

PS**THE
PREVENTIVE
MAINTENANCE
MONTHLY****ISSUE 687 FEBRUARY 2010**

TB 43-PS-687, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders.

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PS, the Preventive Maintenance Monthly
USAMC LOGSA (AMXLS-AM)
5307 Sparkman Circle
Redstone Arsenal, AL 35898

Or email to:

logsa.psmag@conus.army.mil or
half.mast@us.army.mil

Internet address:

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

By order of the Secretary of the Army:

GEORGE W. CASEY, JR.
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JOYCE E. MORROW

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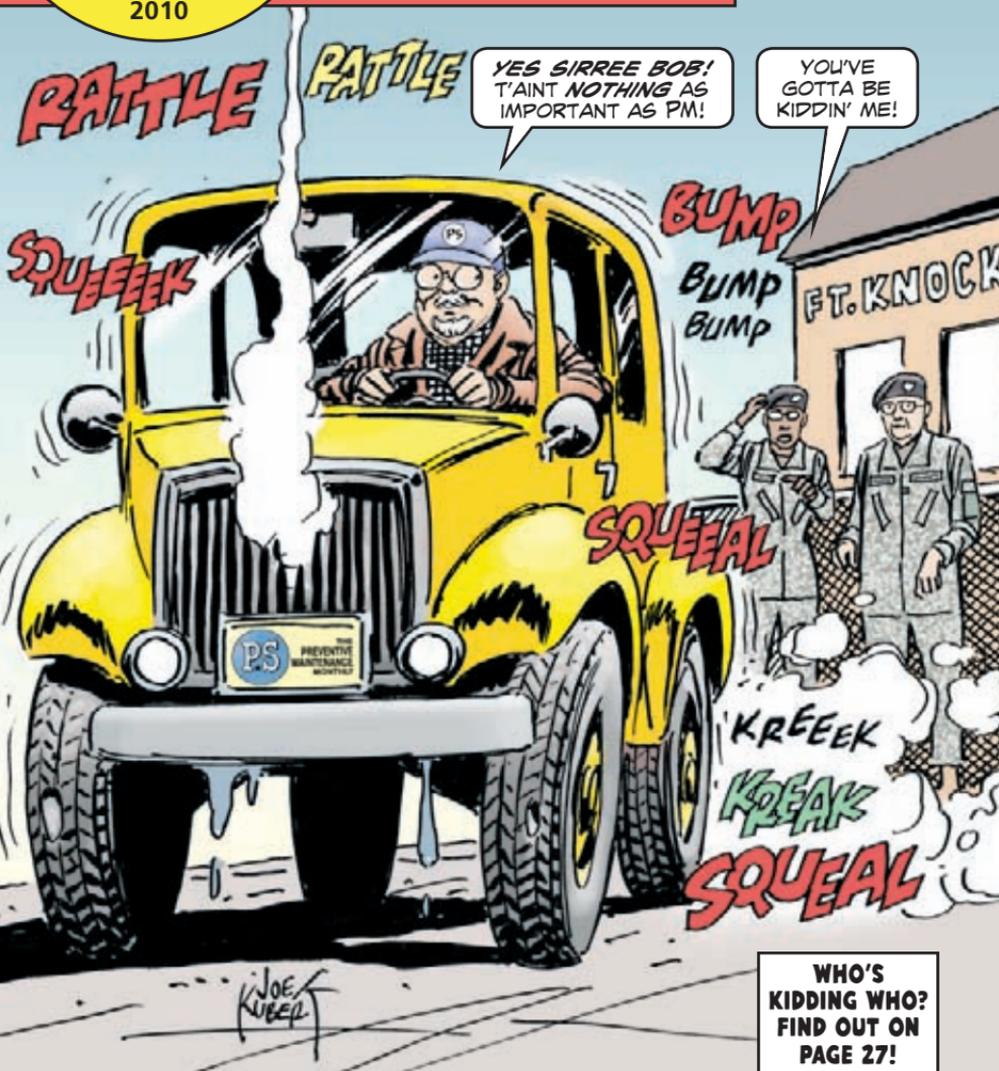
PS

February
2010

**THE
PREVENTIVE
MAINTENANCE
MONTHLY**

TB 43-PS-687

Approved for
Public Release;
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Unlimited



**WHO'S
KIDDING WHO?
FIND OUT ON
PAGE 27!**



"To Read or Not to Read?"



Well, as for the big three "Rs," reading **only** PS magazine's 8-page center section is not good enough. Skimming through PS's maintenance articles and not fully reading them deprives you of knowledge.

Knowledge is power. And without maintenance knowledge, accidents happen and equipment gets damaged.

Not reading PS leads to a lack of PM on your equipment. And the same goes when you don't read TMs. The TMs give you more knowledge to maintain your equipment.

The next time you see a PS magazine lying around, pick it up! It contains a wealth of info on wheeled and combat vehicles, small arms, communications, CBRN, soldier support, aircraft, missiles, logistics management and combat engineering.

The old saying goes, "what you don't know can't hurt you." But that's wrong! If you don't read PS, it's certain what you don't read could hurt you, your equipment, or unit readiness. So to read or not to read PS should not be the question anymore.

Read it!

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

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By order of the Secretary of the Army:
GEORGE W. CASEY, JR.
 General, United States Army Chief of Staff

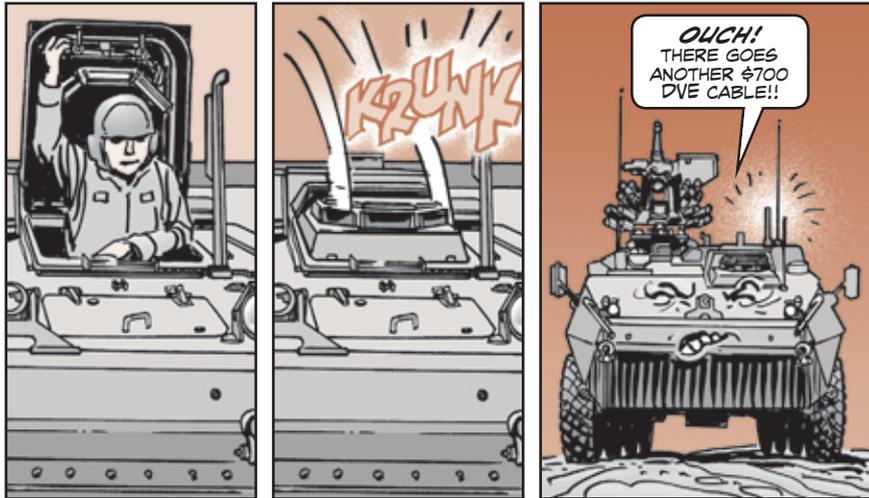
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Stryker... NOT SEEING IS BELIEVING



Believe it, crewmen. Just a few missing cable ties can leave your driver's vision enhancer (DVE) totally in the dark.

Those cable ties are used to hold the DVE cable inside a channel guide that runs from the DVE camera to the screen. The channel guide runs between the engine access and driver's hatches and then below the driver's hatch.

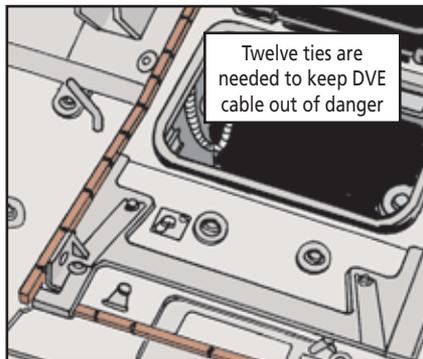
Broken or missing ties let the cable escape from the channel guide. It won't be long before the cable gets caught in one or both of the two hatches.

CRUNCH!!

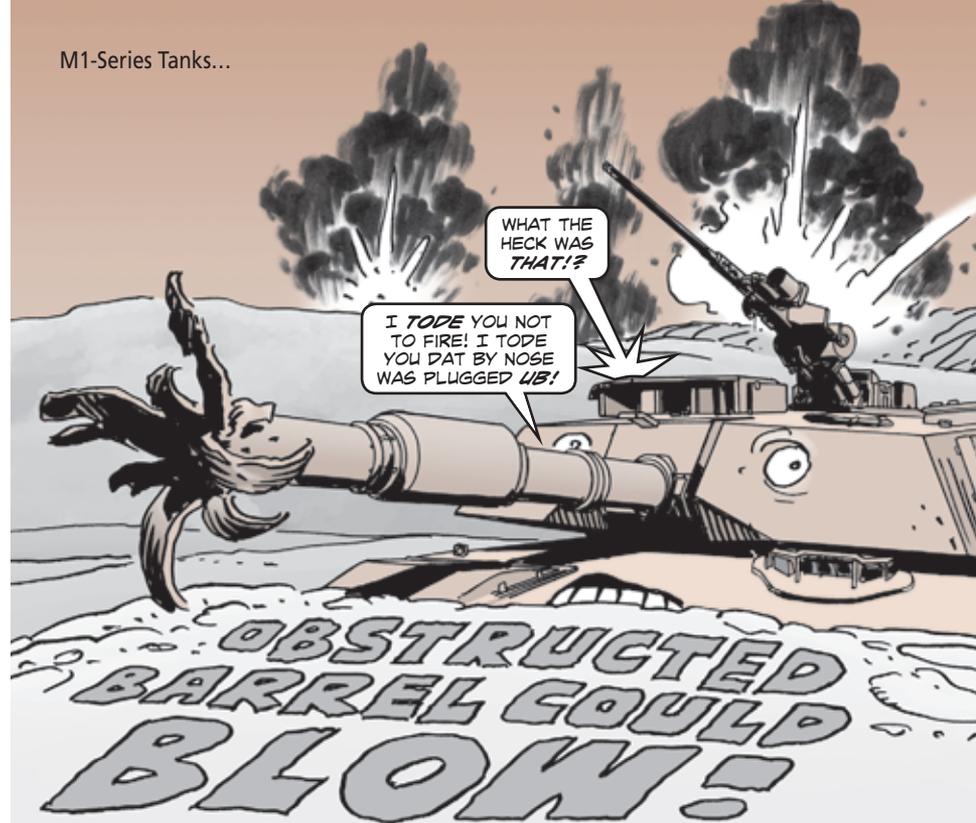
Your unit's pocketbook also feels the crunch. A replacement DVE cable, NSN 6150-01-566-9322, will cost more than \$700.

Crewmen, take a quick look at the cable ties as part of your before-operation PMCS. There should be a total of 12 ties, each spaced approximately four inches apart. Replace any that are broken or missing with NSN 5975-00-899-4606. That NSN brings 100 new cable ties.

Mechanics, if you have to replace a damaged DVE cable, don't forget to secure the new one with cable ties. Otherwise, you'll soon be replacing the cable again.



M1-Series Tanks...



What happens if you fire a gun with someone's finger stuck in the barrel? Well, it doesn't do the gun much good and you sure don't want it to be your finger!

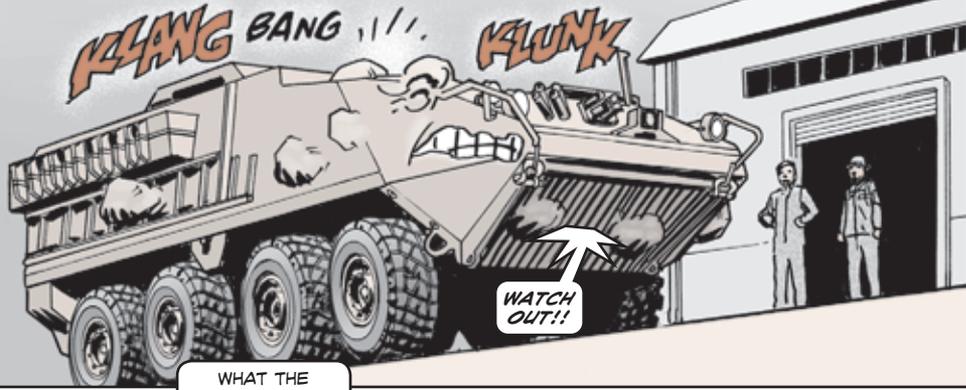
'Course fingers are a bit too small to plug the gun tube on an M1-series tank. But lots of other things can. If anything's plugging the gun tube when it's fired, the tube could bulge or even blow up!

That's why you should always be careful during operations. It only takes a few seconds for a scoop of sand or dirt to plug the gun tube, so follow these precautions:

- Always use the muzzle cap when the main gun isn't being used.
- When necessary—like during emplacement—keep the main gun elevated to keep it from hitting the ground.
- If you have any doubts at all, check the gun tube for obstructions before firing.

If you find an obstruction, clean the gun tube. The procedures start on Page 3-250 of TM 9-2350-264-10-2 (Mar 03 w/Ch 6, Jun 09) and WP 0514 of TM 9-2350-388-10-3 (Feb 09).

MAINTAIN WITH EXTREME CARE

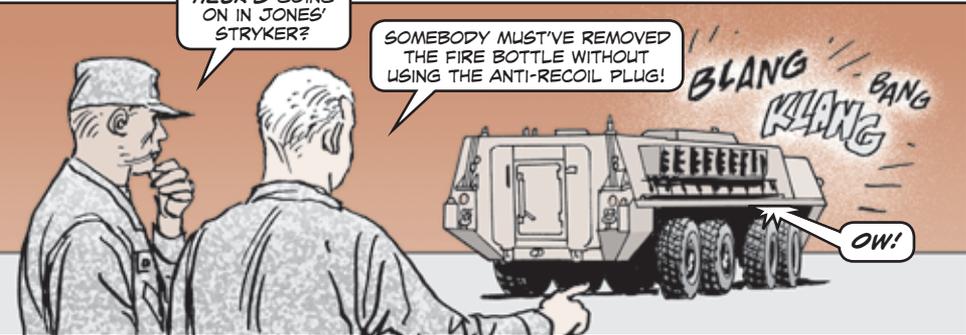


WHAT THE HECK'S GOING ON IN JONES' STRYKER?

SOMEBODY MUST'VE REMOVED THE FIRE BOTTLE WITHOUT USING THE ANTI-RECOIL PLUG!

BLANG BANG
KLANG BANG

OW!



Pulling maintenance on your combat or tactical vehicle's automatic fire extinguisher system (AFES)? That's a good time to be alert and put on the kid gloves. AFES maintenance requires **EXTREME CAUTION!** You shouldn't be afraid of the equipment, but you should respect it!

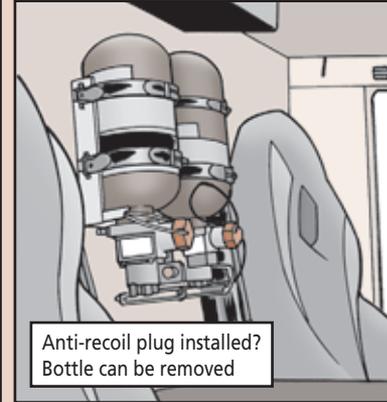
You can be seriously injured—even killed—if procedures aren't followed and an extinguisher bottle discharges unexpectedly during maintenance.



TO KEEP THE OPERATION AS SAFE AS POSSIBLE, STICK TO THE GOOD WORDS IN YOUR VEHICLE'S TM WHEN PULLING FIRE EXTINGUISHER MAINTENANCE.

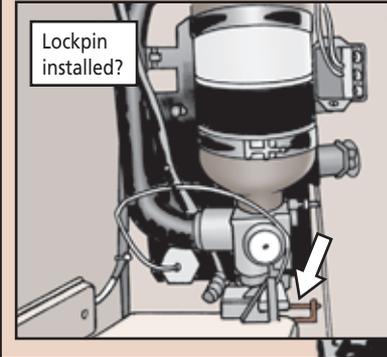
THEN MAKE SURE YOU FOLLOW THESE TIPS...

- **Never** remove the fire bottle assembly from its mount until you've installed the anti-recoil plug. Without the plug, an accidental discharge can turn an unsecured bottle into a dangerous rocket bouncing around the insides of your vehicle. The anti-recoil plug controls the discharge by safely directing the suppression agent through very small ports instead of the AFES nozzle.



