

Issue 755

PS

October  
2015

# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-755

Approved for  
Public Release;  
Distribution is  
Unlimited



Don't let the COLD get you down!  
See Pages 22-38!



## COMBAT VEHICLES

M1A2 SEP Tank IETM Available  
M1-Series Tank Ammo Door PM  
Recovery Vehicle Tow Bar Lifter  
M2A3 Bradley Unserviceable LRU Turn-in  
Stryker Mortar Carrier Tube Removal  
Stryker Transmission Service Intervals Extended  
M777A2 Howitzer Breech Ring Inspection



## TACTICAL VEHICLES

M998-Series HMMWV Radiator Hose Installation  
FMTV Intercom No Longer Supported  
FMTV GRS Guidance  
FMTV Jack Adapter NSNs  
HEMTT Fuel System Priming  
HEMTT, HET, and ASV MTT Training  
M1112 Water Trailer Tank Plumbing Component



## CONSTRUCTION

Idle 120M Road Grader before Using  
D7R II CAT Tractor Fuel Injector Misfire Fix  
VMR2 Minehound Mine Detector Tips

## COLD WEATHER

120M Road Grader Cold Weather Starting  
120M Road Grader Engine Oil Checks  
D7R II CAT Tractor Idle Wheel Mud Removal  
The Cold Weather Hermit  
Winter Safety Warnings  
Cold Weather Injury Prevention

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You are invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems and questions or comments on material published in PS.

Just write to:

MSG Half-Mast  
PS, the Preventive Maintenance Monthly  
USAMC LOGSA (AMXLS-GP)  
Bldg. 3303  
Redstone Arsenal, AL 35898

Or email:

usarmy.redstone.logsa.mbx.psmag@mail.mil

Internet address:

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



## SMALL ARMS

MK 19 Machine Gun PMCS Tips  
M2A1 Machine Gun Flash Suppressor Storage  
M240L Machine Gun Short Barrel Parts  
M16-Series Rifle, M4/M4A1 Carbine Firing Solution  
M230 Automatic Gun Lube Guidance



## MISSILES

HIMARS Air Tank Draining



## CBRN

M12A1 Decon Return Fuel Line Procedure  
M26 Decon Lube Answers  
M42A2 Protective Masks not Convertible



## COMMO-ELECTRONICS

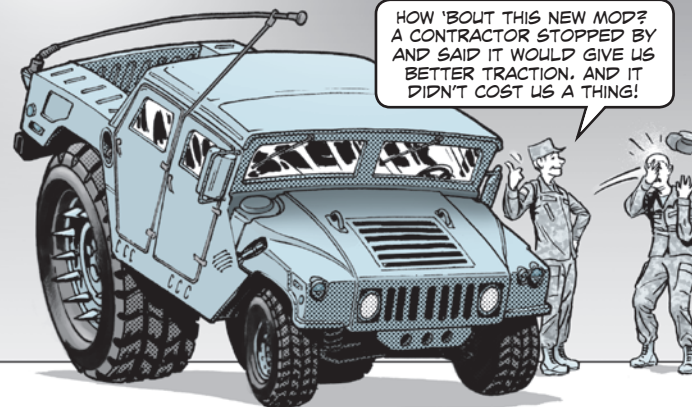
AN/PVS-4/4A, AN/TVS-5/5A Night Sight Turn-in  
AN/PED-1, -1A, -1B LLDR Handling  
MEP-831A 3-kW TQG Alternator Bolt Size



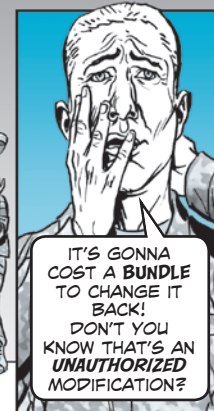
## LOGISTICS MANAGEMENT

2015 Combined Logistics Excellence Awards  
Reports Vital to Receive Maintenance Dollars  
milWiki Needs Your Input  
Rail Movement Tiedown Pub Updated  
GCSS-Army Turn-In Credit Requests

# Unauthorized Mods Are Just That... Unauthorized!



HOW 'BOUT THIS NEW MOD? A CONTRACTOR STOPPED BY AND SAID IT WOULD GIVE US BETTER TRACTION. AND IT DIDN'T COST US A THING!



IT'S GONNA COST A BUNDLE TO CHANGE IT BACK! DON'T YOU KNOW THAT'S AN UNAUTHORIZED MODIFICATION?

**LISTEN UP! VENDORS AND CONTRACTORS HAVE BEEN SHOWING UP AT MOTOR POOLS TO FIX EQUIPMENT STILL UNDER WARRANTY.**

**WHILE THERE, THEY'VE ALSO BEEN PERFORMING UPGRADES AND MODIFICATIONS THAT JUST AREN'T AUTHORIZED.**

UNAUTHORIZED MODS NOT ONLY **COMPROMISE** YOUR VEHICLE'S ABILITY TO CARRY OUT THE MISSION, BUT THEY CAN ALSO **AFFECT** SAFETY AND SURVIVABILITY.

PLAIN AND SIMPLE, THE **ONLY** TIME A VEHICLE CAN BE MODIFIED IS THROUGH AN **APPROVED** MODIFICATION WORK ORDER (MWO).

JUST LIKE IT SAYS IN PARA 3-1E OF AR 750-10, THE **ARMY MODIFICATION PROGRAM: COMMANDERS ARE NOT ALLOWED TO MODIFY EQUIPMENT UNLESS AN MWO AUTHORIZES IT.**

UNAUTHORIZED MODS THAT APPEAR OUT OF NOWHERE CHANGE A VEHICLE'S CONFIGURATION, **BYPASS** THE AUTHORIZED MEANS FOR VEHICLE MODEL UPGRADES, AND **HURT** TM ACCURACY.



By order of the Secretary of the Army:

RAYMOND T. ODIERNO

General, United States Army Chief of Staff

Official:

*Gerald B. O'Keefe*

GERALD B. O'KEEFE

Administrative Assistant to the Secretary of the Army

1520901

SEE A SUSPECT MOD?

REPORT IT TO YOUR MECHANIC AND LOCAL TACOM LAR. THEY'LL GET YOU SQUARED AWAY!





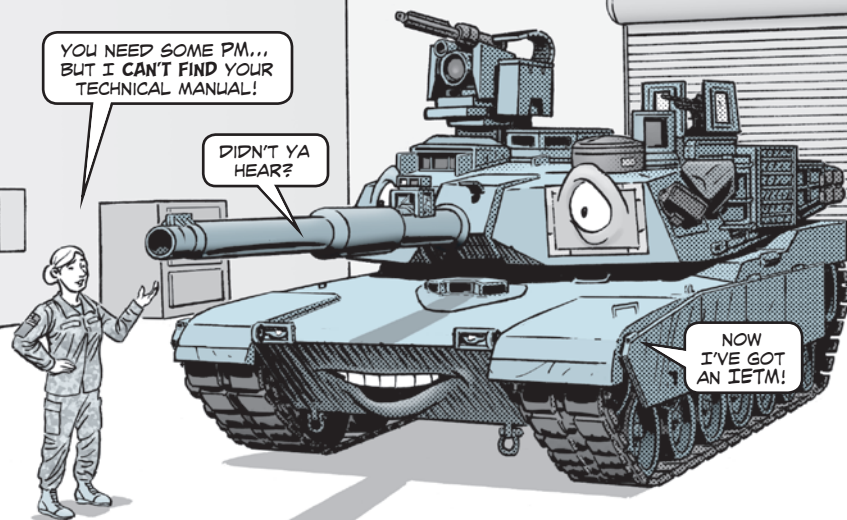
# PS COMBAT VEHICLES



- M1A2 SEP-13&P IETM is out
- M1 Tank Ammo Door PM
- Homemade tow lifter bar
- M2A3 unservicable LRUs
- Stryker MCV tube removal
- Stryker trans Intervals extended
- M777A2 breech ring threads

M1A2 SEP Tank...

## GET EM' WHILE THEY'RE HOT!



Dear Editor,

Can you let your readers know that TM 9-2350-388-13&P (IETM EM 0334, Jun 14) is now available for the M1A2 SEP tank? The IETM is available free through the Army Publishing Directorate (APD).

Tracie Dotson  
M1A2 Abrams Publications Manager  
TACOM LCMC

**Editor's note:** No problem! Units, set up an APD account by faxing a completed DA Form 12 to APD's Account Processing Team at DSN 693-9620 or (314) 592-0920.

Instructions for setting up an account are at:

<https://www.apd.army.mil/Orders/HowtoEstablishAcct.pdf>

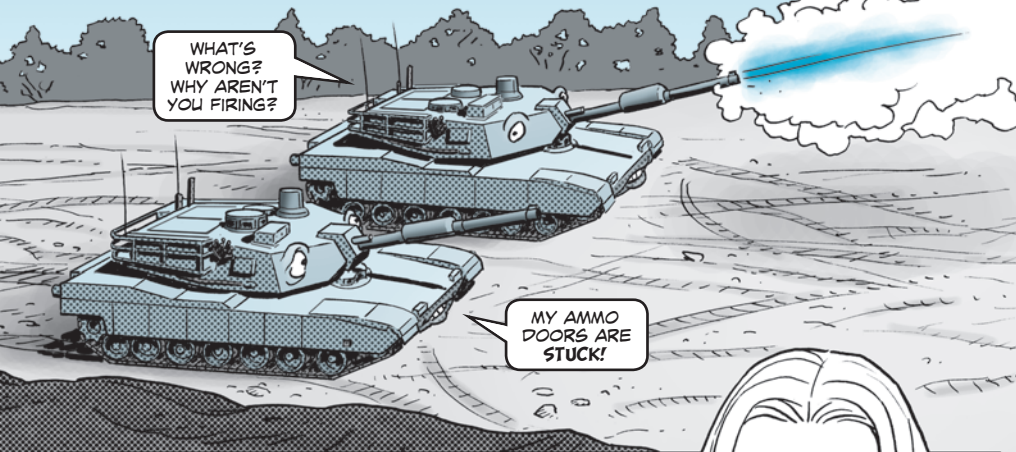
Once your account is set up, order the IETM through the Point & Click Ordering System at: <https://dol.hqda.pentagon.mil/ptclick/index.aspx>

To order, click search and fill out the form on the next webpage.

IETMs can also be downloaded on the Logistics Information Warehouse (LIW) website at: <https://liw.logsa.army.mil>

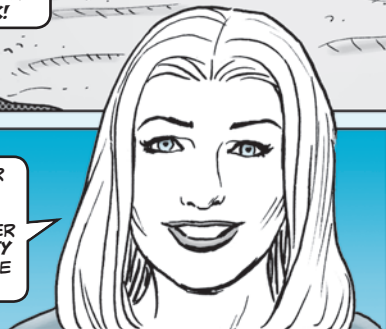
Pages 48-51 of PS 746 (Jan 15) have instructions for downloading IETMs: <https://www.logsa.army.mil/psmag/archives/PS2015/746/746-48-51.pdf>

# Open the Door To Ammo Door PM



WHAT GOOD IS A DOOR THAT WON'T OPEN? **NO GOOD AT ALL!** THAT'S **ESPECIALLY** TRUE FOR THE **AMMO DOOR** ON YOUR M1-SERIES TANK.

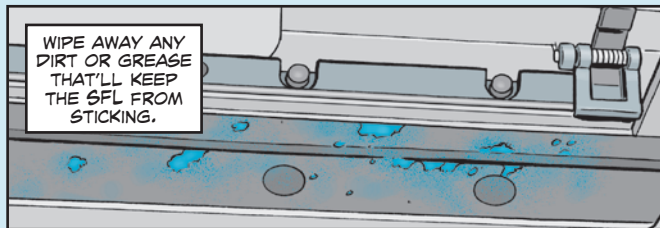
BUT SOONER OR LATER YOU'LL EXPERIENCE A STUCK AMMO DOOR IF YOU DON'T MAKE PROPER LUBRICATION A **PRIORITY** WHEN DOING PREVENTIVE MAINTENANCE (PM).



A SEMI-ANNUAL COAT OF SOLID FILM LUBRICANT (SFL), NSN 9150-01-260-2534, WILL GO A LONG WAY TOWARD MAKING SURE THOSE DOORS KEEP OPENING.



WIPE AWAY ANY DIRT OR GREASE THAT'LL KEEP THE SFL FROM STICKING.



THEN GIVE THE FOLLOWING AREAS A GOOD COATING...

- **Ammunition doors.** Spray the door seals, sliding surfaces and rails.
- **Ready ammunition door.** Spray the four seal retainer cams and the two rail cams.
- **Stowage ammunition door.** Spray the two door cams.
- **Hook latch.** Use a grease gun to lube the hook latch with WTR, NSN 9150-00-944-8953.
- **Hook latch and housing assembly.** Spray all moving and touching parts.
- **Latches.** Spray the sliding surfaces of all latches.

- **Ammunition tubes.** Spray the inside surfaces and all rubber stops inside the ammunition tubes with SFL. That allows ammo to slide in and seat properly so that it doesn't hit the ammo doors.

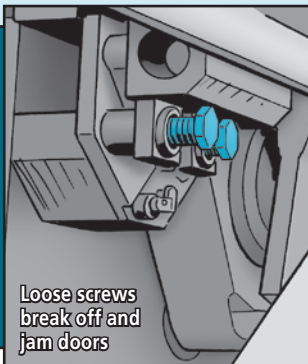


## Hook Latch and Housing Assembly



AFTER LUBING THIS ASSEMBLY, MAKE SURE THE MOUNTING SCREWS ARE NICE AND TIGHT.

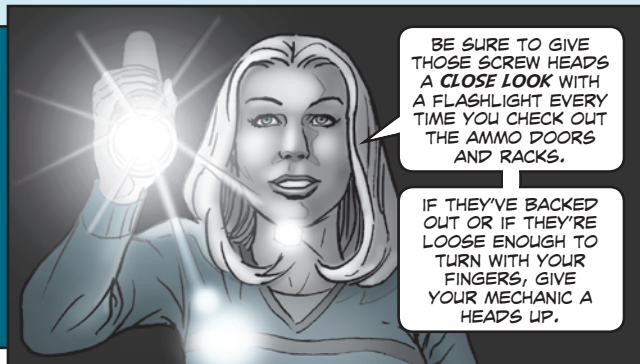
VIBRATION OFTEN LOOSENS THE SCREWS. THEY CAN BREAK AND JAM THE AMMO DOOR AS YOU TRY TO OPEN OR CLOSE IT.



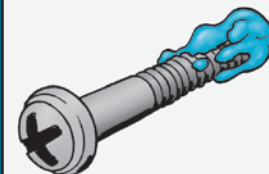
Loose screws break off and jam doors

BE SURE TO GIVE THOSE SCREW HEADS A **CLOSE LOOK** WITH A FLASHLIGHT EVERY TIME YOU CHECK OUT THE AMMO DOORS AND RACKS.

IF THEY'VE BACKED OUT OR IF THEY'RE LOOSE ENOUGH TO TURN WITH YOUR FINGERS, GIVE YOUR MECHANIC A HEADS UP.



HE'LL ADD A DAB OF **LOCKING COMPOUND**, NSN 8030-01-025-1692, TO THE SCREWS BEFORE RE-TIGHTENING THEM.



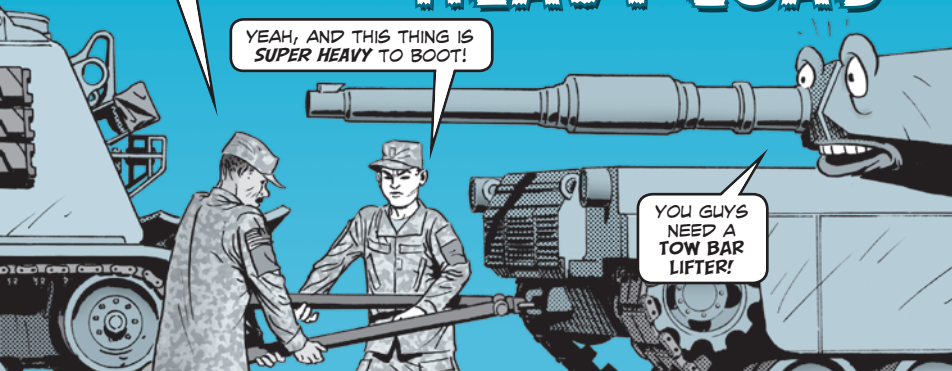


# LIFTER LIGHTENS HEAVY LOAD

MAN, I WISH THERE WAS  
A SAFER WAY TO DO THIS.

YEAH, AND THIS THING IS  
SUPER HEAVY TO BOOT!

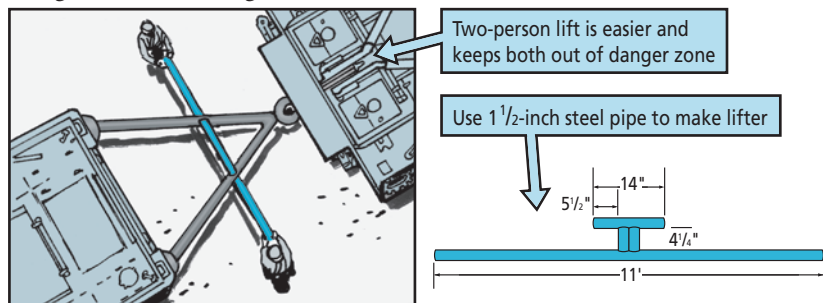
YOU GUYS  
NEED A  
TOW BAR  
LIFTER!



