

Issue 703

PS

June
2011

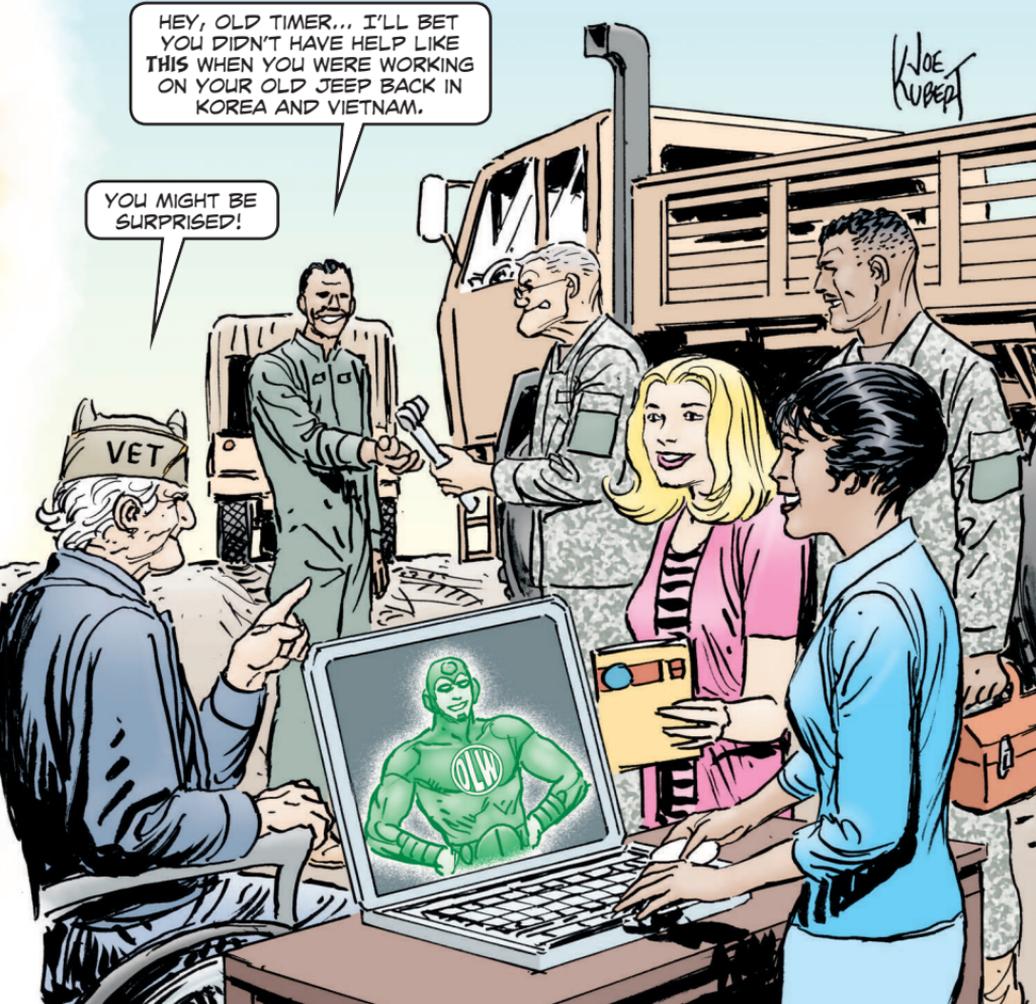
THE
PREVENTIVE
MAINTENANCE
MONTHLY

TB 43-PS-703

Approved for
Public Release;
Distribution is
Unlimited

HEY, OLD TIMER... I'LL BET
YOU DIDN'T HAVE HELP LIKE
THIS WHEN YOU WERE WORKING
ON YOUR OLD JEEP BACK IN
KOREA AND VIETNAM.

YOU MIGHT BE
SURPRISED!



LOGSA COMMANDER'S COMMENTS PS MAGAZINE'S 60TH ANNIVERSARY

I am extremely honored to be the Commander of the US Army Materiel Command, Logistics Support Activity, as we celebrate the 60th Anniversary of *PS, The Preventive Maintenance Monthly*, known to its loyal readers as PS Magazine.

Since 1951, PS Magazine has been an important aspect of the Army's logistical landscape, providing generations of Soldiers the latest hot tips on operating and maintaining their equipment. Our Nation provides its armed forces with the best equipment in the world.

PS Magazine has been on point now for 60 years, ensuring that our equipment and weapon systems are always ready to fight, stay in the fight, and return to the fight.

As we look back over the past 60 years I would like to salute the writers, artists, editors, and printers that have made each and every one of the 700 plus issues of PS Magazine fresh and relevant. Their creativity, dedication, and commitment have resulted in monthly editions that continue to attract their reading audience and provide actionable information which contributes mightily to equipment readiness and Soldier safety. Again, congratulations to all of them! They can be very proud of their accomplishments.

As you read this, you're joining hundreds of thousands of your fellow Soldiers that have been entertained and, most importantly, instructed by PS Magazine over the years.

As MSG Half-Mast asks, ***"Would you stake your life (right now) on the condition of your equipment?"*** To ensure the answer is "Yes", I encourage you to read on through this edition, and future editions of the Army's preeminent preventive maintenance publication—PS Magazine.

Robert P. Sullivan
Colonel, LC
Commanding



HALF-MAST



BONNIE



CONNIE



BLADE



WILL



JON



PETE



JOE

FITZ

PS**THE
PREVENTIVE
MAINTENANCE
MONTHLY**

TB 43-PS-703, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders. The use of product or company names does not constitute endorsement of those products, services or companies by the U.S. Army.

ISSUE 703 JUNE 2011**COMBAT VEHICLES**

M1-Series Tank Fuel Nozzle Studs
M1-Series Tank Antenna Cover
Stryker Fuel Line Leaks
M777A2 Towed Howitzer Gun Tube Life
M113-Series FOV Fuel Cap PM
NATO Slave Cable Parts NSNs

**WHEELED VEHICLES**

Rhino 60-amp Thermal Circuit Breakers
Rhino IED Defeat Equipment Support
M1117 ASV Door Safety

**MISSILES**

Patriot Missile System Launcher, ECU
Avenger Missile System FLIR, SVLM Protection

**SMALL ARMS**

Safe Firing in the OGPK
M240, MK 19, M2 Machine Guns AN/PAS-13
AN/PED-3/-3A Turn-in
M2 Machine Gun Spring Replacement
M9 Pistol Trigger Pull Test
M16-Series Rifle Hybrid Buttstock Authorized
Mortar Lubing

**CBRN**

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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-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>

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Official:

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1108204

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M1-Series Tanks...

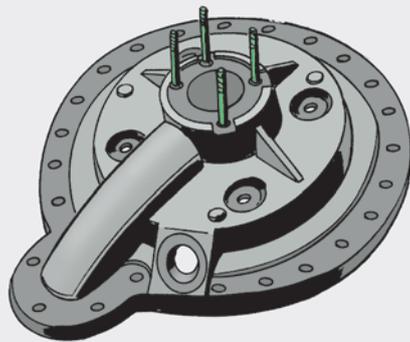


ENGINE GETS MORE STUDLY



Studs, NSN 5307-01-588-8862, are now available to replace the four bolts that currently secure the fuel nozzle to the combustor cover. The studs help align and hold the fuel nozzle in place during installation. The studs also work with both the old and new configurations.

Screw the studs into the combustor cover. Drop the fuel nozzle in place and add a flat washer, NSN 5310-01-352-9593, and a self-locking, silver-plated nut, NSN 5310-00-844-4872, to the top of each stud to secure the fuel nozzle. Torque the nuts to 90-100 lb-in.



New studs help align and hold fuel nozzle

Since the working threads on the studs are now in a cooler location (300°F at the top of the studs vs. 700°F inside the combustor cover), the threads are less likely to seize during semi-annual maintenance.

The next time you need to remove and reinstall the fuel nozzle, the flat washers can be reused. So can the original self-locking nuts as long as the self-locking feature is still in good shape. If the nuts can be finger-tightened, the self-locking feature is worn out and the nuts must be replaced.

Make a note until the fuel nozzle assembly replacement procedures on Pages 5-30 and 5-31 of TM 9-2350-264-20-1-3 (Mar 03 w/Ch 4, Jun 09) and WP 0288 of TM 9-2350-388-23-1-3 (Feb 09) are updated.



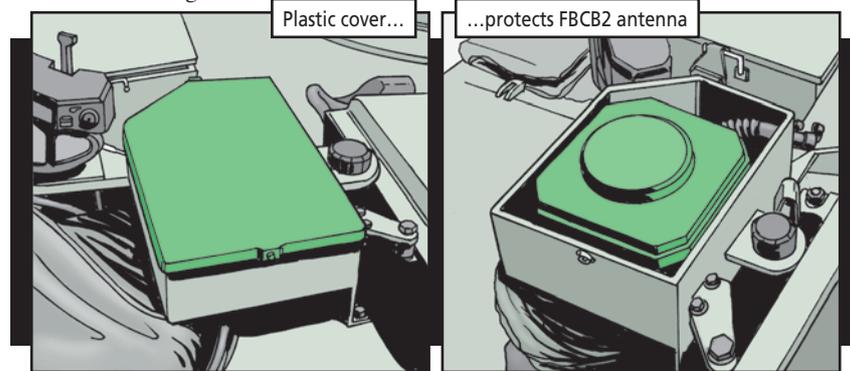
YOU'LL FIND THE COMPLETE SCOOP IN TACOM MAINTENANCE INFORMATION MESSAGE 11-010:
https://aeps2.ria.army.mil/commodity/mam/tacom_wn/mi11-010.html

M1-Series Tank...

ANTENNA NEEDS COVER, TOO

Crewmen, you wouldn't consider going outside without your head cover. You should feel the same way about the FBCB2 antenna on your M1-series tank.

The antenna, NSN 5985-01-551-7316, is protected by a plastic cap. Too often, stray limbs and brush will break or knock off the cap, leaving the antenna unprotected. Since it's located on top of the tank, you might not notice until the antenna is damaged.



Take a quick look at the antenna before, during and after operations. If the cap is missing, replace it with NSN 5340-01-541-0758.

