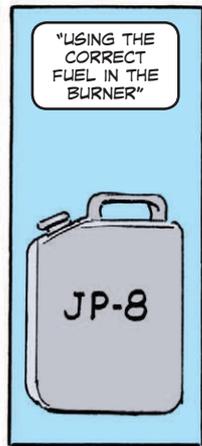
THAT INVOLVES COMMON-SENSE ACTIONS SUCH AS:



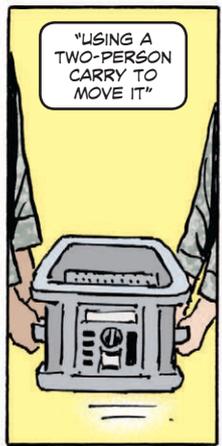
NOT DOING MAINTENANCE ON IT UNLESS THE EXTERNAL POWER IS SHUT OFF FIRST...



"KEEPING CABLES OUT OF FOOT TRAFFIC TO PREVENT TRIPPING"



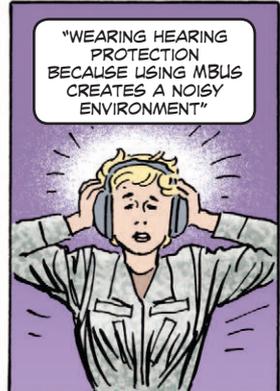
"USING THE CORRECT FUEL IN THE BURNER"



"USING A TWO-PERSON CARRY TO MOVE IT"



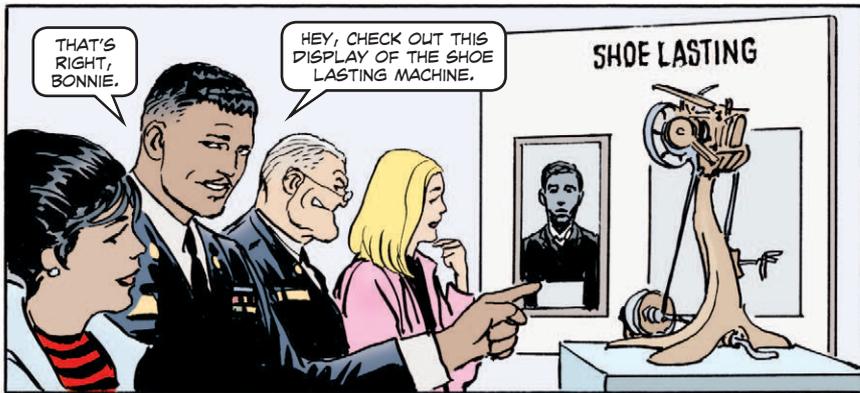
"MAKING SURE IT IS OPERATED IN WELL-VENTILATED AREAS"



"WEARING HEARING PROTECTION BECAUSE USING MBUS CREATES A NOISY ENVIRONMENT"



"AND KEEPING THEM CLEAN WITHOUT USING A PRESSURE WASHER OR SUBMERGING THEM IN WATER."



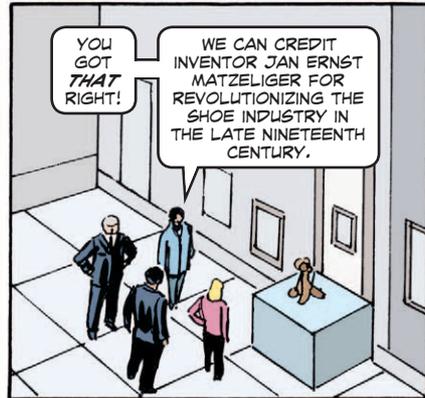
THAT'S RIGHT, BONNIE.

HEY, CHECK OUT THIS DISPLAY OF THE SHOE LASTING MACHINE.

SHOE LASTING



SOLDIERS NEED BOOTS THAT HOLD UP WELL IN ALL CONDITIONS, AND THEY *DON'T* NEED TO WAIT A LONG TIME FOR A REPLACEMENT WHEN THE ONES THEY HAVE WEAR OUT.



YOU GOT *THAT* RIGHT!

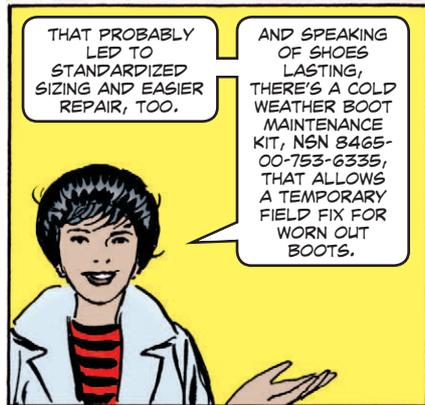
WE CAN CREDIT INVENTOR JAN ERNST MATZELIGER FOR REVOLUTIONIZING THE SHOE INDUSTRY IN THE LATE NINETEENTH CENTURY.



JAN ERNST MATZELIGER

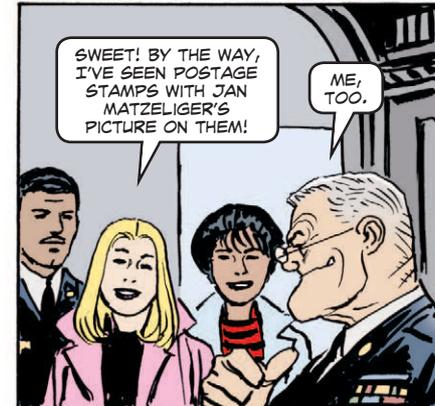
"HIS SHOE LASTING MACHINE COULD AUTOMATICALLY ADJUST A SHOE, LAY THE LEATHER OVER THE SOLE, AND ATTACH ALL THE PIECES TOGETHER IN A *LITTLE OVER A MINUTE.*"

THAT HELPED SHOES TO LAST LONGER, AND ALLOWED FOR THE MASS PRODUCTION OF SHOES."



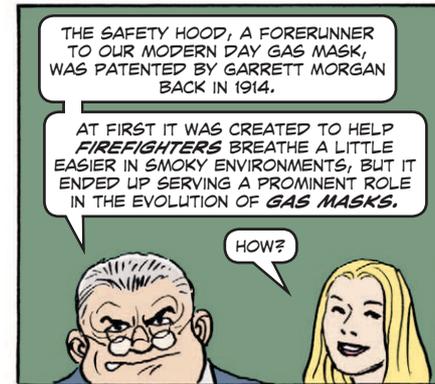
THAT PROBABLY LED TO STANDARDIZED SIZING AND EASIER REPAIR, TOO.

AND SPEAKING OF SHOES LASTING, THERE'S A COLD WEATHER BOOT MAINTENANCE KIT, NSN 8465-00-753-6335, THAT ALLOWS A TEMPORARY FIELD FIX FOR WORN OUT BOOTS.



SWEET! BY THE WAY, I'VE SEEN POSTAGE STAMPS WITH JAN MATZELIGER'S PICTURE ON THEM!

ME, TOO.



THE SAFETY HOOD, A FORERUNNER TO OUR MODERN DAY GAS MASK, WAS PATENTED BY GARRETT MORGAN BACK IN 1914.

AT FIRST IT WAS CREATED TO HELP *FIREFIGHTERS* BREATHE A LITTLE EASIER IN SMOKY ENVIRONMENTS, BUT IT ENDED UP SERVING A PROMINENT ROLE IN THE EVOLUTION OF *GAS MASKS.*

HOW?



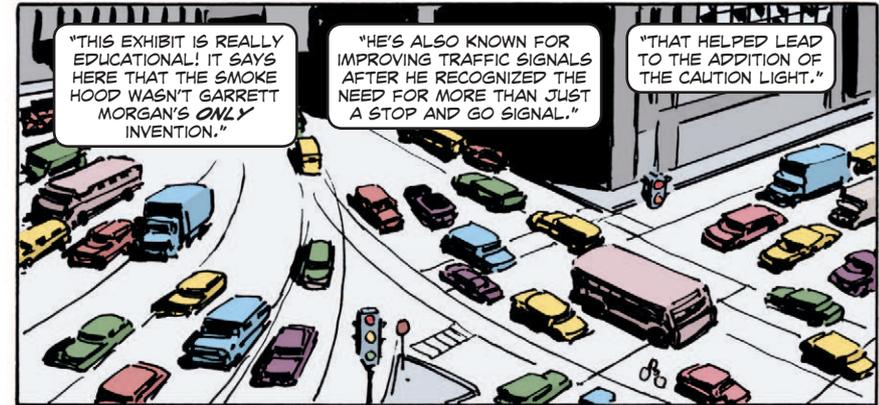
NOW EYEBALL THIS DISPLAY OF THE *SAFETY HOOD.* ANY PROTECTION SOLDIERS HAVE IN CBRN ENVIRONMENTS IS VALUABLE, AND HERE'S ONE OF THEM.

SAFETY HOOD
GAS MASK



"DURING WORLD WAR I, THE ARMY RELIED ON GAS MASKS THAT INCLUDED FEATURES FROM GARRETT MORGAN'S SAFETY HOOD."

GARRETT MORGAN



"THIS EXHIBIT IS REALLY EDUCATIONAL! IT SAYS HERE THAT THE SMOKE HOOD WASN'T GARRETT MORGAN'S *ONLY* INVENTION."