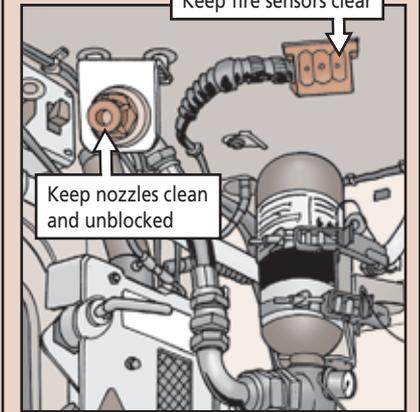
Anti-recoil plug installed? Bottle can be removed

The anti-recoil plug is attached to each fire bottle by a short lanyard. Don't remove the bottle if the plug's missing or if the lock pin isn't installed on the manual discharge lever. Report it.



Lockpin installed?

- Keep extinguishers and fire sensors clean.
- Perform all fire extinguisher PMCS on schedule.



- Never stack gear or equipment against fire extinguisher nozzles or sensors.



PS MORE

What to Do During a Discharge

If you have a discharge, stay calm. If the discharge was accidental, simply exit the vehicle. Then report the discharge so your maintainers can refill the extinguisher and try to determine the cause of the discharge.

If it's a fire-related discharge and you're in a combat situation, stay in the vehicle until the tactical threat clears. The discharge can be uncomfortable, but you'll be fine.

Smart Cards Available

AFES smart cards are available that cover several different vehicle systems. The smart cards address AFES safety, provide an overview of the system and fire suppression controls, cover PMCS and explain how to manually discharge the system.

Three cards are available. The first covers the M1114, M1151, M1152, M1165, and ECV2 HMMWVs as well as the Husky IVMMDD (interim vehicle mounted mine detector). The second deals with the M2/M3-series Bradley, Stryker, Buffalo A2 mine clearing vehicle, Light Armored Vehicle (LAV), and Armored Amphibious Vehicle (AAV). The third covers the MaxxPro and Cougar JERRV (joint EOD rapid response vehicle) MRAPs, the Buffalo mine clearing vehicle, and the RG-31 series mine protected armored personnel carrier.

THE SMART CARDS ARE AVAILABLE FOR DOWNLOAD AT THE COMBAT READINESS CENTER'S ONLINE DRIVER'S TRAINING TOOLBOX:
<https://safety.army.mil/drivertrainingtoolbox/>

OR REQUEST A COPY OF THE SMART CARDS BY WRITING TO:

Ground Task Force
US Army Combat Readiness Center
Ft Rucker, AL 36362-6363

YOU CAN ALSO REQUEST A COPY BY SENDING AN EMAIL TO HALF-MAST:
half.mast@us.army.mil

M2/M3-Series Bradley...

AVOID IDLER WHEEL IDLENESS

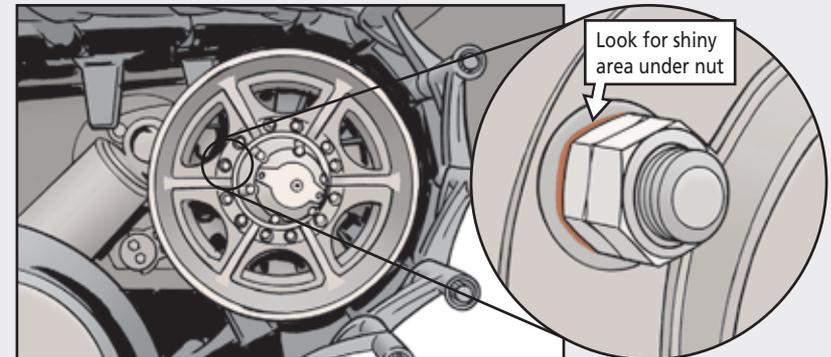
I HOPE THEY CHECK MY IDLER WHEEL NUTS PRETTY SOON!

THEY'RE FEELING AWFULLY LOOSE!

Crewmen, the idler wheel on your Bradley won't do you much good if it's rolling away down the trail. But that's what can happen if you don't keep an eye on the idler wheel nuts.

Hard driving in the field can loosen the nuts. Once one nut loosens, it puts more pressure on the other nuts. Pretty soon, the wheel's wobbling and can break loose.

Check the idler wheel nuts after every operation. Look for a shiny area under the nut where it has rubbed against the wheel. Tell your mechanic if you spot any. He'll replace loose nuts with NSN 5310-00-175-2710 and torque them to 151-161 lb-ft.

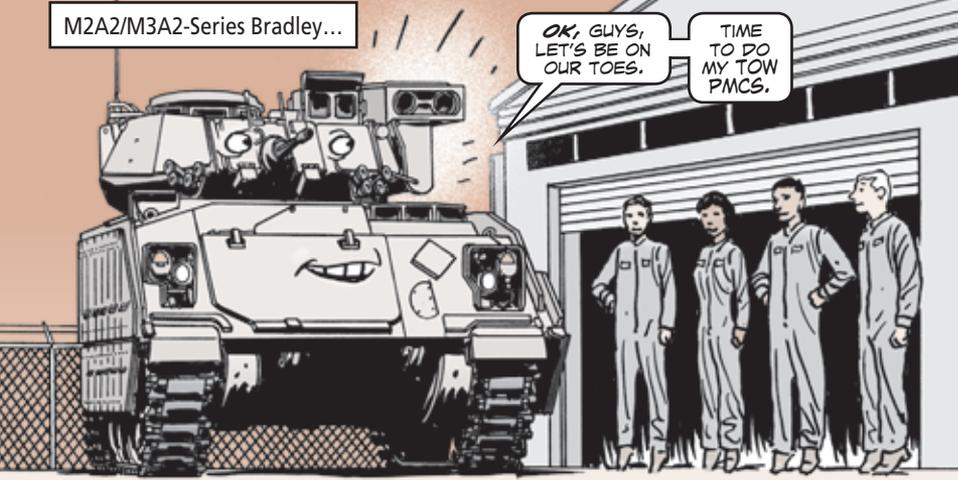


If you spot loose nuts while you're in the field, go ahead and tighten them. Just make sure you mark which nuts were loose so your mechanic can replace them when you get back to the motor pool.

M2A2/M3A2-Series Bradley...

OK, GUYS,
LET'S BE ON
OUR TOES.

TIME
TO DO
MY TOW
PMCS.



ON YOUR TOES FOR YOUR TOW

STAYING
ON *YOUR*
TOES WHEN
IT COMES
TO PM
FOR YOUR
BRADLEY
TOW CAN
MAKE FOR
SMOOTH
LAUNCHES.

FOLLOW
THESE PM
STEPS...



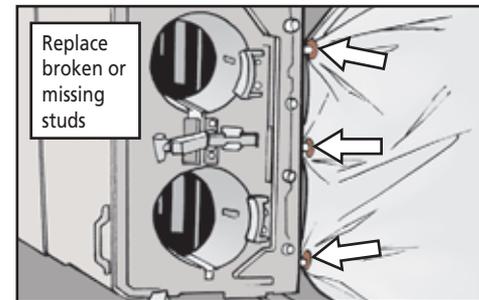
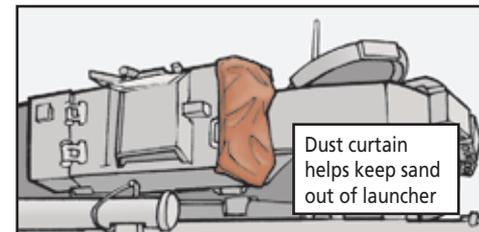
Practice cleanliness. This is especially important in the desert. If sand clogs the armament control unit, you can't arm the missiles. If sand clogs cable connections or gets in the cables themselves through cuts in the cable sheath, the missiles won't register as being armed and you'll get faults.

At least weekly, blow out the inside of the launcher with an air hose and blow sand away from the cable connections.

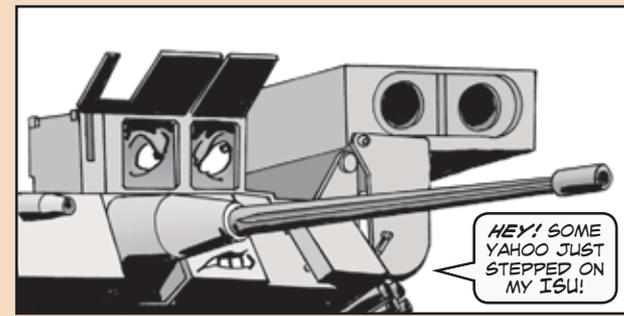


Seal sand out of the launcher with the dust curtain, NSN 1005-01-126-7797. Keep the curtain closed whenever the launcher isn't being used. If the studs that hold the curtain in place have disappeared, order more with NSN 5315-00-174-2882. While you're waiting for the studs to arrive, use hook-and-pile tape, NSN 8315-01-470-8453, to hold the curtain in place.

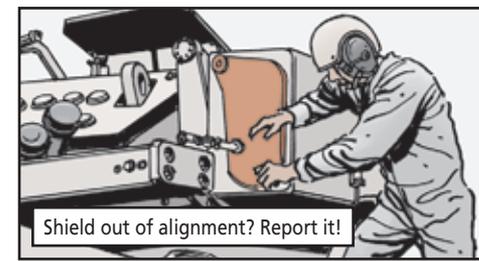
You'll be better able to see what you're shooting TOWs at if you clean the integrated sight unit (ISU) lenses weekly. First blow or brush off any sand. Then use a soft, damp rag to clean them.



Watch your feet. Watch where you step when you're climbing in and out of the Bradley turret. It's quite easy to snap knobs off the ISU with one misplaced boot.



Check shield during PMCS. Vibration during travel can knock the launcher shield out of alignment. That can prevent the launcher from being raised. The shield should cover the front of the launcher and have some play in it. If the shield is out of position, tell your repairman.



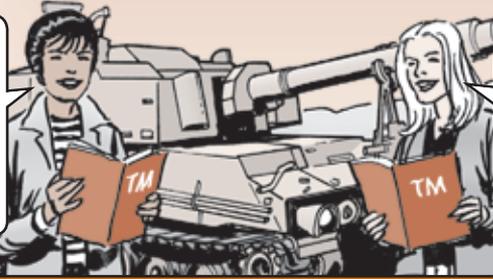
M109A6 Paladin...

TROUBLESHOOTING TEST KITS UPDATED



NEED TO TROUBLE-SHOOT YOUR M109A6 PALADIN? THEN YOU'LL NEED THE RIGHT TEST KIT.

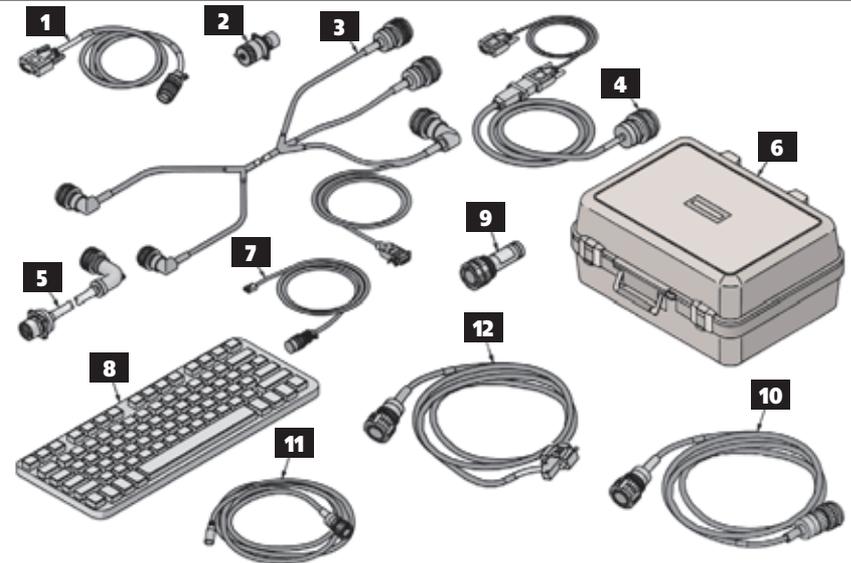
THERE HAVE BEEN SOME CHANGES AND AN ADDITION TO THE MAINTENANCE SUPPORT DEVICE (MSD) TEST KITS LISTED IN TM 9-2350-314-24P-2 (FEB 99 W/CH 4, JUL 03).



THE CHANGES AND ADDITION WON'T BE INCORPORATED UNTIL CHANGE 5 OF THE TM, SO USE THIS INFO TO GET WHAT YOU NEED.

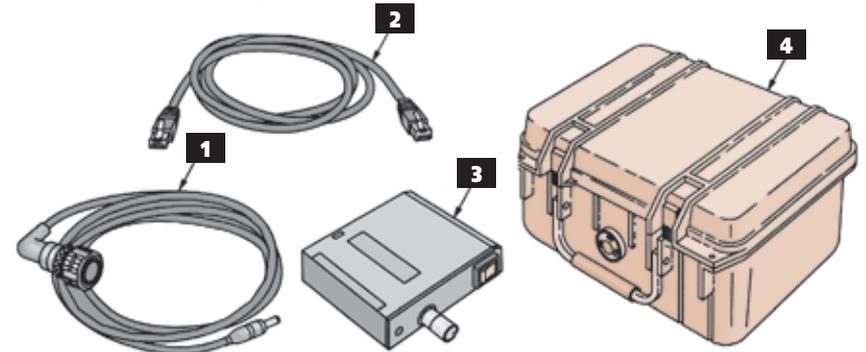
Vehicles that have the Paladin digital fire control system (PDFCS) installed will need the PDFCS SPORT/MSD accessory kit, NSN 5999-01-566-6749. Update Fig 281 with these components:

PDFCS SPORT/MSD Accessory Kit, NSN 5999-01-566-6749					
Item	SMR	NSN	CAGE	PN	Description
1	PAOZZ	5995-01-568-0198	19200	12988726	Cable assembly, special
2	PAOZZ	4933-01-539-4830	19200	12988717	Test adapter
3	PAOZZ	6150-01-568-0662	19200	12988727	Cable assembly, special
4	PAOZZ	6150-01-474-1280	19200	12988702	Cable assembly, special
5	PAOZZ	6145-01-452-0986	19200	12979821	Cable assembly, special
6	PAOZZ	7045-01-525-7963	19200	13017149	Accessory kit case
7	PAOZZ	5995-01-538-8707	19200	12988719	Cable assembly, special
8	PAOZZ	7025-01-459-4503*	3XYH2	ACK-595	Data entry keyboard
9	PAOZZ	5935-01-568-0521	19200	12988755	Connector adapter
10	PAOZZ	6150-01-568-1492	19200	12988754	Cable assembly, special
11	PAOZZ	5995-01-568-4530	19200	12988749	Cable assembly, special
12	PAOZZ	6150-01-568-1332	19200	12988753	Cable assembly, special



If your Paladin has the automatic fire control system (AFCS) installed and your unit is equipped with an MSD for troubleshooting, you'll need the AFCS/MSD auxiliary accessory kit, NSN 5999-01-566-6756. This kit will be added as Fig 282 in Change 5 and lists these individual components:

AFCS/MSD Auxiliary Accessory Kit, NSN 5999-01-566-6756					
Item	SMR	NSN	CAGE	PN	Description
1	PAOZZ	6150-01-568-0803	19200	12988752	Cable assembly, special
2	PAOZZ	5995-01-517-4781	19200	13005980	Cable assembly, special
3	PAOZZ	5895-01-507-9045	19200	12988751	Communication equipment interface unit
4	PAOZZ	6625-01-573-8929	19200	13023594	Electrical-electronic test case



* AMDF info sketchy. FLIS "TIR" shows SOS as G59 (FAA) with AAC of G. Order on DD Form 1348-6.

AFES Safety Wire Maintenance

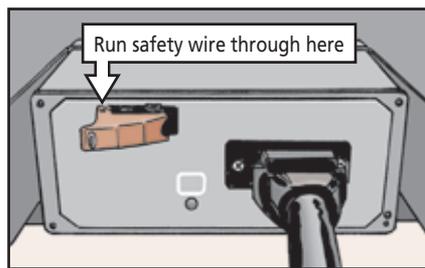


You probably know by now that the manual release switch on your up-armored HMMWV's automatic fire extinguishing system (AFES) has a safety wire. But you might not know there are no procedures to replace the switch guard safety wire or to inspect it for accountability. And the safety wire isn't shown in TM 9-2320-387-10 or TM 9-2320-387-24P!