Everybody needs a little pick-me-up now and again. That's especially true when you're hooking up the tow bar while recovering a disabled combat vehicle.

That's one of the most difficult—and dangerous—jobs a mechanic has to do. Not only is the tow bar heavy, hooking it up requires you to stand between several tons of metal that might suddenly move!

The solution is a homemade tow bar lifter. It makes your job a lot easier and safer. You won't have to stand between vehicles to hook up the tow bar. And with two people lifting, the load is a lot lighter.



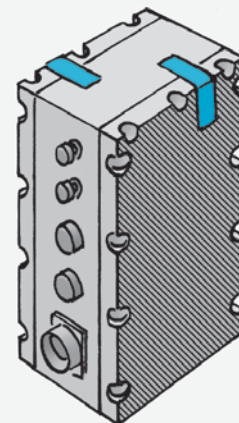
The 11-ft long lifter is made of 1 1/2-in diameter steel pipe that is 1/8-inch thick. It has a 14-in long tee made from the same pipe and fits in the V-shaped end of the tow bar.

After attaching the tow bar to the disabled vehicle, two people use the lifter to hold the tow bar up. The recovery vehicle driver makes the hookup with the help of the ground guides. The lifter is designed to work with all Army tow bars and recovery vehicles, including the 5-ton wrecker.

# Turn In Unserviceable LRUs

IF YOU HAVE  
UNSERVICEABLE LINE  
REPLACEABLE UNITS  
(LRUs) FOR YOUR M2A3  
BRADLEY, HERE'S YOUR  
CHANCE TO IMPROVE  
COMBAT READINESS AND  
EARN UNSERVICEABLE  
CREDIT.

TACOM HAS A CRITICAL  
NEED FOR THE FOLLOWING  
LRUs, SO TURN THEM IN  
THROUGH THE SUPPLY  
SYSTEM ASAP...



Unserviceable LRUs  
are needed now!

| LRU                              | NSN              | Unserviceable Credit |
|----------------------------------|------------------|----------------------|
| Commander's interface            | 5895-01-535-3045 | \$20,974             |
| Sensor assembly, countermeasures | 5865-01-535-3046 | \$156,526            |
| Display assembly                 | 5895-01-535-3047 | \$33,467             |
| Control box, electrical          | 1005-01-537-6902 | \$32,609             |

M1129A1 Stryker MCV, M1252 Stryker MCVV...

# REMOVE TUBE OR YOU'LL BE STUCK!

Dear Editor,

I frequently run into crews for the Stryker mortar carrier vehicle (MCV) who don't remove the mortar tube except for borescoping and pullover.

As a result, the tube sits and sits in the Stryker until the tube and base cap become stuck. Then you've got a major job getting them unstuck. I've been with my present unit for 7 months and have already seen 6 tubes that were either stuck in the cradle or had to be condemned due to excessive external pitting. I contacted other MCV techs throughout the Army and they told me they'd seen the same problem.

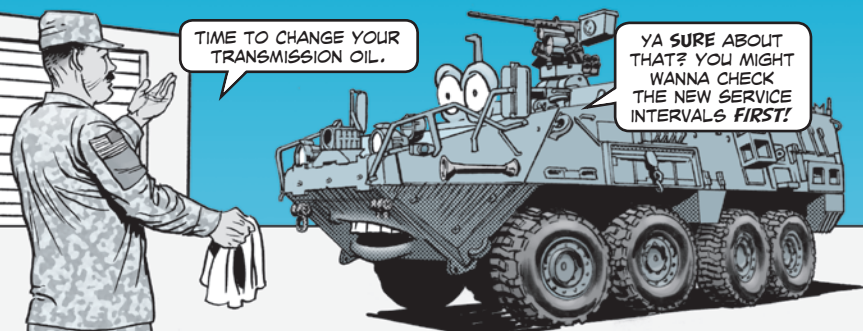
If crews remove the tubes at least quarterly, all this can be avoided.

CW2 Travis Gideon  
B Troop RSS,  
2nd Cav  
Vilseck, Germany

**Editor's note:** Mortar crews, if you follow the procedures in Stryker TM 9-2355-311-10 (MCV) and TM 9-2355-364-10 (MCVV), you'll avoid stuck tubes. Pay particular attention to the AFTER PMCS and work packages on 120mm mortar RMS6-L breech assembly removal/install. You can also make it unit SOP to remove the tubes quarterly. The main thing is to not let the mortars sit neglected.

Stryker...

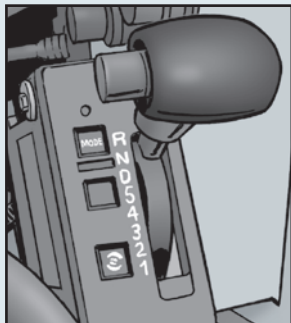
# TRANSMISSION SERVICE INTERVALS EXTENDED



**L**isten up, crews and mechanics! The transmission fluid service and filter change intervals for Strykers have been extended. Because fluid and filters don't have to be changed as often, your unit will save lots of time and money. Here's the scoop:

## Lever-Style Transmission Shifters

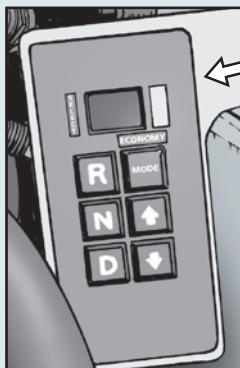
For Strykers with lever-style transmission shifters, found on vehicles with CAT 3126 and some CAT C7 engines, the fluid and filter interval has changed from annually to every three years.



Three-year service interval for transmissions with shift lever

## Button-Style Transmission Shifters

For Strykers with button-style transmission shifters, found only on vehicles with CAT C7 engines, you should change the oil and filters every five years or when directed by the oil and filter life monitor, whichever comes first.



Transmissions with button shifters are serviced every five years...

...or when wrench icon illuminates



If the wrench icon illuminates and stays on—or flashes on and off—for 2 minutes after the drive range (D) is selected, notify field-level maintenance because the transmission is due for service.

MECHANICS, MAKE SURE YOU ONLY USE TES-295 AUTOMATIC TRANSMISSION FLUID AND HIGH-CAPACITY FILTERS IN BOTH TRANSMISSION TYPES. TES-295 COMES WITH THESE NSNs...

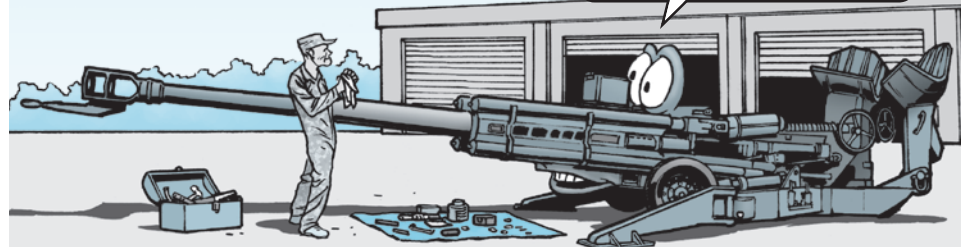
| NSN 9150-   | Qty                  |
|-------------|----------------------|
| 01-552-9119 | 1-qt bottle          |
| 01-565-0981 | Six 1-gal containers |
| 01-552-9157 | 5-gal container      |
| 01-551-2796 | 55-gal drum          |

NSN 4330-01-425-7701 BRINGS A KIT WITH TWO FILTERS, FOUR O-RINGS AND TWO GASKETS.

THE INTERVAL CHANGES WILL BE REFLECTED IN THE NEXT UPDATE TO THE STRYKER FOV IETM.

# More Help for Your M777A2 Howitzer

WHILE YOU HAVE MY BREECH DISASSEMBLED, WHY DON'T YOU GIVE MY INTERRUPTED THREADS A LOOK-SEE? I THINK I FEEL A BURR DEVELOPING DOWN THERE!



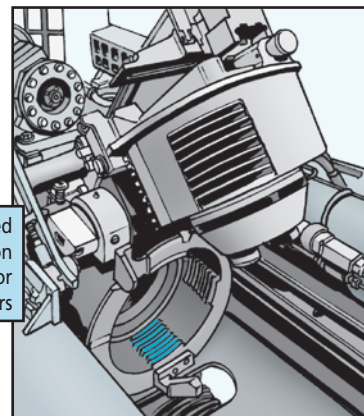
Dear Editor,

I agree with Ron Witt's tip in *PS* 751 (Jun 15) about the importance of at least weekly disassembling, cleaning and lubing the M777A2 breech, PFM body and tray. That is an excellent way to prevent firing problems.

One additional tip is to thoroughly inspect the interrupted sector threads on the breech ring for any burrs while you have the breech disassembled. Usually crews check the block threads because they are easy to see, but don't check the threads down in the breech ring. You can generally just file away burrs with the file in the M777A2's BII.

Andy Stewart  
BAE Systems  
Fayetteville, NC

Inspect interrupted sector threads on breech ring for burrs

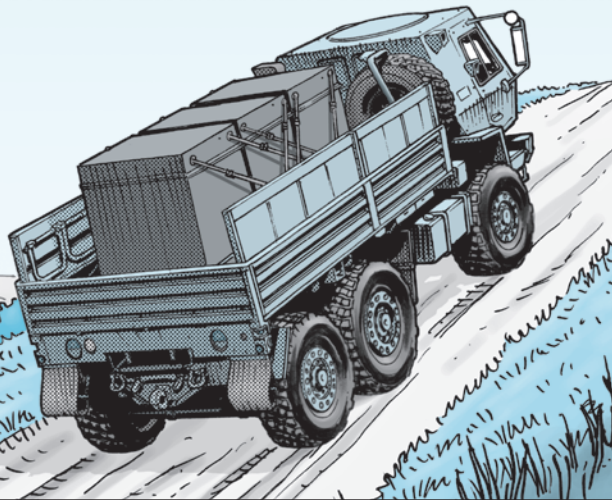


**Editor's note:** This tip definitely needs to be filed under TO DO. Thanks, Andy.



# PS TACTICAL VEHICLES

- M998 upper radiator hose covers
- FMTV intercom, leave it alone
- FMTV choose GRS wisely
- FMTV jack adapter changes
- HEMTTs, priming fuel systems
- MTTs are available
- Water trailer part number mix-up



# PS CONSTRUCTION

- 120M Grader; idle first, then work
- D7R II CAT fuel injection misfire
- Minehounding to find mines



M998-Series  
HMMWVs...

I'VE LOOKED EVERYWHERE FOR THE METAL COVER FOR THE UPPER RADIATOR HOSE, MASTER SERGEANT HALF-MAST. BUT I CAN'T FIND IT!

THAT'S BECAUSE IT'S NOT AUTHORIZED FOR THE HMMWV. BUT I THINK I CAN STILL HELP.

## KINK BEATS COVER FOR BELT PROTECTION

Dear Half-Mast,

I'm trying to find an NSN for the metal cover designed to protect the upper radiator hose from damage by the generator belts. But I've had no luck finding it in the IETM, TM 9-2320-280-13&P. Can you help?

CW3 R.D.M.

Dear Chief,

The metal cover you're looking for was originally designed for the CUCV.

It isn't authorized for use on HMMWVs.

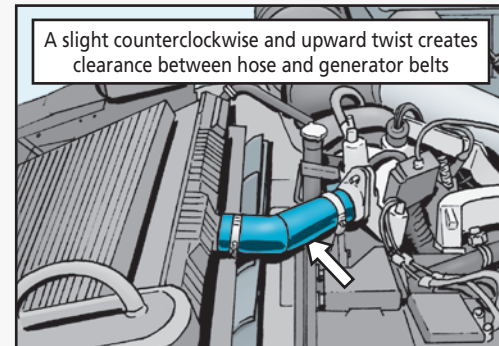
There's a note in the Inlet Hose (Radiator) Replacement section of TM 9-2320-280-13&P that will help. The note says vehicles with a 200-AMP alternator should have the inlet hose installed with the hose twisted counterclockwise and upward until a kink starts to form.

Twisting the hose slightly moves it enough to create some clearance. That keeps the hose safe from the generator belts.

Note that this only covers the following HMMWVs with the 200-AMP alternator installed:

|                |                |
|----------------|----------------|
| M1121          | M1044/A1       |
| M998/A1        | M1045/A1/A2    |
| M1038/A1       | M1046/A1       |
| M1097/A1/A2/R1 | M1025/A1/A2/R1 |
| M1123          | M1026/A1       |
| M966/A1        | M1043/A1/A2    |
|                | M1035/A1/A2    |
|                | M1037          |
|                | M1042          |
|                | M996/A1        |
|                | M997/A1/A2     |

A slight counterclockwise and upward twist creates clearance between hose and generator belts



Half-Mast

FMTV...

# LEAVE TWO-WAY INTERCOM ALONE

WHATCHA DOIN'?

JUST MAKING A NOTE TO ORDER SOME REPLACEMENT PARTS FOR YOUR INTERCOM SYSTEM.

HOLD ON! THAT INTERCOM IS **NO LONGER SUPPORTED!**

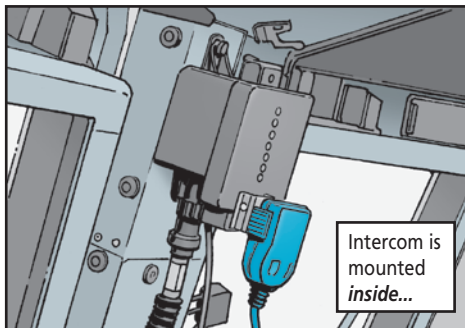


OPERATORS AND MECHANICS, THE TWO-WAY TROOP INTERCOM SYSTEM ON THE FMTV 2 1/2- AND 5-TON CARGO TRUCKS HAS GONE BY THE WAYSIDE.

THAT MEANS THE INTERCOM'S KITS AND REPAIR PARTS ARE **NO LONGER SUPPORTED** BY TACOM LCMC. THE VEHICLE'S IETM WILL BE UPDATED TO REFLECT THIS CHANGE.

AS LONG AS IT'S WORKING, YOU CAN CONTINUE USING THE INTERCOM, WHICH IS MOUNTED ON THE INSIDE AND OUTSIDE OF THE VEHICLE'S CAB.

IF AND WHEN THE INTERCOM BREAKS, DISPOSE OF IT FOLLOWING TM OR UNIT PROCEDURES.



Intercom is mounted inside...



...and outside of vehicle

PS 755

12

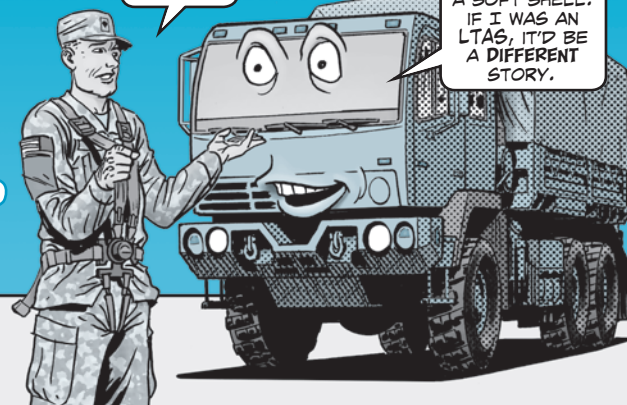
OCT 15

FMTV...

# WHICH GRS DO WE ORDER?

IS THIS THE **RIGHT** GRS?

YES, BECAUSE I'M A **SOFT SHELL**. IF I WAS AN LTAS, IT'D BE A DIFFERENT STORY.



Dear Half-Mast,

On Pages 10-13 in PS 737 (Apr 14), you said to order a gunner restraint system (GRS) based on which armor kit is installed on your FMTV. How do you tell which kit is installed?

SGT D.D.

GOOD QUESTION, SERGEANT! ALL BASIC AO AND AI FMTV MODELS WITH THE **SOFT SHELL** (NON-ARMORED) CABS USE THE GRS KIT THAT COMES WITH NSN 2540-01-569-8599. THE KIT INCLUDES INSTALLATION INSTRUCTIONS.

THE **NEWEST** FMTV, AIP2 LONG TERM ARMOR STRATEGY (LTAS), USES THE GRS KIT THAT COMES WITH NSN 2540-01-571-8576.

INSTALLATION INSTRUCTIONS ARE INCLUDED.

THE LTAS GRS KIT CAN BE OBTAINED IN **STAND-ALONE KIT**, NSN 2540-01-571-8576, IF NECESSARY.

THE GRS KIT IS ALSO INCLUDED IN THE **WEAPON STATION KIT**, NSN 2510-01-567-8727, AND **TRANSFER MOUNTING KIT**, NSN 1005-01-577-2656.

THE AIP2 HAS DOORS OPENING BACKWARDS THAT ARE HINGED AT THE REAR OF THE DOOR.

**THESE TWO GRS KITS ARE NOT INTERCHANGEABLE.**

THE LOW SIGNATURE ARMOR CAB (LSAC) MODEL IS NO LONGER BEING USED.



IF YOU HAVE ANY GRS QUESTIONS ON THE FMTV, CONTACT TACOM'S WILLIAM BAYES AT DSN 786-4735, (586) 282-4735, EMAIL: [william.s.bayes.civ@mail.mil](mailto:william.s.bayes.civ@mail.mil)



13

OCT 15



# Jack Adapter NSN Search

THE JACK ADAPTER ASSEMBLY YOU NEED WILL DEPEND ON YOUR TRUCK.

THAT'S RIGHT! AND YOU'LL NEED THE BIGGER VERSIONS FOR FMTV LTAS TRUCKS LIKE ME!