"HE'S ALSO KNOWN FOR IMPROVING TRAFFIC SIGNALS AFTER HE RECOGNIZED THE NEED FOR MORE THAN JUST A STOP AND GO SIGNAL."

"THAT HELPED LEAD TO THE ADDITION OF THE CAUTION LIGHT."

"WE'RE SAFER ON THE ROAD NOW THAT THERE'S MORE THAN JUST STOP AND GO LIGHTS. OPERATORS, PASSENGERS, AND PEDESTRIANS CAN ALL BE THANKFUL FOR THAT INVENTION."



GOOD INVENTIONS CAN DO A LOT OF GOOD. BUT THEY HAVE TO BE PROPERLY OPERATED AND MAINTAINED TO DO THE GOOD THAT'S INTENDED.

I AGREE, SERGEANT!



PREVENTIVE MAINTENANCE IS SOMETHING THAT **EVERYBODY** SHOULD BELIEVE IN.

COME OVER HERE AND ENLIGHTEN US, SOLDIER. TELL US WHAT TYPE OF PM RELATES TO THE DISPLAYS WE'VE SEEN SO FAR IN THIS EXHIBIT.



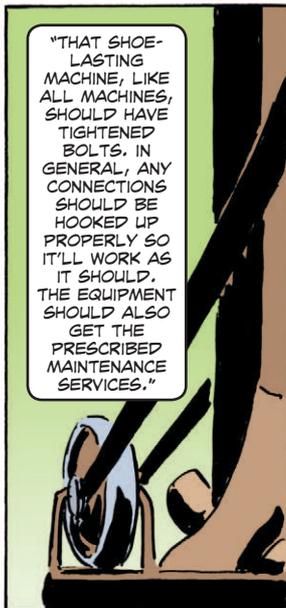
TOO EASY, MASTER SERGEANT. WRENCHES DON'T WORK WELL IF THEY'RE DIRTY OR RUSTY, SO ANY DIRT OR RUST ON THEM SHOULD BE CLEANED OFF. AND LIGHTLY LUBE YOUR WRENCHES AND OTHER TOOLS TO PREVENT RUST.



"ALSO, IF YOU USE YOUR ADJUSTABLE WRENCH RIGHT, YOU'LL HAVE LESS WEAR ON THE WRENCH, LESS DANGER OF SLIPPAGE, AND SAFER LEVERAGE. THAT MEANS THE FORCE OR PULL SHOULDN'T BE DIRECTED ON THE ADJUSTABLE JAW, SINCE IT'S THE STATIONARY JAW THAT CAN TAKE THE HEAVY STUFF."



"THAT SHOE-LASTING MACHINE, LIKE ALL MACHINES, SHOULD HAVE TIGHTENED BOLTS. IN GENERAL, ANY CONNECTIONS SHOULD BE HOOKED UP PROPERLY SO IT'LL WORK AS IT SHOULD. THE EQUIPMENT SHOULD ALSO GET THE PRESCRIBED MAINTENANCE SERVICES."



GOOD JOB, SOLDIER. WHAT ELSE CAN YOU TELL US?

I WOULD *NEVER* WANT TO BE IN A CBRN ENVIRONMENT WITHOUT A WORKING GAS MASK. SO I'M CAREFUL TO USE IT *ONLY* FOR ITS INTENDED PURPOSE.



"I *DON'T* SIT ON IT, I *DON'T* FOLD IT WHEN STORING IT IN THE CARRIER..."



"...OR SIP DRINKS OTHER THAN *WATER* THROUGH THE DRINK TUBE."



"I ALSO MAKE SURE IT'S *CLEANED* AFTER EACH USE. I MAKE SURE THE LENSES OFFER GOOD VISIBILITY, AND THAT THERE ARE NO TEARS IN THE MASK."



"PLUS, I STAY ON TOP OF MASK PM BY MAKING SURE THE *FOUR BUMPS* ON BOTH VOICEMITTERS POINT OUT..."



"...AND BY MAKING SURE THE *OUTLET VALVE DISK* ISN'T MISSING, TORN, OR OUT OF PLACE."



"I KNOW THOSE THINGS CAN PREVENT MY MASK FROM PROTECTING ME WHEN I NEED IT MOST!"



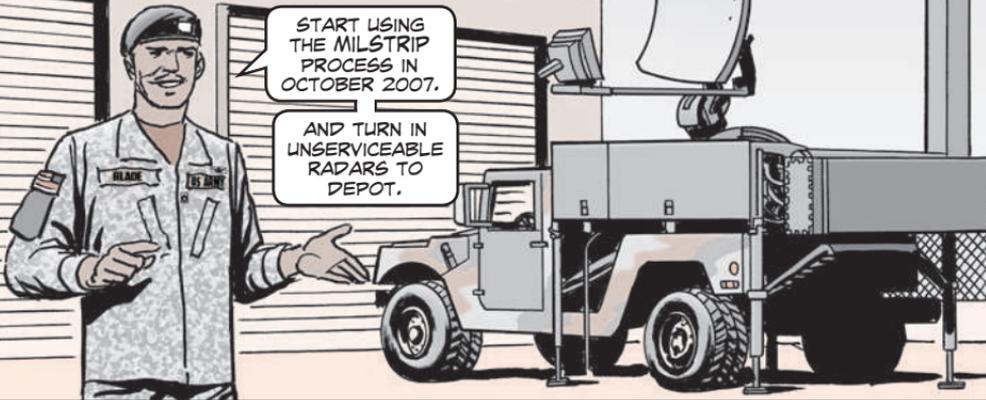


THE *NEXT* GREAT INVENTOR



AN/TPN-31, AN/FPN-67
Radar Sets...

Change In Ordering Procedures



START USING
THE MILSTRIP
PROCESS IN
OCTOBER 2007.

AND TURN IN
UNSERVICEABLE
RADARS TO
DEPOT.

Air traffic controllers, if you own AN/TPN-31, NSN 5840-01-450-8126, or AN/FPN-67, NSN 5895-01-450-8127, radar sets, listen up.

The air traffic navigation and coordination system (ATNAVICs) and the fixed base precision approach radar (FBPAR) will be supported by the MILSTRIP system to order parts not under warranty starting 1 Oct 2007. Continue ordering parts still under warranty as you have been.

Starting in October 2007, turn in unserviceable AN/TPN-31 or AN/FPN-67 radar sets and components to Tobyhanna Army Depot at the following address:

RIC: BY6 DODAC W25G1W
XRWIBG UEF DEF DIST DEPOT TOBYHANNA, PA (DDTP)
11 Hap Arnold Blvd
Warehouse 2, Bay 1 (Attn: B16 Account)
Tobyhanna, PA 18466-5059

When you have issues with your system which require parts or FSR support, send an email to

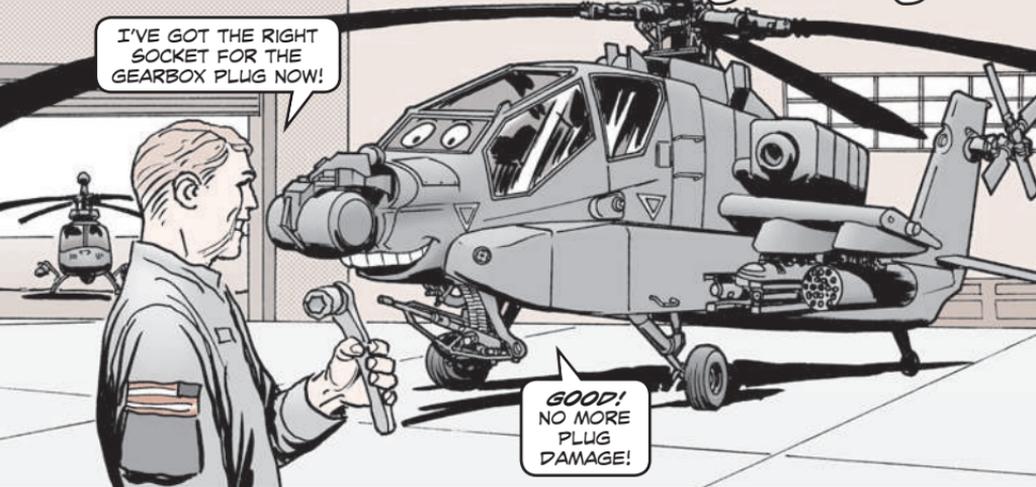
ATNAVICs@
peoavn.army.mil or

FBPAR@
peoavn.army.mil



IF YOU HAVE
ANY QUESTIONS,
CONTACT
YOUR C-E LCMC
POC AT
DSN 992-0276,
(732) 532-0276.

Gearbox Servicing Plug



Removing the servicing grease plug from the AH-64's intermediate gearbox with a wrench and socket from the aviation foot locker is a tough job, mechanics. Especially if it's not a good fit.

Problem is, the TM 1-1520-Longbow Apache IETM says to use a socket from the locker. But to use it, mechanics have to shave down the inside of the socket to force it to fit. But that creates more work and the socket still won't fit properly anyway.

In the end, after all the shaving is done, the servicing plug usually gets worn out, stripped or damaged after it's removed from the intermediate gearbox.