TACOM LCMC wants to fix that by making the safety wire a PMCS item. Then you'll know what to do if the safety wire is broken or removed.

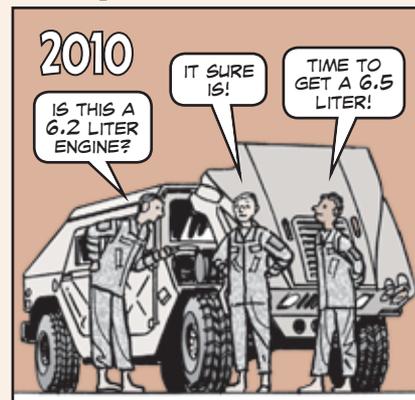
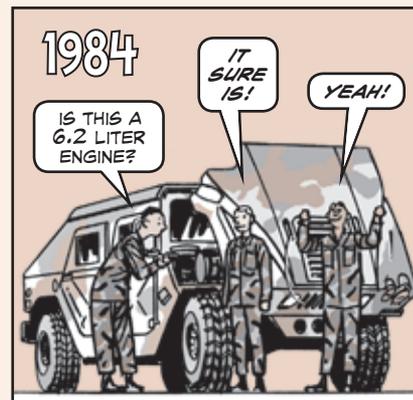
TM 9-2320-387-10 and TM 9-2320-2320-387-24P will be updated to include safety wire PMCS information. But until that happens, safety-wire the manual release switch guard in the down or guarded position on the AFES, if it isn't already. Just get the anti-pilferage seal (safety wire kit), NSN 5340-00-835-9815, which includes the wire and seal, and follow these instructions:

1. Ensure the switch guard is in the down or guarded position.
2. Insert the safety wire through the hole in the switch guard and into the lower tab below the switch.
3. Insert both ends of the wire into the safety seal. Pull the wire tightly to ensure the switch guard is secured in the down or guarded position.
4. Use a crimping tool to compress the seal.
5. Cut any excess wire from the seal.



In case you were wondering, broken or missing safety wire does not deadline your HMMWV.

6.5L Engine Replaces 6.2L



You old-timers may remember that the original HMMWV's 6.2L engine came out back in 1984. But you may not know that it's history now—at least in part!

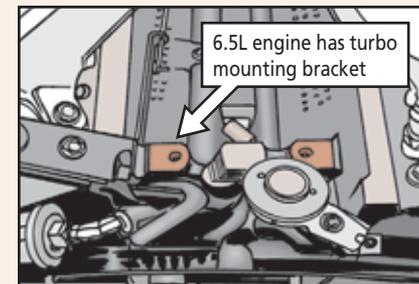
In 2000, the 6.5L detuned engine, NSN 2815-01-439-6664, was introduced as a follow-up and drop-in replacement for the 6.2L engine. And now the 6.5L detuned engine, calibrated to closely match the power output of the 6.2L engine, is the only engine you can get for your HMMWV.

The newer engine was designed for improved performance. And it helped correct the problem of rear main seal leakage. This is because the two-piece seal was replaced with a one-piece seal.

TACOM LCMC will no longer repair or issue 6.2L engines! This decision is part of modernizing the HMMWV fleet and addressing the diminishing spare parts for the 6.2L engine. Discontinuing 6.2L engines reduces the logistics burden and footprint for stocking the engine and its parts. It also supports the efforts of the RECAP and RESET repair programs, and ensures that no 6.2L engines are put back into HMMWVs.

Although the 6.2L engine is obsolete, you should keep using it as long as it works. Just be sure to send it to DRMO when it's deemed unserviceable. And make sure all fluids are removed from the unserviceable 6.2L engine **before** sending it to DRMO, like the TM says.

Note that some repair sites are receiving 6.2L engines turned in to the 6.5L engine repair programs, but they shouldn't. Avoid extra transportation costs and wasted time by making sure you send the right engine to the right place. The 6.5L engine block has a turbo mounting bracket, but the 6.2L engine block does not.



HMMWV...

DON'T HALF STEP ON HALFSHAFT CHECK

ALL IT TAKES TO LOOSEN SCREWS AND BOLTS ON YOUR HMMWV'S HALFSHAFT IS A LITTLE **VIBRATION** OVER A PERIOD OF TIME.

YOU **DON'T** WANT A HALFSHAFT FLYING LOOSE!

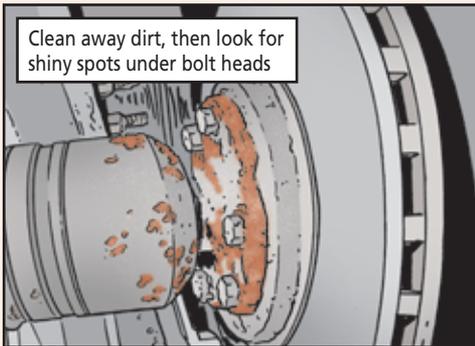
THAT'S WHY YOU SHOULD CHECK ALL HARDWARE HOLDING THE HALFSHAFTS IN PLACE, ESPECIALLY THE RETAINING CAPSCREW INSIDE EACH GEARED HUB.



If a halfshaft flies loose, it can take out the brake lines and coolant tube, and cause engine failure. So don't half step when checking halfshaft bolts for tightness.

Once you've cleaned away dirt and mud, it's easy to see if the bolts that hold the halfshaft to the rotor are loose. Just look for shiny spots under the bolt heads.

If you find a loose bolt, replace both the lock washer, NSN 5310-01-457-3292, and the bolt, NSN 5306-01-185-7048. Dip the bolt in sealing compound, NSN 8030-01-171-7628, before installing it to help keep it tight. Then torque the bolt to 51 lb-ft.



It's not so easy to check the cap screw in the hub. You must first remove an access plug to get to the screw, then use a torque wrench to tell if the screw is loose.

If the screw moves before you reach 37 lb-ft of torque, it's loose. Replace it with a new lock washer, NSN 5310-00-011-5093, and cap screw, NSN 5305-00-068-0511. Dip the new screw in the sealing compound and torque it to 37 lb-ft.

Check both ends of the halfshaft for tightness at every 6-month service.

By the way, when the halfshaft is on the vehicle, there shouldn't be any play in it. A halfshaft that's been tightened up shouldn't have this problem.

Don't forget hub's cap screw

MECHANICS, INSPECT HMMWV HALFSHAFTS WHEN THEY'RE REMOVED FROM THE VEHICLE.

MAKE SURE YOU FOLLOW THE GUIDANCE FOUND IN PARA 6-9 OF TM 9-2320-280-20-2 AND PARA 6-7 OF TM 9-2320-387-24-1.

M101/M116-Series Trailers...

ONLY Mechanics Should Adjust Brakes!

YOU'RE NOT ADJUSTING ME, UNLESS YOU FOLLOW TM 9-2320-202-14&P!

PS MORE

FMTV...

TM Art Can *Damage* Wrecker's Boom Winch

MOST SMALL TRAILER PARKING BRAKE ADJUSTMENTS ARE SIMPLE.

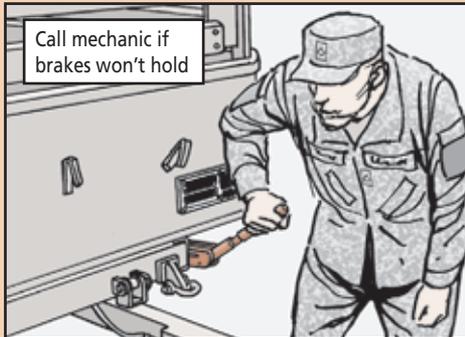
ALL YOU HAVE TO DO IS TURN THE ADJUSTMENT KNOB ON THE END OF THE HANDLE CLOCKWISE UNTIL THE TRAILER WHEELS NO LONGER ROTATE FREELY WHEN THE HANDBRAKE IS APPLIED.

But service brake adjustments for M101- and M116-series trailers are not so simple. Some operators tried to make adjustments, overdid it, and made things worse! Improper service brake adjustment can cause serious damage to the brake shoes, brake drums, and other key components. So get your mechanic on the job to make the necessary adjustments using TM 9-2330-202-14&P.

Never drive off with your trailer unless the service brake and parking brake work. Test 'em! After you hook up the trailer to the prime mover, apply the brakes and move slightly to see if the service brakes hold the trailer wheels. And the parking brake should keep the trailer from moving when it is not hooked up to the prime mover.

Properly adjusted brakes should create a drag on the forward movement of the prime mover. The trailer wheels might also rotate in a restricted manner. If they do this, the brakes are adjusted properly, so go ahead and complete your mission.

If the brakes don't hold—or there's no prime mover drag—ask your mechanic to put the "brake" back into your brakes.



Call mechanic if brakes won't hold

AND KEEP THE CABLE AND HAND ASSEMBLY LUBRICATED LIKE APPENDIX I IN THE TM SAYS.



PS
END

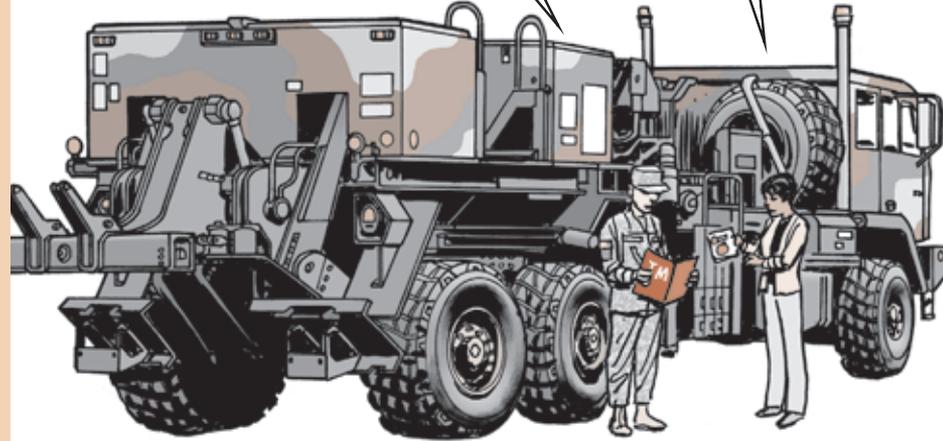
BY THE WAY, PAINTING THE PARKING BRAKE HANDLE CAN FREEZE THE KNOB THAT NEEDS TO BE TURNED.

THE BRAKE CAN'T BE ADJUSTED IF THAT HAPPENS, SO MAKE SURE YOU STILL HAVE MOTION AFTER PAINTING.



THIS TM TELLS ME TO HAVE THIS HYDRAULIC SHUTOFF VALVE IN THE OPEN POSITION, BUT THE PICTURE DOESN'T LOOK RIGHT.

YOU'RE RIGHT! HERE'S THE WORD.

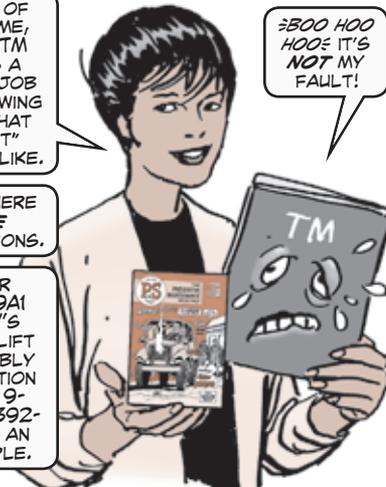


MOST OF THE TIME, YOUR TM DOES A GOOD JOB OF SHOWING YOU WHAT "RIGHT" LOOKS LIKE.

BUT THERE ARE EXCEPTIONS.

YOUR M1089A1 FMTV'S UNDERLIFT ASSEMBLY OPERATION IN TM 9-2320-392-10-1 IS AN EXAMPLE.

≈500 HOO HOO≈ IT'S NOT MY FAULT!

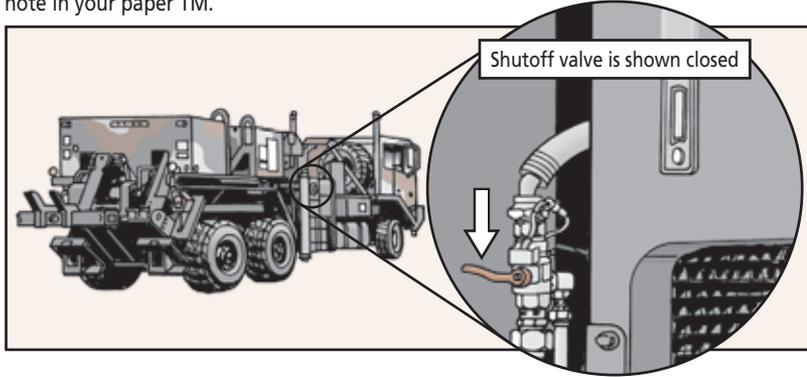


The artwork for the Underlift Assembly Operation in WP 0037 00-01 of TM 9-2320-392-10-1 (Mar 09) and IETM 9-2320-391-10-1/2 (Mar 09) is incorrect. The shutoff valve is shown in the closed position but the callout says the valve is in the open position.

The written instructions for this task correctly state that the valve must be in the open position. However, because the artwork is wrong, some users have mistakenly placed the valve in the closed position, damaging the boom winch.

PS MORE

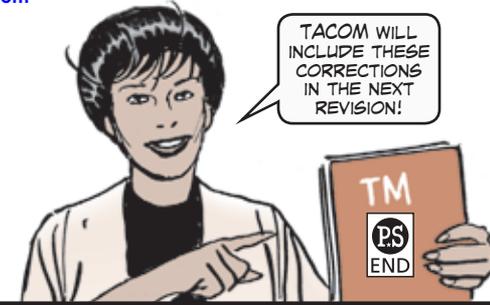
So disregard the artwork showing the position of the shutoff valve for this procedure. The valve is open when the handle is straight down *in line* with the valve, *not* at a right angle. Make sure the valve is in the open position when performing this task. And make a note in your paper TM.



The valve should only be closed for maintenance purposes. Secure the valve in the open position using a zip tie, such as NSN 5975-01-034-5871. Any zip tie will do, and you should be able to find them in your motor pool.

There is also a kit, PN 57K2035, which disengages the PTO when the valve is in the wrong position. This kit has already been installed on wreckers with serial numbers greater than 113414. If you need this kit, get it through BAE's Veronica Mallard at (281) 616-6354 or email: veronica.mallard@baesystems.com

How does the PTO—or power takeoff—relate to the shutoff valve? The PTO drives a hydraulic pump that pressurizes the hydraulic system to make it work. If the shutoff valve isn't open, too much pressure builds on the hydraulic system when operating. That can lead to blown seals and even blown hydraulic lines, which can render the whole system NMC.



FMTVs...

PDU Circuit Board Info



WHAT TH-!? THIS IS *NOT* WHAT I ORDERED!

YOU OUGHTA WRITE TO HALF-MAST!

Dear Half-Mast,

My unit is deployed to Southwest Asia. One of our M1088A1s short-circuited and cooked the green PDU circuit panel on the passenger side of the dashboard.

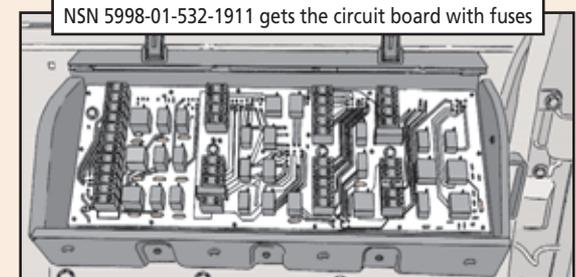
When ordering the part from TM 9-2320-366-24P, I ended up with the wrong part—a black, plastic board that doesn't even fit on the truck!

I have searched LIW and LOGSA for an updated TM with no luck. Do you have an IETM or an NSN that helps? This truck is NMC and is a crucial piece of equipment for our unit's mission.

Any help you can offer would be appreciated.

SGT R.R.

Dear Sergeant R.R.,
You bet. Order the next higher assembly, the power distribution panel's printed circuit board (with fuses), NSN 5998-01-532-1911, if your A1 truck's serial number is within the 11,438 – 99,999 range.