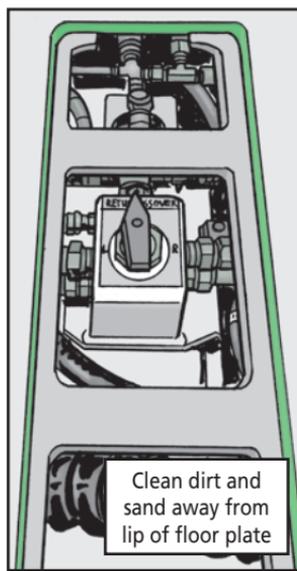
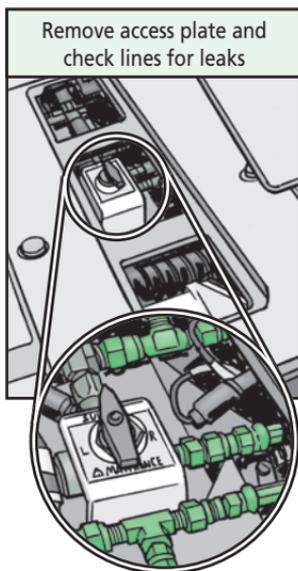


Ever gone on a long trip and run out of gas on the way? It's even worse if you find out that a fuel leak was the cause.

That's why it's important to take a good look at the fuel transfer lines on your Stryker, especially before a long training mission or operation.

Just open the access plate at the rear of the vehicle and check the lines for fuel leaks. If you see any, report 'em! After all, who wants a highly flammable liquid sloshing around under their feet?

Before you reinstall the access plate, take a minute to clean away any dirt or sand that's built up on the recessed lip of the floor plate. That crud can keep the access plate from fastening properly. It'll go flying the next time you hit a big bump!



Gun Tube Life...Go Figure!



DON'T USE THE WEAR TABLE FOR M198 HOWITZERS WHEN FIGURING CANNON TUBE WEAR LIFE FOR M777A2!

Trying to estimate the remaining life on your M777A2 towed howitzer's M777 or M776 cannon tube? A recent addition to TM 9-1000-202-14, *Evaluation of Cannon Tubes* (Feb 99), can help.

Change 4 (Dec 08) to the TM added serviceability and condemnation criteria for the cannon tubes. The new info is listed in Appendix S. If you don't have the latest copy of the TM, download it from the LOGSA ETM website:

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

You cannot estimate the equivalent full charge (EFC) count for these cannon tubes by doing a pullover measurement. Nor can you estimate the remaining life by using the wear table for the M198 howitzer. The safe service fatigue life of the howitzer's M776 cannon tube is drastically different than the M198's cannon tube.

In fact, you should **never** enter a remaining EFC life value on the DA Form 2408-4 gun card that is anything other than **actual** on the M776 cannon.

If you suspect you have an inaccurate EFC count or have lost the gun card, call the Army Benet labs at Watervliet Arsenal, DSN 374-5823/5586 or (518) 266-5823/5586 for help. You can also get help from one of the gun card POCs listed on TULSA:

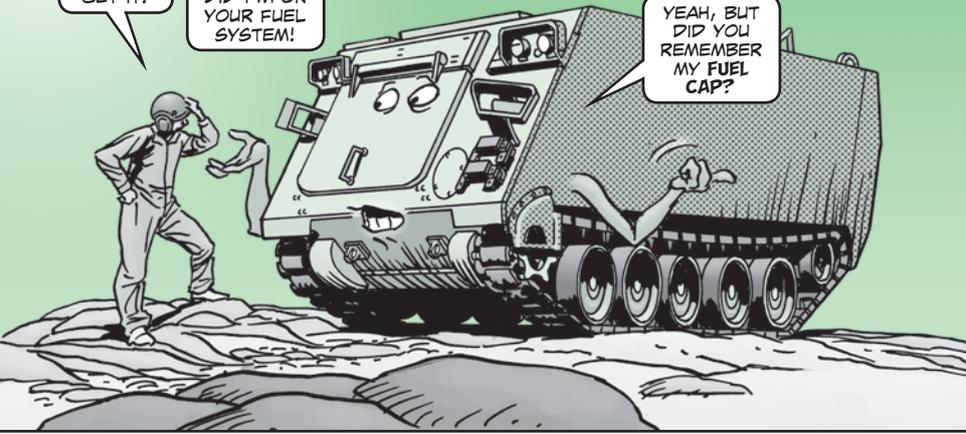
<https://tulsa.tacom.army.mil/guncard/index.cfm>

All-Around Fuel Cap PM

I DON'T
GET IT!

I JUST
DID PM ON
YOUR FUEL
SYSTEM!

YEAH, BUT
DID YOU
REMEMBER
MY FUEL
CAP?



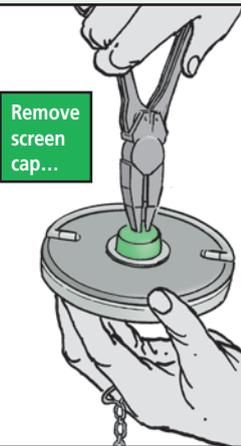
KEEPING FUEL
MOVING IN YOUR
M113-SERIES
CARRIER TAKES
GOOD PM ON EVERY
COMPONENT OF
THE FUEL SYSTEM—
INCLUDING THE FUEL
CAP, NSN 5342-01-
467-5645.

Topside

Some of you may forget that there's a screen cap and rubber vent grommet on top of the fuel cap. If it's not cleaned every 6 months—more often in dusty, sandy environments—the cap gets plugged with dirt. That creates a vacuum and causes fuel flow problems.

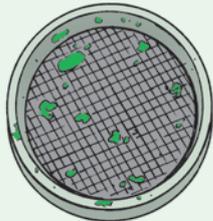
Here's how to inspect and clean the cap and grommet:

1. Grip the tang in the center of the fuel cap with a pair of pliers and pull out the screen cap.



2. Eyeball the grommet in the fuel cap. If it's damaged, replace the entire fuel cap.
3. Clean the screen cap with dry cleaning solvent.

...and clean dirty screen
with dry cleaning solvent



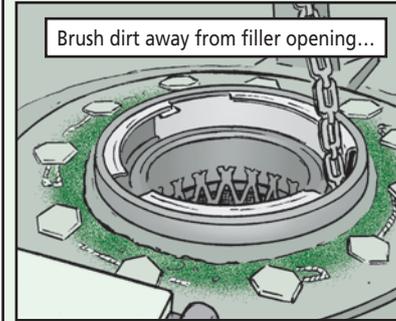
Underneath

Now check the bottom of the fuel cap.

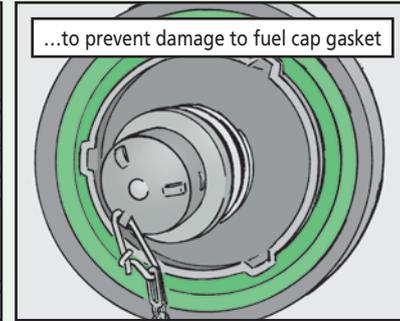
Dirt and sand that collect around the filler neck can keep the cap from screwing on properly. That can bend the metal lip inside the fuel tank opening which, in turn, damages the gasket on the underside of the fuel cap.

Make sure you brush or blow away any dirt and sand before opening the fuel cap. Then, make sure the filler neck area is completely clean before closing the fuel cap.

Brush dirt away from filler opening...



...to prevent damage to fuel cap gasket

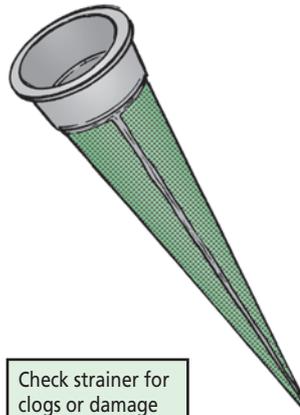


Inside

Before screwing the fuel cap back in place, pull out and check the fuel strainer inside the filler neck.

If the strainer is clogged with sediment, clean it thoroughly with dry cleaning solvent. Then inspect the strainer for any cuts or tears.

IF YOU FIND
ANY DAMAGE,
REPLACE THE
STRAINER USING
NSN 4730-00-
701-3921.



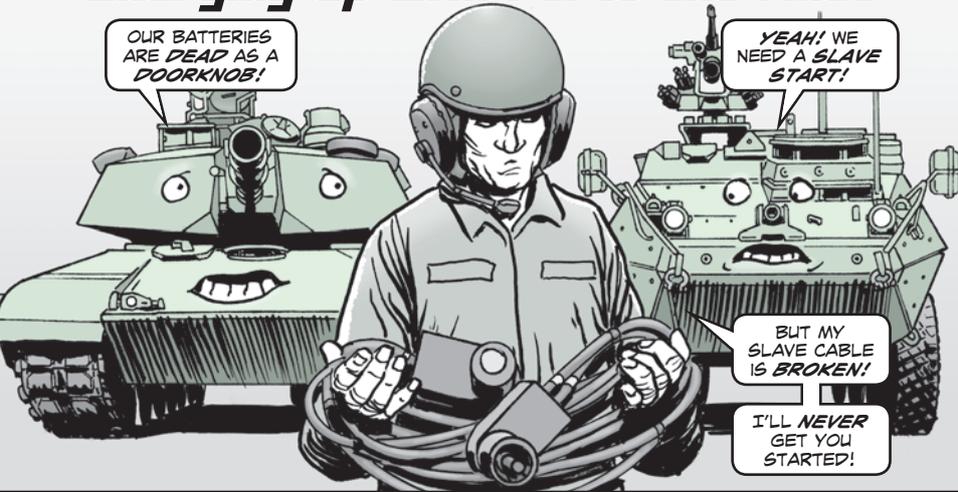
Check strainer for
clogs or damage



FOR MORE DETAILS,
SEE WP 0176 00 IN
TM 9-2350-277-
20-2 (JAN 01, W/CH
4, DEC 06).



Charging Up with Parts and Fixes



OUR BATTERIES ARE DEAD AS A DOORKNOB!

YEAH! WE NEED A SLAVE CABLE START!

BUT MY SLAVE CABLE IS BROKEN!

I'LL NEVER GET YOU STARTED!

THE NATO SLAVE CABLE IS PRETTY EASY TO USE.

JUST PLUG IT IN AND GO.