Get rid of your plug problem removal by ordering a 1 ⁵/₁₆-in socket, NSN 5120-01-335-0855, that's a perfect fit.

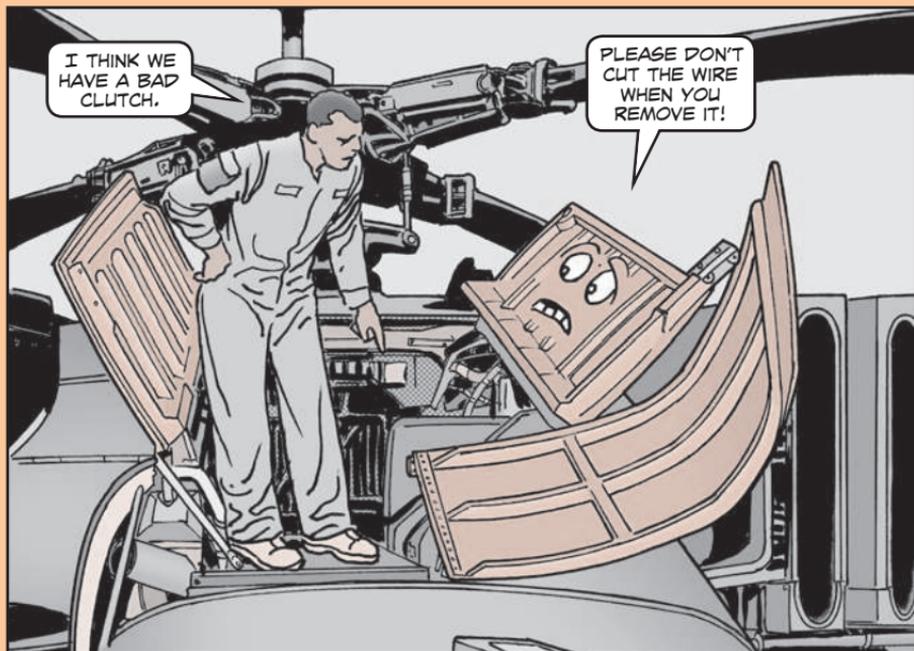
Save the plug and get the right socket.



NSN 5120-01-335-0855 will get you the right one



MAINTENANCE ON THE CLUTCH



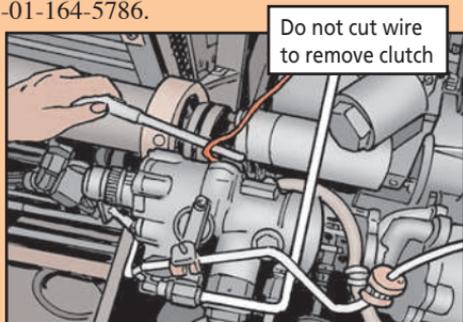
So, mechanics, you've eliminated all other possible reasons the power take-off (PTO) clutch on your AH-64 isn't working, and you have determined you have a bad clutch.

To replace it, start by checking the clutch's data plate. There are two different models, and one model has a few extra steps spelled out in your ETM or IETM.

Some AH-64's use clutch, NSN 3010-01-515-8483. This clutch has an interconnect harness that's not on clutch, NSN 2835-01-164-5786.

If your bird has the clutch with the wiring harness, be sure to remove it following the word in your manual. That procedure **DOES NOT** include cutting the wires! Cut wires will only mean more repairs.

If you have any doubts or questions about removing or installing clutches on your bird, call in your senior mechanic for help.



AH-64/UH-60 series...

STABILATOR COVER UP

Protecting precious items like jewelry, expensive clothes, furniture, and family heirlooms from damage is an important matter.

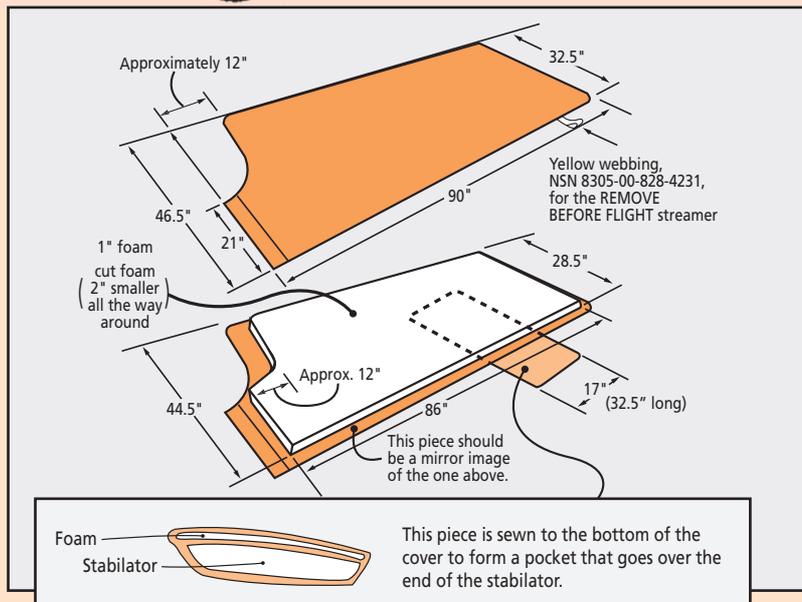
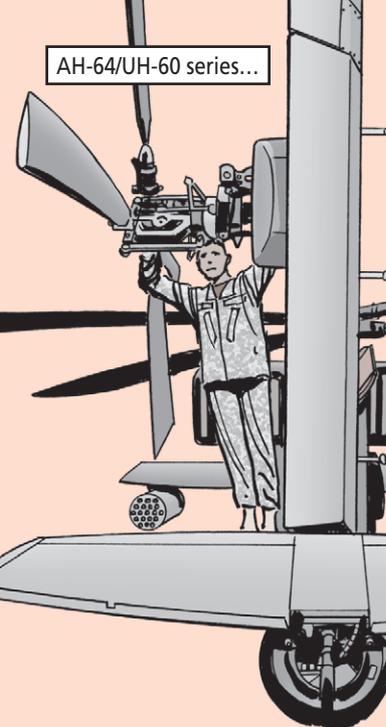
The same goes for a Black Hawk or an AH-64 stabilator. A tool dropped on an unprotected stabilator can cause unnecessary and costly repair or even replacement.

Your aircraft is grounded until the AVIM shop repairs minor nicks or dings or replaces a punctured stabilator.

Even the best mechanics get butter fingers from time to time, so a cover on the stabilator is a maintenance life saver.

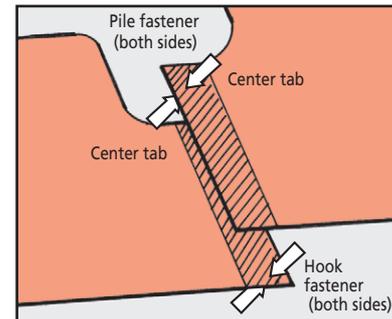
If you have any type of cover, whether it's canvas or foam, use it to protect the stabilator from tools like wrenches, hammers, and screwdrivers that damage the stabilator if dropped while working on the tail rotor.

If you don't have covers, get your upholstery shop to make a right and left piece for the stabilator with the following instructions.



The cover is made from red vinyl and uses fire retardant and flame resistant foam as insulation, both of which you can purchase locally.

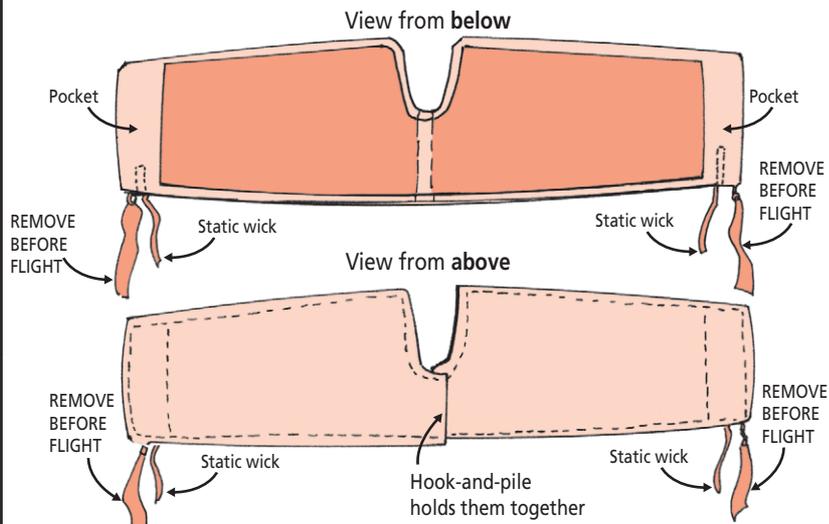
- Begin sewing the top and bottom together, leaving one of the long sides open for inserting the foam.
- After inserting the foam, finish sewing the two pieces together.
- Reinforce the opening edge of the pocket panel by folding it over 1 inch and sewing webbing on that edge. Sew in a web tab safety streamer.
- Then sew the panel to the cover. Leave a 7-in long opening 5 inches from the corner on the trailing edge to allow an opening for the static wick.
- Once you've made the first piece, make another one that's the mirror image of the first one. (You need two pads—one for the left half of the stabilator and another one for the right half.)
- The two pads will fasten together at the center of the stabilator with hook-and-pile fasteners as the diagram shows below.