Dear Half-Mast,  
I'm having a problem locating an NSN for my FMTV's jack adapter assembly. The adapter is listed as one of the required Bill items, but it's missing from all of our unit's FMTVs.

Is the jack adapter something we can order or is it a fabricated item?

Mr. B.D.S.

Dear Sir,

Originally, the FMTV came with a 12-ton jack, NSN 5120-01-573-5935. There are two jack adapters available that can be used with this jack. The 12-ton straight jack adapter, NSN 4910-01-572-5688, is for the front and rear axles on all MTVs and LMTVs. The 12-ton angled jack adapter, NSN 5340-01-495-1298, is for the intermediate axle on MTVs.

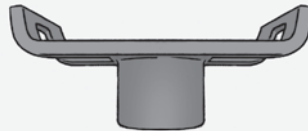
The 12-ton jack is still in the supply system and OK to use with the 12-ton jack adapters. Both of the adapters are still available, too, but once stock runs out, that's it.

Recently, a new 20-ton jack, NSN 5120-01-627-2079, was added to the inventory. It uses a straight jack adapter, NSN 4910-01-625-7273, for front and rear axles and an angled jack adapter, NSN 5120-01-609-8724, for MTV intermediate axles.

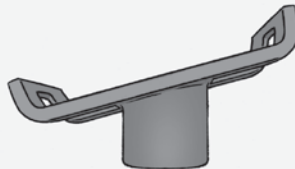
The great thing about the jack adapters for the 20-ton jack is that they can also be used with the 12-ton jack. And since both jacks work with AO, A1 and A1P2 model FMTVs, these jack adapters are a great investment for your truck.

*Half-Mast*

Get 20-ton straight jack adapter with NSN 4910-01-625-7273...



...and angled adapter with NSN 5120-01-609-8724

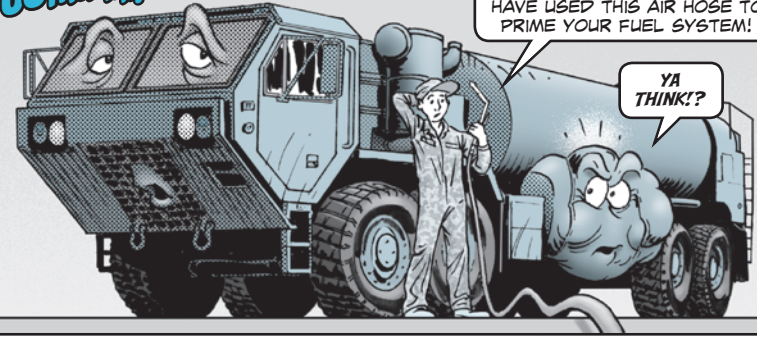


# IT'S PRIME TIME FOR FUEL SYSTEM

UHHHHH!

UH-OH! MAYBE I SHOULDN'T HAVE USED THIS AIR HOSE TO PRIME YOUR FUEL SYSTEM!

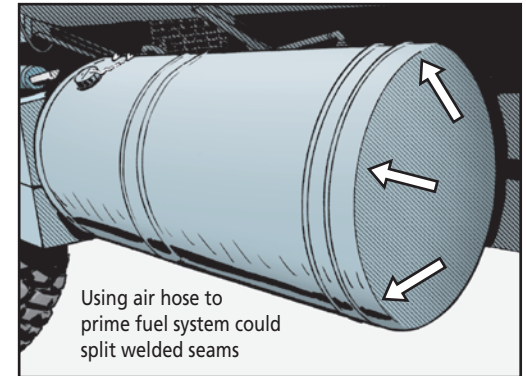
YA THINK!?



**M**echanics, you should never, ever, use a pressurized air hose to prime the HEMTT's fuel system.

That adds too much pressure too fast. You can jam the pressure relief valve shut, all while pressure continues to build.

The vehicle's fuel system is designed for suction from the pump side, not pressure from the tank. Not only will using an air hose cause leaks, but the added pressure can split the seams in the HEMTT's fuel tank!

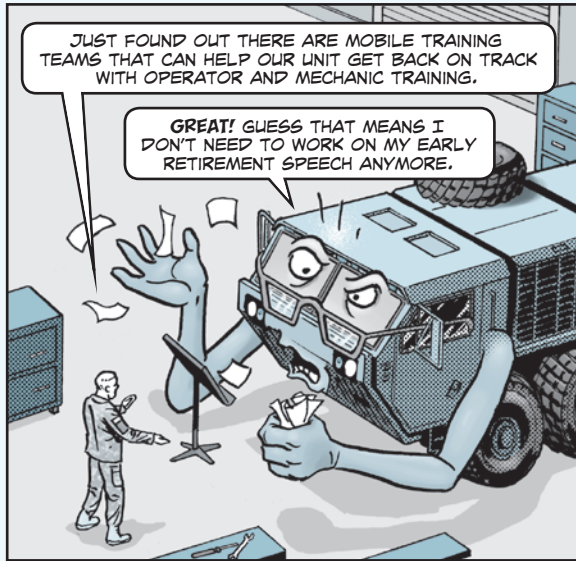
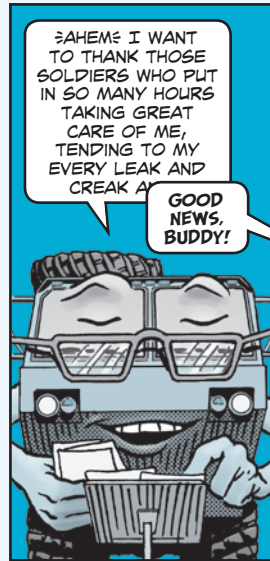


If you have a base or A2 HEMTT or an A1 wrecker that needs to be primed, use the priming (hand) pump, NSN 4910-00-402-9623. Make sure you follow the instructions in TM 9-2320-279-14&P (IETM EM 0290, Jun 09) for base HEMTTs and the A1 wrecker and TM 9-2320-325-14&P (IETM EM 0289, May 09) for A2 HEMTTs. You'll find the info under "Services Upon Receipt for an Engine Out of Fuel."

A4 HEMTTs have a built-in fuel pump. If your A4 HEMTT loses prime, follow the operator maintenance procedures in TM 9-2320-326-14&P (IETM EM 0288, Oct 08). You'll find them under the "Priming Fuel System" track.

These instructions are also listed in the operator's manuals for each of the A4 HEMTT models.

# MTTs Available for HEMTTs, HETs, ASVs



**P**rogram managers (PMs) provide initial training during the equipment fielding process. However, PMs are not funded to offer sustainment training. That's the unit's responsibility.

When sustainment training doesn't happen at the unit level, problems pile up. Units with high personnel turnover can end up without enough licensed drivers, equipment operators or trained mechanics. That can lead to lower unit readiness ratings.

If that sounds like your unit, here's some good news. Mobile training teams (MTTs) are available to give units operator and mechanic training on HEMTTs, HETs and ASVs. Units that want this training must fund the MTT and provide adequate training facilities. In some cases, a unit may be allowed to use an established training facility.

For more information on MTTs, email TACOM LCMC's Transportation Division's PM HTV and PM ASV training coordinator Lee Kyle at:

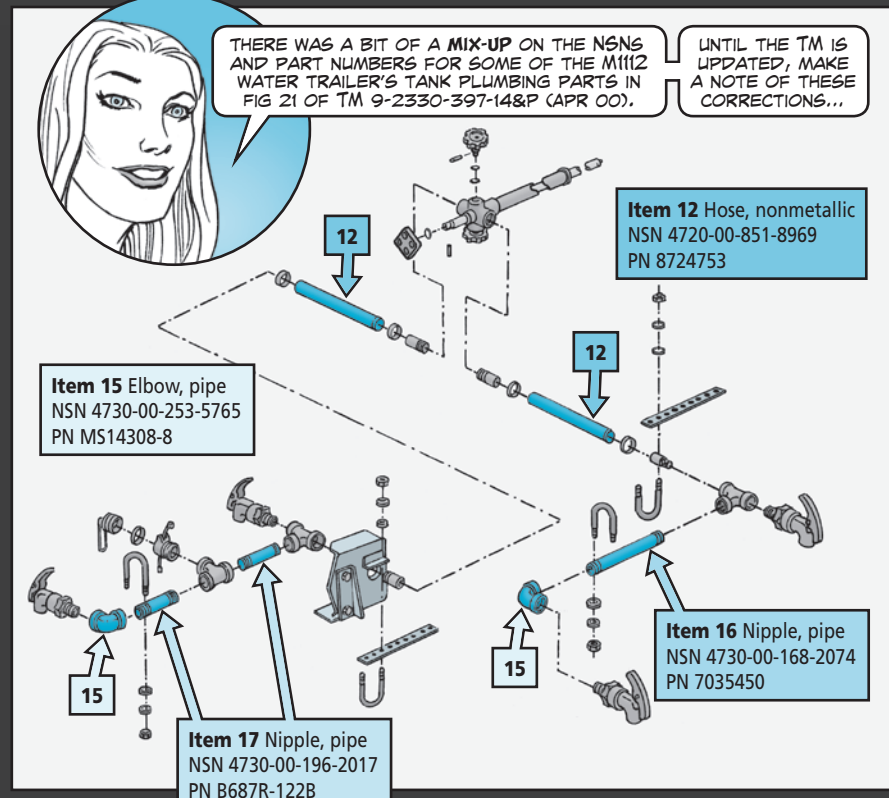
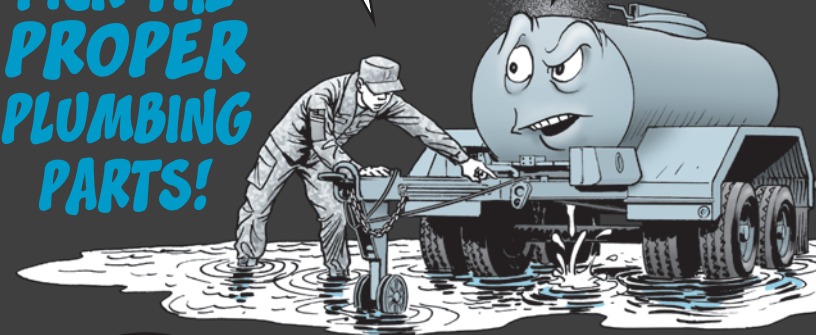
[lee.k.kyle.civ@mail.mil](mailto:lee.k.kyle.civ@mail.mil)



## PICK THE PROPER PLUMBING PARTS!

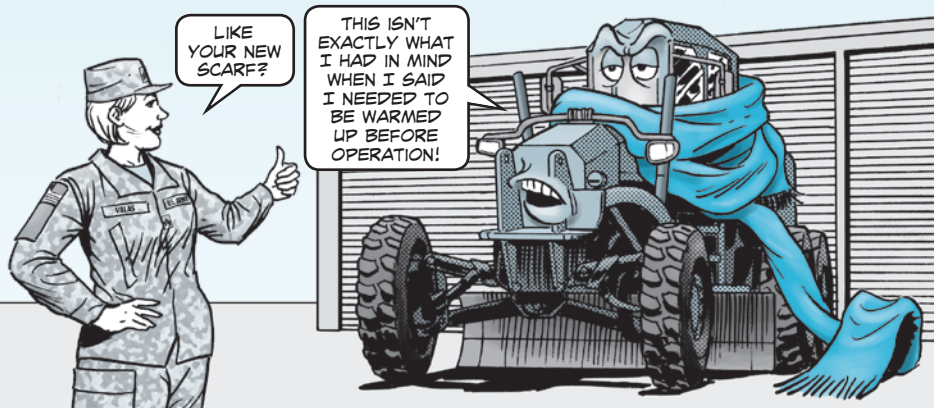
HEY! LOOKS LIKE YOU'VE GOT A WATER LEAK THERE.

NO KIDDIN'! HOW 'BOUT FIXIN' ME UP BY ORDERING THE RIGHT PLUMBING PARTS?





# IDLE FIRST, THEN *GO GRADING!*



**N**ow that you've started your 120M road grader, you're ready to move out, right?

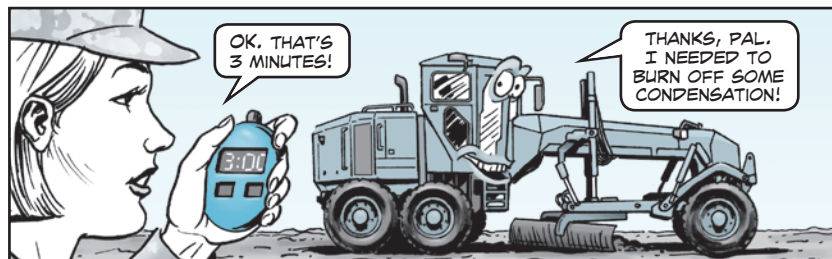
Not so fast, my road-grading friend!

Your vehicle needs to warm up a bit before the day's run. If not, moving parts break down. Then your grader is sitting on the side of the road instead of grading it.

Here's how to keep your grader on the job:

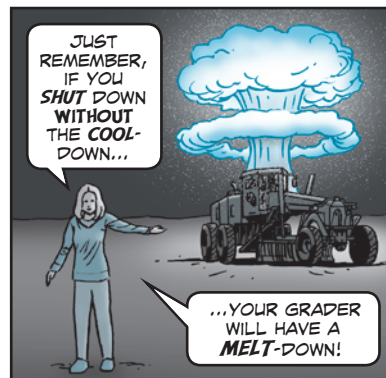
After start-up, run the engine for 3 minutes or so to allow the engine to reach operating temperature. That warm-up lets the engine burn off condensation from normal engine breathing. Unburned condensation will mix with oil to form a sludge that clogs the engine.

The 3-minute delay also gives the engine oil time enough to lubricate parts.



After warm-up, check the messenger display in the vehicle's cab. Pay special attention to the engine system and action light indicators. If either light up, shut down the engine and tell your mechanic.

You also must let the engine cool down for five minutes after operation. The engine needs to keep oil circulating to relieve excessive heat in the engine. Too much heat can crack the block, warp a head or valves, or bake the oil until it's not slick enough to lube the bearings.



## Hydraulic Oil Reminder

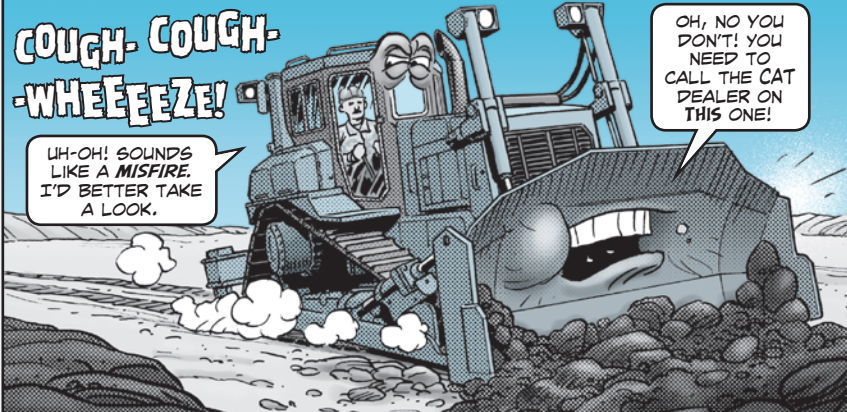
With the engine at idle, monitor the hydraulic oil's temperature by keeping an eye on the grader's messenger display.

Only operate the grader when the hydraulic oil temperature reaches or exceeds 41°F. If necessary, raise the hydraulic oil temperature by cycling each of the vehicle's implement and steering controls. This allows warm hydraulic oil to circulate through all the grader's hydraulic lines.

For more information, check out WP 0005 in TM 5-3805-293-10 (Dec 10).

D7R II CAT  
Tractor...

# HANDS OFF After Fuel Injector Misfire



**F**uel injectors on the new D7R dozer have been known to misfire. That causes the vehicle's engine to run rough and, in some cases, stall out.

A misfire can also make the fuel injectors seize. That brings your construction operations to a screeching halt!

Operators and mechanics, before you try fixing the problem yourselves, eyeball the serial number on the dozer's data plate. If it falls between KNA00214-00217 and KNA00219-781, you'll need to contact your local Caterpillar dealer to schedule a repair. Tell them it's regarding CAT Service Letter #PS44681.

Find your closest dealer at: <http://www.cat.com/dealer-locator>

Travel and mileage for the repair are included, so there's no cost for the visit.

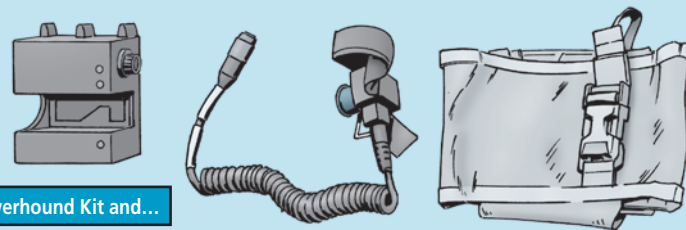
# HELP MINEHOUND SNIFF OUT MINES!

KEEP  
YOUR VMR2  
MINEHOUND MINE  
DETECTOR HOT  
ON THE TRAIL  
BY FOLLOWING  
THESE TIPS  
FROM THE FT  
LEONARD WOOD  
US ARMY  
ENGINEER  
SCHOOL...



Make sure you have the Powerhound Kit. It's an additional item and doesn't come with the Minehound kit. You can get it from your forward support. The Powerhound kit greatly increases operational time because it makes it possible to use military standard batteries, BB-2590 and BB-2557. The BB-2590 provides around 35 hours of operations and the BB-2557 11 hours. These are the only approved batteries for the Powerhound.