'COURSE, THAT'S A LOT HARDER TO DO IF PARTS ARE MISSING.

SO USE THIS LIST TO GET THE REPAIR PARTS YOU NEED.

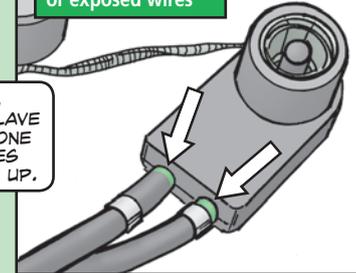
THEN READ ON FOR INFO ON HOW TO FIX YOUR SLAVE CABLE.

Item	NSN
Cable w/o end connectors	6150-00-398-6527
Cable w/ end connectors	6150-01-022-6004
End connector	5935-00-567-0128
Connector adapter (allows either end of cable to fit two-hole receptacles)	5935-00-322-8959

Shock Stopper

Before slaving your vehicle, eyeball where the wiring goes into the end connector. Look for bare or exposed wires where insulation has pulled back from the connector housing.

Check here for bare or exposed wires



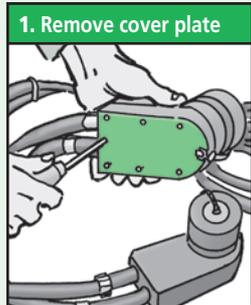
YOU'LL GET A REAL CHARGE FROM YOUR SLAVE CABLE IF YOU TOUCH ONE OF THOSE BARE WIRES WHILE YOU'RE HOOKING UP.

HERE'S HOW TO MAKE IT SAFE AGAIN...

1. Remove the connector's back plate, then disconnect the cable from the connector.
2. Cut off the terminal lugs. Strip back just enough insulation to put on new terminal lugs, NSN 5940-00-115-5004.
3. Reconnect the cables to the connector. Make sure the positive lead (+) is reconnected to the center post and the negative lead (-) is reconnected to the negative cup of the connector.
4. Reassemble the connector.

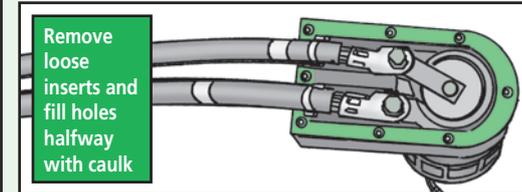
Connector Cover Fix

If the connector inserts pull out, the cover won't seal tight. Water gets inside and corrodes the cables. Fix loose insert problems like this:



1. Remove cover plate

3. Fill each hole about halfway with silicone adhesive caulk, NSN 8040-00-865-8991, or a similar caulk meeting MIL-A-46106B specs.



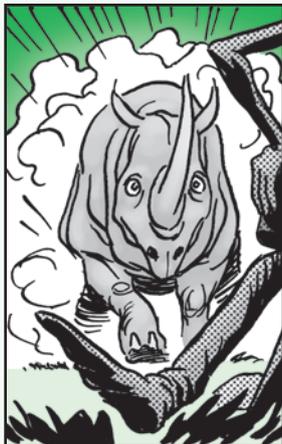
Remove loose inserts and fill holes halfway with caulk

2. Remove the inserts by threading in a screw and gently wiggling the insert until it comes out the body of the connector.
4. Press the insert back into the hole, making sure it's flush with the surface of the connector. Let the caulk cure for an hour or two so the inserts stay in place.
5. Run a thin bead of silicone adhesive caulk around the connector lip and screw down the cover. Wipe off any caulk that oozes out. Again, let the caulk cure for an hour or two before using the cable.

To get back into the connector the next time, remove the screws and use a sharp knife to carefully cut through the caulk.

Rhino...

USE 60-AMP CIRCUIT BREAKERS ON HMMWVs



AT LEAST I
CAN STOP YOU
FROM TRIPPING
ON RHINOS
ATTACHED TO
HMMWVs!



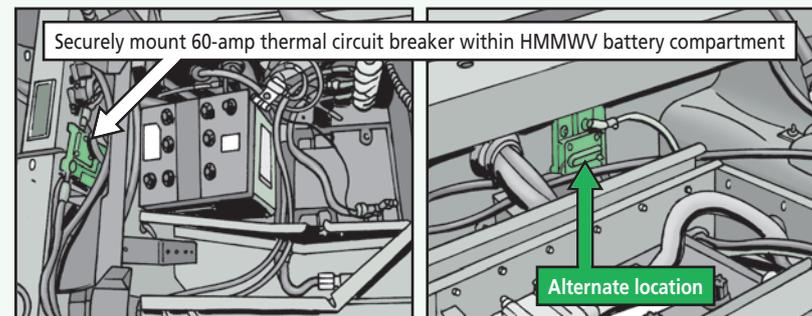
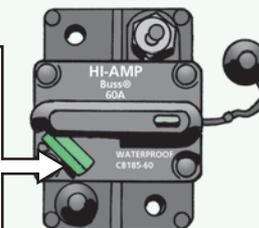
If your unit's HMMWVs use Rhinos, forget about using the Rhino's 50-amp thermal circuit breaker. It's the culprit behind thermal circuit breaker tripping incidents.

Here's how to trip up thermal circuit breaker tripping, mechanics. Inspect the Rhino's thermal circuit breaker on Rhinos attached to HMMWVs. Replace all 50-amp thermal circuit breakers, NSN 5925-01-573-7439.

Make sure you install them using these instructions found online:

https://aeps2.ria.army.mil/commodity/mam/tacom_wn/HMMWV-Rhino-Instal-Instructions.pdf

Arm away from raised housing? Thermal circuit breaker is tripped



The 60-amp thermal circuit breakers are *free* to your unit. Just get in touch with an R4 Inc. field service representative (FSR) for assistance.

HERE ARE THE CONTACT LEADS YOU NEED...

In Kuwait -
Tyrome Tukes, Camp Arifjan, Kuwait Local 965-6562-3952, or tyrome.tukes@us.army.mil

In Iraq -
George Hinds, West Liberty, DSN 318-847-2746, or george.hinds@mnd-b.army.mil

In Afghanistan -
Anthony Bryant, Bagram, DSN 312-987-5130, ext. 3815, or anthony.bryant@mmcs.army.mil

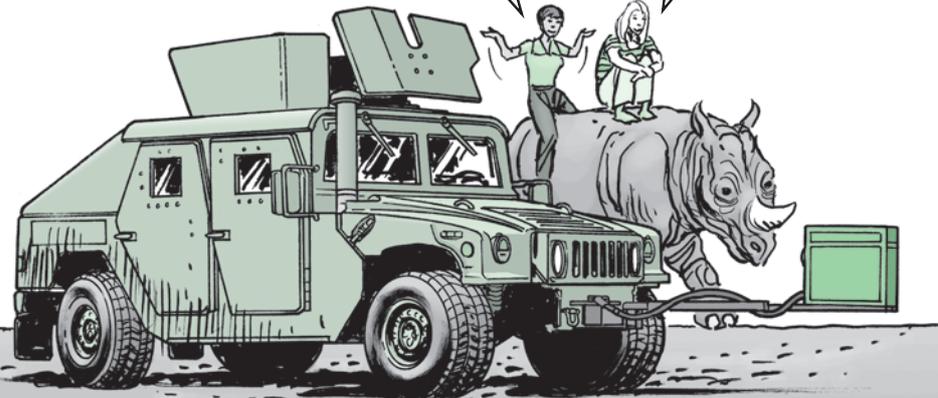


AN UPDATED ROSTER OF R4 INC'S FSRs IN THE SANDBOX IS FOUND IN THE NEXT ARTICLE!

IED Defeat Equipment Support Available

NEED MAINTENANCE OR SUPPLY SUPPORT FOR YOUR UNIT'S RHINOS?

CONTACT A FIELD SERVICE REPRESENTATIVE (FSR) FROM R4 INC.



FOR HOME STATION SUPPORT, CONTACT CHRIS JONES:
christopher.jones10@us.army.mil



IF YOU'RE IN THE SANDBOX, MAKE A NOTE OF THE R4 INC. FSRs ON THE FOLLOWING PAGES.

THEY'LL HELP YOU WITH ANY RHINO ISSUES YOU HAVE.

EXCEPT, OF COURSE, IF YOU HAVE ONE OF THESE RHINOS!



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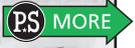
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Bagram

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Sharana

Johnny Gary/Antonio Bailey
PM IED DEFEAT/PF (R4 Inc.)
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antonio.bailey1@mmcs.army.mil

NOW I'M READY FOR ACTION
AGAIN THANKS TO THOSE FIELD
SERVICE REPRESENTATIVES!



WATCH THOSE FINGERS!

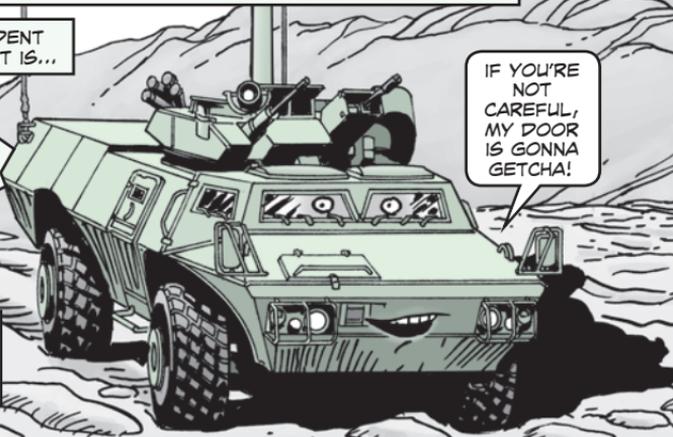


CUT, BRUISED OR SPRAINED FINGERS SEEM TO GO HAND-IN-HAND WITH SOLDIERS ASSIGNED TO UNITS WITH ARMORED SECURITY VEHICLES (ASVs).

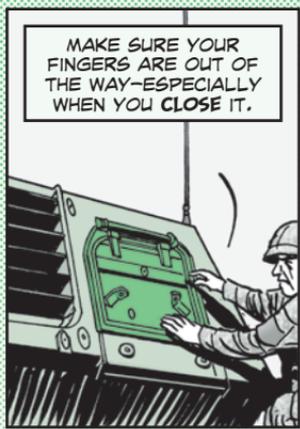
ACCORDING TO ACCIDENT REPORTS, THE CULPRIT IS...