TM 9-2320-365-24&P and TM 9-2320-366-24P are used *only* for FMTV AO trucks with a serial range of 00001 – 11,437. Use IETM 9-2320-391-24&P (EM 0195) dated March 2008, for PMCS, maintenance and ordering repair parts for 2½- and 5-ton A1 trucks. The IETM is a four compact-disk set and each CD needs to be loaded onto a laptop computer or MSD prior to viewing.

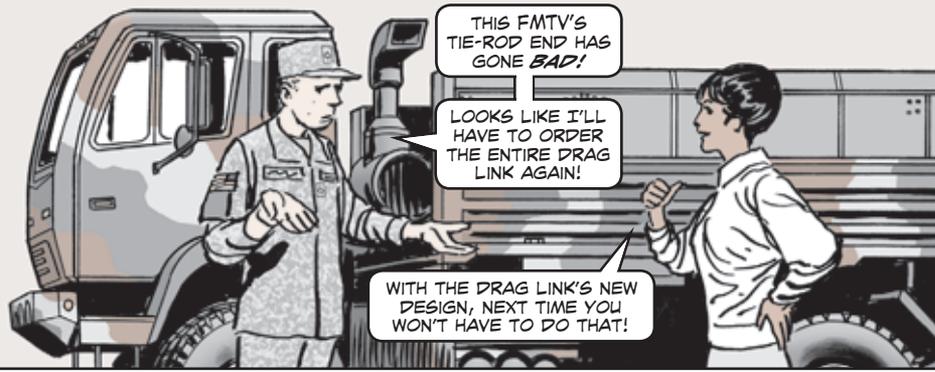
FMTV A1 trucks use two serial number ranges based on the configuration of the truck. Earlier A1 trucks equipped with the 3126 CAT engine have a serial range of 11,438 – 99,999. Newer A1 trucks with the C7 CAT engine use a serial number range of 100,001 and above. You'll find these serial numbers on the data plate found on the left side of the steering column.

These IETMs are sent through normal pin-point distribution. All TACOM LARs and BAE FSRs should have copies of this IETM and be able to load the manuals onto your MSD. If you can't contact your LAR or FSR and need a copy of the FMTV's IETM, email the vehicle's equipment specialist, Mr. Tomas Tarrell:

tomas.tarrell@conus.army.mil

Half-Mast

DRAG LINK DESIGN CHANGE

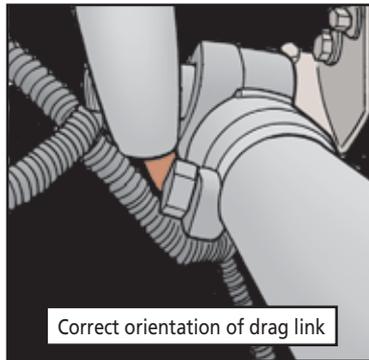


Change is good, if something positive comes out of it. And the engineers at TACOM decided that a design change was good for the drag link in your 2½- and 5-ton FMTV trucks. The new design stops you from having to order the entire drag link when a tie-rod end goes bad.

The next time you order the drag link, NSN 2530-01-377-3127, PN 12418103-002, you'll see that it looks different. But the only difference is that there is an adjustable tie-rod end with a clamp on both ends now.

Your maintenance TMs need to be changed to give you the proper instructions for the new design. And the artwork in the parts manuals need to be changed to match the new design.

When you get the drag link with the new design, go ahead and adjust the tie-rod ends to match the same length of the drag link being replaced. Turn the steering wheel fully to the left, too. The drag link must be installed with the bend turning to the left to fit correctly. The clamp on the pitman arm side must have the bolt adjusted to the bottom side of the drag link with the bolt entering from left to right and the clamp 1 centimeter to the rear of the pitman arm. Then you won't have interference while turning the wheel.



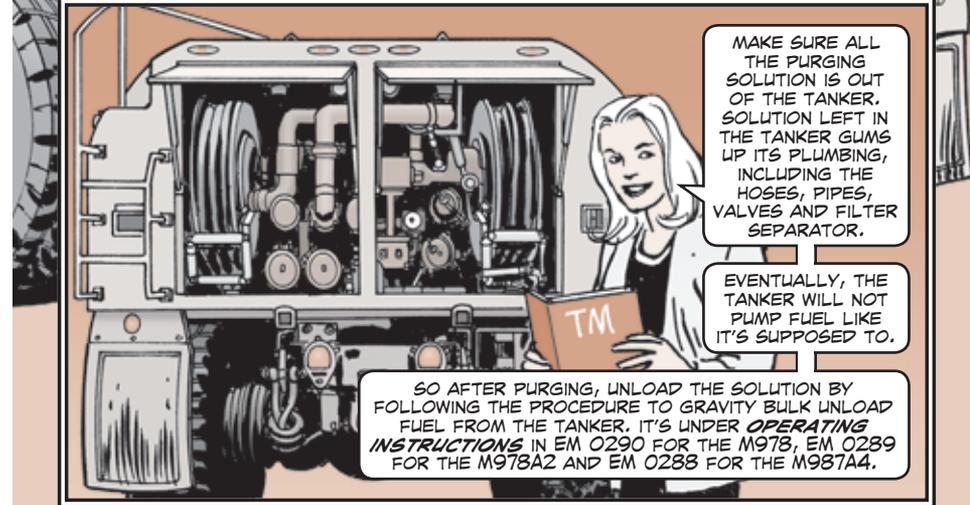
There's a CAUTION in the work package that tells you the tie-rod end must be installed toward the rear of the vehicle. Ignore that because now both ends have a tie-rod end. This caution will be deleted in a future TM change.

Purging PM Info



THE M978/A2/A4 FUEL TANKERS MUST BE **PURGED** BEFORE SHIPMENT.

HERE ARE SOME PM POINTERS TO KEEP IN MIND WHEN YOU GET THE TANKERS READY FOR DEPLOYMENT, SHIPMENT OVER-SEAS, OR WHEN BEING PROCESSED DIRECTLY TO A RESET PROGRAM.



MAKE SURE ALL THE PURGING SOLUTION IS OUT OF THE TANKER. SOLUTION LEFT IN THE TANKER GUMS UP ITS PLUMBING, INCLUDING THE HOSES, PIPES, VALVES AND FILTER SEPARATOR.

EVENTUALLY, THE TANKER WILL NOT PUMP FUEL LIKE IT'S SUPPOSED TO.

SO AFTER PURGING, UNLOAD THE SOLUTION BY FOLLOWING THE PROCEDURE TO GRAVITY BULK UNLOAD FUEL FROM THE TANKER. IT'S UNDER **OPERATING INSTRUCTIONS** IN EM 0290 FOR THE M978, EM 0289 FOR THE M978A2 AND EM 0288 FOR THE M98TA4.

YOU'LL ALSO NEED TO FOLLOW THE IETM'S OPERATING INSTRUCTIONS TO DRAIN THE TANK. IT'S IN THE "CHANGING TO A DIFFERENT FUEL OR FUEL GRADE" TRACK, THEN PERFORM THE FIELD-LEVEL MAINTENANCE PROCEDURE FOR THE 2,500 GALLON TANK DRAIN.

THOSE TRACKS HAVE THE LOWDOWN ON DRAINING SOLUTION FROM THE TANKER'S PLUMBING.

DON'T DE-MOD! Use Current TMs



Over the last few years, modification work orders (MWOs) have considerably changed small arms like the M16 rifle, M4 carbine and the MK 19 machine gun. And the -23&P TMs for these weapons have been changed to reflect these modifications. NSNs for parts no longer used because of the MWOs were deleted, while the NSNs for the new parts were added.

Unfortunately, some armorers aren't keeping their TMs current. So, when they look up replacement parts in the -23&P, they end up ordering parts that are no longer used. They "de-mod" their weapons with the old parts, ruining the modifications meant to improve the weapons.

The good news is that it isn't that difficult to keep TMs current. Check with your pubs clerk that your TM account is up-to-date and that all TM changes will be automatically shipped to you. When you receive TM changes, post the changes so your TMs are accurate.

Of course, all the current small arms TMs can be found on the ETMs Online website: <https://www.logsa.army.mil/etms/online.cfm>

Where Do I Get Arms Room Locks?



Dear Half-Mast,
We are not sure what locks we need to use for the racks in our arms room. Do the racks need a high security padlock or just a normal padlock?

SGT E.C.

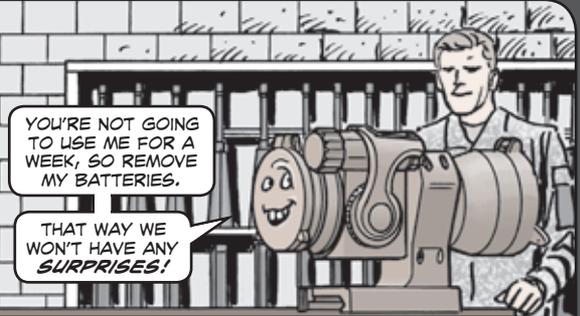
Dear Sergeant E.C.,
The racks inside the arms room need approved low security padlocks. NSN 5340-00-158-3805 brings a padlock that will work with most of the weapons racks. But for the MK 19's rack you will need a bigger padlock, which comes with NSN 5340-01-408-8434.

The door to the arms room vault, however, requires a high security padlock. The Department of Defense Lock Program website lists all the available low security and high security padlocks. Go to:

https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_nfesc_pp/locks

Half-Mast

SHOULD WE REMOVE SIGHT BATTERIES?



Dear Half-Mast,
When you store the MGB and other small arms sights, should you remove the batteries?

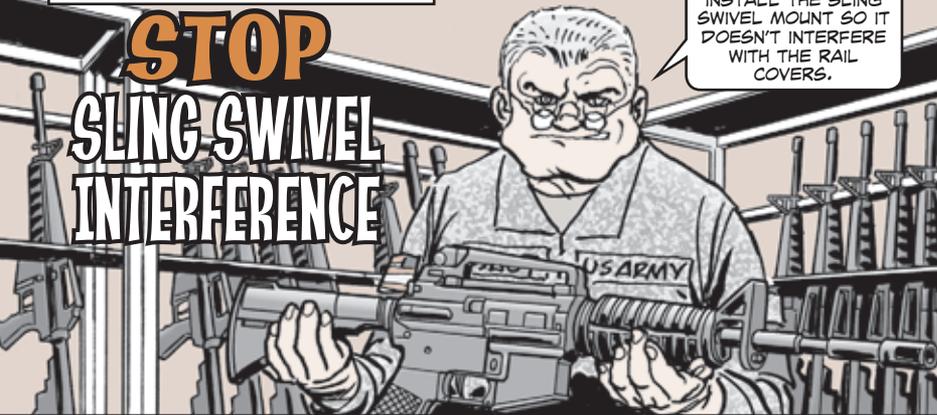
SGT T.K.

Dear SGT T.K.,
Generally, if the sight is going to sit more than one week it is a good idea to remove the batteries. Then leaking batteries can't fatally damage the sight.

Half-Mast

STOP SLING SWIVEL INTERFERENCE

HERE'S HOW TO
INSTALL THE SLING
SWIVEL MOUNT SO IT
DOESN'T INTERFERE
WITH THE RAIL
COVERS.



Dear Half-Mast,

The side sling mount for the M16-series rifle and M4/M4A1 carbine interferes with the installation and removal of the rail covers. Has the Army addressed this problem?

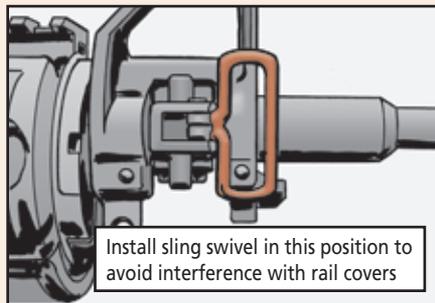
SGM T.F.

Dear Sergeant Major T.F.,

Yes they have. The newest edition of TM 9-1005-319-23&P (Nov 08) says in a note on WP 0016-8:

It is recommended that the swivel be placed on the left side of the carbine for right-handed operators and on the right side for left-handed operators. This will keep the sling out of the way when the carbine is used.

In addition, it shall be oriented so the integral stop, normally positioned towards the muzzle, is to the rear. This change in orientation allows the swivel to fold flat towards the muzzle so the side sling adapter does not interfere with the installation of the rail covers, the forward handgrip, or other accessories that require installation from the end of the rail.



This applies to all M4s and all M16A2 and A4s with the M203A2 grenade launcher attached.

Armorsers, make sure you have this edition of the TM so you don't miss out on other updated information.

Half-Mast

New, Improved Magazine

TIME FOR
YOU TO
RETIRE,
OLD TIMER!

I'M THE NEW,
IMPROVED
MAGAZINE AND
I'M TAKING
YOUR PLACE!



THE ARMY IS
FIELDING A NEW,
IMPROVED MAGAZINE
FOR THE M16 RIFLE
AND M4/M4A1
CARBINE.

THE NEW 30-ROUND
MAGAZINE HAS A
REDESIGNED FOLLOWER
AND A STRONGER SPRING
THAT SHOULD PROVIDE
GREATER RELIABILITY AND
FEWER MALFUNCTIONS.

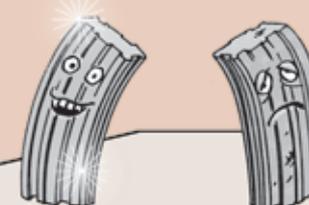
YOU CAN ID THE
NEW MAGAZINE BY
ITS TAN FOLLOWER.



YOU CAN ORDER THE
NEW MAGAZINE WITH NSN
1005-01-561-7200.

THE OLD MAGAZINE, NSN 1005-
00-921-5004, IS BEING PHASED
OUT AND WILL BE REPLACED BY
THE NEW MAGAZINE.

I GUESS IT IS
TIME FOR ME TO
RETIRE!

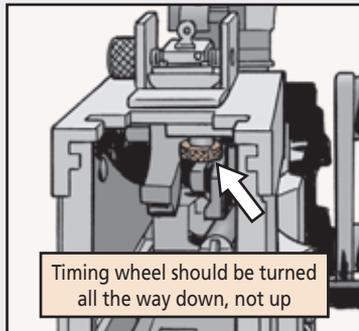


No Time to Skip Timing Steps

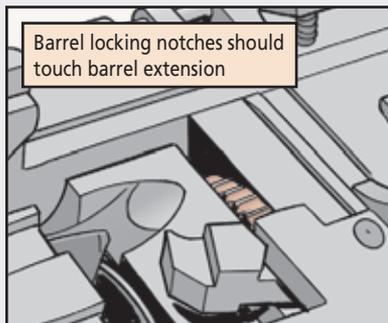
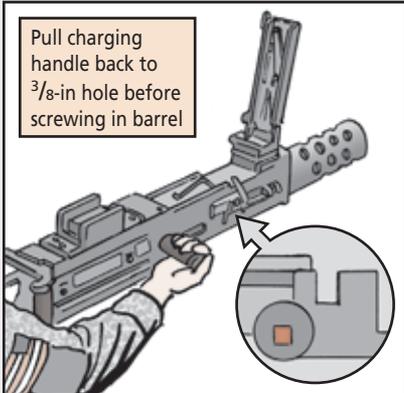
Dear Half-Mast,

Here at the Ft Leonard Wood DOL, we're running into Soldiers who think they've found a faster way to time their M2 machine guns. Unfortunately, they're not saving time but instead shortening the life of their M2s.

The mistake they're making is running the timing wheel all the way up instead of all the way down, like you're supposed to. Then when the M2 doesn't fire with the NO FIRE gage end inserted and does fire with the FIRE end inserted they think the M2's ready for action. It's not. It's timed too fast.



Another mistake Soldiers are making during headspacing and timing is not pulling the charging handle back to the 3/8-in hole in the receiver while another Soldier screws in the barrel. When you don't do that, the barrel won't screw in completely. That means bad headspacing and timing. If the barrel is screwed in all the way, its locking notches will touch the barrel extension. That's a good way to check that the barrel is screwed in completely.