Get Powerhound Kit and...



Get extra strap. The Minehound comes with a shoulder sling, but you can also get an optional weight mitigation strap from your forward support.

...weight-mitigation strap



The extra strap better distributes the weight of the Minehound, which means less fatigue for you and better focus. Generally, operators should be rotated out every 20 minutes to avoid fatigue.

Keep the detector search head parallel to the ground. That's especially important on uneven ground. If the head is at an angle, it can give you false ground penetrating radar (GPR) readings, which could lead to a deadly mistake. Try to sweep 1 meter per second across a 1 1/2-meter lane with the head no more than 2 inches off the ground.

REMEMBER LOSS:  
L = LANE COVERAGE  
O = OPERATOR  
S = STANCE  
S = SWEEP SPEED  
S = SEARCH HEAD  
P = POSITION



Keep head parallel  
to ground and...

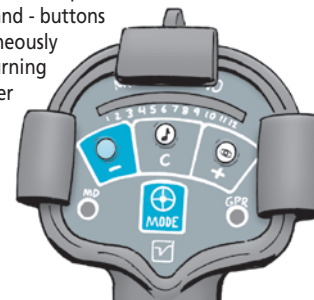
...no more than 2  
inches from ground

Remember, the Minehound has a SURF mode that allows you to detect in water if you use the LOSS principles. The Minehound won't be, however, as sensitive as on land. This is not mentioned in the Minehound's manual.

To put the Minehound in SURF mode, press the MODE and the - buttons at the same time. While holding down the buttons, turn on the power. But don't forget to switch out of the SURF mode when you're through. Otherwise, it will stay on SURF when it's used again. If you're operating on ground instead of water that could cause problems.

To turn off SURF mode, turn off the power. Then press the MODE and + buttons at the same time while turning the power on.

For SURF mode, press  
MODE and - buttons  
simultaneously  
while turning  
on power



Use the plastic tag attached to the non-metallic test piece to adjust the search head brake screw. Operators often reach for their multi-purpose tool instead and that damages the screw. Then you can't adjust the screw and the Minehound has to go to forward support for repair.

Use plastic tag to adjust search head





- 120M Grader cold starts
- 120M Grader oil checks
- D7R II and frozen mud
- Cold weather and antifreeze
- Cold weather safety
- Dressing for the cold

ANOTHER  
SNOWY DAY AT  
RICHARDSON.  
GOTTA LOVE IT!



120M Road Grader...

## COLD WEATHER STARTING THAT MAKES THE GRADE

OPERATORS, CHECK OUT  
THE 120M ROAD GRADER'S  
TM 5-3805-293-10 BEFORE  
THE SNOW FLIES.

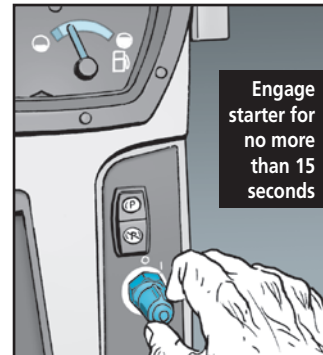
THEN FOLLOW THESE  
TIPS TO GET AN A+  
IN COLD WEATHER  
STARTING.



### Starter Reminder

All it takes is one heavy finger stuck on the grader's starter switch to burn out a good starter motor, plain and simple.

So when you try to start your grader's engine, engage the starter, but after 15 seconds...STOP!



### Rough Start?



Your grader can be a little harder to start when temperatures drop below freezing. That's why these vehicles have a canister that automatically injects ether into the engine for cold weather starting.

If your grader is hard to start, chances are the ether canister is empty. Have your mechanic check it out.

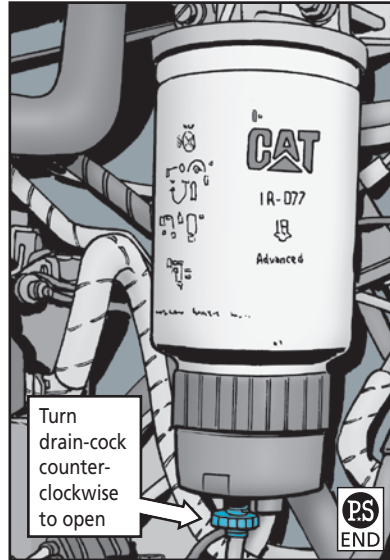
## Drain Out Water

As the temperature goes up and down, condensation forms in the grader's fuel tank. The fuel/water separator is designed to get rid of that excess water.

If you don't drain the separator before the day's run, water and other crud are left behind in the fuel system. Then the engine runs rough, or not at all.

Open the access door behind the cab on the left-hand side of the vehicle. Turn the separator's drain-cock counterclockwise and use a clear container to catch the water/fuel mixture. Once the fuel runs clear, close the valve and go to work. If it stays cloudy, close the valve and have your mechanic check things out.

Clean up any mess and dispose of rags properly. Then dispose of drained fuel in an approved hazardous waste container. Never dump it down a drain or on the ground.



120M Road Grader...

## GET DOWN AND DIRTY ON OIL CHECKS



IN COLD WEATHER, YOU MAY NEED TO CHANGE OIL MORE OFTEN THAN TM 5-3805-293-10 SAYS.

SLUDGE FROM CONDENSATION AND DILUTION WITH FUEL ARE THE MAIN REASONS.



Look for sludge every time you check the oil level. It'll appear as small clumps on the dipstick.

Water contamination, on the other hand, is hard to find until it has really gotten bad. If you suspect contamination, draw an oil sample and let it stand in a glass jar. Water will separate from the oil. Let your mechanic know. He'll need to change the oil and filters.

## Need An Accurate Reading?

You'll get the most accurate oil-level reading while the engine is cold, like it says in WP 0013-5 of TM 5-3805-293-10.

**Remove** the dipstick and wipe it with a clean rag, then reinsert it. Remove the dipstick again to eyeball the oil level. It should fall in the cross-hatched area of the dipstick.

Oil level should fall in cross-hatched area of dipstick



It's a good idea to check the oil level during long operations. After shutting down the engine, wait 10 minutes to let the oil drain back into the oil pan. Then recheck. It's not as accurate as a cold check, but it'll let you know if there are any problems.

The grader's engine oil is also monitored in the service menu on the messenger display inside the vehicle's cab. Low pressure indicates the oil level is low.

Never overfill just to skip an oil check. That just causes other problems, like blowby.

Check oil pressure on messenger display's service menu





## D7R II Tractor...

HEY! YOU'D BETTER BRING A HAMMER AND CHISEL TOMORROW.

THAT'S THE **ONLY** WAY YOU'LL GET ME OUT OF THIS MUD ONCE IT FREEZES!

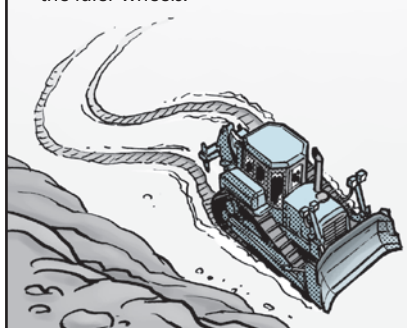
# IDLER WHEEL MUD REMOVAL MADE EASY

Leaving mud caked around the idler wheels of your D7R II dozer during cold weather, especially overnight, is just asking for trouble. Those bitter temperatures freeze the mud to the inner and outer seals on the idler wheels, causing leaks.

But there are a few things you can do to prevent that:

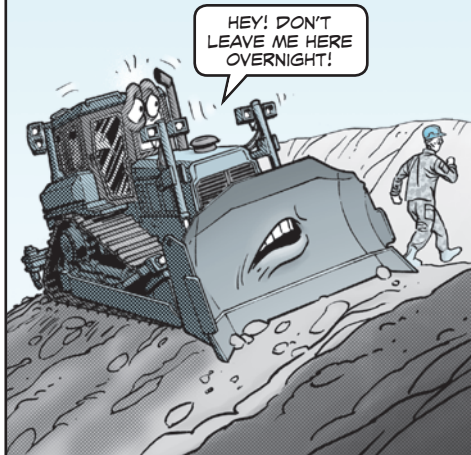
- Use clean water to wash out the dozer's undercarriage. Pay special attention to the idler wheels.

- Drive the dozer forward in an S-pattern for about 50 meters, then do the same in reverse. These maneuvers help remove much of the mud that sticks to the idler wheels.



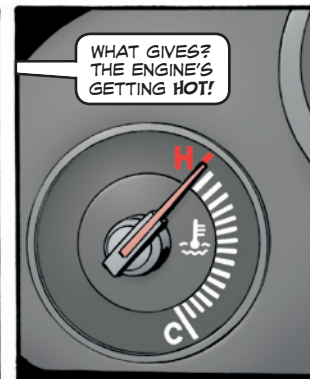
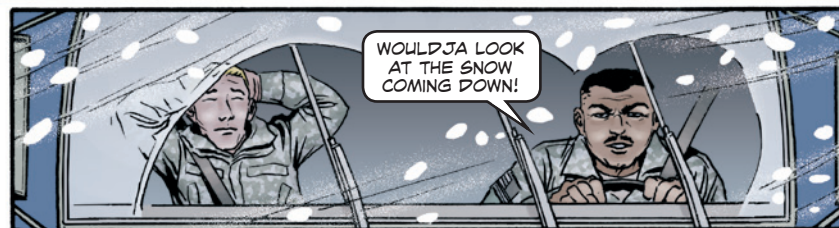
- The next day, keep the dozer moving once it starts to move. That allows the idler wheel seals to warm up and redistributes the seal face load pressure.

- Park on a hard, level surface. **Never** park your dozer on a slope overnight. Besides being unsafe, it puts a strain on the roller seals and leads to leaks.

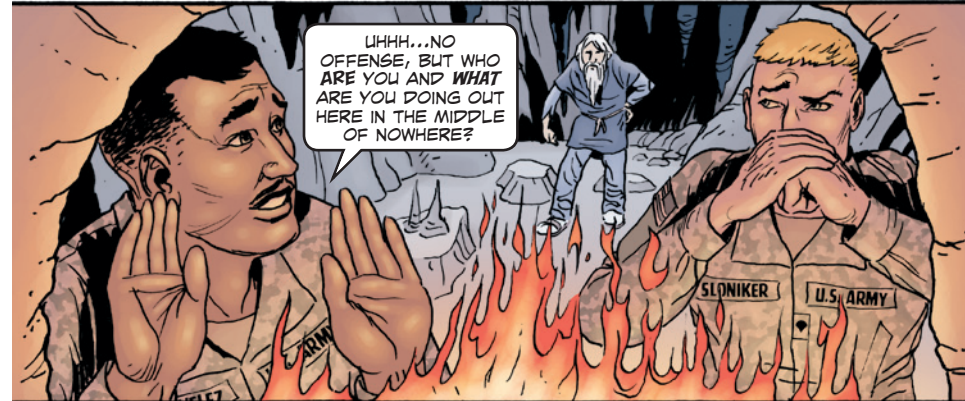
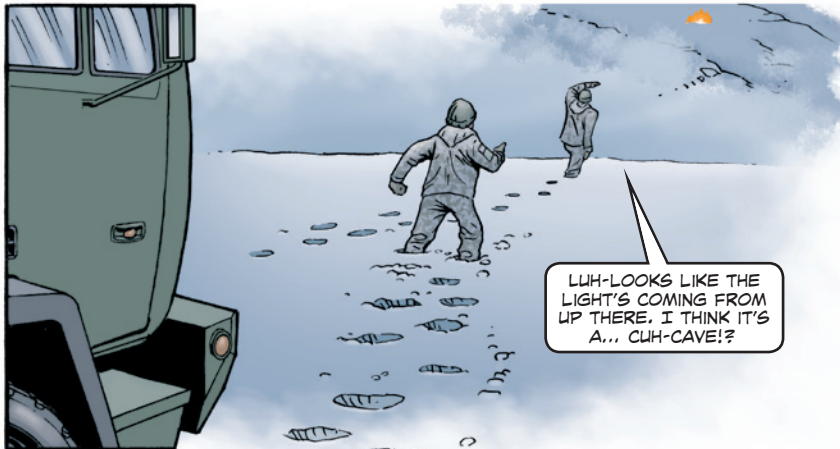
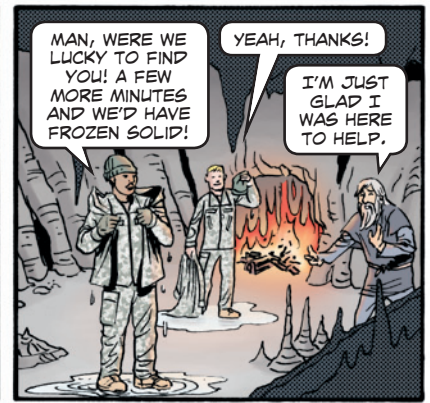
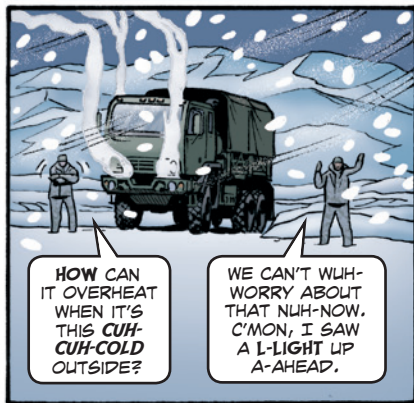
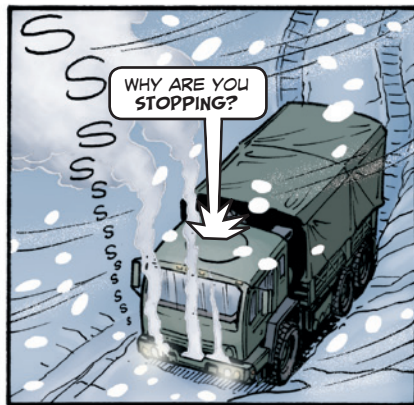


# THE COLD WEATHER HERMIT

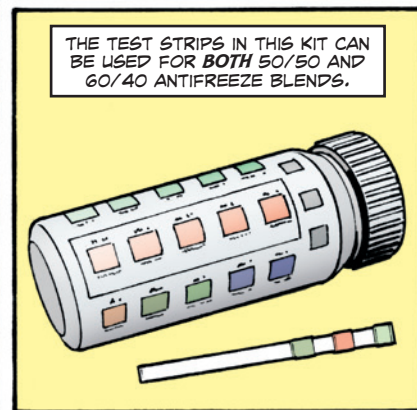
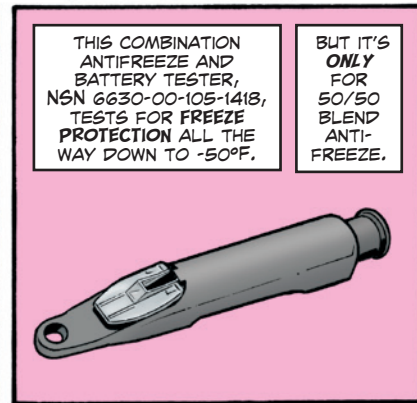
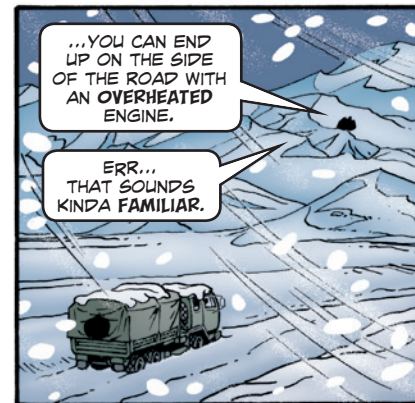
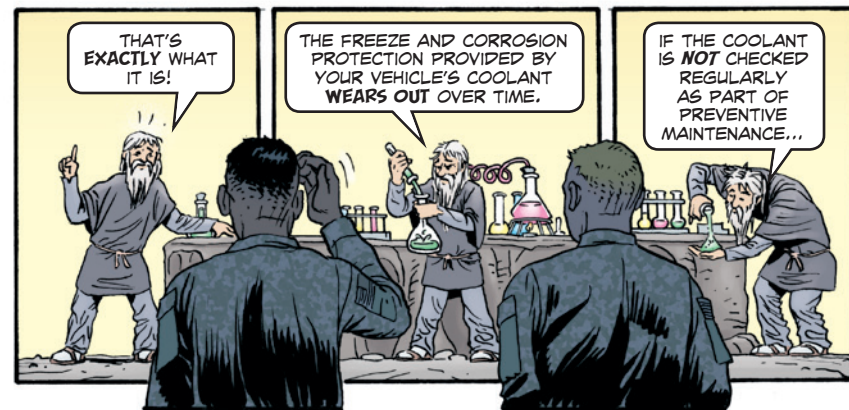
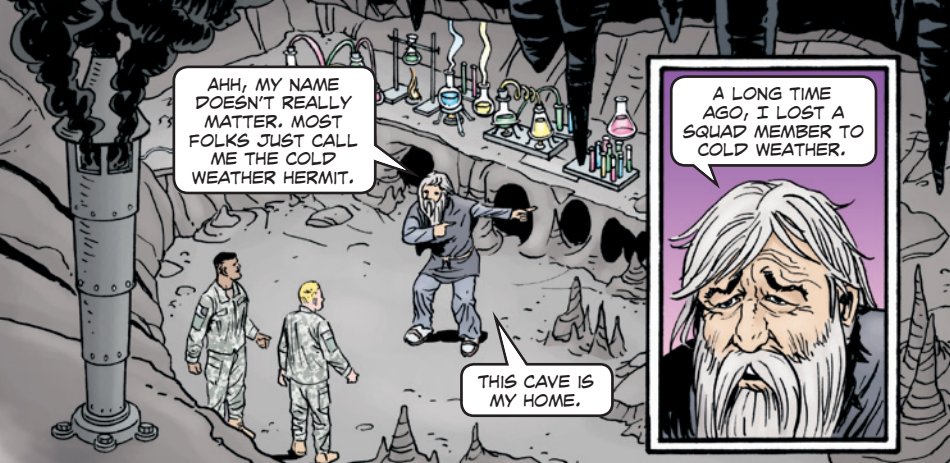
THE ALASKAN TUNDRA IS A COLD AND UNFORGIVING PLACE...