...THE UPPER DOOR ON THE BACK OF THE VEHICLE.

THIS DOOR IS VERY HEAVY AND CAN CATCH A DRIVER OR CREWMAN BY SURPRISE!



SO, EASY DOES IT WHEN LOWERING OR RAISING THE DOOR.



MAKE SURE YOUR FINGERS ARE OUT OF THE WAY—ESPECIALLY WHEN YOU CLOSE IT.

BY THE WAY, YOU'LL FIND THIS SAME INFO AS A WARNING ON PAGE 2-50 OF TM 9-2320-307-10.



Preventing Launcher, ECU Damage

LACK OF ATTENTION TO CABLES AND CONNECTORS CAN CAUSE THOUSANDS OF DOLLARS OF DAMAGE TO THE PATRIOT LAUNCHER AND THE ENVIRONMENTAL CONTROL UNIT (ECU).

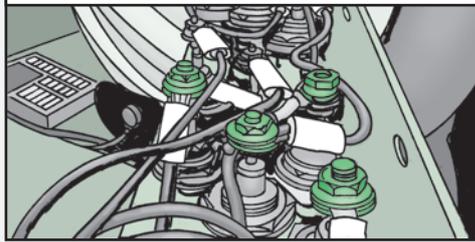
BUT JUST A LITTLE ATTENTION CAN KEEP THE LAUNCHER AND THE ECU SAFE.



ECU on ECS, ICC, CRG

One Patriot unit had an ECU catch fire when they switched it from A/C to heat. Investigation revealed the probable cause was a loose lug connector on the heating element. So before you switch any of your ECUs to heat, first make sure all the connectors to the heating element are tight.

Check ECU heating element connectors for looseness



Launcher

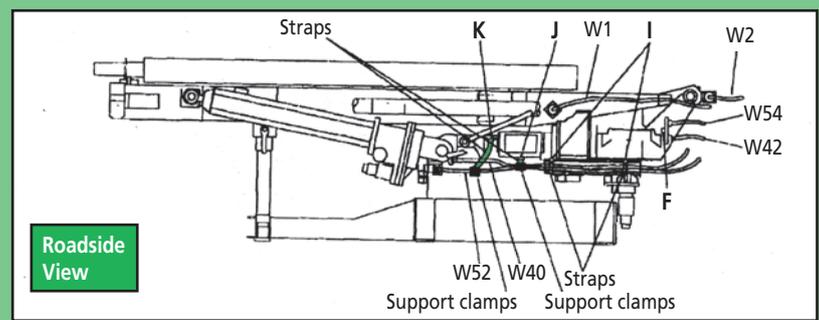
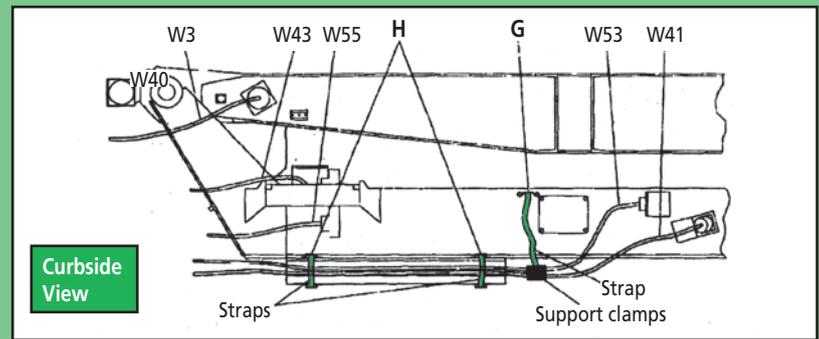
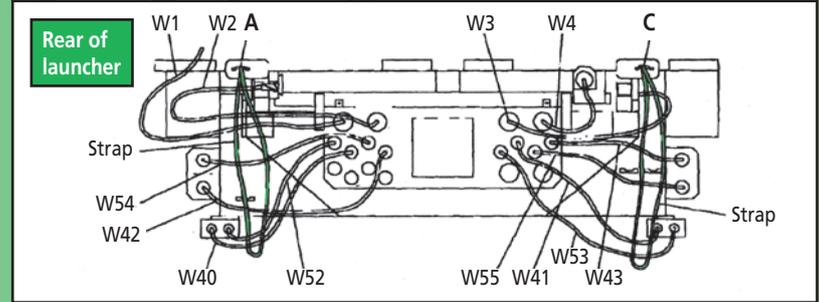
Dangling cables are one of the most lethal threats for the launcher. When cables aren't secured, they snag and are ripped out when the launcher traverses. One Patriot unit's launcher J box and its cables and wiring harness were destroyed because the cables weren't tied back. Total bill: \$491,032. How would you like to tell your commander that?



Dangling cables can leave your launcher J box looking like this

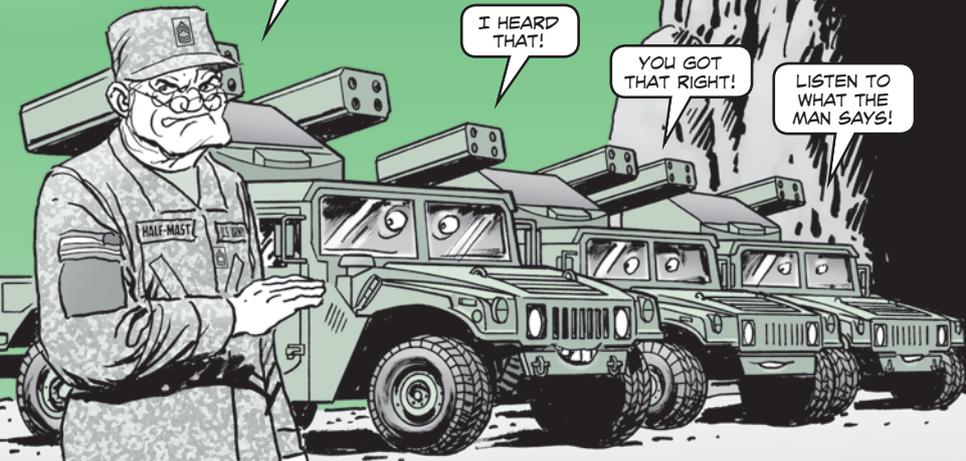


FOLLOW THESE THREE DIAGRAMS FOR SECURING THE CABLES AND YOU'LL NEVER NEED TO WORRY ABOUT THAT HAPPENING AGAIN...



To help you secure the cables, you can now order launcher cable clamp assemblies with NSN 4030-01-582-8341.

THINK PROTECTION!



THE AVENGER HAS DELICATE PARTS THAT CAN BE RAVAGED BY THE ELEMENTS.

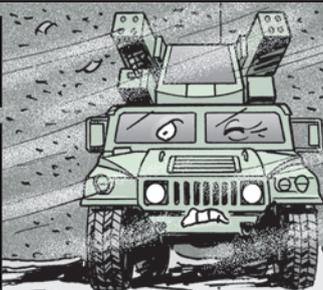
SAND AND PEBBLES CAN QUICKLY SCAR THE LENSES FOR THE FLIR AND RANGE FINDER.

IF SAND AND RAIN GET INSIDE THE STANDARD VEHICLE LAUNCHER MOUNTED (SVLM), THEY CAN MESS UP THE CRYOGENICS AND ELECTRONICS.

SOON YOU'VE GOT MAJOR FIRING PROBLEMS.

THAT'S WHY IT'S IMPORTANT TO ALWAYS THINK PROTECTION FOR YOUR AVENGER.

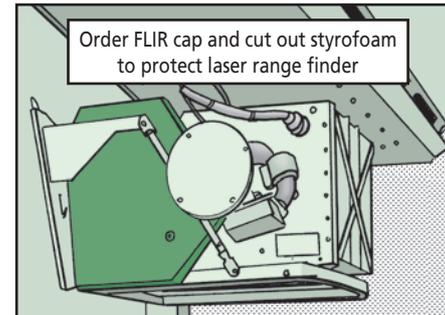
TOO MANY UNITS LEAVE THE FLIR, LASER RANGE FINDER AND SVLM NAKED TO THE ELEMENTS, WHEN CHEAP CAPS COULD SAVE THOUSANDS OF DOLLARS IN DAMAGE.



IT'S JUST GOOD SENSE... AND GOOD CENTS!

Order a FLIR protective cap with NSN 5855-01-441-3189. The range finder doesn't have a ready-made cover, so make one from styrofoam. Cut a piece 12 x 18 inches. Punch a hole in it for the boresight guide pin cover. Stick it in front of the range finder lenses so the support bracket holds it in place.

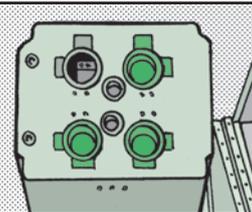
The new CMC FLIR comes with a protective cap that can't be ordered separately. CMC FLIRs can't use the old cap, nor can the old FLIRs use the CMC cap.



For the SVLM, order the rear launcher caps with NSN 5340-00-855-7993 and the front caps with NSN 5340-00-157-5624. Caps for the pressure gauge holes come with NSN 5340-01-348-6514.

Caps for the cryogenic ports inside the SVLM are also available. Order cryogenic caps with NSN 5340-01-466-1897. Caps for the electrical ports no longer have an NSN, but you can order them with PN 495-500005 and CAGE 15090.

SVLM caps are available for front, rear, cryogenics, and electronics



When your Avenger is going to sit in the motor pool, install the SVLM caps from inside the launcher. That way the caps can't fall out and disappear. In the field, though, stick in the caps from the outside. That way they blow off if left on during a launch.

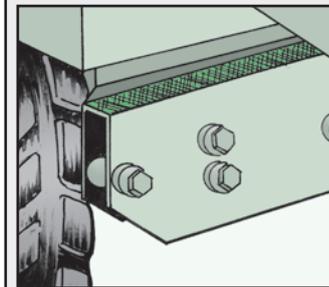
Self Protection

Almost everything involved with operating and maintaining the Avenger requires you to climb up and down on it. In rainy or snowy weather, footing can be treacherous.