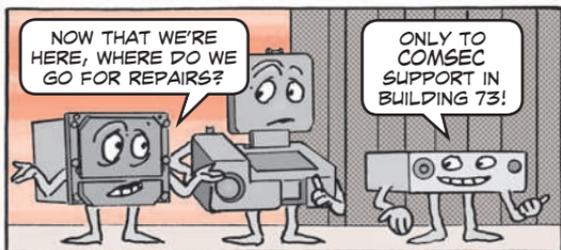
Attach "Remove Before Flight" streamers to the sewn-in tabs.

If your unit does not have a shop that can make the cover, contact Rhonda White at the California AVCRAD, (559) 347-5575.

Protective Pad  Stabilator 



Sending it to Toby for Repairs



Dear Editor,

Some COMSEC equipment being sent to Tobyhanna Army Depot for repairs is going to the wrong location there. This can lead to all sorts of problems—like shipments getting lost and repairs being delayed.

The one and only address for shipping COMSEC equipment to Tobyhanna Army Depot is:

Commander
Tobyhanna Army Depot
11 Hap Arnold Blvd
ATTN: COMSEC Support, Bldg 73
Tobyhanna, PA 18466-5110

This address is the correct one for DODAAC (DoD activity address code) W81U11.

Also, keep in mind that special procedures are needed when shipping COMSEC equipment. Find them in DA Pam 25-380-2, *Security Procedures for Controlled Cryptographic Items*.

There are other technical bulletins and DA pamphlets that will help in shipping these items, too. For a complete list of COMSEC regulations, or for questions about any COMSEC equipment turn in procedures, contact Tobyhanna's Communications Security Division at DSN 795-6598 or (570) 895-6598.

Anthony J. Ricchiazzi
PAO, Tobyhanna Army Depot
Tobyhanna, PA

Editor's note: Tobyhanna Army Depot is a big place with a lot of missions for all the services. Just sending your COMSEC equipment to "Tobyhanna" is not going to get the job done! Use this address and keep it handy for future use. Thanks for the heads up, Tony.

Return GBS Parts



Dear Editor,

Without the return of unserviceable assets, a damaged Global Broadcast Service (GBS) AN/TSR-8 Receive Suite, NSN 5820-01-530-6498, will never be repaired.

You must—**MUST**—turn in unserviceable parts so they can be repaired and returned to stock. Otherwise, the supply pipeline dries up and so does the GBS mission.

Here are some of the much-needed items:

Name	NSN
COMSEC interface tray	5810-01-529-3613
Interface unit, auto (IRD)	7025-01-529-0642
Digital computer system (laptop)	7010-01-528-9891
Common antenna group (feedome assy)	5985-01-530-2371
Antenna pedestal support (motor assy)	5985-01-530-1552
Antenna support group (tripod hub)	5985-01-530-2368
Antenna pedestal support (tripod assy)	5985-01-530-2369
Control receiver (STRC)	5895-01-530-1058
W-3 power cable	6150-01-530-1909
W-5 special cable	6150-01-530-8289
W-6 special cable	5995-01-530-1905

Herb Cottrell
ILS GBS Manager
Ft Mormouth, NJ

Editor's note:
Thanks, Herb,
for this vital
"heads up."
Soldiers, if you
don't turn parts
in for repair, it
won't be long
until parts are
not available.

Night Vision
Devices...



HELMET MOUNTS FOR ALL OCCASIONS

Dear Half-Mast,
Is the same mounting bracket for night vision devices used on the PASGT helmet and the advanced combat helmet (ACH)? What's used on the CVC helmet?

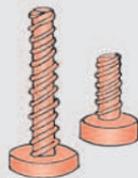
SSG D.R.R.

Dear Sergeant D. R. R.,

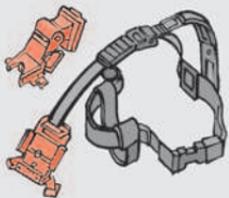
Here's what you need to mount the AN/PVS-7B, AN/PVS-7D and AN/PVS-14 night vision devices on the PASGT helmet, the ACH, and the CVC.

Start with the helmet mount assembly, NSN 5855-01-457-2953. If you're wearing a PASGT helmet, you have all you need! And, if you break the front bracket, you can order a new one with NSN 5340-01-505-5835.

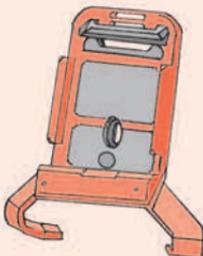
Use longer screw!



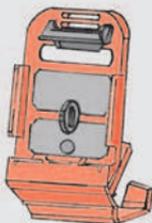
Helmet mount assembly.
Initial issue is PASGT
front bracket assembly
only



PASGT front
bracket assembly



ACH/CVC front
bracket assembly
kit includes a two-
piece screw and
post fastener



However, if you're wearing the ACH or a CVC, you'll also need a different front bracket. Order an ACH/CVC bracket with NSN 5340-01-509-1467. A two-piece, screw-and-post fastener comes with this assembly.

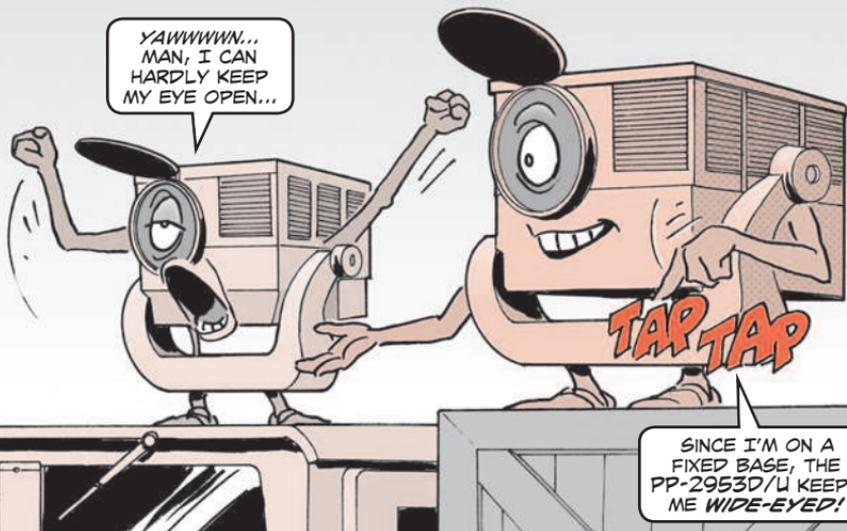
You can get the screw alone with NSN 5305-00-433-3741. Note that this screw is longer than the one that we recommended in PS 647 on Page 44, because that shorter screw did not fully engage through the post fastener.

You can also get the post alone with NSN 8470-01-144-5367.

Early next year, an ACH/CVC helmet mount assembly already equipped with the ACH/CVC front bracket will be available. The ACH/CVC helmet mount assembly can be ordered then with NSN 5855-01-551-4525.

Half-Mast

POWER SUPPLY AVAILABLE



Dear Editor,

I am the ILS manager of the long range scout surveillance system (LRAS3) AN/TAS-8(V)1 & (V)2. I need to get the word out to units using LRAS3 systems that a tactical power supply, PP-2953D/U, NSN 6130-01-522-3494, is available.

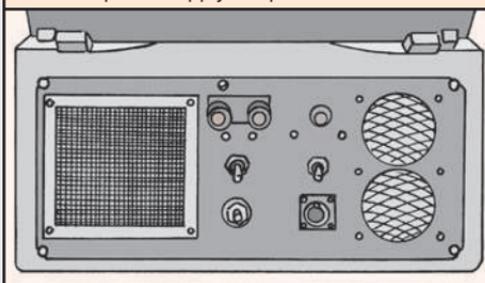
The power supply provides the correct operating voltage for the LRAS3 when it is operated in a long-term, fixed-base location.

The power supply reduces the need to rely on rechargeable batteries. And the units may already have this power supply in support of SINGARS.

A cable assembly, NSN 6150-01-547-6755, is needed to connect the power supply to the LRAS3 system.

Charlie Osborn
LRAS3, ILS Manager
Ft Belvoir, VA

This power supply can power the LRAS3!



Editor's note: LRAS3 users, this will save batteries and save you time in changing them. Order this power supply if you have an LRAS3 in a long-term, fixed-base setup. Thanks for the info, Charlie.

REEL TIME!

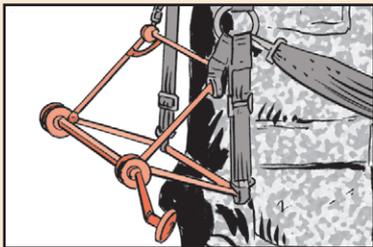
HERE'S THE LATEST AND GREATEST ON PARTS AND PREVENTIVE MAINTENANCE ON CE-11 REEL EQUIPMENT.