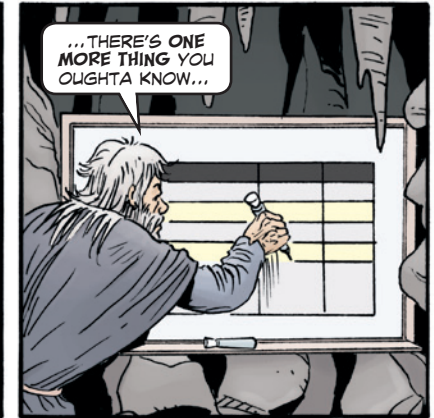
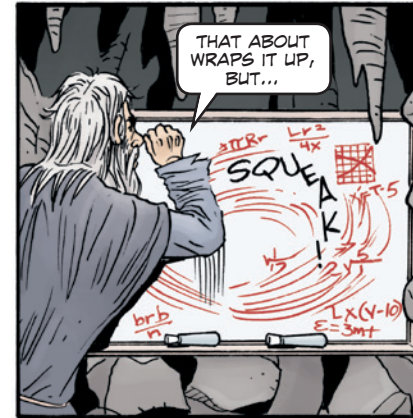
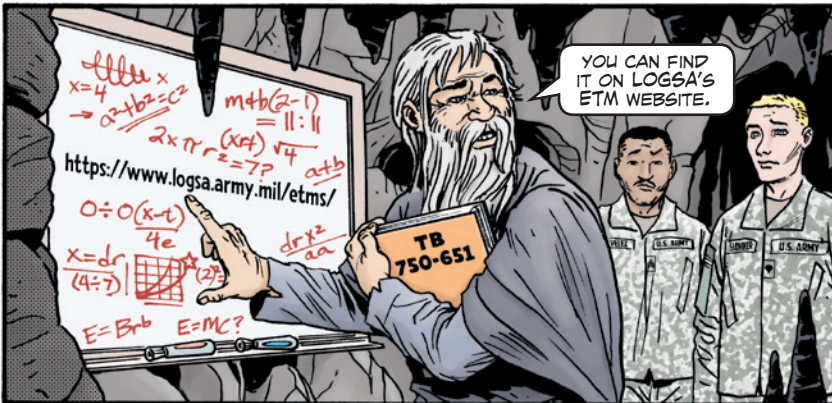
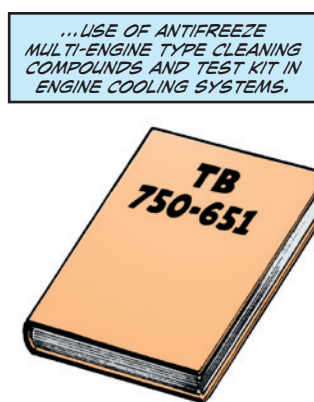
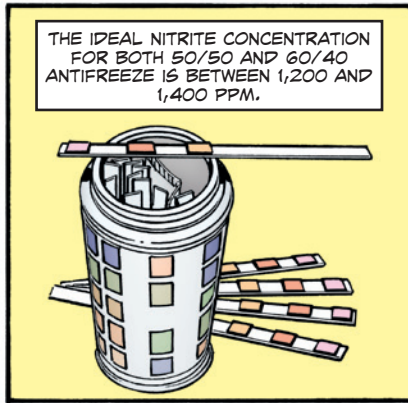










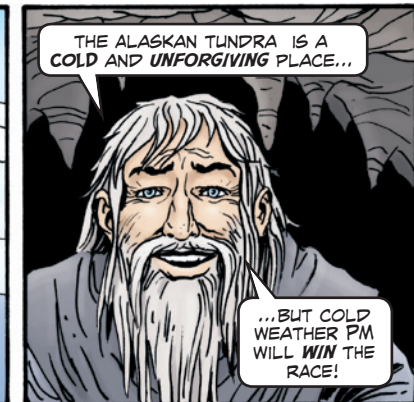
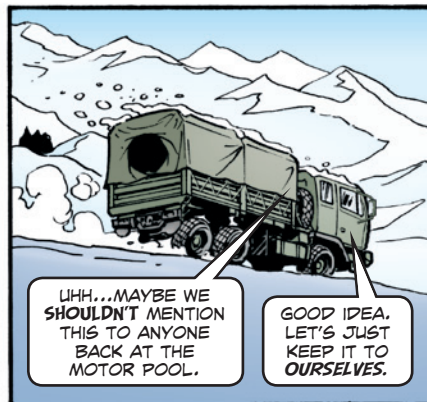
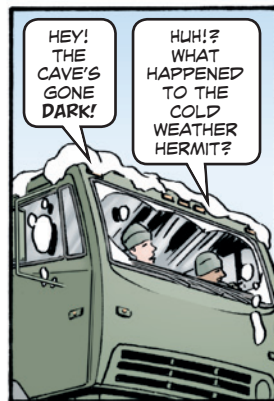


...TO KEEP YOUR FMTV UP-TO-SNUFF IN COLD WEATHER, YOU'LL NEED THIS LIST OF NSNs FOR ETHYLENE GLYCOL-BASED ANTIFREEZE.

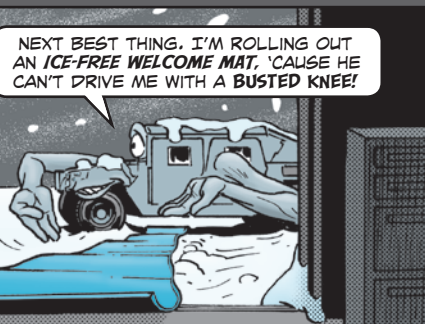
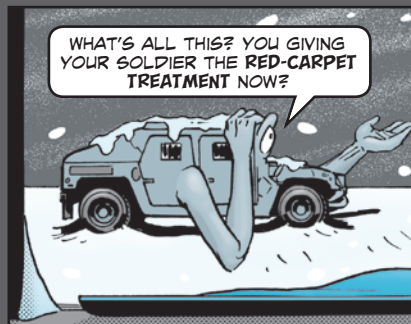
| Item                              | Size            | NSN 6850-   |
|-----------------------------------|-----------------|-------------|
| Concentrated antifreeze A-A-52624 | 1-qt can        | 00-664-1399 |
| Concentrated antifreeze A-A-52624 | 1-gal bottle    | 01-464-9125 |
| Concentrated antifreeze A-A-52624 | 5-gal container | 01-464-9137 |
| Concentrated antifreeze A-A-52624 | 55-gal drum     | 01-464-9152 |
| Pre-diluted antifreeze A-A-52624  | 1-gal bottle    | 01-464-9266 |
| Pre-diluted antifreeze A-A-52624  | 5-gal container | 01-464-9263 |
| Pre-diluted antifreeze A-A-52624  | 55-gal drum     | 01-464-9096 |







# WINTRY WARNINGS



Dear Editor,

I wanted to share some tips with your readers as winter bears down on us again. Slips and falls are a year-round hazard, but cold weather adds an extra challenge. Remember to:

- Keep outdoor walkways and steps free of ice, snow, water, mud and wet leaves.
- Keep entrances and interior traffic areas dry and clean. Put down doormats at entry points to help remove snow, water and mud from footwear.
- Take extra precautions on sloped floors, ramps or scaffolds. Use handrails, non-slip treads or coatings when possible.
- Be especially careful getting in or out of vehicles in cold weather.

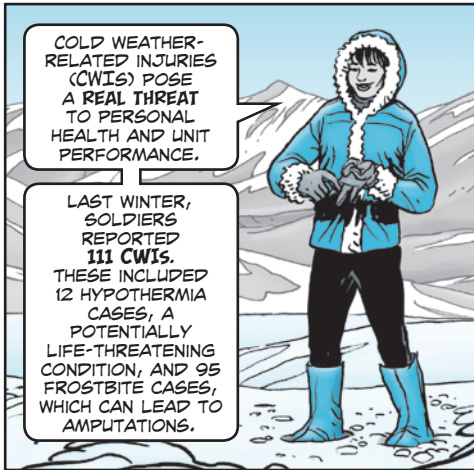
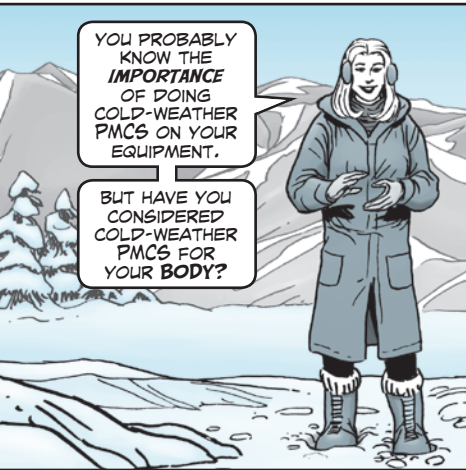
For more safety tips, visit the US Army Combat Readiness Center website:  
<https://safety.army.mil/>

CW4 David Ware  
 US Army Combat  
 Readiness Center  
 Ft Rucker, AL

**Editor's note:** Prime pointers, Chief. Thanks for warming us up for the winter trials ahead.



# CONSIDER THE COLD



THAT'S WHY **EDUCATION** IN PREVENTING, RECOGNIZING AND TREATING CWIS IS SO IMPORTANT. CWIS INCLUDE...



HERE ARE SOME TIPS TO KEEP CWIS AT BAY...

- injuries due to decreased temperature (hypothermia, frostbite, nonfreezing cold injury).



- injuries due to heaters (like burns, etc.).
- carbon monoxide poisoning.
- accidents due to impaired physical and mental function, caused by cold stress.

- Make sure your cold-weather clothing is clean, dry and in serviceable condition (no holes or broken fasteners). Wear clothing in loose layers.



- Eat enough calories and stay hydrated. Avoid alcohol. It can accelerate heat loss.
- For missions, pack sufficient quantities of protective clothing and equipment like socks, proper headgear, sunglasses, sunscreen, lip balm and skin-care items.

- Use only Army-approved heaters and be sure you know how to use them properly. You can download a fact sheet, *Guidance on the Use of Heaters Inside Tents and Other Enclosed Shelters*, from the United States Army Public Health Command (USAPHC). Click the Resource Materials tab at the top of the main page, then search for "heaters" at: <https://phc.amedd.army.mil/>



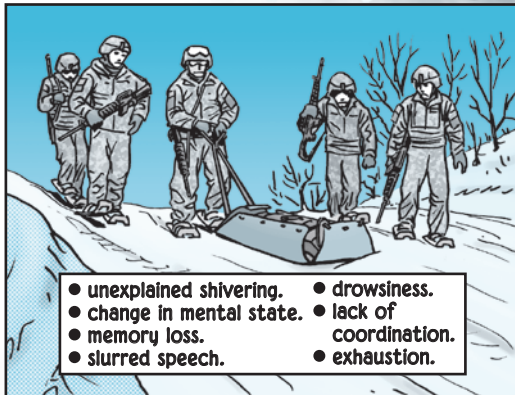
PS MORE



FOLLOW THE BUDDY SYSTEM. EVACUATE YOUR BUDDY TO THE CLOSEST MEDICAL TREATMENT FACILITY IF YOU OBSERVE CWI SYMPTOMS SUCH AS...



**NOTE:** IF MEDICAL CARE IS **NOT** READILY AVAILABLE, GET THE SOLDIER INTO A WARM ENVIRONMENT, REMOVE ANY WET CLOTHING, AND KEEP HIM WARM AND DRY UNTIL MEDICAL PERSONNEL ARRIVE.



- unexplained shivering.
- drowsiness.
- change in mental state.
- lack of coordination.
- memory loss.
- exhaustion.
- slurred speech.



- Report all CWIs to the US Army Combat Readiness Center, as mandated by AR 385-10, Army Safety Program (Nov 13).



UNIT LEADERS, MAKE SURE **ALL** YOUR SOLDIERS AND CIVILIANS ARE **TRAINED** ON PROPER WEAR, USE, CARE AND MAINTENANCE OF COLD WEATHER CLOTHING AND EQUIPMENT.

Here are more helpful resources:

### Cold Injury Prevention (USAPHC):

<http://phc.amedd.army.mil/TOPICS/DISCOND/CIP/PAGES/DEFAULT.ASPX>

### TRADOC Regulation 350-29,

*Prevention of Heat and Cold Casualties (Jul 2012):*

<http://www.tradoc.army.mil/TPUBS/REGS/TR350-29.PDF>

### PS Magazine Articles

"Water: It's Not Just for Summer Anymore":

<https://www.logsa.army.mil/psmag/archives/PS2014/734/734-56-57.pdf>

"Don't Be a Casualty of the Cold":

<https://www.logsa.army.mil/psmag/archives/PS2013/733/733-50-52.pdf>

"A Harsh Winter Tests Your Mettle":

<https://www.logsa.army.mil/psmag/archives/PS2011/708/708-52-55.pdf>



# MISSILES PS

ALSO  
FEATURING  
**SMALL  
ARMS**

- MK 19 - two issues
- M2A1 flash suppressor
- 240L short barrel parts
- M16/M4 stoppages
- M230 - GMD is best
- HIMARS launcher hydraulics

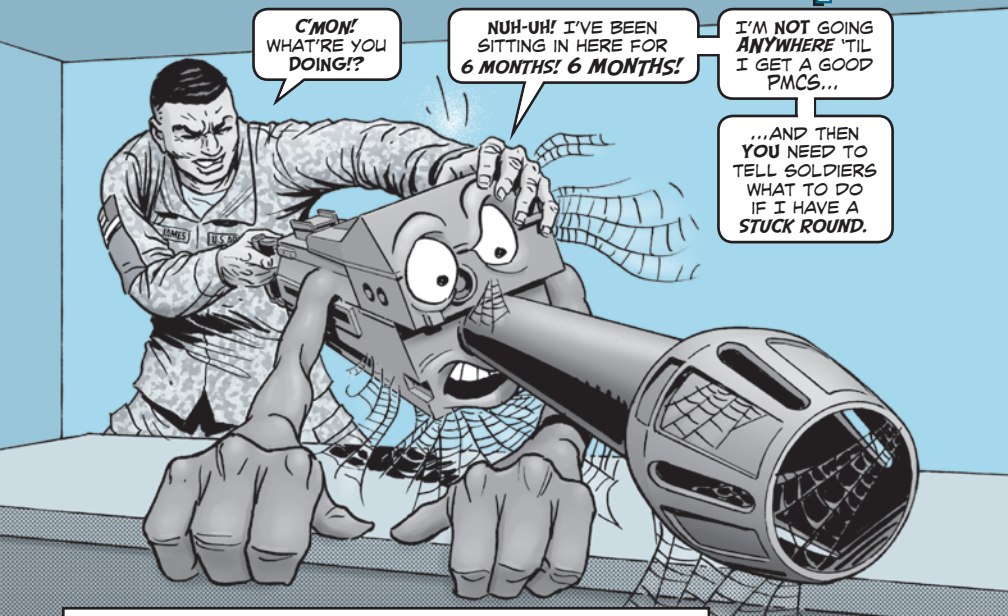


# CBRN & COMMO

- M12A1 Decon fuel lines
- M26 Decon grease less \$
- Turn in AN/PVS-4/4A, AN/TVS-5/5A
- LLDR need TLC
- 5kW MEP-831A TQG alternator bolts



# Mark Down These MK 19 Tips



Dear Editor,

As part of Ft Campbell's command maintenance evaluation and training team (COMET), I've run into two issues with the MK 19 machine gun that need attention.

**MK 19s are not being fired.** As a result, MK 19s sit too long in arms room with no attention. Armorers or small arms repairmen should at least be doing the quarterly services. And when the MK 19s go to the range, units need to do a very thorough PMCS first. After months of storage, the weapons may have developed problems.

If MK 19 gunners haven't fired for months, they need refresher training, especially on the misfire procedures. There should be no doubt what needs to be done if they get a stuck round.

**Units don't have the adjusting tool for the secondary drive lever and they don't know how to use it.** This can make the MK 19 dangerous to fire. PS should repeat the procedure for using the tool.

And units should immediately make sure they get the tool.

David Barger  
COMET  
Ft Campbell, KY

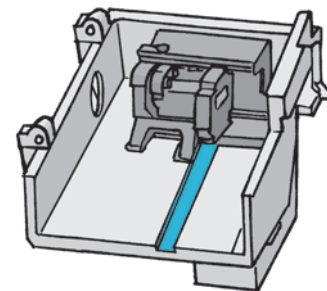
NO PROBLEM, DAVID. UNITS CAN ORDER THE TOOL WITH NSN 1005-01-467-9435. HERE'S HOW TO USE IT...



1. Make sure the MK 19 is cleared and the bolt is forward.
2. Open the top cover assembly.
3. Remove the alignment guide and ogive plunger assembly.