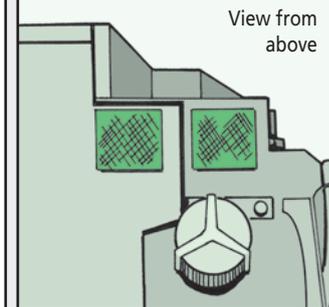
That's why it's important to put non-skid strips on the bumper, bustle box, ECU and anyplace else you're likely to use as a step. Order 60 feet of non-skid strips with NSN 7220-00-823-7419.

The strips are coded for local purchase, so if you can't find any locally, order them with an advice code of 2A.

The strips wear out and become slick, so it's a good idea to replace them every six months.



Put non-skid strips anywhere you normally step. Replace strips when they become slick



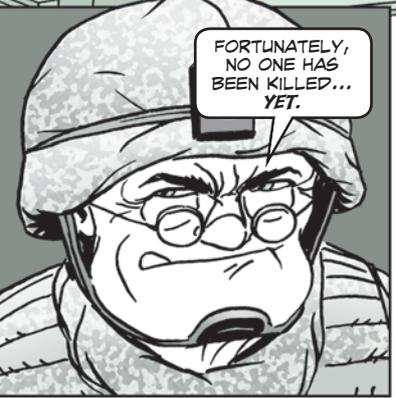
SAFETY ALERT

Safe Firing in OGPK

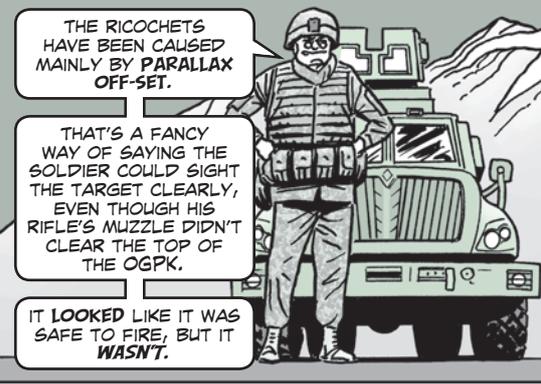


NINE INCIDENTS HAVE BEEN REPORTED OF SOLDIERS FIRING FROM INSIDE THE OBJECTIVE GUNNER PROTECTION KIT (OGPK) WITHOUT THEIR M16 RIFLE OR M4 CARBINE BEING COMPLETELY CLEAR OF THE OGPK ARMOR WALL.

THE BULLETS RICOCHETED OFF THE INSIDE OF THE OGPK, STRIKING THE SHOOTER AND, IN SOME CASES, VEHICLE PASSENGERS.



FORTUNATELY, NO ONE HAS BEEN KILLED... YET.



THE RICOCHETS HAVE BEEN CAUSED MAINLY BY PARALLAX OFF-SET.

THAT'S A FANCY WAY OF SAYING THE SOLDIER COULD SIGHT THE TARGET CLEARLY, EVEN THOUGH HIS RIFLE'S MUZZLE DIDN'T CLEAR THE TOP OF THE OGPK.

IT LOOKED LIKE IT WAS SAFE TO FIRE, BUT IT WASN'T.



IMPROPER POSITION



PROPER POSITION

- Here are four rules to keep you from becoming your own ricochet victim:
- Don't fire individual weapons from the OGPK if at all possible. The OGPK is meant for firing mounted machine guns.
 - If circumstances absolutely require you to fire your rifle from the OGPK, maintain muzzle awareness at all times.
 - To fire your rifle from the OGPK, brace against the OGPK's ring edge or as far forward as possible and **support the rifle on the edge**, making sure the barrel extends outside the OGPK.
 - Make sure weapons are on SAFE except when you're ready to fire. That prevents accidental firings.



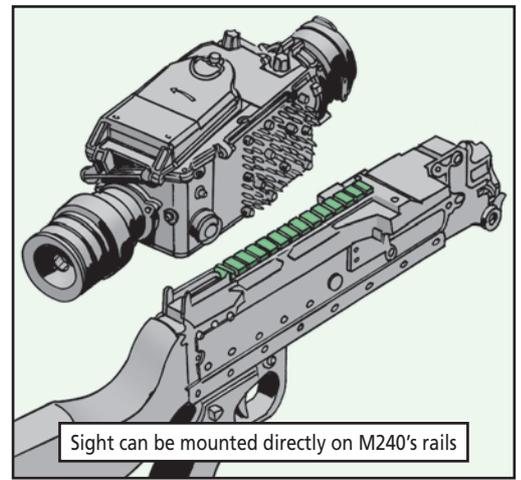
M240, MK 19, M2 Machine Guns...

AN/PAS-13 Mounting Help

Dear Half-Mast,
How do you get the mounts to put the AN/PAS-13 sight on the M240, MK 19, and M2 machine guns?
SGT H.O.

Dear Sergeant H.O.,
The AN/PAS-13 sight is covered by TM 11-5855-312-10 and it is the best source for mounting info. According to the TM's Pages 2-87 through 2-88, the AN/PAS-13 can be mounted directly on the M240's rails.
For the M2, you will need the mount that comes with NSN 5340-01-502-7233.
For the MK 19, order a mount with NSN 5340-01-434-2231.

Half-Mast



Small Arms...

Turn in AN/PED-3/-3A for Repair

GOOD
NEWS,
FELLAS!

THE ARMY NOW HAS
A REPAIR PROGRAM
FOR YOU SO WE CAN
GET YOU FIXED UP.

EXCELLENT!
WE'RE TIRED
OF SITTING ON
THIS SHELF.

YEAH!

The Army has begun a repair program for both the AN/PED-3 (NSN 1240-01-538-4212) and AN/PED-3A (NSN 1240-01-562-8083) target locators.

If you have an unserviceable target locator that is no longer covered by warranty, ask your property book officer to submit an FTE (field turn-in excess) to SOS B14 requesting turn-in instructions.

After the instructions are received, ship the target locator using the same FTE document number if possible. If that number can't be used, notify the item manager listed below that a new document number is being used.

Once the target locator has been shipped, you can requisition a new AN/PED-3 or -3A. A new locator won't be issued until the broken one has been received and a receipt issued for it at the repair facility.

Questions? Contact Item Manager Paul Calhoun at DSN 786-7589, (586) 282-7589, or email: paul.michael.calhoun@us.army.mil

You can also contact Equipment Specialist Chad McDowell at DSN 786-5471, (586) 282-5471, or email: chad.m.mcdowell@us.army.mil or Anthony Smith at the same number or email: anthony.gillis.smith@us.army.mil

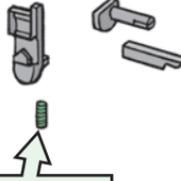
Springs No Longer Replaced Automatically

**ARMORERS,
WE'VE GOT A FEW
CHANGES YOU
NEED TO MAKE
IN YOUR M2 TM
ABOUT SPRINGS.**

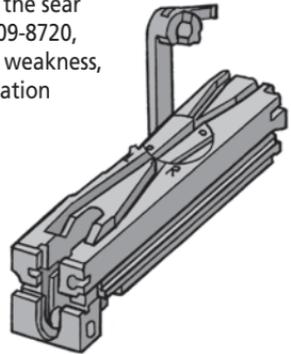
**SO GET OUT
YOUR TM AND
KEEP READING!**

WP 0020 00-2 in the M2 machine gun's TM 9-1005-213-23&P says to replace the sear helical spring and lever stop nut flat spring annually.

That requirement is being eliminated. Instead, make sure you check the sear helical spring, NSN 5360-00-209-8720, for deformity, collapsed coils, weakness, elongation and correct installation during BEFORE PMCS. See WP 0010 00-11.



Sear helical spring



Lever stop nut flat spring

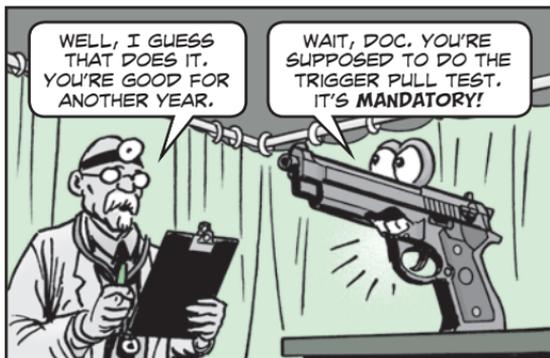
Check the lever stop nut flat spring, NSN 5360-00-731-2029, for bends, cracks, breaks, and correct installation during BEFORE PMCS. The timing adjustment nut should be difficult to turn with one finger if the spring is in good shape. See WP 0010 00-16.

If you have doubts about either spring, replace it. Better safe than sorry.

Also, the requirement on WP 0020 00-2 to document gaging on DA Form 2408-4 is being eliminated. Document gaging on DA Form 5988-E or DA Form 2404 instead.

Make a note of these changes until the TM is updated.

TRIGGER PULL TEST *REQUIRED*



Rifles and machine guns all have the trigger pull test as part of their annual gaging. The M9 pistol didn't have the test as part of its annual gaging...until now.

The Army has decided the M9 needs the trigger pull test done at least annually, so the test is being added to the pistol's required gaging at direct support. The requirement will be listed in the next update to TM 9-1005-317-23&P. Your support will find the test procedure in WP 0017 00-2.

If your unit fires the M9 frequently, the test should be done every few months. But at the very least make sure it's included in the next annual gaging for the M9.

M16-Series Rifle...

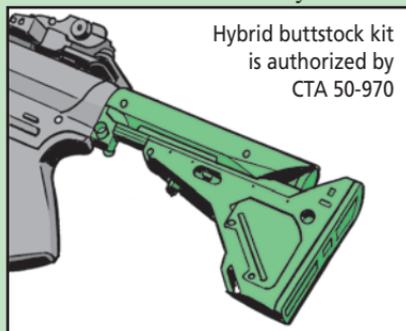
Hybrid Buttstock Authorized

A new hybrid buttstock kit is now available for the M16-series rifle. You couldn't get away with it before, but now it's authorized. It reduces the length of the weapon for improved flexibility in confined spaces or close combat. The new buttstock is also more ergonomically friendly.

Order the buttstock kit with NSN 1005-01-569-6938. It's authorized by CTA.