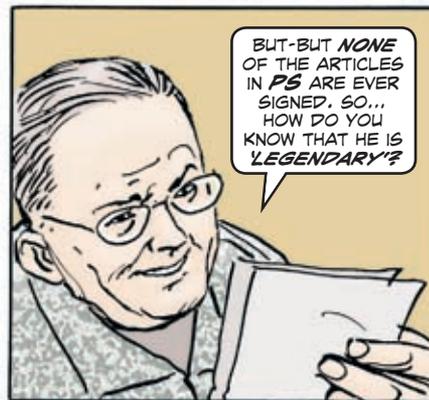
Gary Becker
DOL
Ft Leonard Wood, MO

YOUR POINTS ARE WELL TIMED, GARY. LET'S HOPE SOLDIERS USE THEIR HEADSPACE AND FOLLOW THEM.

ANOTHER GOOD CHECK WITH THE BARREL IS TO TRY TO TURN IT WITH THE BOLT FORWARD. IF IT TURNS AT ALL, EITHER THE BARREL OR BARREL LOCKING SPRING IS SHOT. THE M2 SHOULDN'T BE FIRED.



Roscoe Ripley, PS Writer!



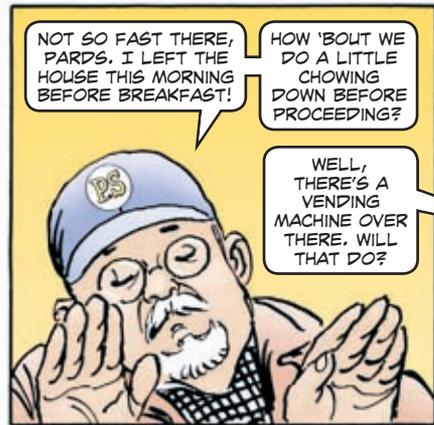


HMM... THIS MUST BE THE PLACE I'M TO MEET CAPTAIN BRENT AND MASTER SERGEANT PIERCE.



HELLO. I'M ROSCOE RIPLEY... LEGENDARY WRITER FOR PS MAGAZINE.

PLEASURE TO MEETCHA. SHALL WE HEAD ON OVER TO THE MOTOR POOL?



NOT SO FAST THERE, PARDS. I LEFT THE HOUSE THIS MORNING BEFORE BREAKFAST!

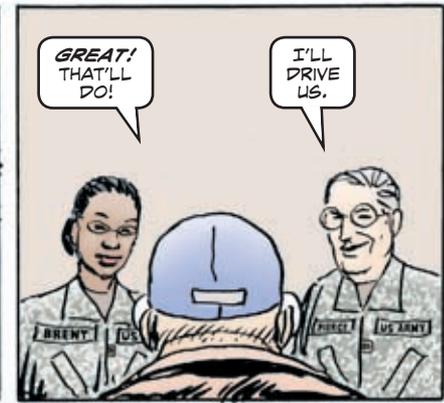
HOW 'BOUT WE DO A LITTLE CHOWING DOWN BEFORE PROCEEDING?

WELL, THERE'S A VENDING MACHINE OVER THERE. WILL THAT DO?



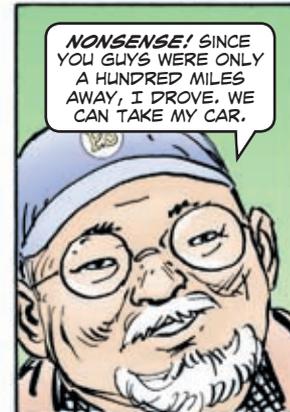
WELL, ACTUALLY... NO. I'M ON AN ALL MEAT DIET! GOT ANY GOOD STEAK HOUSES AROUND HERE?

UH... YEAH. OUTSIDE THE POST... ABOUT THREE MILES AWAY.



GREAT! THAT'LL DO!

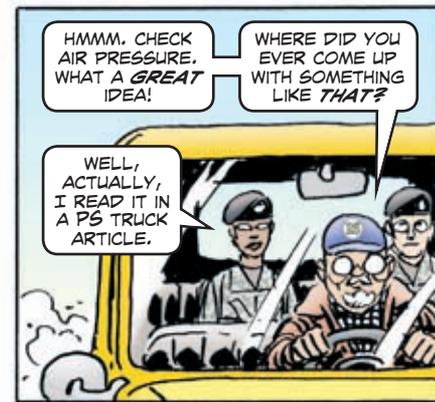
I'LL DRIVE US.



NONSENSE! SINCE YOU GUYS WERE ONLY A HUNDRED MILES AWAY, I DROVE. WE CAN TAKE MY CAR.



UH... SIR... HAVE YOU CHECKED YOUR TIRES' AIR PRESSURE LATELY? YOU'VE GOT SOME SERIOUS WEAR PROBLEMS.



HMMM. CHECK AIR PRESSURE. WHAT A GREAT IDEA!

WHERE DID YOU EVER COME UP WITH SOMETHING LIKE THAT?

WELL, ACTUALLY, I READ IT IN A PS TRUCK ARTICLE.



OH! OKAY. CHECK TIRE PRESSURE.

I'LL HAVE TO REMEMBER TO DO THAT WHEN I GET BACK HOME.



Later, at the steak house...

THAT'S MORE LIKE IT! BURP! ALL THAT PROTEIN BUILDS GOOD MUSCLE MASS.



HERE... CHECK OUT THESE GUNS!

NOW LET'S MOSEY ON DOWN TO THAT MOTOR POOL!



Not much later...



GOT MY DIGITAL CAMERA WITH ME... TO GET ANY INTERESTING VISUALS.



YA'LL EXCUSE ME A MINUTE, I CAN'T RESIST TAKING A FEW PHOTOS OF THIS CUTE LITTLE KITTY!



Klick-klick-klick



DRAT! MY BATTERIES JUST DIED!



NOW... WHERE'S THEM EXTRA BATTERIES?



SAY... Y'ALL WOULDN'T HAPPEN TO HAVE A COUPLE OF DOUBLE-AS ON YOU, WOULDJA?



NO? AH, I DIDN'T REALLY NEED A CAMERA FOR THIS TRIP, ANYWAY.

NOT AS LONG AS I'VE GOT MY TRUSTY PAD AND MECHANICAL PENCIL!

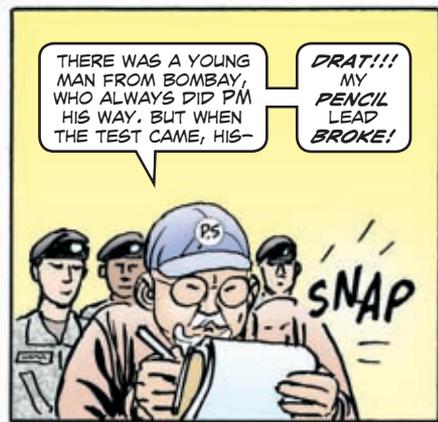
LET'S GO!



Soon, in the shop...

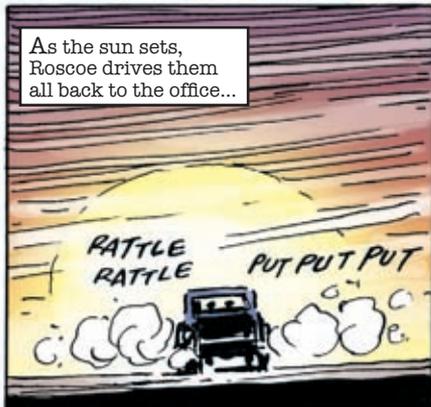
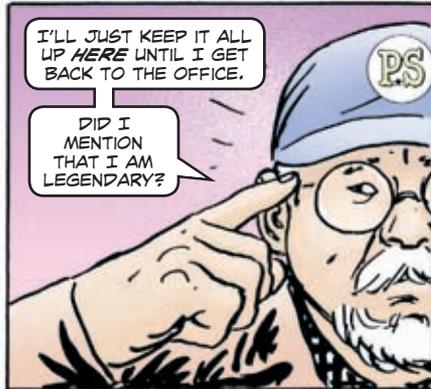
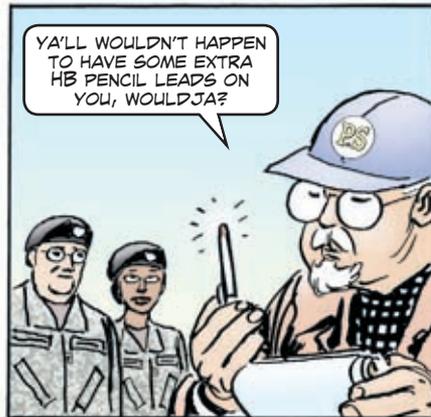
WE'RE REALLY PROUD OF THE GLOW PLUG REMOVAL TOOL THAT WE DESIGNED.

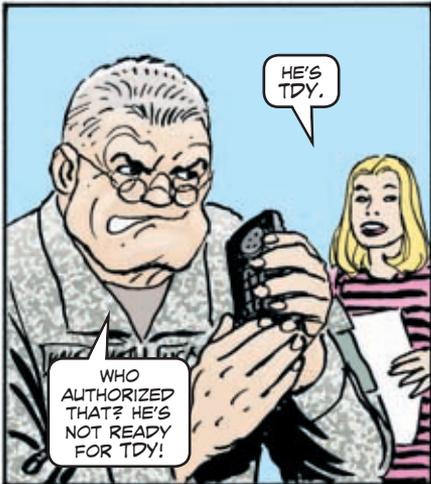
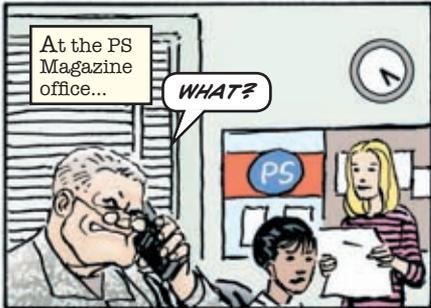
THAT PUTS ME IN MIND OF A GREAT NEW LIMERICK FOR THIS ARTICLE! I'M QUITE GOOD AT THEM, YOU KNOW! LET'S SEE...



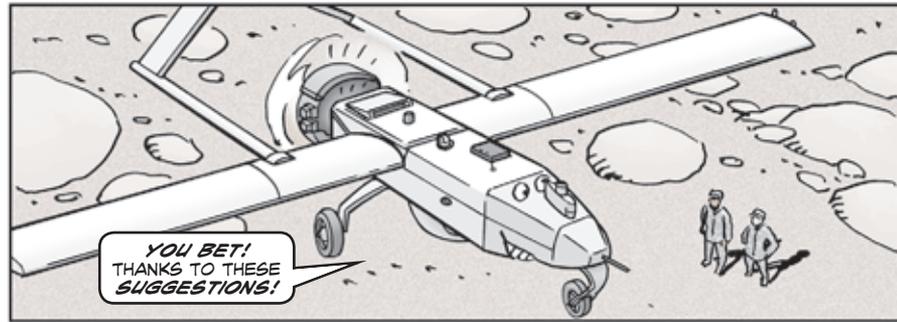
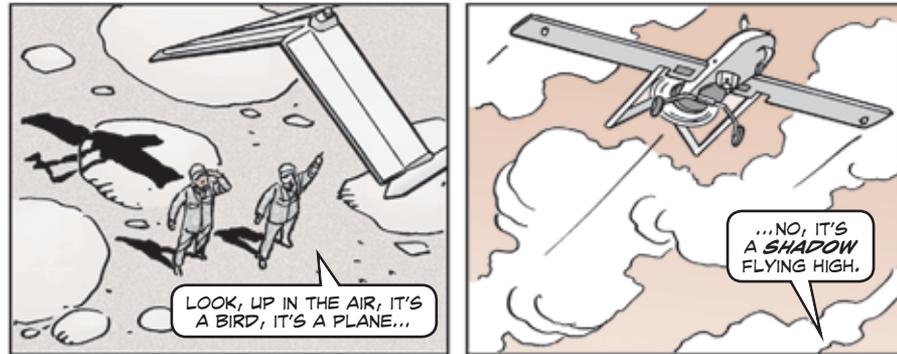
THERE WAS A YOUNG MAN FROM BOMBAY, WHO ALWAYS DID PM HIS WAY. BUT WHEN THE TEST CAME, HIS-

DRAT!!! MY PENCIL LEAD BROKE!





Shadow Unmanned Aircraft System...



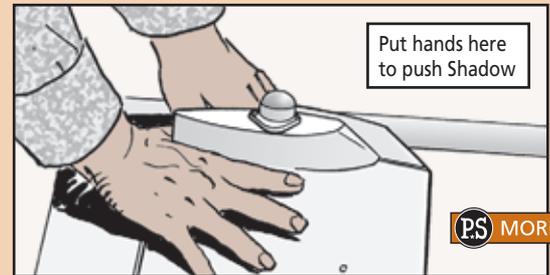
Who's Flying High? Only the Shadow Knows!

Dear Editor,

From our experience maintaining the Shadows at Ft. Stewart, we've come up with several ways to ensure your Shadows fly high and come back safely.

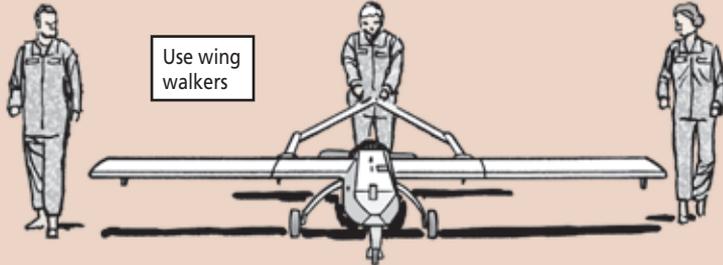
Move with care.

Just a bump or a hand in the wrong place can cause major damage. When you push the Shadow, keep your hands off the elerudder and other moving parts. Push with both thumbs right in the center of the rear section of the plane.

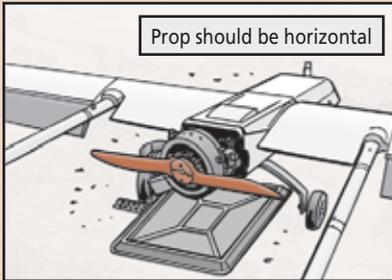


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If you're in a confined area, use two wing walkers to prevent the wings from hitting anything. Make sure the prop is horizontal so it can't catch on the ground. Push down on the rear of the Shadow just enough so that the front wheel is barely off the ground. That protects the wheel's strut from being bent by any-thing on the ground.



Use wing walkers



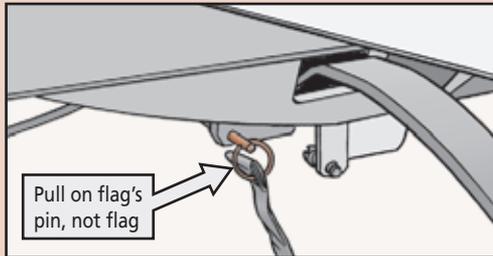
Prop should be horizontal



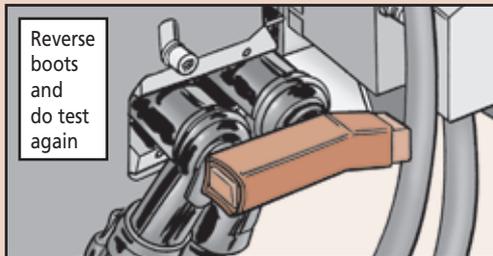
Keep front wheel just off ground

When you remove the REMOVE BEFORE FLIGHT flags, make sure to pull on the flag's pin, not the flag itself. Otherwise, the pin could stay in place without your realizing it. That could prevent something like the tail hook from going down into position.

Channel A or B failure during before flight checks? A good troubleshooting tip is to reverse the spark plug boots and do the test again. If the channel changes, you've got a bad spark plug. If the channel doesn't change, it's the ignition module that's bad.

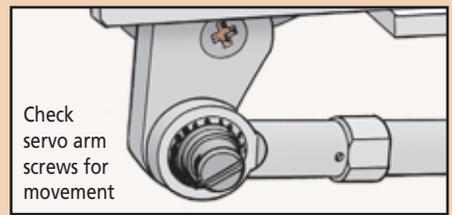


Pull on flag's pin, not flag



Reverse boots and do test again

Check the screws for the servo arms on the wing ends before flight. The screws work loose. If they back out completely, the linkage will pop off during flight and the Shadow will crash. Move the rudder and see if the screws move. If they do, they need tightening.