4. Place the feed slide adjustment tool into the feeder base between the round positioning block and primary pawl with the rear of the tool aligned with the ammo link slot.

Align rear of tool with ammo link slot



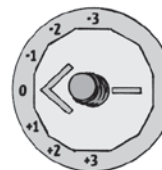
5. Make sure the secondary drive lever is positioned all the way to the right. Close the top cover.
6. Going through the ammunition entrance, push the tool with your finger against the round positioning block. You'll hear the tool click into position.
7. Pull the bolt fully to the rear without stopping. Move the handles forward and up.

8. Look at the tool through the ogive plunger hole. If the lever is adjusted correctly, the left edge of the indicator should be within the width of the white painted line. If the adjustment is correct, remove the tool and you're done. If the alignment is **not** correct, continue with Step 9.

Left edge of indicator within width of white line?



9. Open the cover and remove the secondary drive lever. Remove the screw and the locating washer on top of the secondary drive lever. Move the selector bushing so the next higher number aligns with the arrow on top of the secondary drive lever.



Go through range of adjustments until you get correct alignment

10. Assemble the secondary drive lever and do the alignment check again. If the left side of the indicator is still not within the width of the white line, remove the lever again and move the selector bushing so the next higher number aligns with the arrow on top of the secondary drive lever.

Keep doing Step 10 at each setting from +3 to -3 until the left edge of the indicator is within the width of the white line.

If you adjust the selector bushing from +3 to -3 and still can't get the correct alignment, the MK 19 needs to go to support.



# Install Flash Suppressor for FIRING ONLY



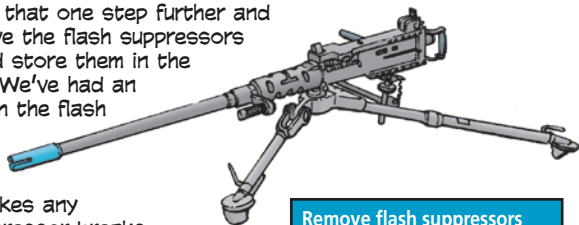
Dear Editor,

We saw on Page 42 of PS 741 (Aug 14) the suggestion that units remove the flash suppressor for the M2A1 machine gun's spare barrel so the barrel will fit in its cover.

We'd like to take that one step further and suggest units remove the flash suppressors for both barrels and store them in the spare barrel cover. We've had an ongoing problem with the flash suppressors being broken during transport. If that end of the barrel takes any kind of hit, the suppressor breaks and it costs roughly \$80 to replace it. Once you're ready to fire, the suppressor can be installed in 3 minutes.

With the suppressor off, protect the barrel threads with either the protective cap, NSN 5340-01-552-0082, or a piece of PVC pipe cut to fit.

CW2 John Blanton  
SSG John Doolittle  
CSMS-W  
Ft Polk, LA



Remove flash suppressors  
for both barrels and store in  
spare barrel bag

*Editor's note: We can't suppress a good idea like that. Thanks to both of you.*

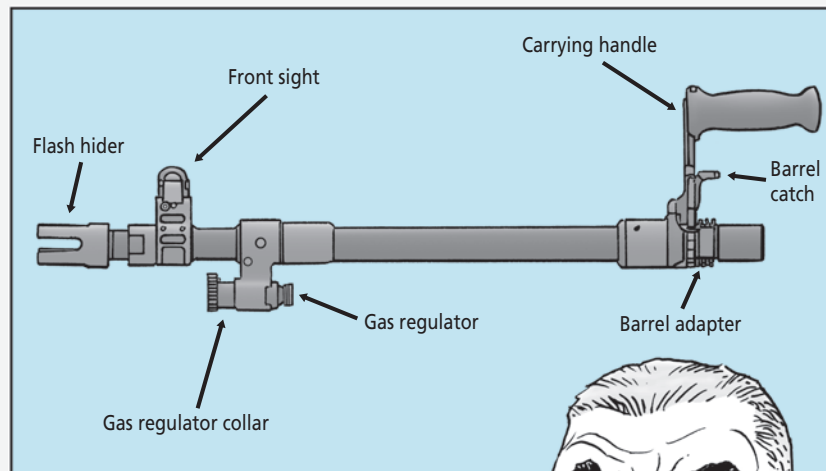
# NEW SHORT BARREL PARTS AVAILABLE

MWO 9-1005-313-23-4 REPLACES THE M240L LONG BARREL WITH A SHORT BARREL.

ONCE YOUR M240L HAS THE SHORT BARREL, YOU'LL NEED THESE NSNs FOR REPLACEMENT PARTS...



| Item                                         | NSN 1005-   |
|----------------------------------------------|-------------|
| Barrel assembly                              | 01-564-6769 |
| Flash hider                                  | 01-661-3292 |
| Carrying handle                              | 01-550-1628 |
| Barrel catch                                 | 01-408-5419 |
| Barrel adapter                               | 01-033-3900 |
| Front sight assembly                         | 01-575-6605 |
| Heat shield                                  | 01-551-1563 |
| Gas regulator                                | 01-564-6020 |
| Erosion tool for M240L short barrel gas plug | 01-564-6768 |
| Collar, gas regulator                        | 01-036-7160 |



REMEMBER THE SHORT BARREL TAKES THE M26 BFA, NSN 1005-01-565-6693. IT'S YELLOW.

THE INSPECTION CRITERIA FOR THE M240L WITH A SHORT BARREL IS THE SAME AS WHAT'S ALREADY IN TM 9-1005-313-23&P.



M16-Series Rifle,  
M4/M4A1 Carbine...

# QUICKLY SOLVE FIRING PROBLEM

click  
click

click  
click

OK, I'VE  
GOT A  
STUCK  
ROUND.  
WHAT'RE  
YOU  
GONNA  
DO?

Dear Editor,

In the heat of battle, fixing a firing stoppage in your M16 or M4 can mean the difference between life and death for you and your unit.

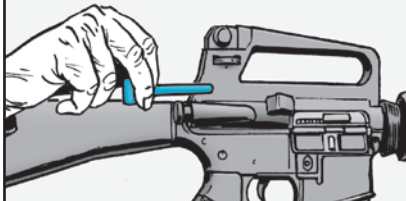
The ejection port is the key to quickly deciding whether you need to take immediate or remedial action. If your weapon stops firing, look in the ejection port.

If the bolt is closed, take immediate action:

1. Tap the bottom of the magazine.



2. Pull the charging handle to the rear.



3. Look to see if a round came out.

4. Check the chamber for a round.

5. Let the charging handle go forward.

6. Tap the forward assist.

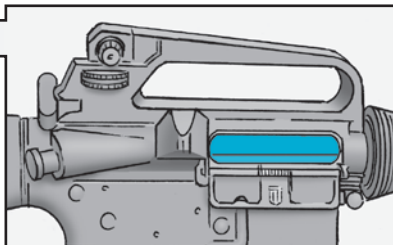
7. Try to fire.

If the bolt is open or doesn't look completely closed, take remedial action:

1. Clear the weapon.

2. Inspect the chamber for a round.

3. Remove any brass and do an open bolt load. When doing an open load, the weapon does not need to be charged to fire the next round.



Scott Wayne Taylor  
Small Arms Repairman  
Ft Benning, GA

*Editor's note: Great reminder, Scott! The complete procedures for both immediate and remedial action are in WP 0006 in TM 9-1005-319-10.*

M230  
Automatic Gun...

# GMD vs TW-25B

HEY, WE'RE  
NOT IN THE  
DESERT!

THAT'S THE ONLY  
TIME YOU USE THAT  
STUFF ON ME.

TW-25B

THE REST  
OF THE TIME,  
I NEED GMD!

**G**rease, molybdenum disulfide (GMD) is far superior to TW-25B as a lubricant for the M230. It holds up better to the heat the M230 produces with its heavy-duty action.

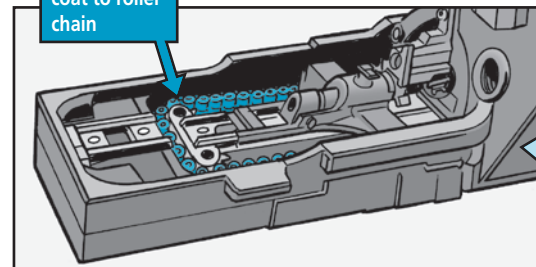
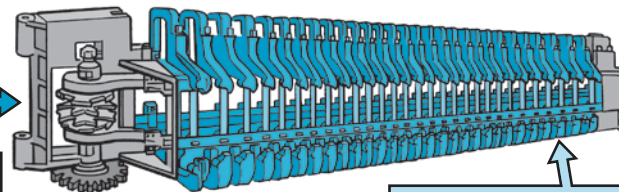
But TW-25B is better to use in the desert because it attracts much less sand than GMD. However, you can't decide on your own to use TW-25B. TACOM must approve. Your local TACOM LAR can help get authorization.

Make sure all levels of maintenance know which lube you're using on the M230. You don't want the unit repairmen using GMD while support is lubing with TW-25B. Mixed lubes will damage your M230.

If you change lubes, remember to first clean off the old lube with isopropyl alcohol. The roller chain, drive gear/bearing and the bearing surfaces where the rotor mates get a heavy coat of lube. Use a brush or a caulk or grease gun to apply the lube. When you're finished, grease should be visible and plentiful.

Give a light  
coat to rail  
and chutes...

...and heavy  
coat to roller  
chain



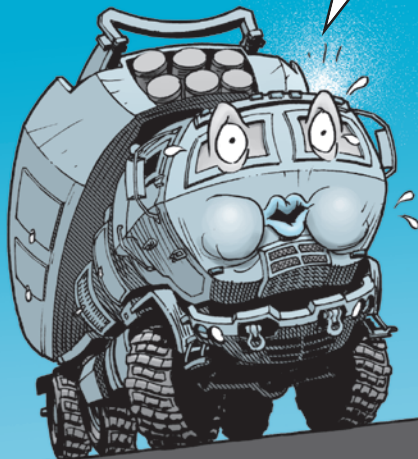
Use a brush, cloth or syringe to apply a light to moderate coat to the forward and aft track, bolt and cam area, bolt locking lugs, receiver walls, breech barrel support, gun support bearings, rails and chutes. The grease should be slightly visible.



# DRAIN, DRAIN, DRAIN

OOOH... I WISH SOMEONE WOULD DRAIN MY TANKS.

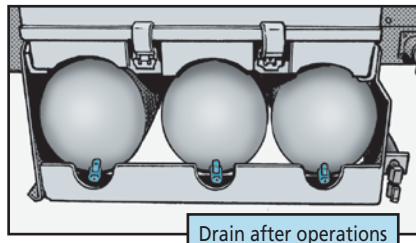
I FEEL LIKE I'M GONNA BURST!



Dear Editor,

One of the simplest ways HIMARS crews can prevent problems is to drain air from the launcher module hydraulic fluid reservoir and the three air tanks after operations.

If the tanks aren't drained, moisture builds up in the air tanks. That can lead to equipment damage.

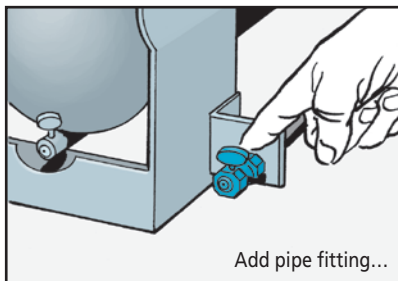


Drain after operations

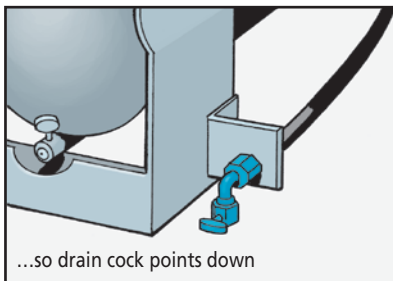
Brian Stewart  
TACOM FMX Track Shop  
Ft Sill, OK

**Editor's note:** Excellent point, Brian.

HIMARS units need to make sure they've got the 90-degree elbow pipe fitting installed on the hydraulic relief valve. Without the fitting, the drain cock points straight out and sprays you with hydraulic fluid when it's opened. With the fitting, you can easily drain the excess fluid into a container.



Add pipe fitting...

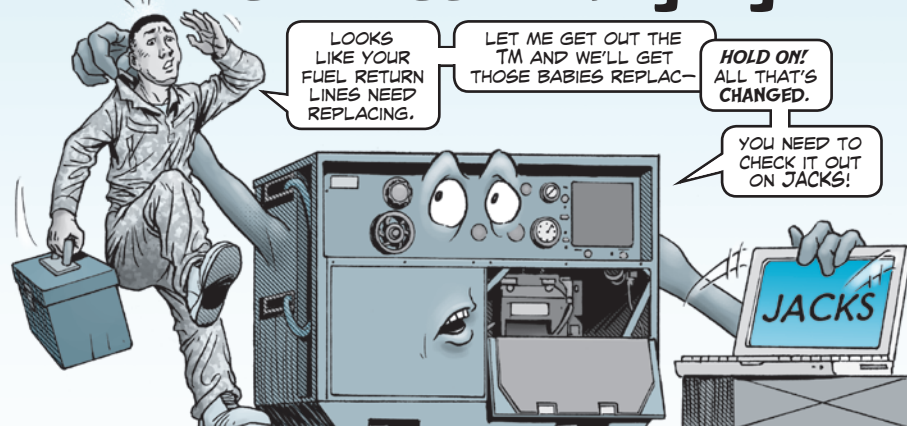


...so drain cock points down

Order the fitting with NSN 4730-00-720-3170.

To install the fitting, your support needs to follow the procedures in TM 9-1055-1646-13&P in IETM EM 0259 (Jan 13) for removing the old air bleed valve and installing the pipe fitting.

# Fuel Lines Changing

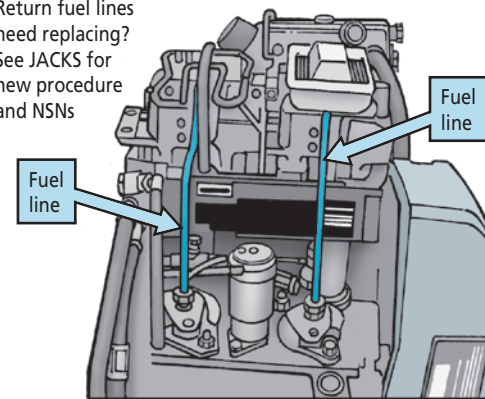


The next time your M12A1 decon needs new return fuel lines, don't go by the procedure in WP 0047 of TM 3-4230-237-23&P. The procedure for installing the fuel lines and the fuel line NSNs have changed.

Here's what you need:

- Fuel return line-injector, NSN 4720-01-628-0099
- Fuel return line-pump, NSN 4720-01-628-0092
- Banjo bolt, NSN 4730-01-630-1621
- Valve cover gasket, NSN 5330-15-001-8495
- Machine screw, NSN 5305-01-593-7762
- Flat washer, NSN 5310-01-508-3313
- Flat washer, NSN 5330-01-593-7760

Return fuel lines need replacing? See JACKS for new procedure and NSNs



To see the new fuel return line removal and installation instructions, go to:

<https://pki.jacks.jpeocbd.army.mil/Jacks/Secure/Training/NET/Default.aspx>

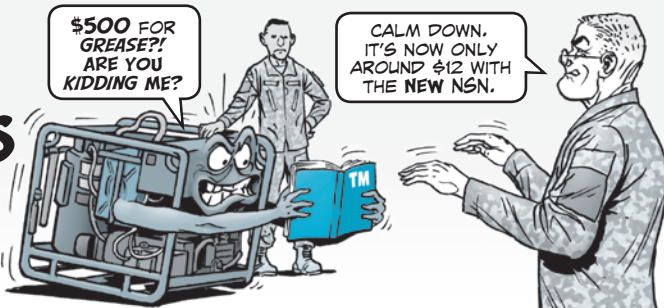
Under Protection in the left-hand column, click on M12A1 Power Driven Decontamination Apparatus. Then click on M12 FUEL RETURN LINE TRAINING.ppt.

If your M12A1 return fuel lines are working, leave them alone. These NSNs and this procedure are only for fuel lines that need to be replaced.

Questions? Contact Emily Santiago at DSN 786-1680, (586) 282-1680, or email:

[emily.e.santiago2.civ@mail.mil](mailto:emily.e.santiago2.civ@mail.mil)

# LUBE ANSWERS RIGHT HERE



Dear Half-Mast,

TM 3-4230-238-10 (July 09) lists NSN 9150-12-374-7676 as the grease for the M26 decon. But when you check out that NSN on FED LOG it lists the price as \$500. Isn't there anything cheaper? Also the TM shows the oil for the water pump as PN AOA-114-3440, but that doesn't cross to an NSN. Does it have an NSN?

MSG R.C.

Dear Master Sergeant,

We have very good news. The 2013 revision to the TM changed the grease to NSN 9150-01-563-3416. That grease costs around \$12.

The correct part number for the oil for the water pump is A01-114-3440.

That crosses to NSN 1040-01-612-3498 on FED LOG. Make a note until the TM is updated.

*Half-Mast*

## Protective Masks...

# M42A2 Must Stay M42A2

Dear Editor,

Here at JBLM, we've run into several cases of Soldiers trying to convert their M42A2 masks into M40A1s, mostly for comfort and convenience. That is a no-go.