Support will install the buttstock following the instructions in WPs 0021 and 0025 in TM 9-1005-319-23&P. They need to pay special attention to Step 13 in WP 0025-8, which gives the correct torque for the buttstock's round plain nut.

Armorsmen need to keep the old buttstock. When an M16 is turned in, it must be returned to its original configuration, which means the old buttstock must be put back on.



Mortars...

LUBE 'EM OR LOSE 'EM!

HEY,
THANKS
FOR THE
CLEANING,
BUT YOU
FORGOT TO
LUBE ME.

YOU TRYING
TO DO ME IN,
BUDDY? GIMME
SOME A' THAT
GOOD, GOOD
LUBIN'!



An Army survey of its mortars discovered that many mortars aren't being lubed like they're supposed to be. In some cases, they're not being lubed at all.

WHAT HAPPENS
WHEN A MORTAR
DOESN'T GET THE
LUBRICATION IT
NEEDS?

- Moving parts, gears, and buffer springs fail
- Bipods, pivot points and the cannon's exterior are damaged
- Service life is shortened
- Costs for repair and replacement shoot up
- Readiness plummets

You wouldn't let your car go without lubrication because you care about it. Care just as much about your mortar and give it regular lubing. Follow the lubing instructions in your -10 TM so you'll know exactly which lubes to use and where and when to put them on.

TOO OFTEN FORGOTTEN

**DON'T LET YOUR
M20 COLLECTIVE
PROTECTION
EQUIPMENT BECOME
SOMETHING THAT
JUST TAKES UP
SPACE.**

**TAKE CARE OF IT.
TRAIN WITH IT.
USE IT!**



Dear Editor,

The M20/M20A1 collective protection equipment is a self-contained, pressurized room that allows Soldiers to operate without protective clothing in a chemical threat environment.

Usually each battalion has four M20/M20A1s. At about \$18,000 each, they are not cheap items.

But in my experience on the Command Maintenance Evaluation and Training Team (COMET), I find that the M20/M20A1s are generally completely overlooked. They are stored away from the CBRN rooms in the operations/plans shop where usually no one pays any attention to them. They end up just collecting dust.

If they are ever needed, the M20/M20A1s won't be in any shape for action and no one will know how to use them.

I suggest that every battalion appoint someone to be specifically in charge of the M20/M20A1s, including taking responsibility for their regular PMCS. Room needs to be made in the training schedule to teach Soldiers how to use it, too.

The first step should be to order copies of the M20/M20A1's TMs. The M20 TM is TM 3-4240-288-12&P and the M20A1's is TM 3-4240-313-10 and TM 3-4240-313-20&P. The TMs are on the ETM site:

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

John Palmer
COMET

Editor's note: Thanks for alerting units to the importance of taking care of the M20/M20A1, John. It's an expensive piece of equipment to become just a dust collector.

60 YEARS!

A CREATIVE CELEBRATION



HELLO, SOLDIER! I'M HALF-MAST MCCANICK. I MUST BE THE OLDEST MASTER SERGEANT IN THE ARMY. BEEN AN E-8 SINCE MID-WORLD WAR II AND SPENT THOSE WAR YEARS WITH *ARMY MOTORS* MAGAZINE ANSWERING QUESTIONS ABOUT VEHICLE MAINTENANCE.

IN JUNE 1951, THE ARMY RECALLED ME TO DUTY WITH A NEW PUB, *PS MAGAZINE*. OUR JOB WAS TO ENCOURAGE SOLDIERS TO PERFORM PREVENTIVE MAINTENANCE. IT'S BEEN 60 YEARS AND I STILL ASK SOLDIERS THE SAME QUESTION: "WOULD YOU STAKE YOUR LIFE - RIGHT NOW - ON THE CONDITION OF YOUR EQUIPMENT?" AND, THAT'S THE BOTTOM LINE.



WILL YOUR EQUIPMENT WORK, LIKE IT'S SUPPOSED TO, WHEN YOU NEED IT MOST? IF YOU HAVEN'T MAINTAINED IT, SOMEDAY IT WON'T. PREVENTIVE MAINTENANCE IS A WAY OF MAINTAINING THE BEST EQUIPMENT READINESS RATES WE CAN. BUT, HOW YOU CARE FOR YOUR VEHICLE, WEAPON AND OTHER EQUIPMENT AND GEAR IS ALSO A MEASURE OF HOW THAT EQUIPMENT WILL SUPPORT YOUR HEALTH AND LIFE.



THE NEXT SEVEN PAGES ARE ABOUT OUR PAST AND PRESENT, AND HOW YOU CAN INFLUENCE THE MAGAZINE'S FUTURE IN PROVIDING YOU WITH THE MOST UP-TO-DATE MAINTENANCE AND SUPPLY INFORMATION AVAILABLE. WE WELCOME YOUR COMMENTS AND SUGGESTIONS.



HI! I'M **CONNIE RODD**, A MAINTENANCE AND SUPPLY SPECIALIST WITH **PS**. LIKE **HALF-MAST** I WORKED FOR **ARMY MOTORS** MAGAZINE DURING WORLD WAR II WHEN I WAS A CORPORAL. ONLY I CAME BACK FOR THE **PS** MAGAZINE STARTUP AS A CIVILIAN EMPLOYEE.

AS THE **KOREAN** CONFLICT BEGAN, THE ARMY RECOGNIZED IT HAD A PRESSING NEED TO USE **PREVENTIVE MAINTENANCE** AS ITS PREFERRED MAINTENANCE PROGRAM. KEEPING VEHICLES, WEAPONS AND OTHER EQUIPMENT CLEAN AND PROPERLY LUBRICATED WAS ALL ABOUT **COMBAT** READINESS AND **SOLDIER** SAFETY.

IT WAS ALSO ABOUT **MONEY**.



PREVENTIVE MAINTENANCE AND THE MAINTENANCE TASKS THAT FOLLOW **PREVENTIVE** MAINTENANCE CHECKS AND SERVICES **DO** HAVE THEIR OWN PRICE TAG.

BUT IT'S FAR **LESS** EXPENSIVE THAN THE COST OF **BREAKDOWNS**, MAJOR DAMAGE, OR ASSOCIATED **COMBAT** LOSSES.

A SIMPLE **62 CENT** SPRING PROVIDES AN EXCELLENT **ECONOMICS** AND **SAFETY** EXAMPLE.

ON THE **BRADLEY** FIGHTING VEHICLE, THE **AMMO** COMPARTMENT DOOR IS HELD CLOSED BY A LATCH THAT DEPENDS ON THE **62 CENT** SPRING TO KEEP IT SNUGLY TIGHT AND CLOSED. DURING **PMCS**, CREWS EXAMINE THE SPRING FOR **SERVICEABILITY**.



IF ONLY THEY'D LOOKED AT ME!

BUT, WHEN **PMCS** MISSES THAT CHECK AND THE SPRING WEARS OUT, THE LATCH FAILS, THE DOOR OPENS, AND WHEN THE TURRET IS TRAVERSED THE DOOR RIPS OUT WIRING AND HAS BEEN KNOWN TO SEVER A FUEL LINE. THE VEHICLE AND CREW ARE PLACED AT RISK.

A **BRADLEY** LOST TO FIRE COSTS THE ARMY MORE THAN \$1 MILLION. YOU FIGURE OUT THE COST OF A CREW LOST TO FIRE, ESPECIALLY IF IT'S YOUR CREW AT RISK.

THIS IS JUST ONE EXAMPLE OF THE ARTICLES WE PROVIDE IN **PS** MAGAZINE.



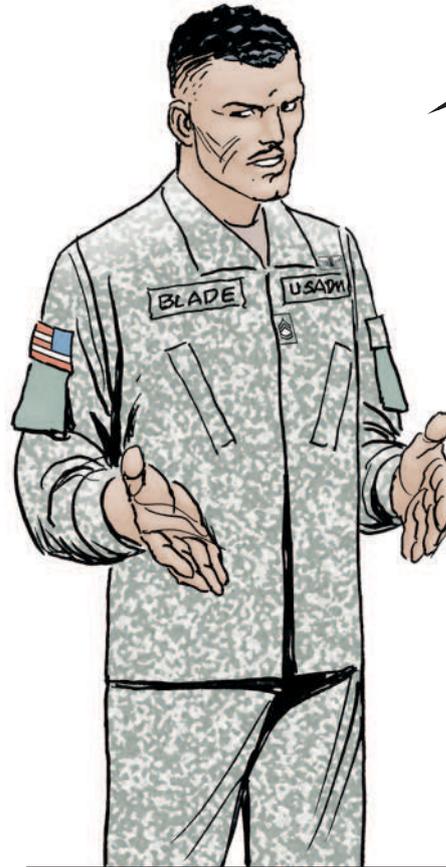
PS MAGAZINE: YOUR VISION FOR THE FUTURE SURVEY 2011 DEMOGRAPHICS

- Enter your pay grade next to your status:
 - Active Army _____
 - National Guard _____
 - Army Reserve _____
 - DoD/sister service _____
 - DoD/DA civilian _____
 - Contract employee _____
- Gender:
 - Male _____
 - Female _____
- Age:
 - 17-25 _____
 - 26-35 _____
 - 36-45 _____
 - 46-55 _____
 - 56+ _____
- Ethnic Background (circle your answer):
 - Asian
 - Black
 - Caucasian
 - Hispanic
 - Other, please identify _____



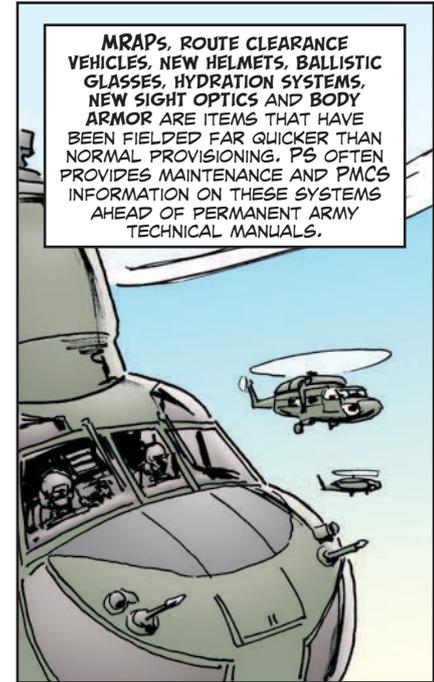
WELL, I'M BONNIE AND HAVEN'T BEEN AROUND NEARLY AS LONG AS CONNIE AND HALF-MAST. I'M THINKING SOME OF YOU MIGHT JUST WONDER WHAT EQUIPMENT WE COVER IN THE MAGAZINE.