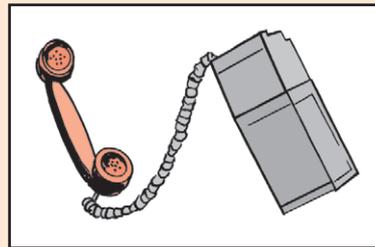
Parts

At one time, NSN 5805-00-407-7722, for the CE-11 brought the RL-39 reel, the TA-1/PT telephone set, and the ST-34 and ST-35 straps. Now it brings nothing!

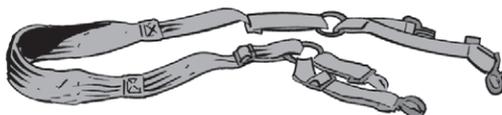
To get the RL-39 reeling machine, you'll need to use NSN 3895-00-498-8343.



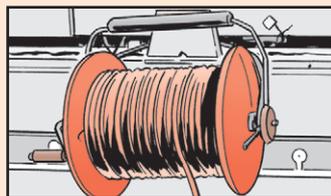
To get the TA-1/PT telephone set, you'll need to order it with NSN 5805-00-521-1320.



To get the ST-35 sling strap, use NSN 8465-00-269-0682.

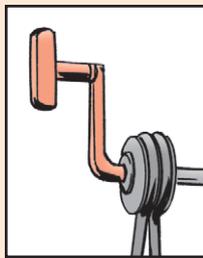


Remember, the DR-8 wire spool never came with the CE-11 and still doesn't. To get the spool, order it with NSN 8130-00-407-7859. To get the spool with about a third of a mile of WD-1A wire, use NSN 6145-01-155-4258. To get the spool with 1,000 feet of WF-16 wire, use NSN 6145-01-259-9203.



If you need to replace just the hand crank, order it with NSN 5340-01-142-9478. Order a cotter pin to keep it attached with NSN 5315-00-842-3044. A new carrying handle can be had with NSN 3895-01-135-2538.

Support can also do some parts replacement on the RL-39. They can order a bearing with NSN 3895-01-133-9995; a housing assembly with NSN 5805-01-151-9929; a plate assembly with stop with NSN 3895-01-151-9928; and a retaining ring with NSN 5365-00-803-7306.



Maintenance

Rust on the reel makes your reeling chores tougher. Remove heavy rust with steel wool, NSN 5340-00-242-4404. Fine (280-grit) sandpaper, NSN 5350-00-193-7211, should do the job on lighter rust.

Once the rust is gone, apply a light coat of oil, NSN 9150-00-273-2389, to the axle.

Newer reels have nylon bearings and don't have lube points. If you have an older reel, you have three lube points: one on the face of each bearing and one on the crank handle. Use oil, NSN 9150-00-273-2389.

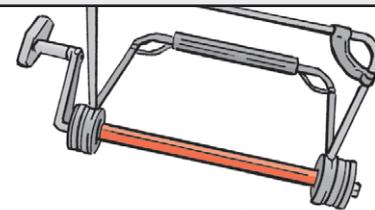
While you're doing maintenance on the reel, check the DR-8 wire spool.

Look at the spool's end plates. If the tabs are only bent over, but not welded, get support to spot weld them. Bent tabs are too weak to hold the end plate if you drop a loaded spool. For added strength, spot weld the seams where the spool shaft joins the end plates. Three welds at each end will do the trick. Clean up the welds with a wire brush, then touch up with paint.

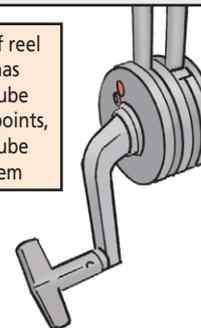
Despite its age, there is still good info to be found in TM 11-3895-203-15, *Maintenance and Parts for Reel Equipment CE-11*. If you don't have a copy, go to the LOGSA website to view the ETM:

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

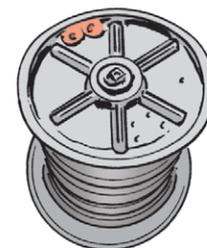
Apply a light coat of oil to axle



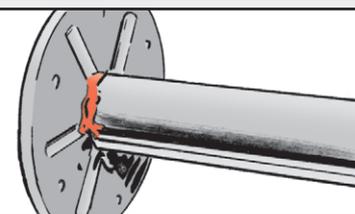
If reel has lube points, lube 'em



Spot weld the tabs

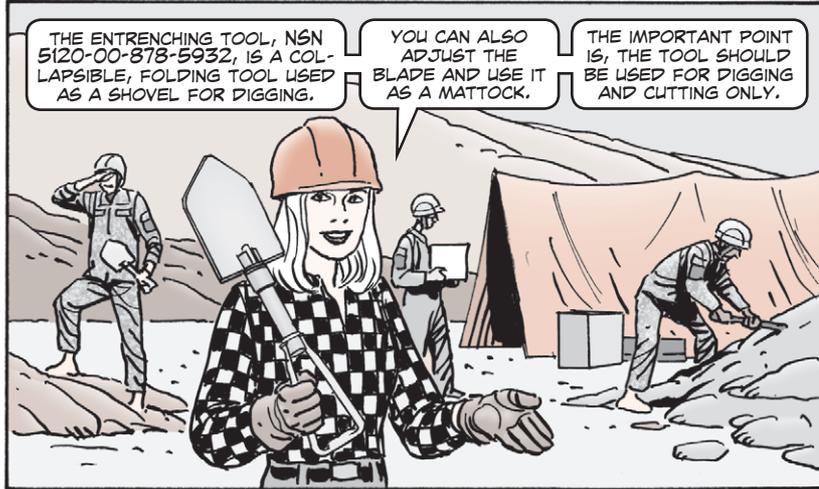


Spot weld seams



IF YOU HAVE OTHER QUESTIONS ABOUT THE CE-11 OR RELATED ISSUES, CONTACT THE CECOM EXPERTS AT DSN 992-5008 OR (732) 532-5008. OR EMAIL: paula.lamar@us.army.mil



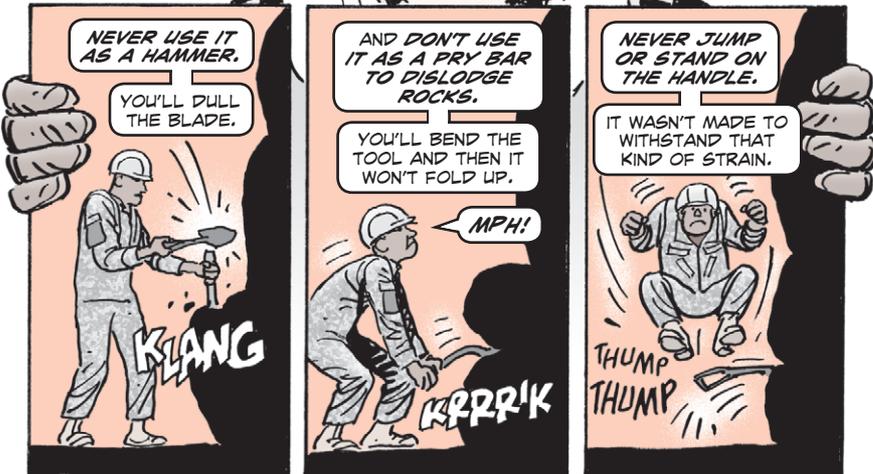


THE ENTRENCHING TOOL, NSN 5120-00-878-5932, IS A COLLAPSIBLE, FOLDING TOOL USED AS A SHOVEL FOR DIGGING.

YOU CAN ALSO ADJUST THE BLADE AND USE IT AS A MATTOCK.

THE IMPORTANT POINT IS, THE TOOL SHOULD BE USED FOR DIGGING AND CUTTING ONLY.

WHEN YOU HAVE TO... ... SHOVEL IT



NEVER USE IT AS A HAMMER.

YOU'LL DULL THE BLADE.

KLANG

AND DON'T USE IT AS A PRY BAR TO DISLodge ROCKS.

YOU'LL BEND THE TOOL AND THEN IT WON'T FOLD UP.

MPH!

KRRRIK

NEVER JUMP OR STAND ON THE HANDLE.

IT WASN'T MADE TO WITHSTAND THAT KIND OF STRAIN.

THUMP THUMP

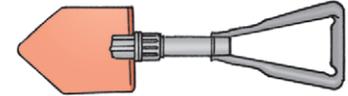


TO KEEP ON DIGGING WITH YOUR ENTRENCHING TOOL, GIVE IT GENEROUS SCOOPS OF PM.

FOLLOW THESE STEPS AFTER EACH USE...

1. Clean it. Cleaning stops the buildup of rust, grease and dirt. They can dull the blade and make the tool hard to fold. Wipe the blade clean with a wet cloth. Rub off rust with sandpaper or a wire brush. Let the tool dry.

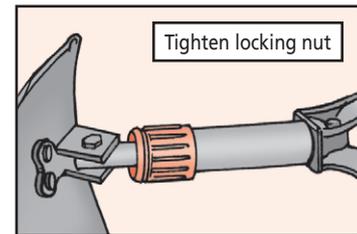
Clean blade after you dig



2. Lube it. If the locking nut is hard to turn, oil the nut threads. Use WD-40 or the same oil you use on your weapon.

3. Tighten it. Tighten the locking nut. Make sure it holds the blade firmly in place. If it doesn't, replace the tool.

Tighten locking nut



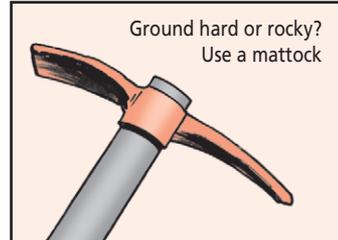
4. Inspect it. Look closely at the tube at the blade hinge point. Make sure it's in good shape. If the tube hole is worn, you'll need to replace the entrenching tool.