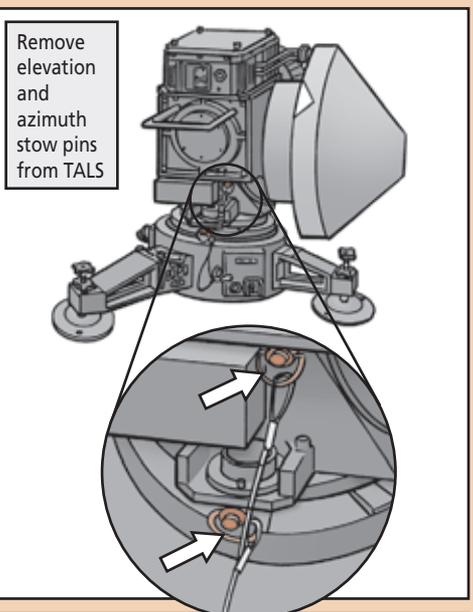
Check servo arm screws for movement

Don't forget to remove the elevation and azimuth stow pins from the tactical automated landing system (TALS) before you power up. If the pins are left in, the TALS gears will be stripped.

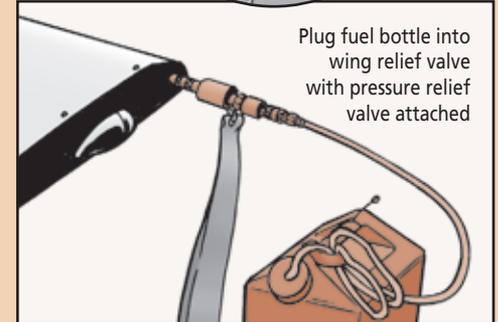
Mark the position of TALS on the runway. Once you have determined the correct position of TALS on the runway, mark the position of its three feet with paint. That will save you 20 minutes the next time Shadow flies.

After the Shadow lands, make sure all pieces of the shear pins are out. That will save time next time you mount the Shadow on the launcher. Otherwise, you have to remove the Shadow from the launcher to put in new shear pins.

When the Shadow is parked, plug a fuel bottle into the wing relief valve. That way if fuel expands because of the heat, the fuel flows into the bottle and not on the ground. But make sure the pressure relief valve is attached. Otherwise, all the fuel will come out.



Remove elevation and azimuth stow pins from TALS



Plug fuel bottle into wing relief valve with pressure relief valve attached

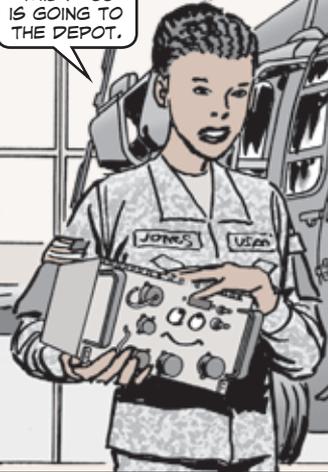
SPC Paul Witkowski
SPC Lucas Kannegaard
SGT Bryan Frymeyer
2-3 UAV Platoon
Ft Stewart, GA

Editor's note: Your suggestions will keep Shadows soaring. Thanks for helping them fly.



Haste Makes WASTE

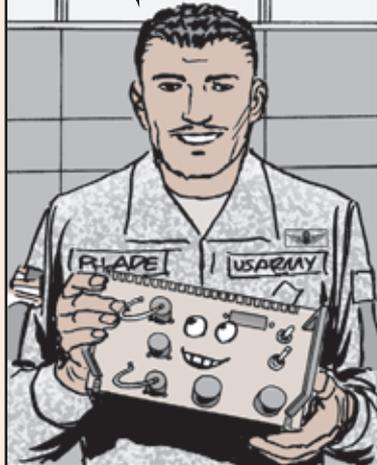
THIS AFCC IS GOING TO THE DEPOT.



NOT SO FAST!

IF IT DOESN'T SAY "REPLACE COMPUTER", IT'S USUALLY A FALSE PULL!

MECHANICS, THE BLACK HAWK AUTOMATIC FLIGHT CONTROL COMPUTERS (AFCCs) ARE A LOT BETTER THAN YOU THINK.



When troubleshooting a fault that includes a message of "computer good," don't be too quick to remove the AFCC. Most likely, the AFCC is **not** the problem.

Too many mechanics are confused by the fault tree of TM 11-1520-237-23 as they try to isolate the actual fault.

The problem is, when the fault tree identifies the AFCC as the problem, mechanics then have reduced confidence in the "computer good" message. So they treat the "computer good" message as a computer fault.

Most people then remove the AFCC, and ship it to depot for repair. When the depot tests it, they find the AFCC is fully operational as the "computer good" message indicated. It should never have been removed from the aircraft.

Many mechanics call this a false pull. False pulls degrade Black Hawk performance and put a strain on the supply system. If false pulls go unchecked in the supply system, replacement AFCCs become hard to get.

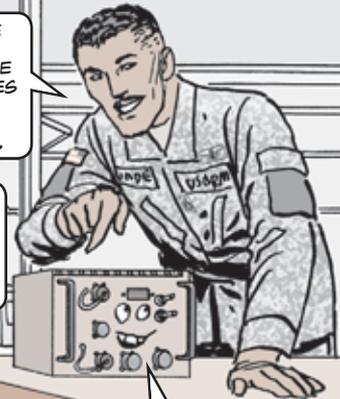
Mechanics, if the AFCC displays "computer good" along with a fault code, you must investigate the fault and **not** assume the AFCC is faulty. The only time you remove the AFCC without performing TM troubleshooting is when the BIT test displays a fault with a message that states "replace computer".

When there is a problem with the AFCC, don't turn in one AFCC for another until you have identified the actual fault. Rushing to replace an AFCC as the quick fix can actually increase aircraft downtime.

ELIMINATE ALL AFCC FAULT CODE POSSIBILITIES WHEN TROUBLE-SHOOTING.

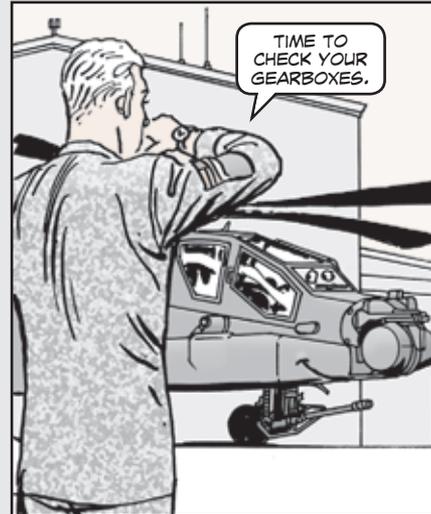
IF THE COMPUTER SAYS IT'S GOOD, IT'S USUALLY GOOD.

AS A TWIST ON AN OLE' SAYING GOES, IF IT AIN'T BROKE, DON'T REPLACE IT!

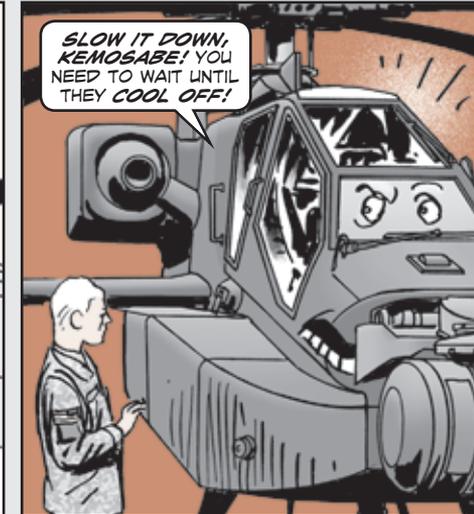


DON'T RUSH GEARBOX SERVICING

TIME TO CHECK YOUR GEARBOXES.



SLOW IT DOWN, KEMOSABE! YOU NEED TO WAIT UNTIL THEY COOL OFF!



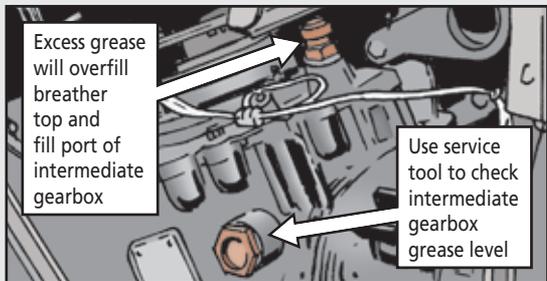
DON'T RUSH THE AFTER OPERATION SERVICING OF YOUR AH-64'S TAIL ROTOR, INTERMEDIATE AND NOSE GEARBOXES!

PS MORE

DO FIRST THINGS FIRST.

AFTER SHUTDOWN, ALLOW THE OIL AND GREASE TO COOL DOWN AND SETTLE TO THE BOTTOM OF THE GEARBOXES.

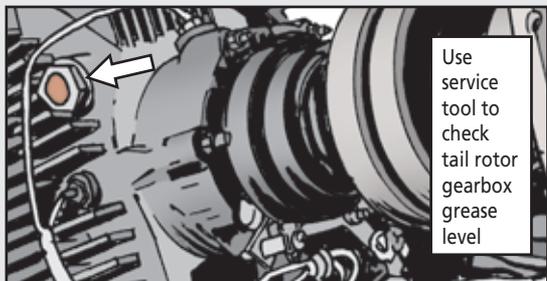
MAKE SURE THE BIRD IS ON LEVEL GROUND BEFORE SERVICING THE GEARBOXES.



Excess grease will overflow breather top and fill port of intermediate gearbox

Use service tool to check intermediate gearbox grease level

TO AVOID OVERFILLING THE INTERMEDIATE AND TAIL ROTOR GEAR BOXES, CHECK THE LEVEL WITH THE SERVICE TOOL, PN 2807, DESCRIBED IN EM 0126, TM 1-1520-LONGBOW/APACHE, IETM. CHECK FIG 20 IN WP 1856 00 OF TM 1-1520-238-13&P FOR THE A-MODEL.



Use service tool to check tail rotor gearbox grease level

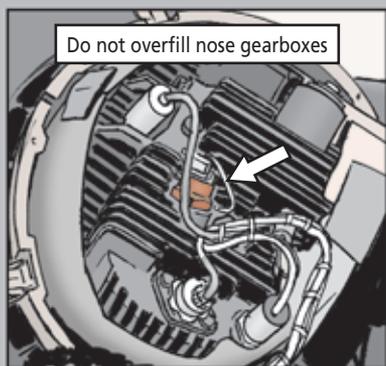
FOR THE NO. 1 AND NO. 2 NOSE GEARBOX, EYEBALL THE SIGHT INDICATOR AND ADD THE RIGHT AMOUNT, LIKE THE IETM OR TM SAYS.

IF YOU GET IN A HURRY TO SERVICE THE GEARBOXES, OVERFILLING INEVITABLY HAPPENS.



OVERFILLING THE GEARBOXES CAN BLOW OUT SEALS.

IF YOU ADD TOO MUCH OIL IN THE NO. 1 OR NO. 2 NOSE GEARBOX, THE EXCESS BLOWS THROUGH THE BREATHERS AND LEAVES AN OILY MESS TO CLEAN UP IN THE ENGINE AREA.



Do not overfill nose gearboxes

THE SAME GOES FOR THE INTERMEDIATE AND TAIL ROTOR GEARBOXES.

TOO MUCH GREASE WILL BLOW THROUGH THE BREATHER TOP AND FILL PORT, LEAVING A MESS TO CLEAN UP.



DON'T RUSH SERVICING, AND YOU'LL AVOID OVERFILLING.



All Aircraft...

Don't Forget Your General Aircraft TMs



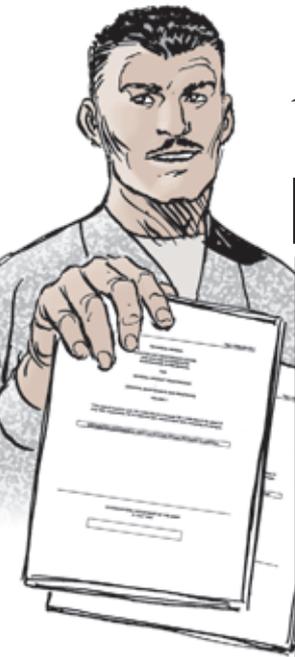
Mechanics, aircraft maintenance manuals contain valuable information to help maintain your birds. But it's a mistake to forget to check your **general** aircraft TMs.

Not everything you need to know to take care of your Chinooks, Kiowa Warriors, Black Hawks and AH-64s is included in the maintenance manuals. There's more information in the general aircraft TMs that can help you.

Some new mechanics may not know—or they forget—that general aircraft TMs contain information about parts, components, cannon plugs, and wiring.

So before you say something can't be fixed, check the general aircraft TMs. They also contain information that covers hardware and consumables, shop practices, tools, ground support equipment and much more.





HERE'S A LIST OF THE GENERAL AIRCRAFT TMS.

YOU CAN REVIEW THE TMS ONLINE OR CHECK YOUR PAPER MANUALS, IF YOU HAVE THEM.

IF YOU DON'T HAVE PAPER MANUALS, YOUR PUBS CLERK CAN ORDER THEM FOR YOU.

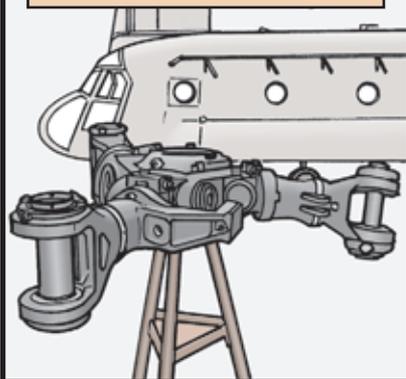
You can download the TMs from the LOGSA website:
<https://www.logsa.army.mil/etms/online.cfm>

- TM 1-1500-204-23-1, *General Aircraft Maintenance (General Maintenance and Practices) Volume 1.*
- TM 1-1500-204-23-2, *Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (Pnedraulics Maintenance and Practices) Volume 2.*
- TM 1-1500-204-23-4, *Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (Electrical and Instrument Maintenance Procedures and Practices) Volume 4.*
- TM 1-1500-204-23-6, *Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (Hardware And Consumable Materials) Volume 6.*

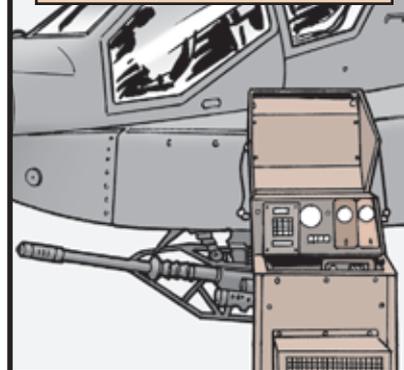
- TM 1-1500-204-23-3, *Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (Maintenance Practices for Fuel And Oil Systems) Volume 3.*



- TM 1-1500-204-23-5, *Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (Propeller, Rotor, and Powertrain Maintenance Practices) Volume 5.*



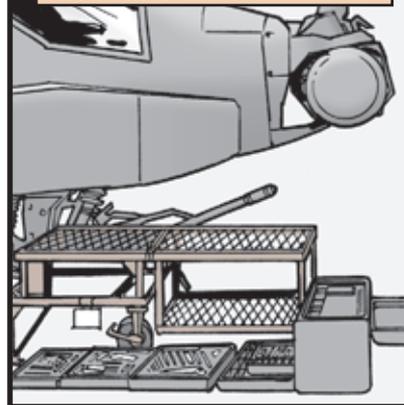
- TM 1-1500-204-23-7, *Aviation Unit Maintenance (AVUM) Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (Nondestructive Testing and Flaw Detection Procedures and Practices) Volume 7.*



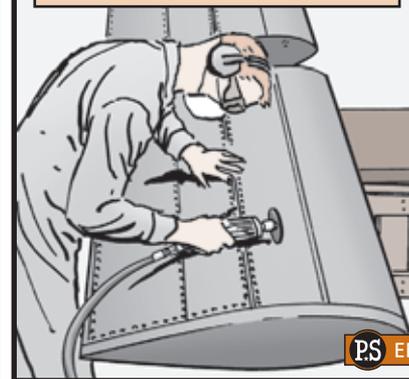
- TM 1-1500-204-23-8, *Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (Machine and Welding Shop Practices) Volume 8.*



- TM 1-1500-204-23-9, *Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (Tools and Ground Support Equipment) Volume 9.*



- TM 1-1500-204-23-10, *Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (Sheet Metal Shop Practices) Volume 10.*



Replace Radios Free

I HAVE ALL THESE UNSERVICABLE AN/PRC-112C/Ds THAT NEED TO BE REPLACED.