IF IT'S A COMBAT OR TACTICAL WHEELED VEHICLE, WE ARE GEARED TO IT. IF IT'S SMALL ARMS OR CREW SERVED WEAPONS THEY'RE IN OUR CROSSHAIRS. WE SPEAK THE LANGUAGE OF COMMO AND ELECTRONICS EQUIPMENT, CBRN DEVICES AND PERSONAL GEAR...



I'M SFC BENJAMIN "ROTOR" BLADE. MY MAIN FOCUS IS ON ARMY AIRCRAFT AND UAVS. THE PS TEAM ALSO KEEPS AN EYE ON RAPID FIELDING OF EQUIPMENT.

MRAPS, ROUTE CLEARANCE VEHICLES, NEW HELMETS, BALLISTIC GLASSES, HYDRATION SYSTEMS, NEW SIGHT OPTICS AND BODY ARMOR ARE ITEMS THAT HAVE BEEN FIELDED FAR QUICKER THAN NORMAL PROVISIONING. PS OFTEN PROVIDES MAINTENANCE AND PMCS INFORMATION ON THESE SYSTEMS AHEAD OF PERMANENT ARMY TECHNICAL MANUALS.



...TOOLS AND TMDE GAUGES. GROUND ROBOTICS, FIELD KITCHENS, UNIFORMS, HELMETS, WEB GEAR AND PROTECTIVE VESTS ARE UNDER OUR WATCHFUL EYES. AND, IF YOU'RE INTO LOGISTICS MANAGEMENT, WE COVER THAT TOO.

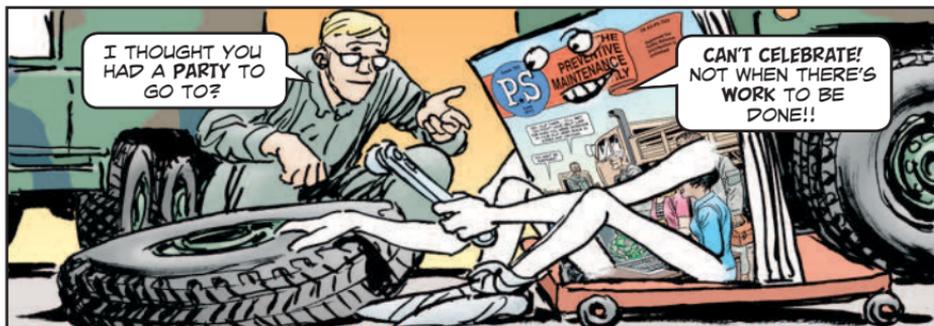
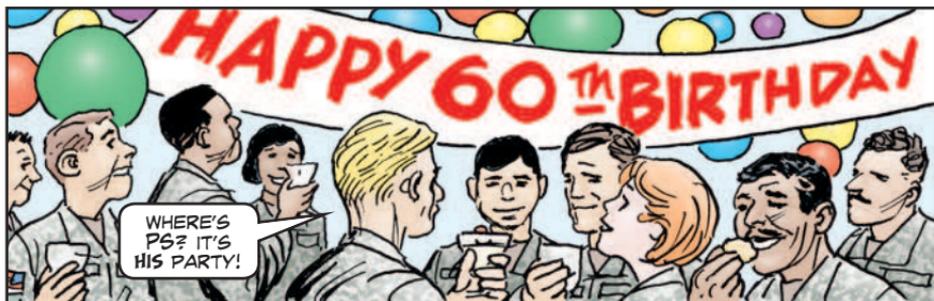


YOU CAN'T CHANGE WHAT WE'VE DONE IN THE PAST, BUT YOU **CAN** AFFECT WHAT WE'LL DO IN THE FUTURE.

SO HERE'S YOUR CHANCE TO AFFECT THE NEXT FIVE YEARS OF PS MAGAZINE.

PLEASE TAKE A FEW MOMENTS TO COMPLETE THE SHORT SURVEY ON PAGES 29-32. WE'LL WELCOME IT AND YOU'LL BE GLAD YOU DID.

Celebrating Relevance



PS Magazine remains as relevant to the Army today as it was in June 1951, even though Army equipment is now far more capable and lethal. Nonetheless, the effects of OPTEMPO, friction, vibration, heat, cold, sand, water and chemical reactions still produce corrosion, equipment wear and metal fatigue that remain as destructive as ever.

Then, as now, maintenance is about reducing these harmful effects and making sure equipment is capable of performing unit missions. Unfortunately, mission and maintenance are often seen as competing actions. Truth is—they are flip sides of the same mission success coin.

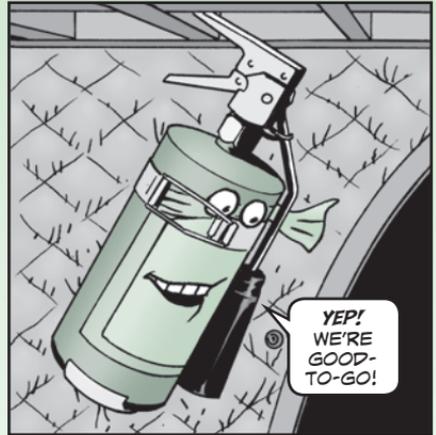
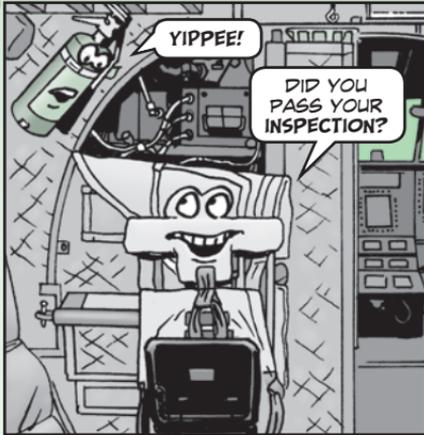
Tactical operations are planned with the expectation that equipment will work as intended. Skip PMCS and sooner or later equipment won't work. That places mission success and Soldiers at risk.

The *PS* slogan, "Would You Stake Your Life, *right now*, on the Condition of Your Equipment?" gets right to the heart of risk management and mission accomplishment. Are you keeping your equipment ready?

Preventive maintenance is what keeps the world's best equipment in the hands of Soldiers. That equipment works best which is best maintained.

Here's to another 60 years of *PS Magazine* and preventive maintenance!

KEEP AIRCRAFT FLYING!



A portable fire extinguisher with a broken safety seal or an expired DD Form 1574 yellow inspection tag deadlines an aircraft.

Turn the fire extinguisher into the shop for technical inspection. The shop will weigh it, recharge it, replace the safety wire, and retag it. If this cannot be done before the next mission, replace the fire extinguisher.

If your unit SOP allows and you have your commander's OK, borrow a good extinguisher from another bird of the same model. Write it up in that aircraft's logbook and note what aircraft it came from and what aircraft it went to. When the mission is over, make sure the fire extinguisher is returned to the same aircraft it was taken from.

It is also important to protect fire extinguisher data plates. The data plate is important because the extinguisher gets inspected and weighed every 6 months to ensure the gross weight has not dropped 4 or more ounces. Check the info on the data plate.

If the weight measurement is not legible on the data plate, the fire extinguisher is unserviceable and must be replaced with a new one, NSN 6830-00-555-8837, like it says in Para 2-5C, step (5) in TM 1-1500-204-23-1.

To protect the data plate information, use the attached DD Form 1574 serviceability tag to cover the data plate. Overlay the tag with a piece of clear plastic. Then tape it down with duct tape, NSN 5640-00-103-2254.

No Slip Shock Strut Tool

EVERY TIME I TRY TO WORK ON THE MAIN LANDING GEAR SHOCK STRUTS THIS SOCKET KEEPS SLIPPING OFF THE NUT.

TRY THIS, IT'S MADE SPECIFICALLY FOR THE SHOCK STRUTS SO IT WON'T SLIP OFF THE NUT!



Dear Sergeant Blade,

When working on the Black Hawk's main landing gear shock struts, our mechanics have a tough time with using a socket on the end of the torque wrench because the socket is always slipping off the nut.

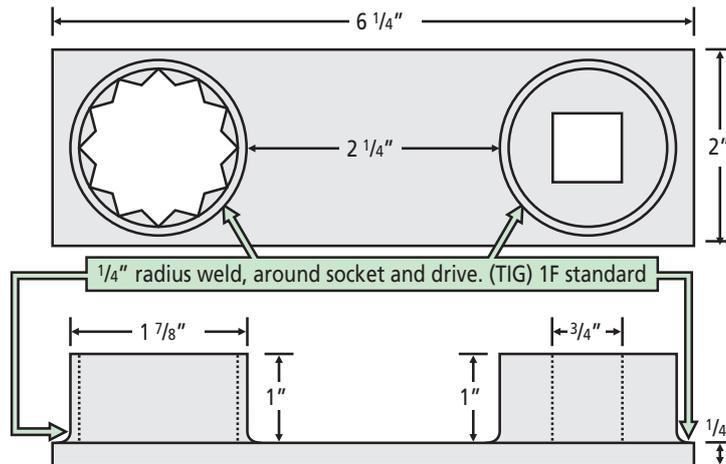
The initial setup in WP 0453 00 of TM 1-1520-237-23-6 calls for a torque wrench. When it's time to use the wrench, we have to work in a very tight space. The nut we are trying to work on is behind the main landing gear drag beam in between the tire and the drag beam.

The torque on the nut is 110-220 lb-ft. If you try to use a socket on the end of a wrench, it slips off the shock strut nut every time. That gets frustrating!