If the blade needs to be painted, make sure it's clean and dry first. Then spot paint it with flat black spray paint.

Does your entrenching tool need more PM than what you see here? It's probably worn out. Time to turn it in and get a new one.

If you're facing some heavy-duty digging, get your hands on a mattock. A mattock is a forged steel tool for digging, cutting and chopping. It's especially suited for use in hard or rocky terrain. NSN 5120-00-243-2395 brings a 5-lb mattock head. Problem is, it doesn't come with a handle; you have to order that separately. NSN 5120-00-288-6574 brings you a wooden handle, and NSN 5120-01-432-3295 brings a plastic one.

Ground hard or rocky? Use a mattock



To get a handle or to look for other mattocks or handles, go to the GSA Advantage website: https://www.gsaadvantage.gov/advgsa/advantage/main/start_page.do

Do a search on the word "mattock."

CTA 50-900 is your ordering authority for the mattock.

Notthin' Drastic, Just Plastic



LIKE WARRIORS OF OLD, THE 5-GAL METAL FUEL CANS HAVE PASSED INTO THE PAGES OF HISTORY.

YOU WON'T FIND THE OLD METAL CANS AND THEIR ACCESSORIES IN THE SUPPLY SYSTEM ANY MORE.



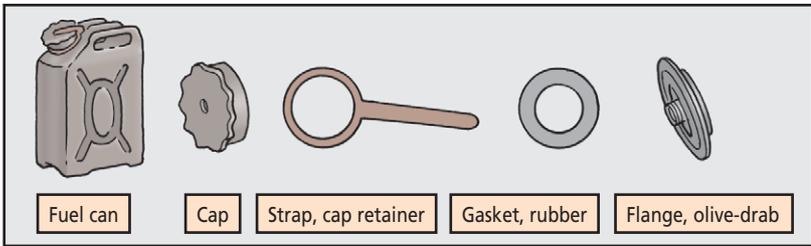
YOU WILL FIND 5-GAL PLASTIC CANS AND ACCESSORIES.

THEY'RE GOOD FOR HAULING GASOLINE AS WELL AS DIESEL AND JP-8 FUELS.

THE CANS AND THEIR CAPS COME IN TWO COLORS: OLIVE-DRAB AND SAND.

Item	Olive-drab NSN	Sand NSN
Fuel can	7240-01-337-5269	7240-01-337-5268
Cap	7240-01-337-5349	7240-01-337-5348
Strap, cap retainer	7240-01-337-5352	7240-01-337-5351
Gasket, rubber	5330-01-337-5350	
Flange, olive-drab	7240-01-337-9010	

Here are the NSNs for the cans, caps and accessories...

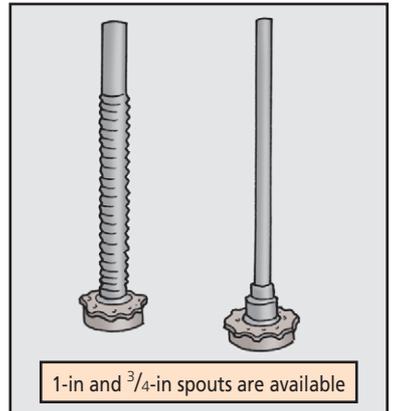


Whenever possible, use plastic caps to seal plastic cans. A metal cap works for a short time on a plastic can. But sooner or later the metal strips out the plastic threads. You get a poor seal and leaking fuel.

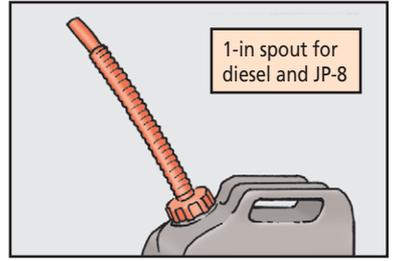
Pour spouts are also available. They're made of plastic and they thread onto the outside of the necks of fuel cans. They have a few advantages over metal spouts: They cost less and weigh less than metal spouts. They don't rust. And they have fewer parts to break.

The spouts come in two nozzle diameters: The 1-in nozzle spout, NSN 7240-00-177-6154, fits into large fuel tank openings on military vehicles and diesel tanks. The 1-in diameter prevents fueling of vehicles requiring unleaded fuel. The 3/4-in nozzle spout, NSN 7240-01-516-7883, fits into vehicle fuel tanks with unleaded gas restrictors as well as small engine fuel tanks.

Both spouts are self-vented and have an O-ring seal to prevent leaks.



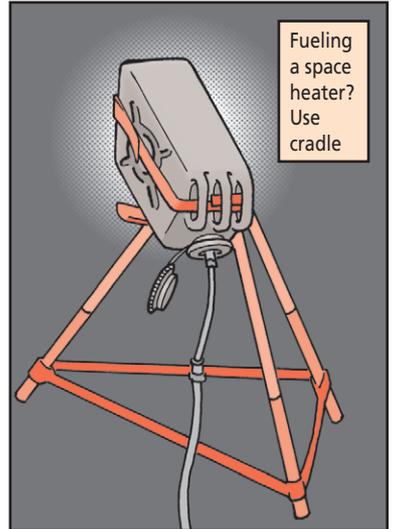
1-in and 3/4-in spouts are available



1-in spout for diesel and JP-8



ONE OTHER THING TO KEEP IN MIND: IF YOU FUEL A SPACE HEATER WITH A FUEL CAN, USE THE CRADLE, NSN 7240-01-318-5222.



Fueling a space heater? Use cradle

NSNs for Universal Camouflage

SOONER OR LATER IT'S BOUND TO HAPPEN.

YOUR INTERCEPTOR BODY ARMOR'S OUTER TACTICAL VEST (OTV) SUFFERS SOME DAMAGE.



THE DAMAGE COULD BE CUTS, RIPS, TEARS, HOLES OR BURNS.



IT COULD BE LOOSE AND BROKEN STITCHING, OR TORN AND FRAYED WEBBING.



IT COULD EVEN BE HITS FROM FRAGMENTATION OR SMALL ARMS FIRE.



CAN OUR OTVs BE REPAIRED OR REPLACED?

THAT DEPENDS ON THE AMOUNT OF DAMAGE.

ASK SUPPORT FOR GUIDANCE.

IF YOU HAVE TO REPLACE THE OTV OR ANY OF ITS COMPONENTS, USE THESE NSNs.



ALL CLOTH CARRIERS COME IN UNIVERSAL CAMO...

Outer Tactical Vest

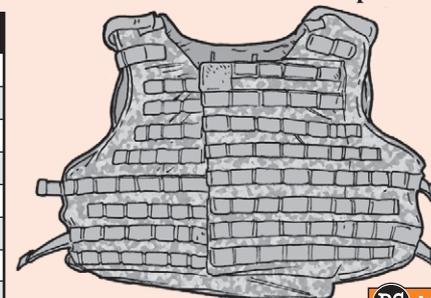
Includes the cloth carriers of the base vest's outer shell, yoke and collar, throat protector, groin protector, and deltoid and axillary protectors. It also includes their **soft ballistic panels and inserts.**

NSN 8470-01-526-	Size
7882	X-small
7885	Small
7886	Medium
7888	Large
7891	X-large
7893	XX-large
7894	XXX-large
7895	XXXX-large

Base Vest Assembly

Includes the base vest's outer shell **cloth carrier** and the **soft ballistic panels.**

NSN 8470-01-526-	Size
8747	X-small
8748	Small
8750	Medium
8753	Large
8752	X-large
8754	XX-large
8755	XXX-large
8756	XXXX-large



Base Vest's Outer Shell Cloth Carrier

Includes the base vest's outer shell cloth carrier only.

NSN 8470-01-526-	Size
7907	X-small
7910	Small
7913	Medium
7916	Large
7915	X-large
7917	XX-large
7920	XXX-large
7921	XXXX-large

Yoke and Collar Assembly

Includes the yoke and collar cloth carrier and soft ballistic inserts.

NSN 8470-01-526-	Size
7954	X-small
7996	Small
7998	Medium
7999	Large
8000	X-large
8003	XX-large
8006	XXX-large
8015	XXXX-large

Yoke and Collar Cloth Carrier

Includes the yoke and collar cloth carrier only.

NSN 8470-01-526-	Size
8064	X-small
8067	Small
8074	Medium
8075	Large
8079	X-large
8080	XX-large
8081	XXX-large
8082	XXXX-large

Groin Protector Assembly

Includes the groin protector cloth carrier and the soft ballistic insert.



NSN 8470-01-	Size
526-8095	X-small to medium
526-8096	Large to XXXX-large

Groin Protector Cloth Carrier

Includes the groin protector cloth carrier only.