THIS IS PROBABLY GONNA COST MY UNIT A LOT!

DON'T YOU KNOW THERE'S A WAY TO REPLACE THEM AT NO COST!

UNSERVICABLE AN/PRC-112C/D SURVIVAL RADIOS DON'T HAVE TO COST YOUR UNIT AN ARM AND A LEG TO REPLACE.

HERE'S THE BEST WAY TO GET RID OF YOUR UNSERVICABLE RADIOS AND HAVE THEM REPLACED FREE WITH NEW ONES!

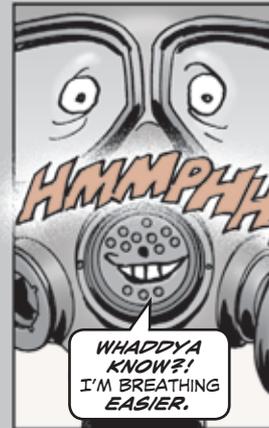
Turn in all bad radios through normal supply channels after removing them from the unit property book. After shipping the bad radios, contact Bruce Jetter, DSN 992-1191 or (732) 532-1191, or: bruce.jetter@us.army.mil Or, contact Lisa White, DSN 992-8211 or (732) 532-8211, or: lisa.white10@us.army.mil

Give them the number of bad radios shipped to Tobyhanna, the turn-in (T/I) document number and the tracking number used to ship the radios.

Submit new requisitions for the exact number of radios turned in to Tobyhanna Army Depot (RIC-BY6).

Then contact Bruce or Lisa again. Give them the quantity, price and NSN information from the new requisition.

If you don't get all the requested information to them, you aren't guaranteed a replacement radio. As long as there are available radios, the exchange can be done. But it's a first-come, first get 'em situation.



BREATHE EASIER WITH THESE TIPS

Dear Editor,

In our role as instructors at Ft Bragg's CBRN school, we've come up with a few tips to help CBRN specialists get the most out of their M40/M42 masks:

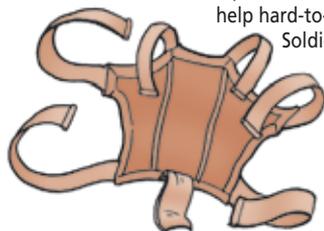
Test the stretch in the head harness. Over time, the harness loses its snap. Then the Soldier has to really tighten the straps to keep the mask fitting snugly. Usually, that results in a headache, sometimes a major headache. Any time the harness straps can't be stretched, the harness, NSN 4240-01-464-7839, should be replaced.

Do not use bleach. Some units use bleach to clean and sanitize their masks. This isn't recommended. Clean your mask only with mild detergent soap, NSN 8520-00-228-0598, and sanitize it only with calcium hypochlorite, NSN 6840-00-238-8115. The cleaning procedure can be found in Section 8 of TM 3-4240-346-20&P.



Use calcium hypochlorite for sanitizing, not bleach

Order the skull cap head harness. Sooner or later, you will run into a Soldier who is hard to fit with a mask. TB 3-4240-341-20-1, which covers hard-to-fit Soldiers, recommends the skull cap head harness, NSN 4240-01-390-3057, as the first solution. Order a couple of the harnesses so that you already have them on hand when that hard-to-fit Soldier appears. They cost less than \$10.



Skull cap harness will help hard-to-fit Soldiers

M40 vs. M40A1. The difference between the M40 and M40A1 is that the M40A1 has an individual second skin and a hood that replaced the one-piece hood and second skin of the M40. Both have the same LIN. In terms of accountability, treat them as the same mask.

Donell Bowser
Gordon Myrick
CBRN School
Ft Bragg, NC

Editor's note: Your tips should provide a breath of fresh air for Soldiers and their masks—especially the one on bleach! Thanks for sharing your experience.

PS END

JSLIST...

SUIT UP WITH THIS ADVICE!



Dear Editor,

We teach students at the U.S. Army CBRN School the best ways to suit up with JSLIST (joint service lightweight integrated suit technology). Here is some of the advice we give:

Close the carrier when you remove your mask. Too many Soldiers leave the carrier flap dangling open. That can lead to the inside of the carrier being contaminated, plus dirt and moisture get inside it. And all the stuff stored in the carrier—replacement parts, the TM, the NAAK (nerve agent antidote kit) injector—can fall out, too.



Close carrier after you remove mask

Tightly secure the sleeves and legs, but don't overdo it. The sleeve and leg straps need to be tight or they can't effectively seal out chemical agents. But really muscling up on the straps can affect circulation. Your arms and legs will go numb and you'll have trouble functioning. Snug is tight enough.



Tightly secure sleeves and legs, but not too tight

Same thing goes for the strap that goes between your legs. If you don't fasten it, the jacket won't stay down. But if you fasten it too tight, you're going to have a very uncomfortable day.

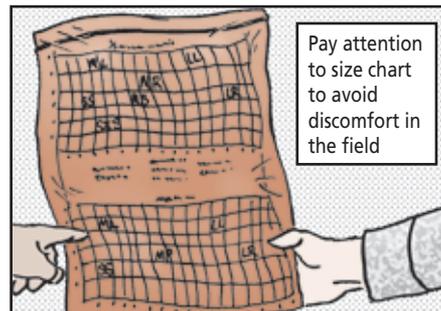
Pay attention to which boot is which. There's not much difference between the left and right boots, so it's easy to put them on wrong. If the boots are on the correct feet, their fasteners will fasten to the outside.

If boots are on right, fasteners will fasten to outside



JSLIST takes a different size than your uniform. To help your CBRN specialist provide you the right size JSLIST jacket and pants, there is a sizing chart both in the JSLIST TM and on the JSLIST sealed packages. Use the chart to avoid bad fits.

SSG Harold Cooper
SSG Luis Sanchez
Ft Leonard Wood, MO



Pay attention to size chart to avoid discomfort in the field

Editor's note: Your suggestions should suit JSLISTers nicely. Thanks for sharing your experience.

BREAK WITH THE PAST

WAREHOUSE

SOME PEOPLE CLING STUBBORNLY TO THE PAST.



THEY HOLD ON TO OLD MEMORIES, THOUGHTS, OPINIONS, EVEN GRUDGES.

SOME COLLECT MEMENTOS THAT RECALL HAPPIER TIMES AND PLACES.

OTHERS TREASURE A HIGH SCHOOL ATHLETIC JERSEY OR A CLASSIC RAGTOP.

AND *SOME* PEOPLE HANG ON TO OLD ARMY EQUIPMENT.

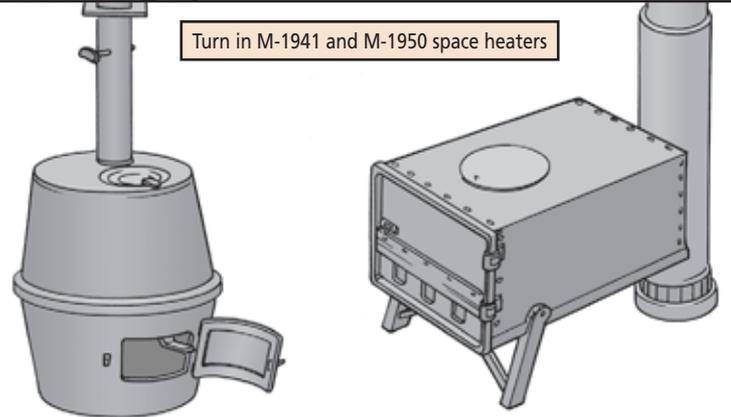
YOU KNOW WHO YOU ARE...



...YOU'RE THE ONES STILL RUNNING THOSE ANCIENT M-1941 AND M-1950 SPACE HEATERS IN YOUR TENTS.



Turn in M-1941 and M-1950 space heaters



Family of Space Heaters

Break with the past by replacing your old heaters with the family of space heaters (FOSH). The FOSH are approved for military use. They burn approved fuels and vent gases outside the tent. Best of all, they meet strict field standards for operation, efficiency and safety.

Although there's no Army-wide policy letter ordering replacement, several local policy letters order it.



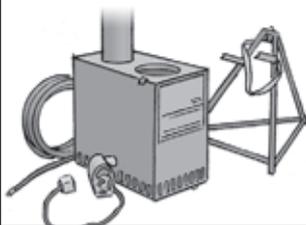
HERE'S AN INTRODUCTION TO EACH MEMBER OF THE FOSH...



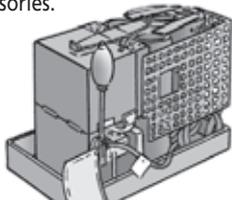
H-45 space heater replaces the old potbelly M-1941. The H-45 measures 18 inches in diameter and stands 24 inches high. It weighs 65 pounds, including all accessories.



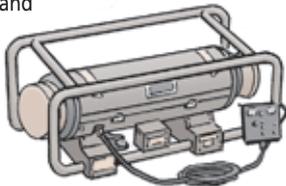
Arctic space heater replaces the gasoline burning M-1950 Yukon heater. It's a lightweight, portable heater 17 inches high, 9 inches wide and 17 inches long. It weighs 41 pounds, including all accessories.



Small space heater burns liquid fuel. Although it has a built-in fuel tank, the heater can also run off of an external fuel supply using a fuel can and stand. It's 13.7 inches high, 8.5 inches wide and 16 inches long. It weighs 20 pounds, including all accessories.



Convective space heaters provide forced hot air for tents and shelters. These heaters generate their own electrical power and recharge their batteries. The 35,000-BTU heater measures 18 inches high, 14 inches wide and 40 inches long. It weighs 74 pounds. The 60,000-BTU heater measures 19 inches high, 17 inches wide and 48 inches long. It weighs 98 pounds.



Thermoelectric fan, NSN 4520-01-457-2790, is a compact, self-powered fan that fits on top of any military tent heater. The fan uses some of the heat to turn the fan blades, which circulate heated air, improve comfort and save fuel. It measures 14 inches in diameter and stands 10 inches high.



YOUR AUTHORITY FOR ORDERING THESE HEATERS IS CTA 50-909.

TO GET THE RIGHT HEATER FOR THE SIZE AND TYPE OF TENT YOU HAVE, USE THIS TABLE AS A GUIDE...



Heater	NSN 4520-01-	Fuel	TM	Tent size and type
H-45 space heater	354-1191 (Type I)	Solid	TM 9-4520-257-12&P	Modular general purpose tent, TEMPER tent and modular command post shelter
	329-3451 (Type II)	Liquid (JP-8 and diesel)		
Arctic space heater	444-2375	Solid and liquid (JP-8 and diesel)	TM 10-4520-261-12&P	5-man and 10-man arctic tents
Small space heater	478-9207	Liquid (JP-8 and diesel)	TM 10-4520-263-12&P	4-man soldier/crew tent
Convective space heater 35K BTUs	431-8927	Liquid (JP-8 and diesel)	TM 10-4520-262-12&P	Modular command post shelter
Convective space heater 60K BTUs	520-6477	Liquid (JP-8 and diesel)	TM 10-4520-264-12&P	Modular general purpose tent and TEMPER tent

Keep in mind, the modular general purpose and TEMPER tents are extendable in length. They may need more than one H-45 or convective space heater.

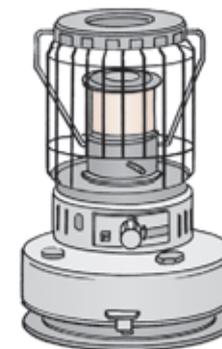


Some tents may need more than one heater

Commercial, non-standard heaters, including unvented kerosene or propane heaters, are **not approved** for Army use. Never heat your tent with them. They emit **carbon monoxide gas** that could make you sick or even kill you.

Some commercial models tend to leak fuel around the valves. Others are prone to tip over. In other words, they're **fire hazards**.

Remember, no commercial heaters meet Army field standards. So stay warm and safe: Choose the FOSH.



Unvented kerosene or propane heaters are not approved

For more information on the FOSH, go to the Defense Supply Center Philadelphia website: <http://www.dscp.dla.mil/gi/general/fosh.htm>



BLOCK 14 BAFFLER



HEY, SHERLOCK, I DON'T KNOW WHAT TO DO WHEN IT COMES TO FILLING OUT BLOCK 14 ON DA FORM 3161?

I THOUGHT THERE MIGHT BE AN EXPLANATION IN DA PAM 710-2-1, BUT I COULDN'T FIND IT!

THIS ONE *ISN'T* SO ELEMENTARY! IT'S TIME TO CALL IN HALF-MAST!

Dear Half-Mast,
 On DA Form 3161, Request for Issue or Turn-in, I need help with Block 14 (Issue Qty in the Supply Action column). I have looked through DA PAM 710-2-1, *Using Unit Supply System*, and have found there is nothing about how to complete Block 14. When is this block used, who is authorized to sign here, and what regulation covers this block?

Mr. R.G.

Dear Mr. R.G.,
 I'm sure you aren't the first one to wonder about the mystery block. PS checked and noticed the illustration in DA PAM 710-2-1 even skips from Block 13 to Block 15, so we asked what's up.

Department of the Army G-4 responded that in the past Block 14 was used by the accountable officer and property book officer with warehouses in different locations. The accountable or property book officer would sign Block 13 showing approval of the issue, the warehouse staff would issue the equipment and sign Block 14, and the receiver would sign Block 15.

However, Block 14 does **not** establish accountability, only the authorization that relates to the quantity stated. This block **may** or **may not** be required, depending on the use of the form.

If the person issuing the property is the same one who authorizes the issue, then Block 14 is not required. In most cases, unless SOP dictates otherwise, Block 14 is left blank.

Half-Mast



EPHELP KID! WE HAVE SO MANY QUESTIONS FOR YOU!!

I'M HERE WITH THE ANSWERS!

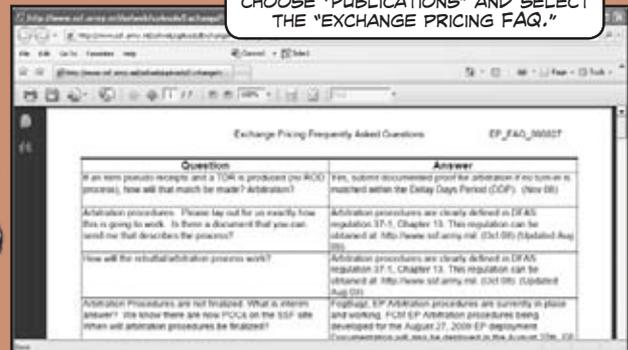
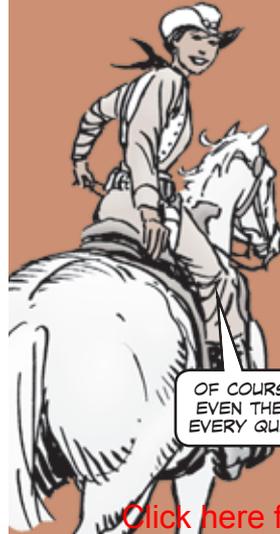
IF YOU HAVE LOTS OF QUESTIONS CROPPING UP IN YOUR UNIT REGARDING EXCHANGE PRICING (EP), YOUR UNIT IS **NOT UNIQUE**.

IN PS 680 (JULY 2009), WE TACKLED THE JOB OF EXPLAINING THE DIFFERENCE BETWEEN THE **OLD** WAY EP WORKED IN THE ARMY AND THE **NEW** EP RULES.

BUT QUESTIONS CONTINUE TO BUBBLE UP IN THE FIELD.