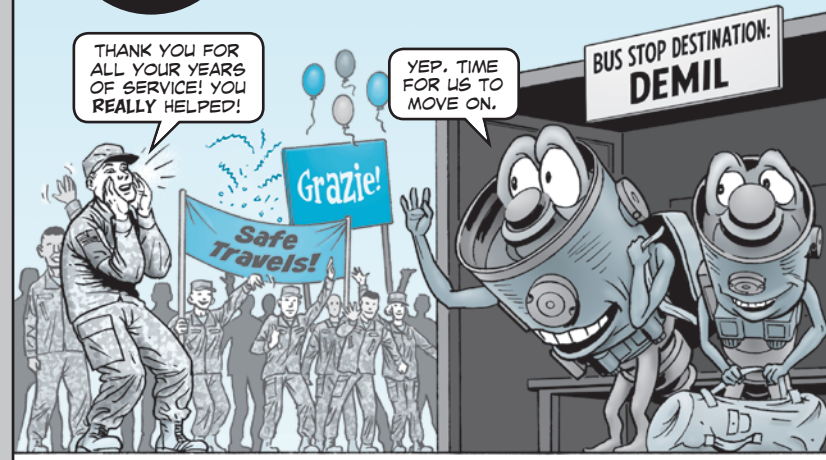
The M42A2 has a different carrier, microphone, hose assembly and canister carrier than the M40A1. Soldiers are issued an M42A2 because they are supposed to be wearing an M42A2. And the M42A2's TM 3-4240-346-10 (Aug 10) makes it clear that all the parts peculiar to the M42A2 must be installed at all times. If they're left in the carrier, they'll soon disappear.

Please tell your readers M42A2s need to stay M42A2s.

David Whitmire, COMET  
CPT Michael Padden, 7th Inf  
CW4 Bryon Newby, 7th Inf  
JBLM, WA

*Editor's note:*  
Consider it done.

# Turn in AN/PVS-4/4A, AN/TVS-5/5A



IF YOU STILL HAVE THE AN/PVS-4/4A INDIVIDUAL NIGHT SIGHT OR THE AN/TVS-5/5A CREW SERVED NIGHT SIGHT, YOU NEED TO GET IT REPLACED.



The AN/PVS-4/4A is being replaced by the AN/PAS-13(V)1 light weapon thermal sight (LWTS) (LIN S60356) and the AN/PAS-13(V)2 medium weapon thermal sight (MWTS) (LIN S90535).

The AN/TVS-5/5A is being replaced by the AN/PAS-13(V)3 heavy weapon thermal sight (HWTS) (LIN S90603).

Units are not authorized to keep the AN/PVS-4/4A or AN/TVS-5/5A.

Once you receive the replacement sights, demil the AN/PVS-4/4A or AN/TVS-5/5A. For demil instructions, contact Jordan Good at DSN 648-1378, (443) 395-1378, or email:

[jordan.s.good.civ@mail.mil](mailto:jordan.s.good.civ@mail.mil)

Once the sights are demilled, turn them in to your local DLA Disposition Services.

PM Soldier Sensor Laser is coordinating replacement sights.

Questions? Contact Hilda Thomas at DSN 648-1408, (443) 395-1408, or email:

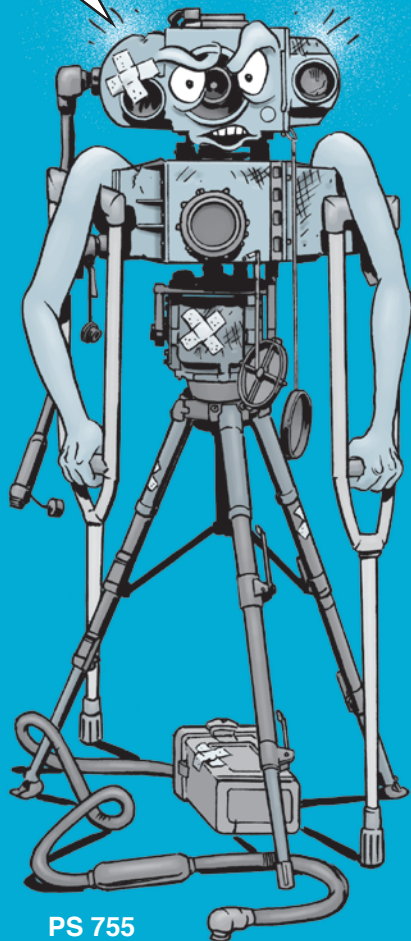
[hilda.v.thomas.civ@mail.mil](mailto:hilda.v.thomas.civ@mail.mil)



# HANDLE WITH CARE

THANKS TO YOUR  
ROUGH TREATMENT, I  
HAVE TO GO ALL THE  
WAY TO THE DEPOT  
TO BE **FIXED!**

ALL YOU  
HAD TO  
DO WAS  
BE **GENTLE**  
WITH ME!

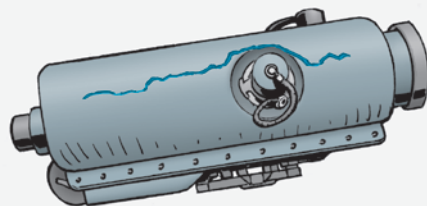


**T**oo many AN/PED-1, -1A and -1B lightweight laser designator rangefinders (LLDR) are taking long trips to the depot for repair because Soldiers forget they need to be handled with care.

The most common reason for LLDR damage is they're dropped on their side. Even if an LLDR is in its soft case, the impact can crack it. Always lay an LLDR down gently.

LLDRs are also damaged when Soldiers aren't careful loading or unloading them from vehicles. Never toss an LLDR in a truck or let it bang against anything when you take it out of a vehicle. Never let an LLDR roll around in a vehicle during travel, either. Secure it before you hit the road.

Rough handling damages LLDR!



To help Soldiers remember to treat their LLDRs with care, stencil **HANDLE WITH CARE** on the cases.

For info on taking care of your LLDR, see TM 11-5955-315-13&P.

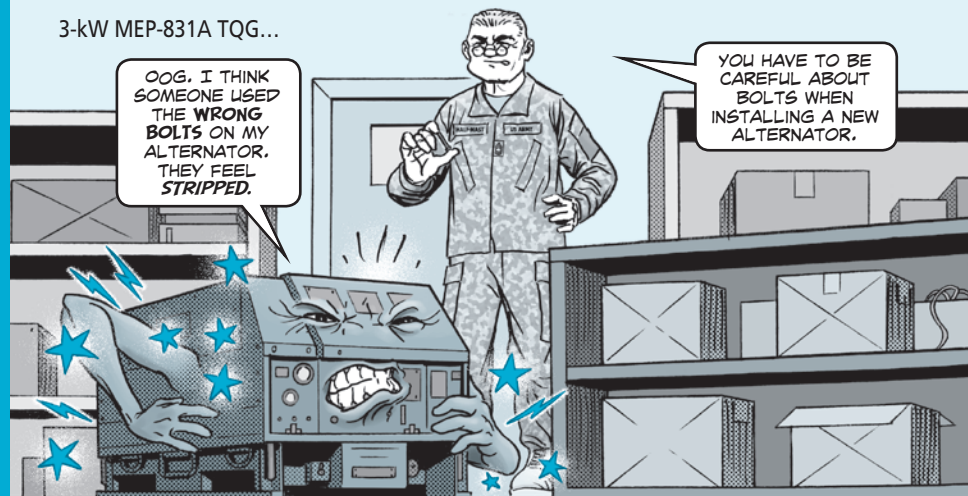
If your LLDR or any target locator module (TLM) or laser designator module (LDM) needs repair, contact CECOM's Richard Gendreau at (443) 395-1366 or email: [richard.j.gendreau.civ@mail.mil](mailto:richard.j.gendreau.civ@mail.mil)

Questions about your LLDR? Contact PEO Soldier's Mary Ellen Robel at (703) 704-1541 or email:

[maryellen.l.robel.civ@mail.mil](mailto:maryellen.l.robel.civ@mail.mil)

OOG, I THINK  
SOMEONE USED  
THE **WRONG**  
BOLTS ON MY  
ALTERNATOR.  
THEY FEEL  
**STRIPPED.**

YOU HAVE TO BE  
CAREFUL ABOUT  
BOLTS WHEN  
INSTALLING A NEW  
ALTERNATOR.

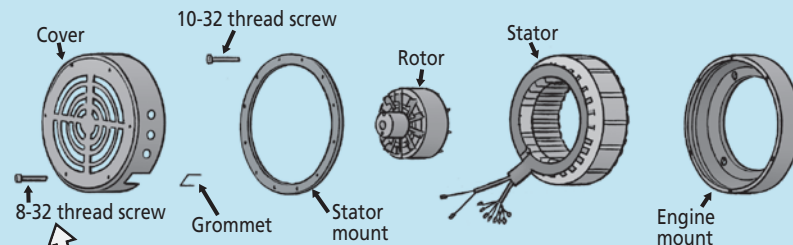


## WRONG BOLTS STRIP SCREW WELLS!

WHEN INSTALLING THE CE NIEHOFF K1201 ALTERNATOR ON THE 3-KW MEP-831A TACTICAL QUIET GENERATOR, YOU MUST BE **VERY CAREFUL** TO USE THE **CORRECT** BOLTS.

THE **WRONG** BOLTS STRIP THE SCREW WELLS.

ATTACH THE ALTERNATOR TO THE ENGINE MOUNT WITH **1.98-IN 10-32** THREAD BOLTS.

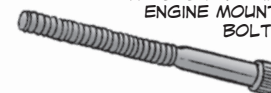


REPAIRERS SOMETIMES MISTAKENLY USE THE **2-IN 8-32** THREAD BOLT, WHICH IS USED TO ATTACH THE ALTERNATOR COVER.

THE **8-32** BOLT CATCHES THE ENGINE MOUNT SCREW WELLS, BUT AS SOON AS YOU APPLY PRESSURE, THE THREADS **STRIP.**



THESE **1.98-IN 10-32** THREAD ENGINE MOUNT BOLTS **WON'T** WORK WITH THE DRS FERMONT/MARATHON ALTERNATORS.

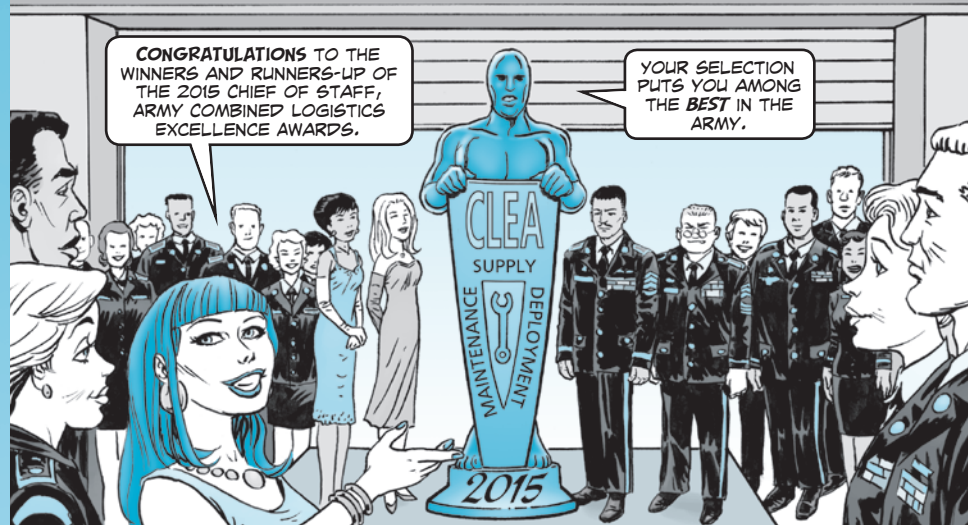


IT USES A **2.5-IN** ENGINE MOUNT BOLT.



- CLEA awardees list
- Maintenance \$ depend on maintenance reports
- milWiki needs your input for doctrine development
- GCSS-A and turn-in credit

## Combined Logistics Excellence Awards 2015



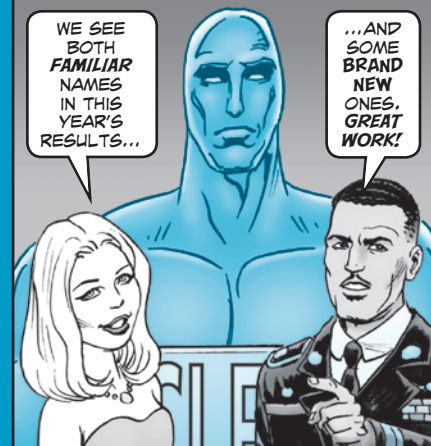
### "Best of the Best" Crowned

THIS YEAR'S TOP THREE WINNERS IN THE MAINTENANCE, DEPLOYMENT AND SUPPLY CATEGORIES ARE...



**MAINTENANCE:**  
7th Army Joint  
Multinational Trng Cmd,  
Grafenwoehr, Germany  
**DEPLOYMENT:**  
3d BN, 4th ADA Regt, Ft Bragg, NC  
**SUPPLY:**  
C CO, 834th ASB, Hastings, MN

WE SEE BOTH FAMILIAR NAMES IN THIS YEAR'S RESULTS...





## ARMY AWARDS FOR MAINTENANCE EXCELLENCE

### ACTIVE ARMY

#### Depot Level

Winner: Red River Army Depot, Texarkana, TX (TACOM LCMC)  
 Runner-up: Anniston Army Depot, Anniston, AL (TACOM LCMC)

### ACTIVE ARMY MTOE

#### Small Category

Winner: 2d MI BN, Wiesbaden, Germany  
 Runner-up: E CO, 2d BN, 2d Avn Regt, Seoul, Korea

#### Medium Category

Winner: Grp Svc Spt CO, Grp Spt BN, 10th SFG, Ft Carson, CO  
 Runner-up: 15th Trans CO, Ft Sill, OK

#### Large Category

Winner: 24th MI BN, Wiesbaden, Germany  
 Runner-up: 2d BN, 9th Inf Regt, Camp Casey, Korea

### ACTIVE ARMY TDA

Winner: 7th Army Joint Multinational Trng Cmd, Grafenwoehr, Germany  
 Runner-up: 403d AFSB—NE Asia, Korea

### AVIATION

Winner: 1st MI BN (Aerial Exploitation), Wiesbaden, Germany  
 Runner-up: 3d MI BN (Aerial Exploitation), Camp Humphreys, Korea

### ARMY RESERVE MTOE

#### Medium Category

Winner: 301st MI BN, Phoenix, AZ  
 Runner-up: 420th Eng CO (Clearance), Indiana, PA

### ARMY RESERVE TDA

Winner: Equip Concentration Site #125 (G), Ft Bragg, NC  
 Runner-up: Area Maint Spt Acty #57 (G), New Century, KS

### ARMY NATIONAL GUARD MTOE

#### Small Category

Winner: FSC, 527th Eng BN, Ruston, LA  
 Runner-up: B CO, 217th BSB, Bentonville, AR

#### Medium Category

Winner: 1075th Medium Truck CO, Columbus, NE  
 Runner-up: 108th Sus BDE, Chicago, IL

### ARMY NATIONAL GUARD TDA

Winner: Combined Spt Maint Site, Pineville, LA  
 Runner-up: Maneuver and Trng Equip Site, Boise, ID

### ALL OTHERS

Winner: TACOM FMX, Ft Leonard Wood, MO  
 Runner-up: Busan Storage Ctr, Busan, Korea

## DEPLOYMENT EXCELLENCE AWARDS

### ACTIVE ARMY

#### Small Deploying Unit Category

Winner: 688th RPOE, Ft Eustis, VA  
 Runner-up: Svc CO, 5th BN, 7th ADA Regt, Kaiserslautern, Germany

#### Large Deploying Unit Category

Winner: 3d BN, 4th ADA Regt, Ft Bragg, NC  
 Runner-up: 3-159th ARB, Illesheim, Germany

#### Supporting Unit Category

Winner: 635th MCT, Kaiserslautern, Germany  
 Runner-up: 624th MCT, Kaiserslautern, Germany

### ARMY RESERVE

#### Small Deploying Unit Category

Winner: 948th MCT, Las Vegas, NV  
 Runner-up: 1177th MCT, Kaiserslautern, Germany

#### Large Deploying Unit Category

Winner: 419th CSSB, Irvine, CA

#### Supporting Unit Category

Winner: HQ USA CA and PsyOps Cmd (Abn), Ft Bragg, NC

### ARMY NATIONAL GUARD

#### Small Deploying Unit Category

Winner: 114th Trans CO, Duluth, MN  
 Runner-up: 211th MP CO, Clyde, NC

#### Large Deploying Unit Category

Winner: 1-135th ARB, Whiteman AFB, MO  
 Runner-up: 528th Eng BN, Monroe, LA

### ALL ARMY INSTALLATION CONUS

Winner: Log Readiness Ctr, Ft Riley, KS  
 Runner-up: Log Readiness Ctr, Ft Dix, NJ

#### OCONUS

Winner: USAG-Vicenza, Vicenza, Italy  
 OPERATIONAL DEPLOYMENT  
 Winner: 3d Sus BDE, 3d ID, Ft Stewart, GA

**NOTE: There are no runners-up in some categories.**

## SUPPLY EXCELLENCE AWARDS

### ACTIVE ARMY

Level I (A) Company Supply MTOE  
 Winner: HHC, 65th Med BDE, Yongsan, South Korea

#### Level I (B) Company Supply MTOE

Winner: C BTRY, 1st BN, 19th FA, Ft Sill, OK  
 Runner-up: Maint Acty Vilseck Theater Log Spt Ctr, Vilseck, Germany