NSN 8470-01-	Size
526-8051	X-small to medium
526-8053	Large to XXXX-large

Throat Protector Cloth Carrier,

NSN 8470-01-526-7933.

Includes the throat protector cloth carrier only. One size only.

Throat Protector Assembly,

NSN 8470-01-526-7925.

Includes the throat protector cloth carrier and the soft ballistic insert. One size only.



Turning GMTK into MCMTK

Now it's simple to turn the general mechanic tool kit (GMTK) into the multi-capable maintainer tool kit (MCMTK).

NSN 5180-01-502-6332 brings you all the tools needed to change the GMTK (NSN 5180-01-483-0249, CL 5180-95-B47) into the MCMTK (NSN 5180-01-493-1664, CL 5180-95-B74). The new tools have a remarks code 16, which means you will need your commander's approval to purchase them.

HERE ARE THE NEW TOOLS AND THEIR PART NUMBERS IN CASE YOU NEED TO ORDER REPLACEMENTS IN THE FUTURE...



Order these replacement tools through PM SKOT or directly from Kipper Tools. The web address for PM SKOT is

<http://pmskot.army.mil>

Questions? Contact TACOM's Dan Stark at DSN 793-0131/ (309) 782-0131 or email

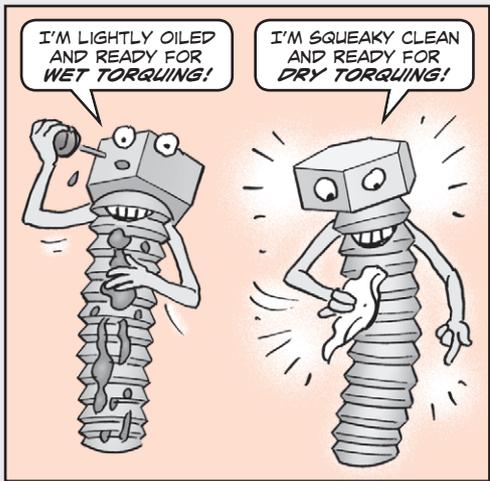
dan.stark@us.army.mil

Part Number	Tool
41216	socket wrench, hex attachment, 1/2-in dr, 1/2-in wrenching size
41212	socket wrench, hex attachment, 3/8-in dr, 3/8-in wrenching size
41218	socket wrench, hex attachment, 1/2-in dr, 9/16-in wrenching size
41210	socket wrench, hex attachment, 3/8-in dr, 1/4-in wrenching size
41211	socket wrench, hex attachment, 3/8-in dr, 5/16-in wrenching size
41208	socket wrench, hex attachment, 3/8-in dr, 3/16-in wrenching size
41209	socket wrench, hex attachment, 3/8-in dr, 7/32-in wrenching size
42422	socket wrench, deep reach, 3/8-in dr, 11/16-in wrenching size
42418	socket wrench, deep reach, 3/8-in dr, 9/16-in wrenching size
42420	socket wrench, deep reach, 3/8-in dr, 5/8-in wrenching size
42424	socket wrench, deep reach, 3/8-in dr, 3/4-in wrenching size
42414	socket wrench, deep reach, 3/8-in dr, 7/16-in wrenching size
42416	socket wrench, deep reach, 3/8-in dr, 1/2-in wrenching size
42	wrench, flare nut: 1-in and 1 1/8-in wrenching sizes
KIE610TN-12	brush, parts, round
31679	file set, Swiss needle
2W	pliers, wire twist
157	punch, drift, brass, 1/4-in dia, 4-in long
45Z	pliers, electrical connector

Also, check the manual to see if the torque specified is for “dry” or “wet” torque. Wet torque means lube on the threads. Don’t grease or oil a fastener unless the TM tells you to use wet torque. Lubed threads reduce run-up friction and could cause you to overtorque.

Use dry cleaning solvent to clean the threads, and to wipe down your wrench. For wet torque, lightly oil the threads before you run the nut or fastener down, using the specified solvent or oil.

And handle your torque wrench with care! Never hammer with it, or bang, toss, or drop it. That damages the calibration, and you’ll end up sending it to your local TMDE shop for calibration and repair.



While Torquing

When applying torque, the wrench can be pushed or pulled, but turn the wrench slowly and steadily to get an accurate torque. Stop as soon as you get a click or the proper torque is indicated. Torque is normally applied to the nut—not the bolt—unless your TM states otherwise.

While you torque, keep your arms and wrists straight and your hand firmly in the center of the handle grip. And don’t use extension bars if the wrench isn’t designed for it. You can use torque multipliers or hydraulic torque applicators when a very high torque is required. But make sure their accuracy meets your torque requirements.



Re-Torquing

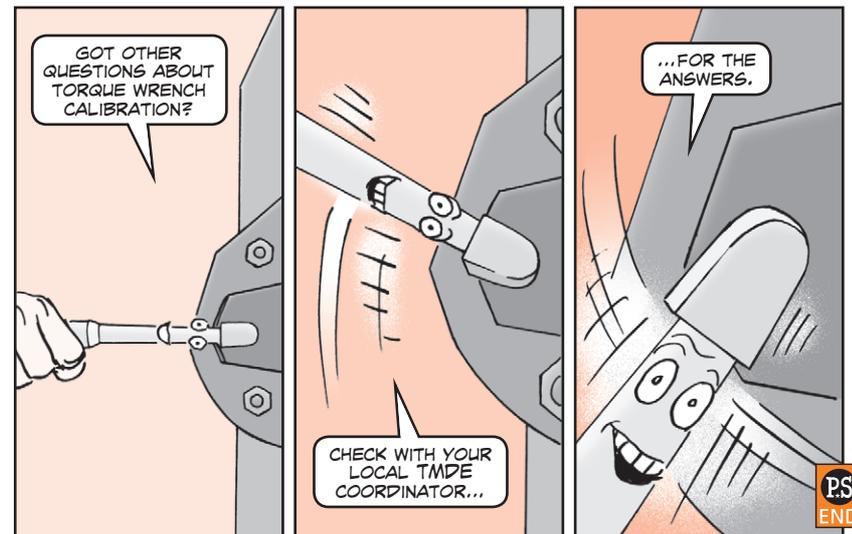
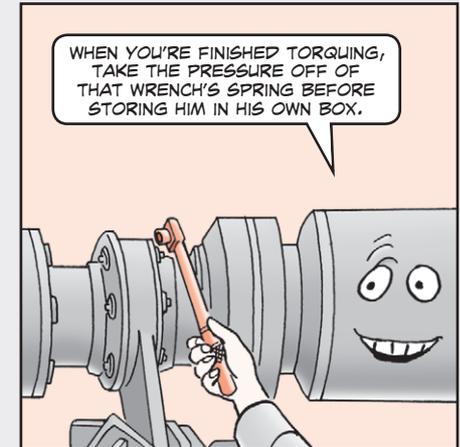
If you’re not sure you got a good reading, back off the nut with a **standard** wrench and re-torque. Using a torque wrench for loosening can damage the wrench and effect its calibration.

Torque Wrench Storage

Unless your shop SOP says differently, set micrometer-type torque wrenches between 10 and 20 percent of the maximum value before storing. Prolonged high pressure on its internal spring affects the accuracy of your wrench. For bending-beam type torque wrenches, the pointer should automatically return to zero.

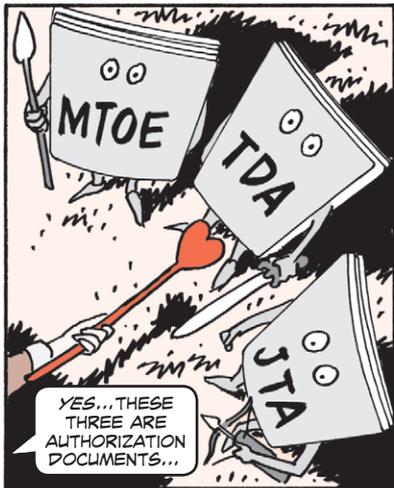
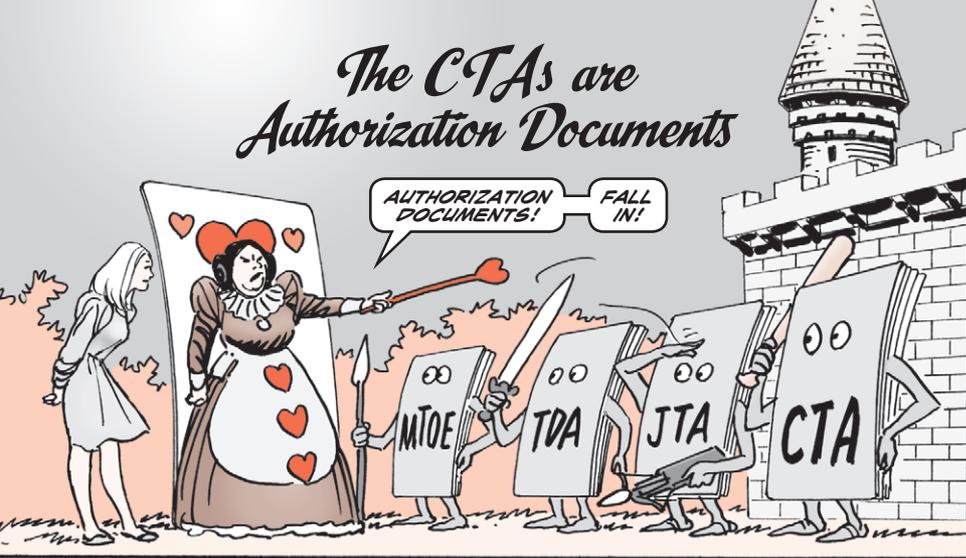
Keep the wrench clean and dry. It should not need oiling unless the manual tells you to oil.