SO, TO HEAD 'EM OFF AT THE PASS, THE ARMY'S EXCHANGE PRICING INTEGRATION TEAM HAS COMPILED THE MOST COMMON QUESTIONS SOLDIERS HAVE ON A FAQ WEBSITE:
<http://www.ssf.army.mil>

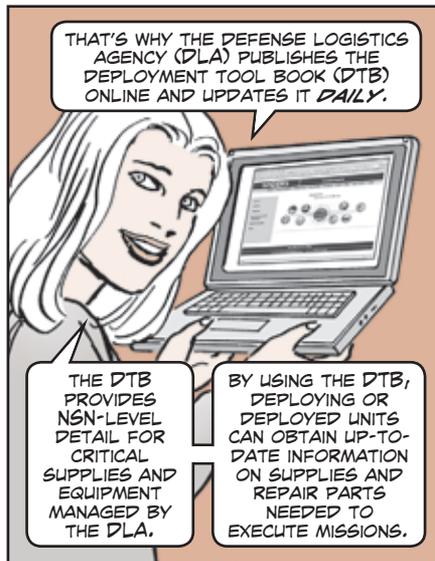
GO TO THE "EXCHANGE PRICING" TAB, CHOOSE "PUBLICATIONS" AND SELECT THE "EXCHANGE PRICING FAQ."



OF COURSE, IT'S POSSIBLE THAT EVEN THE EP FAQ WON'T COVER EVERY QUESTION UNDER THE SUN.

IN THAT EVENT, YOU CAN SEND UP A SMOKE SIGNAL TO THE EP TEAM:
ephelp@att.com

DLA Deployment Tool Book Updates Daily



THE DTB PROVIDES NON-LEVEL DETAIL FOR CRITICAL SUPPLIES AND EQUIPMENT MANAGED BY THE DLA.

BY USING THE DTB, DEPLOYING OR DEPLOYED UNITS CAN OBTAIN UP-TO-DATE INFORMATION ON SUPPLIES AND REPAIR PARTS NEEDED TO EXECUTE MISSIONS.

The DTB is arranged by the following classes of supply:

- Class I (Subsistence)
- Class II (Individual Equipment)
- Class III (Petroleum, Oils and Lubricants)
- Class IV: Construction
- Class VI: Personal Demand Items
- Class VIII: Medical
- Contact information for Class IX: Repair parts

(Note: The DTB covers troop support commodities and bulk fuel contract data. These commodities will be enhanced over time, along with land, aviation and maritime supply chains [Class IX]. However, ammunition and major end items such as tanks are not currently planned for DTB.)

The DTB contains point of contact information for DLA liaison officers at the global combatant commands (GCCs); customer service representatives at the major subordinate commands; and DLA's commodity managers, prime vendors, and regional commands.

The DTB also includes a section on the Industrial Base Extension program, where deploying or deployed units can locate commercial vendors by GCC areas of responsibility.

How Do I Access DTB?

THE CURRENT ELECTRONIC VERSION OF THE DTB CAN BE FOUND IN THE SUPPORT PLANNING INTEGRATED DATA ENTERPRISE READINESS SYSTEM (SPIDERS):
<https://spiders.dla.mil/>



SPIDERS: Steps for Success

1. From the home page, click on Customers then on New User Registration and follow instructions for obtaining a customer user account. You must have a .mil email address.
2. After obtaining a User ID and password, sign in and select "DLA Deployment Tool Book" link. The link is located on the left-side menu of the customer home page. Since the DTB pulls from the SPIDERS database, you'll always receive current data.



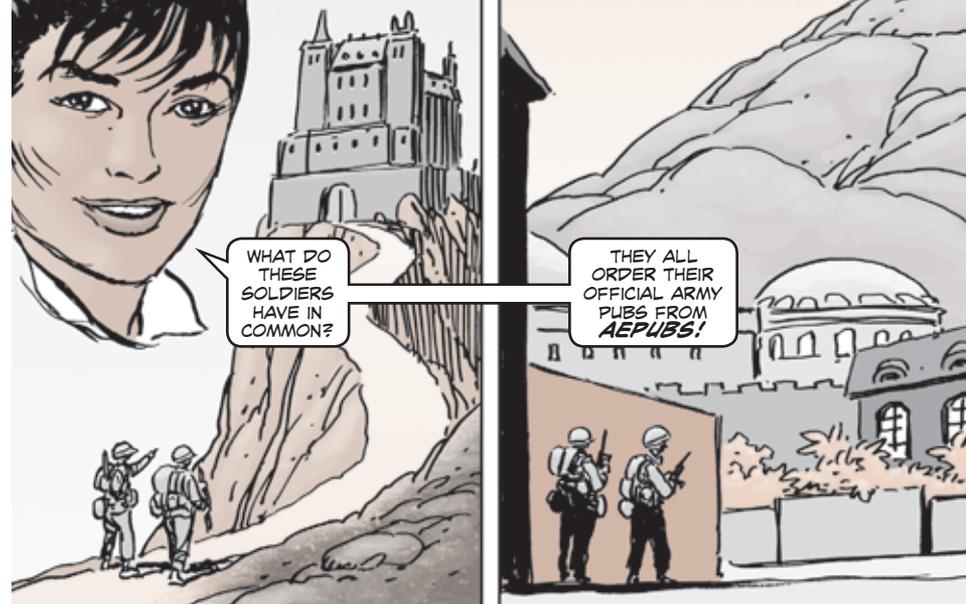
(Hint: Get in the habit of downloading a copy daily to keep the freshest information right at your fingertips!)



3. You can download the full version of the DTB as a pdf (covering all GCCs), or as a MS Word document in a customized, shorter version based on the parameters you set.

4. Open or save the file locally to your computer, and print it out at your convenience.

Ordering Pubs in Europe, SWA



If your unit is in the European Theater of Operations or deploying to Southwest Asia, the United States Army Publications and Distribution Center, Europe (USAPDCE) provides your publications and forms.

All Army units that use an APO AE address will use the USAPDCE Army in Europe Publications System (AEPUBS).

What's That

AEPUBS is a web-based application that gives users access anytime and anywhere to the entire Army publications system and user-friendly account management.

Establish an Account

Your unit publications clerk can create an AEPUBS account online:

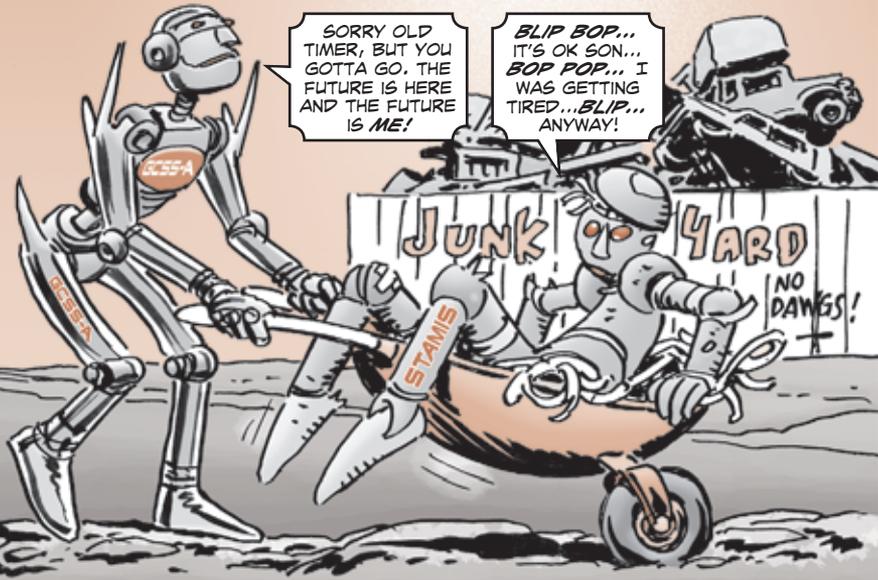
<https://aepubs.army.mil/>

Also, you may contact the AEPUBS Customer Service Desk at DSN (314) 384-6881/82/83/84, commercial (49) 621-730-6881/82/83/84, or by email:

customer.service.aepubs@eur.army.mil

Click here for a copy of this article to save or email.

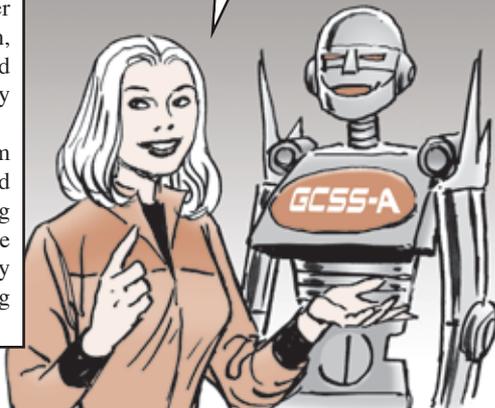
GCSS-ARMY: THE FUTURE OF ARMY LOGISTICS



The Army is using seven separate unit and retail logistics systems to provide logistics management. These systems, known as Standard Army Management Information Systems (STAMIS), cover maintenance, supply, ammunition, property, financial management and logistics data integration. But, the Army wants better results.

Unfortunately, the current system is a tangled web of cumbersome and non-integrated systems. Besides being dated and manpower-intensive, these STAMIS do not provide the necessary transparency that is common among Enterprise Resource Planning systems.

TO COMBAT THESE SHORT-COMINGS, THE ARMY IS WORKING TOWARDS TRADING THESE AGING LOGISTIC "CLUNKERS" FOR ONE STREAMLINED, INTEGRATED SYSTEM...THE GCSS!

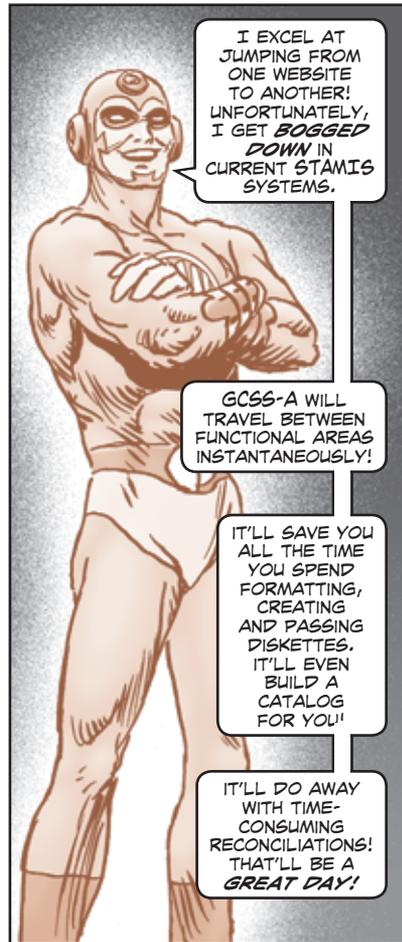


The Global Combat Support System (GCSS)-Army is the bright new star on the horizon. GCSS-Army will collapse existing systems into one web-based system, which integrates all associated business processes, and provides real-time and consistent catalog data, reengineered business processes, and enhanced quality surveillance and decision support tools. It enables leaders to make informed decisions before they engage on the battlefield. The mantra "one system to train, one system to maintain, one view of the truth" is the performance goal.

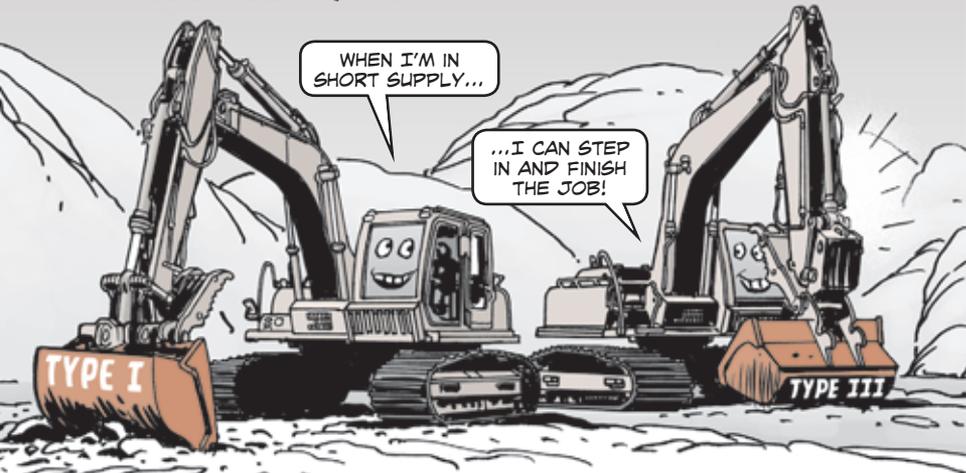
GCSS-Army:

- notifies units where in the supply chain parts are and their associated status
- shows the maintenance status of equipment
- calculates total weapon systems costs
- tracks ammunition
- provides accurate equipment readiness data and asset visibility
- gives advanced equipment shipping notices and expected delivery dates

Since Release 1.0 of GCSS-Army debuted at the National Training Center at Ft Irwin in December 2007, GCSS-Army has entered progressive development and testing phases and is scheduled for Army-wide roll-out beginning in FY 2012.



READY, SET, REPORT!



HQDA G-8 is requesting units improve equipment-on-hand quantities and readiness ratings by reporting authorized equipment substitutions. The most accurate reference for authorized substitutions on the MTOE is Supply Bulletin 700-20, Appendix H.

One common oversight is referencing LINS on the MTOE without taking into account authorized substitutions. This may result in a lower and incorrect readiness rating reported to HQDA, and reflect poorly on a unit.

Soldiers, take the lead by identifying excess items that can be used as authorized substitutes for shortage items, to include checking non-standard LINS.

FOR EXAMPLE, THE FOLLOWING ITEMS HAVE AUTHORIZED SUBSTITUTE LINS...

Item	Authorized LIN	Substitute LIN
M4A1 Carbine	C06935 (M4A1)	R95035 (M16A2)
HYEX Excavator	E27792 (HYEX Type 1)	E27860 (HYEX Type III)
M88A2	R50885 (M88A2)	R50681 (M88A1)

To review the complete list of authorized substitutions, visit the Logistics Information Warehouse:

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

Go to "Queries and Reports," "Catalogs," and "SB 700-20 Search."



New PQDR Website

The AEPS database is no longer being used to process or investigate Product Quality Deficiency Reports (PQDRs). Instead, go to this website:
<http://www.nslcptsmh.csd.disa.mil/webpqdr/webpqdr.htm>
 You'll need a new USER ID/password to get into this website.

JOHN DEERE PARTS

Trying to get parts for John Deere construction equipment from the Army's supply system can be a little frustrating, especially if you're in Iraq. If you can't get the parts through the supply system order them from this dealer:

Khudairi Group (Iraq)
 P.O. Box 3271 Sa'adoun
 Dist. 101/St. 87/No. 25
 Baghdad, Iraq

You can also visit their website:

<http://www.khudairigroup.com>

M1-Series Tank Turret Lifting Device Bolts Revisited

On Page 5 of PS 684 (Nov 09), we told you how to take care of the 11 bolt holes used for the turret lifting device on your M1-series tank. We forgot to mention you should also include a flat washer, NSN 5310-01-382-9030, with each bolt used to protect the threaded holes. The washer keeps the bolt head from damaging the threads when it's tightened down.

M2/M3, M2A1/M3A1 BRADLEY DRAIN PLUG

Need a new final drive drain plug for your M2/M3 or M2A1/M3A1 Bradley? Don't order the one shown as Item 1 in Fig 12 of TM 9-2350-252-24P-1 (Mar 97). NSN 4730-00-010-3867 is too small. Get the correct drain plug with NSN 4730-00-640-0279 (PN WW-P-471ACBCG).

M915A3, M916A3, & M917A2 Truck Warranty

Your Freightliner model truck is under warranty for 24 months from the Government's date of acceptance. Check the warranty date on the data plate on the driver's side door to see if your truck is still under warranty. If it is, it can be serviced at any Freightliner dealer. For more info, eyeball warranty TB 9-2320-302-15 or contact Myles Haider at (512) 556-8821 or

myles.haider@daimler.com

You can also get help from TACOM's Joe Sattler at DSN 786-6168, (586) 282-6168, or

joseph.w.sattler@us.army.mil

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?

**BE IN
THE
"KNOW"
ABOUT
YOUR
ENGINE'S
AIR
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