#### Level II (A) Property Book MTOE

Winner: 21st STB, Kaiserslautern, Germany

#### Level II (B) Property Book TDA

Winner: Allied Forces Cmd North BN, USA NATO, Shape, Belgium

#### Level III (A) Brigade/Battalion MTOE

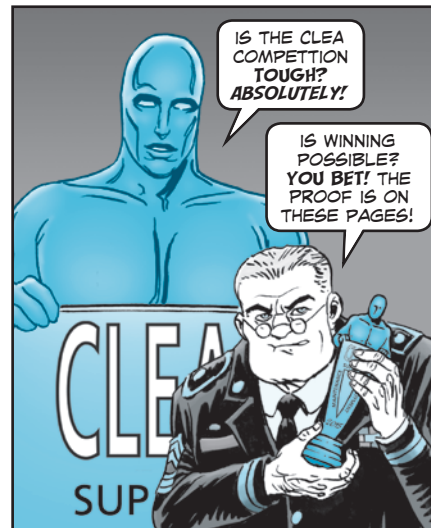
Winner: 509th Sig BN, Vicenza, Italy

#### Level III (B) Brigade/Battalion TDA

Winner: 1st BN, 40th FA, Ft Sill, OK  
 Runner-up: 39th Sig BN, Chievres, Belgium

#### Level IV (A) SSA MTOE

Winner: E BTRY, 1st BN 43d ADA, Ft Bliss, TX



### ARMY NATIONAL GUARD

#### Level I (A) Company Supply MTOE

Winner: C CO, 834th ASB, Hastings, MN

#### Level I (B) Company Supply TDA

Winner: 209th Regt, RTI, Ashland, NE  
 Runner-up: 175th Regt, RTI, Little Falls, MN

#### Level II (A) Property Book MTOE

Winner: 82d BDE Trp Cmd, Clackamas, OR  
 Runner-up: HQ, 1st ABCT, Bloomington, NE

#### Level II (B) Property Book TDA

Winner: 771st Trp Cmd, Dunbar, WV

#### Level III (A) Brigade MTOE

Winner: 1249th Eng BN, Salem, OR

#### Level IV (B) SSA TDA

Winner: USP&FO, Lincoln, NE

### ARMY RESERVE

#### Level I (A) Company Supply MTOE

Winner: Army Maint Spt Acty 38, Wichita, KS

#### Level III (B) Brigade/Battalion TDA

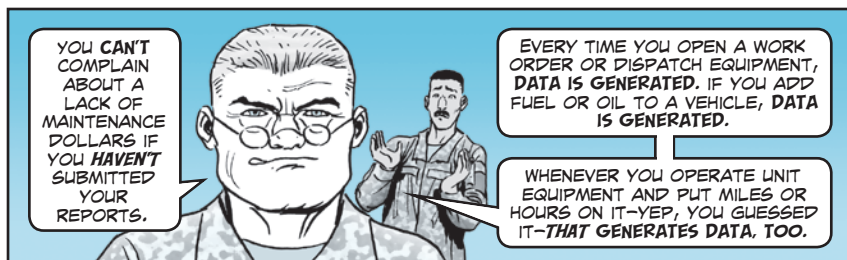
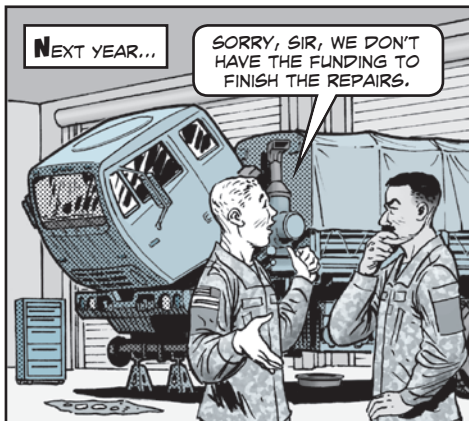
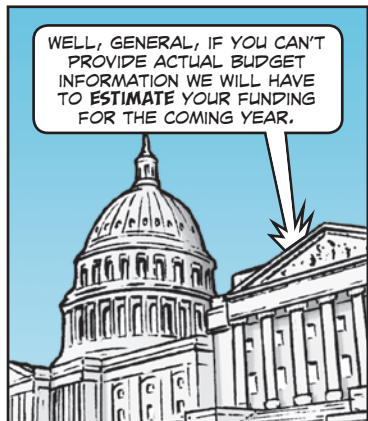
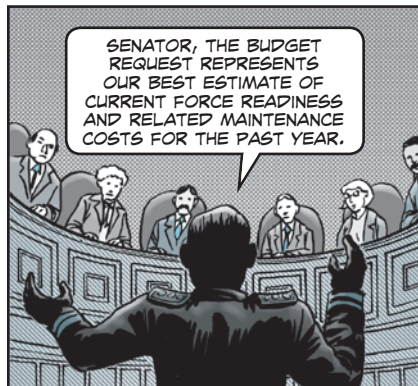
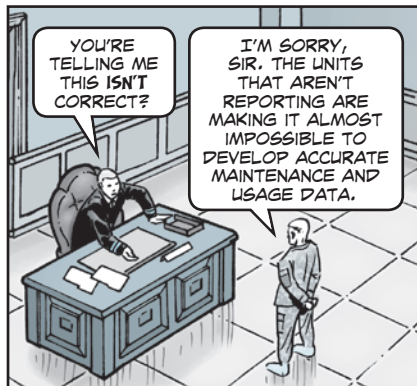
Winner: 2d BN, 381st Regt, Grand Prairie, TX

### GCSS-Army Best Performing Award

Winner: E BTRY, 1st BN 43d ADA, Ft Bliss, TX



# MAINTENANCE REPORTS EQUAL MAINTENANCE DOLLARS!



Day-to-day unit operations and maintenance generates usage, work order and readiness data. That data is currently produced by legacy maintenance systems such as the Standard Army Maintenance System-Enhanced (SAMS-E), Unit Level Logistics System-Aviation Enhanced (ULLS-AE), Standard Army Maintenance System-Installation Enhanced (SAMS-IE), Standard Army Maintenance System-Fleet Management (SAMS-FM) and the Army War Reserves Deployment System (AWRDS). Data is also created by the newer Enterprise Resource Planning (ERP) system: the Global Combat Support System-Army (GCSS-Army).

Why is this data important and how is it used? Congress evaluates consolidated maintenance and usage data to decide if budget requests are reasonable. With increasing budget constraints, it's more important than ever to report accurate and complete maintenance data (including miles and man-hours) so the Army can make sound fiscal decisions.



If data isn't entered at all, done incorrectly or not reported in a timely fashion, the end result can be reduced dollars in a unit's operating budget.

That's because maintenance data is used to identify resource shortfalls and assess the ability to maintain authorized equipment. When units don't report maintenance data, or it's incomplete or inaccurate, higher headquarters might assume they have all the resources needed to complete their missions.

The Army bases its decisions on unit-submitted data to determine each unit's training resource model and OPTEMPO funding. Missing reports make it difficult for the Army to determine how much money units should receive for equipment maintenance and operation.

To help ensure that your unit is funded for future missions, be sure you submit timely, accurate maintenance data.

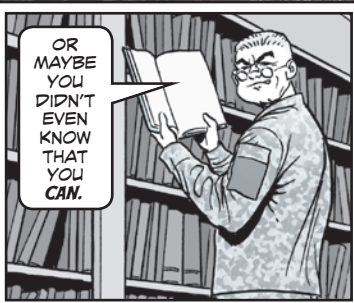


Publications...

# milWiki Needs **YOUR** Expertise

EVER WISH  
YOU COULD  
WEIGH IN  
ON ARMY  
DOCTRINE?

OR  
MAYBE  
YOU  
DIDN'T  
EVEN  
KNOW  
THAT  
YOU  
CAN.



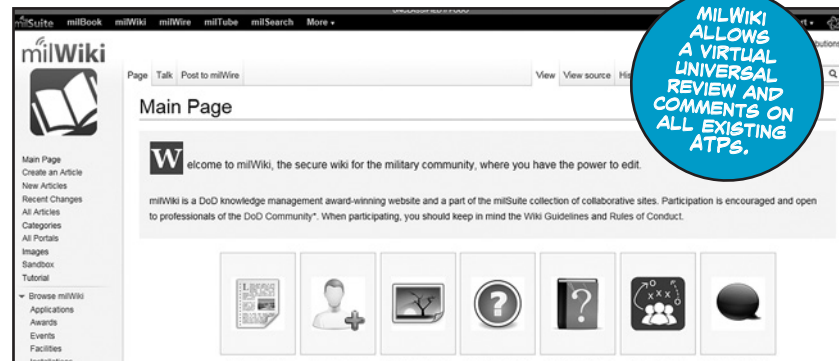
ARMY TECHNIQUE  
PUBLICATIONS (ATPs) COVER  
TECHNIQUES FOR SUPPORT  
OPERATIONS THAT CHANGE  
RAPIDLY AND REQUIRE  
FREQUENT UPDATES.

BUT TO MAXIMIZE THE  
EFFECTIVENESS OF  
ATPs, FEEDBACK AND  
RECOMMENDATIONS FROM THE  
FIELD ARE CRITICAL.

**milWiki! EVERYONE WELCOME!**



TO PROVIDE THIS CRUCIAL COMPONENT OF DOCTRINE DEVELOPMENT,  
SOLDIERS AND ARMY CIVILIANS ARE INVITED TO CONTRIBUTE TO ATPs  
THROUGH MILWiki, A WEB-BASED DOCTRINE DEVELOPMENT TOOL.



ANYONE WITH CHANGE  
RECOMMENDATIONS CAN HAVE HIS  
VOICE HEARD IN MILWiki.

RECOMMENDED CHANGES THAT ARE  
DEEMED VALID BY THE PROPONENT  
CAN BE QUICKLY INCORPORATED AS  
PART OF A SCHEDULED REVISION OR  
EVEN THROUGH AN UNSCHEDULED  
CHANGE.

NOTE THAT ALL ATP  
MODIFICATIONS POSTED ON  
MILWiki ARE DRAFTS AND  
NOT CONSIDERED OFFICIAL  
DOCTRINE UNTIL THEY ARE  
VALIDATED AND APPROVED  
BY THE APPROPRIATE  
PROPONENT, AND ALSO  
AUTHENTICATED BY THE ARMY  
PUBLISHING DIRECTORATE.

DO YOUR  
PART TO  
KEEP ARMY  
DOCTRINE  
UPDATED  
AND  
RELEVANT  
FOR THOSE  
IN THE FIELD  
TODAY!

ACCESS MILWiki DIRECTLY (YOU'LL NEED A CAC) AT:  
[https://www.milsuite.mil/wiki/Portal:Army\\_Doctrine](https://www.milsuite.mil/wiki/Portal:Army_Doctrine)  
TAKE THE MILWiki TUTORIAL TO GET YOUR FEET WET:  
<https://www.milsuite.mil/wiki/milWiki:Tutorial>

Publications...

## TEA MI 55-19 Updated

A  
hard copy  
version will be  
available later  
in 2015.



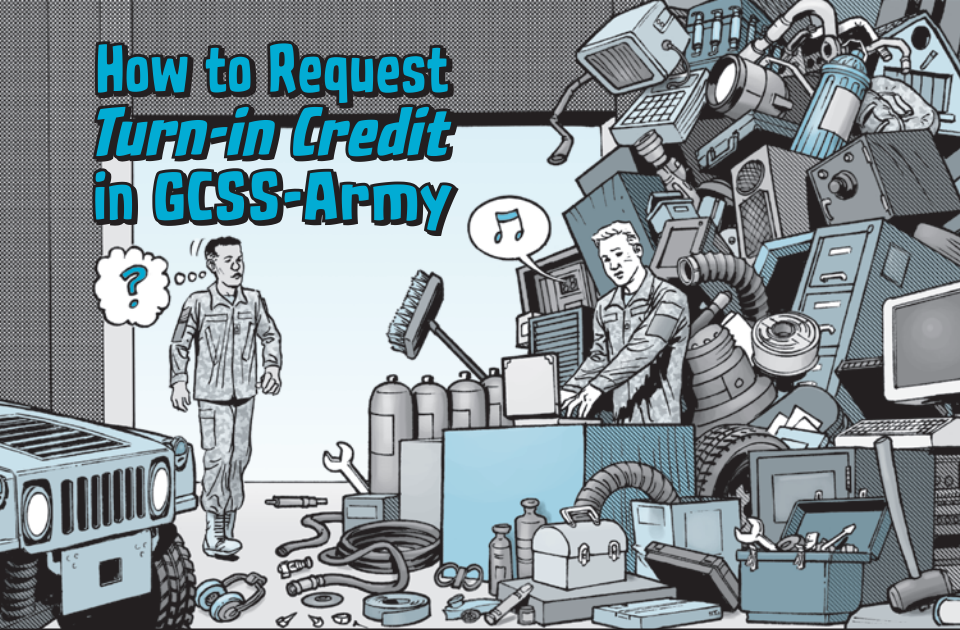
THE MILITARY SURFACE DEPLOYMENT AND  
DISTRIBUTION COMMAND TRANSPORTATION  
ENGINEERING AGENCY (SDCTEA) UPDATED  
TEA MI 55-19, **TIEDOWN INSTRUCTIONS FOR  
RAIL MOVEMENTS (APR 15).**

THE 7TH EDITION COVERS ADDITIONAL VEHICLES,  
HAS UPDATED CHAIN AND AXLE-BLOCKING  
GUIDANCE, NEW SAFETY CHECKLISTS AND MORE!  
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<http://www.sddc.army.mil/sites/TEA/Functions/Deployability/TransportabilityEngineering/Lists/DeployabilityPublicationsOrderForm/DeployabilityPublicationsOrderForm.aspx>



# How to Request Turn-in Credit in GCSS-Army



HEY, JUST POPPED IN TO BORROW A RIG.

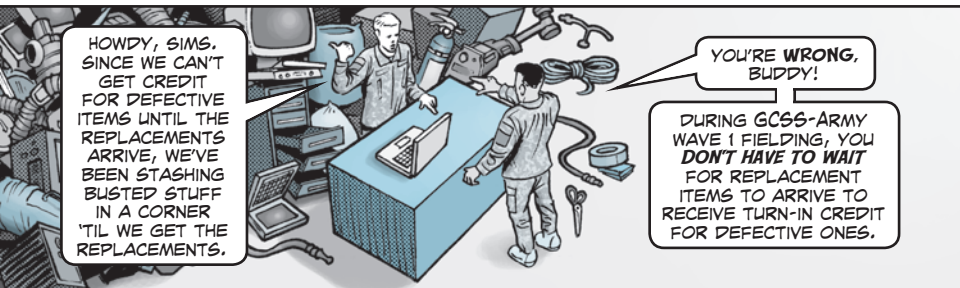
THAT'S QUITE A STACK OF STUFF GATHERING DUST Y'GOT THERE! WHAT'S THE DEAL, SAWYER?



HOWDY, SIMS. SINCE WE CAN'T GET CREDIT FOR DEFECTIVE ITEMS UNTIL THE REPLACEMENTS ARRIVE, WE'VE BEEN STASHING BUSTED STUFF IN A CORNER 'TIL WE GET THE REPLACEMENTS.

YOU'RE **WRONG**, BUDDY!

DURING GCSS-ARMY WAVE 1 FIELDING, YOU **DON'T HAVE TO WAIT** FOR REPLACEMENT ITEMS TO ARRIVE TO RECEIVE TURN-IN CREDIT FOR DEFECTIVE ONES.



REALLY?

YEP, YOU **SHOULDN'T** KEEP DEFECTIVE ITEMS ANYWAY.

TURN 'EM IN ASAP TO YOUR SUPPLY SUPPORT ACTIVITY, SO AMC CAN REPAIR AND RETURN 'EM ALL TO INVENTORY.



HERE'S WHAT YOU NEED TO DO TO GET CREDIT IN GCSS-ARMY. AT THE BOTTOM OF YOUR D6Z/TURN-IN PAPERWORK, WRITE **"REMOVE IW"** IN BOLD BLACK LETTERS.



WHAT'S **IW** MEAN?

THAT'S THE DEFAULT RETURN ADVICE CODE FOR NON-CREDITABLE MATERIAL. YOUR NOTE TELLS THE SSA CLERK TO **REMOVE** THAT DEFAULT IW CODE IN THE SYSTEM, SO THAT YOUR UNIT GETS CREDIT FOR TURNING IN DEFECTIVE ITEMS.

OH, AND REMEMBER THAT REPLACEMENT ITEMS **NOT** RECEIVED WITHIN 180 DAYS ARE SUBJECT TO CREDIT REVERSAL, WITH THE EXCEPTION OF BACKORDERED, LONG-LEAD TIME REPLACEMENT ITEMS.

**KEEP A COPY OF YOUR TURN-IN PAPERWORK!**



THANKS! THIS WILL REALLY HELP US **CLEAN UP** THIS PLACE!

AND BULK UP ARMY INVENTORY, TOO.

IF YOU'VE GOT QUESTIONS, THE GCSS-ARMY WEBSITE OFFERS A TON OF SUPPORT AT <http://gcss.army.mil/>

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

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



# **DID YOU REMEMBER?**

HEY!  
DID YOU  
READ MY  
SIGN?

OOPS! KNEW  
I FORGOT  
SOMETHING!

Is the Master  
Battery Disconnect  
Turned OFF?

**TURN OFF  
VEHICLE'S  
BATTERY  
DISCONNECT  
SWITCH  
AFTER  
OPERATION!**