Be sure to store the wrench in its own box so it doesn’t rattle around in a toolbox with other tools.



PS
END

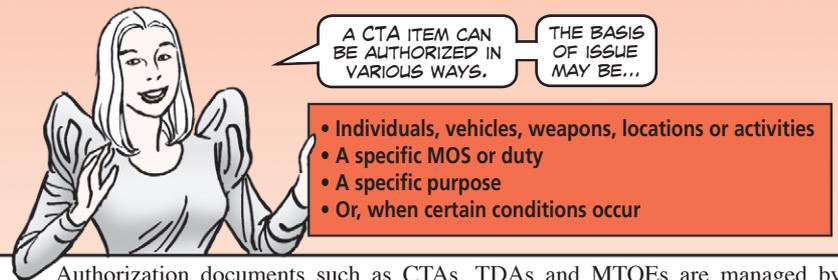
The CTAs are Authorization Documents



Some of the gear and equipment that soldiers use is common among differing MTOEs or between MTOEs, TDAs and JTAs.

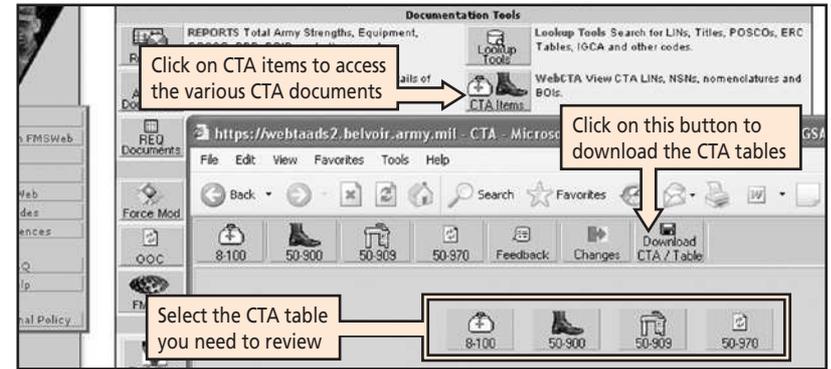
Instead of placing these common items on MTOEs, TDAs and JTAs, the Army uses the Common Tables of Allowances (CTAs) as the authorization documents.

The CTAs authorize materiel items for use by the Army components, the Army ROTC, and by DA civilians. Foreign employees of the Army may also qualify to use CTA items based upon assigned duties.



- Individuals, vehicles, weapons, locations or activities
- A specific MOS or duty
- A specific purpose
- Or, when certain conditions occur

Authorization documents such as CTAs, TDAs and MTOEs are managed by the U.S. Army Force Management Support Agency (USAFMSA) for the Army's G-3/5/7 Force Management Directorate. These documents are found on the USAFMSA website, FMSWeb: <https://webtaads.belvoir.army.mil/usafmsa/>



New Accounts

To establish an FMS account you need to pick between two levels of access:

- **Normal FMSWeb access** - includes MTOE, TDA and TOE documents. A security clearance is required.
- **Common Tables of Allowance (CTA) access** - requires only a valid AKO account.

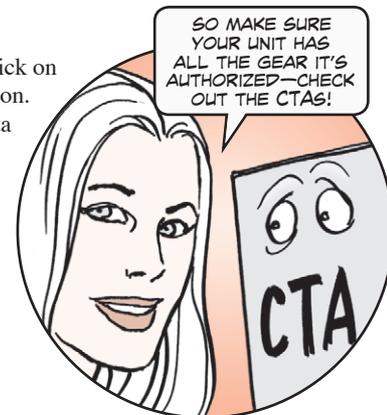
The FMSWeb Help Desk email is:

taads-help@usafmsa.army.mil

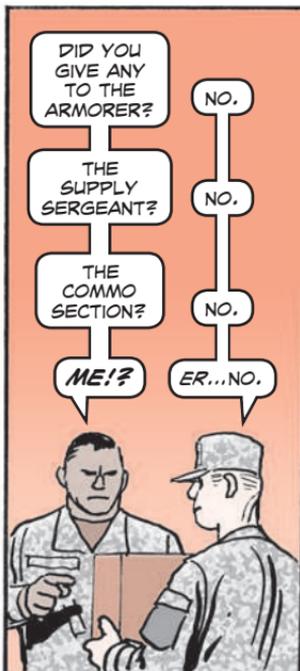
To get CTAs from the FMSWeb homepage, click on [WebCTA](#) and on the [Download CTA/Table](#) button. Choose a CTA and whether you want the data organized by LIN or nomenclature. For CTA 50-900 and CTA 50-909 you will need to download each table individually. Once you have made your selections, click [Submit](#) to bring up a CTA Table Report.

For CTA information contact Sherry Andrews at DSN 655-3823/(703) 805-3823 or email:

sherry.andrews1@us.army.mil



Just Where Should PS Magazine Be Found in a Unit?



Dear Editor,

I've been trying to get our unit publications up-to-date and part of that is establishing a PS library.

I think it would be helpful for PS to do an article about where the magazine should be found in a unit. All too often I see the entire box of PS, whether it's five copies or 50, go straight to the *motor pool*.

You and I know that copies should also go to the *arms room*, the *commo section*, the *CBRN room*, the *supply room* and the *commander's, first sergeant's and platoon leaders' offices*. It would be helpful if you'd mention in the magazine where the magazine should be distributed.

CW2 K. Grady
Camp Red Cloud, Korea

Editor's note:

Your ideas are right on target. Commanders might also make copies available for pickup in the *orderly room* and the *dayroom*.



NEW BUSHING COMPOUND FOR BRADLEY TRACK

A new type of rubber compound is now being used in the bushings of T157I track. The new compound makes the bushings more durable for use in SWA. Track manufactured by Goodyear that has a starburst date stamp of Oct 05 or later was made with this compound. T157I track coming from Red River Army Depot with a starburst date stamp of Feb 07 or later also contains the compound.

Check for Roof Leak on M1165A1 HMMWVs

If you have M1165A1 HMMWVs with B3 kits, maintenance personnel **must** inspect the roof area for leaks. A retrofit kit with installation instructions will be issued for free to users with vehicle serial numbers below 247067. Report leaks to Jerry Dziura at TACOM: DSN 786-8060, (586) 574-8060, or jerry.dziura@us.army.mil

And see TACOM MAM 07-035 for more details:

https://aeps2.ria.army.mil/commodity/mam/tacom_wn/07/mam07-035.html

TRAILER TEST STATION FOR BRAKE AND LIGHT TESTING

Instead of fabricating a tester, you can order a trailer light and brake tester, NSN 4910-01-366-2563, for any time a trailer or semi-trailer needs that type of maintenance. Get more info on it online: www.lite-check.com

M109 Howitzer Shield Defogger

NSN 4240-01-250-8314 gets an anti-fogging kit for the panoramic telescope ballistics shield on the M109-series SP howitzer. Each kit includes 10 anti-fog pads to keep the shield fog-free on cold, wet nights.

M1142 FIRE TRUCK PLUMBING CAN FREEZE

When cold weather temperatures fall below freezing, you **must** blow water out of the pump and pipes in your M1142 tactical fire fighting trucks (TFFTs)! If you don't, say hello to damage when they aren't in use. Sure, it takes 2 hours to perform blowout procedures, but doing that just might save a vehicle or a life. Blowout procedures in TM 9-2320-279-10-3 will be changed to include new critical info. In the meantime, get the new blowout procedures by writing to Half-Mast or downloading them in AKO: <https://www.us.army.mil/suite/doc/6619494>

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

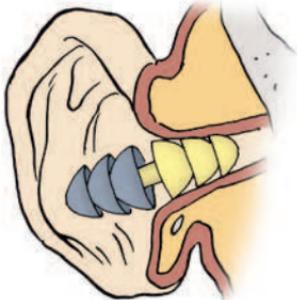
**Would You Stake Your Life ^{right now} on
the Condition of Your Equipment?**

PROTECT YOUR HEARING IN COMBAT

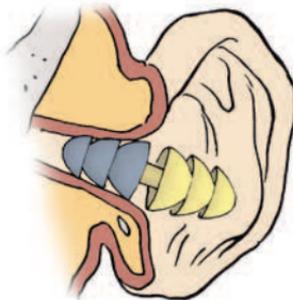


**Wear Combat Arms Earplugs
NSN 6515-01-466-2710**

**INSERT *YELLOW* END
OF PLUG FOR
WEAPONS FIRE**



**INSERT *OLIVE DRAB* END
OF PLUG FOR
STEADY STATE NOISE**



**CHECK OUT THE USACHPPM HEARING PROGRAM WEBSITE:
<http://chppm-www.apgea.army.mil/hcp>**