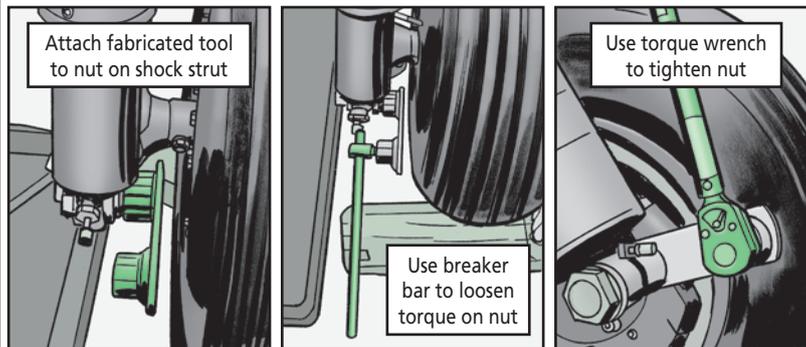
To solve the slippery socket problem, we made a shock strut tool that will not slip off the nut and works every time. Here is how to make it:

You need some 1/4-in steel stock (MIL-S-6758, comp 4130) and a 12 point, 3/4-in drive, socket, NSN 5120-00-189-7931. Cut the socket in half and then weld (TIG weld using a 1F standard) the halves at the opposite ends of the steel plate as shown in the diagram below.

The tool should look like so:



The tool is used at a 90° angle for torque (therefore not adding to the length of the torque wrench nor torque factor). The tool can be used on a breaker bar to loosen the torque on the nut.



This tool saves us time and prevents possible damage to the shock strut nut and our knuckles when removing it.

SGT James Jones
Ft Hood, TX

Dear SGT Jones,
Thanks for the great idea. Now you can do maintenance without slipping. "Rotor" Blade

Is Your Sling OK?



A NORMAL AIRCRAFT RECOVERY LOOKS LIKE THIS.

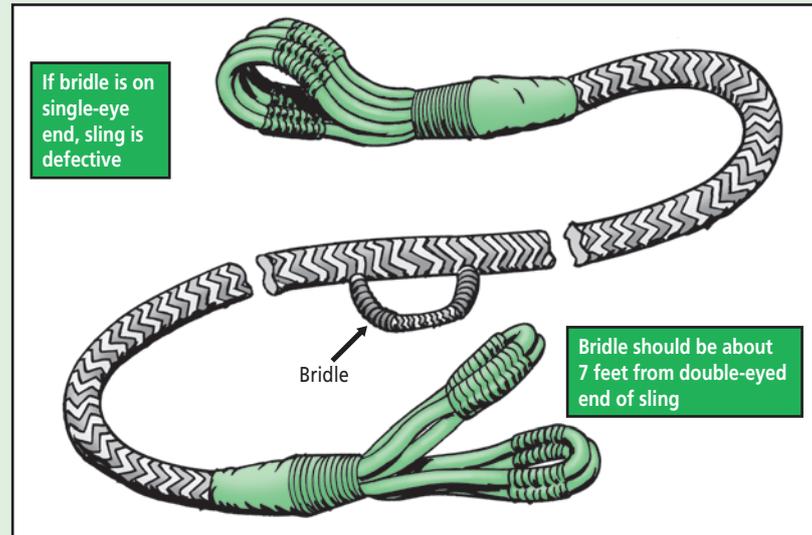
AN AIRCRAFT WITH A BAD ATTITUDE LOOKS LIKE THIS.

HEY, IF YOU WERE GETTING HAULED AROUND LIKE THIS, YOU'D HAVE A BAD ATTITUDE, TOO!

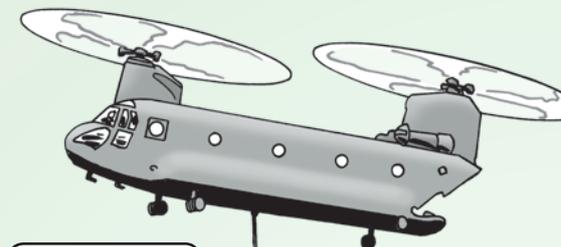
MAKE SURE YOU GET RID OF BAD SLINGS OR YOU'LL HAVE A BAD ATTITUDE.



The problem with the sling is that the bridle was placed at the wrong end of the sling by the manufacturer. The sling has two distinct ends. On the "single-eyed" end, you have one eyelet. On the "double-eyed" end, you have two eyelets. The bridle of a correctly manufactured sling should be approximately seven feet from the double-eyed end. If the bridle is in **any other** location on the sling, it is defective.



When rigging an aircraft for recovery, the double-eye end of the sling is **ALWAYS** placed on the side of/pointing to the aircraft being recovered. If a defective sling is used, it will cause a severe nose down attitude of the aircraft being recovered and can cause further damage to the aircraft when it is set down upon completion of the recovery.



DEFECTIVE SLINGS SHOULD BE SHIPPED TO...

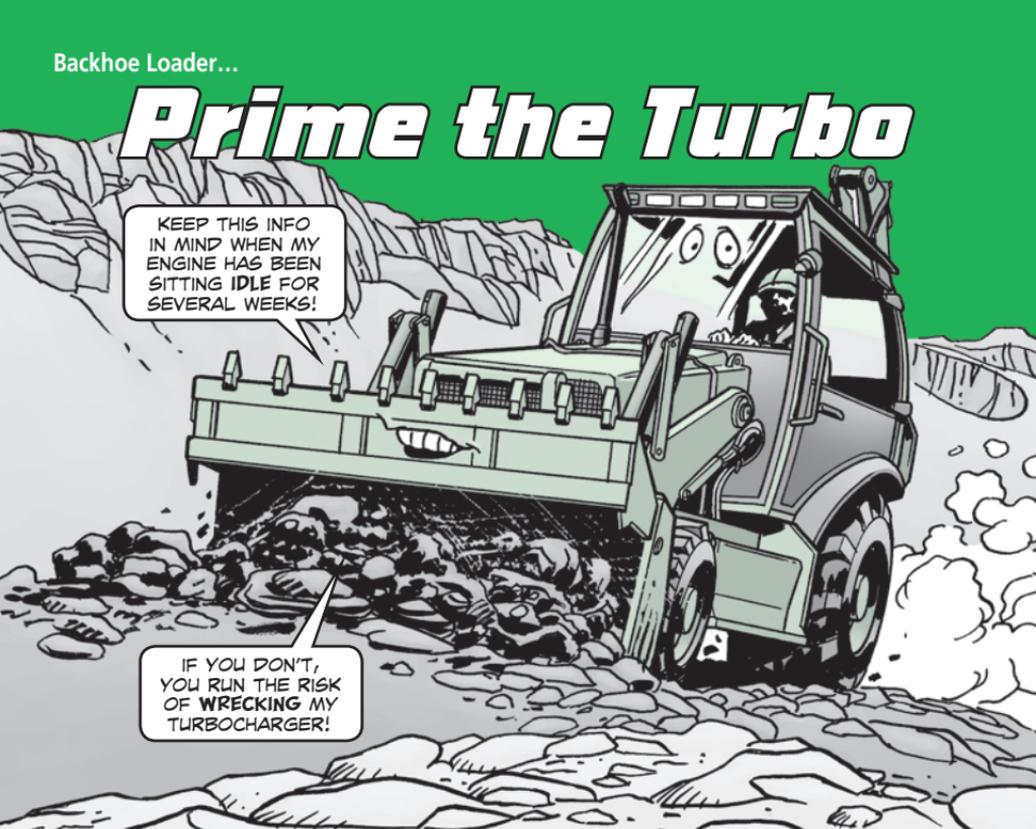
URS Federal Services
 Attn: Tammy Altobello
 Asst. Logistics Manager
 Joint Base McGuire-Dix-Lakehurst
 Bldg# 194, Hangar 5, Dunn Street
 Lakehurst, NJ 08733-5009

If you have the unit maintenance aerial recovery kit (UMARK), there could be a manufacturing defect in the slings, NSN 3940-01-538-5218, P/N 94H520-2.

Users sometimes refer to this sling as the 30-ft heavyweight black/white sling with bridle.

All units that have a UMARK kit need to identify, inspect, and purge all defective slings from their kits **now!**

Prime the Turbo



KEEP THIS INFO
IN MIND WHEN MY
ENGINE HAS BEEN
SITTING IDLE FOR
SEVERAL WEEKS!

IF YOU DON'T,
YOU RUN THE RISK
OF **WRECKING MY**
TURBOCHARGER!

Operators, when the vehicle sits idle for several weeks at a time, make sure you prime the backhoe loader's (BHL) turbocharger during start up. Do the same when the engine's oil filter gets replaced.

You'll find this CAUTION statement scattered throughout TM 5-2420-231-10. That's because the impeller inside the engine's turbocharger needs lubrication when it first starts and warms up.

Without oil being pumped into the impeller's bearings, they can burn out. Then you're stuck while your BHL goes to support or a DOL shop for a ruined turbocharger. Did someone say heavy chump change and unnecessary downtime?



FOR THE
DEAL ON HOW
TO PRIME THE
TURBOCHARGER,
TAKE A LOOK AT
WP 0010-3 IN
THE -10 TM.

Priming Turbocharger

CAUTION

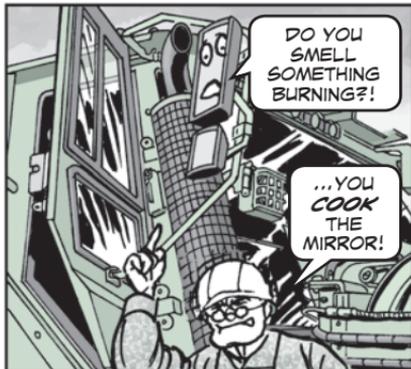
If the BHL has not been operated for several weeks or engine oil filter has been replaced, prime turbocharger with oil per Priming Turbocharger procedure below. Failure to comply may result in damage to turbocharger.

HMEE...

DON'T COOK THE MIRROR!



HERE'S WHAT HAPPENS IF YOU OPEN THE DOOR AND LEAVE IT NEXT TO THE EXHAUST...



Operators, don't leave the curbside door in the open position next to the exhaust pipe while the excavator idles.

It doesn't take long for the heat from the exhaust to cook the mirror. The heat will crack the mirror's glass, especially in cold weather. Also, the mirror's plastic housing will melt. Talk about *à la mode!*

So, make sure you close the door after you open it, or at least keep it away from the exhaust pipe.

Construction Equipment...

Tire and Wheel Assembly NSNs

HERE'S A LIST OF WHEEL ASSEMBLY AND TIRE NSNs FOR CONSTRUCTION EQUIPMENT.

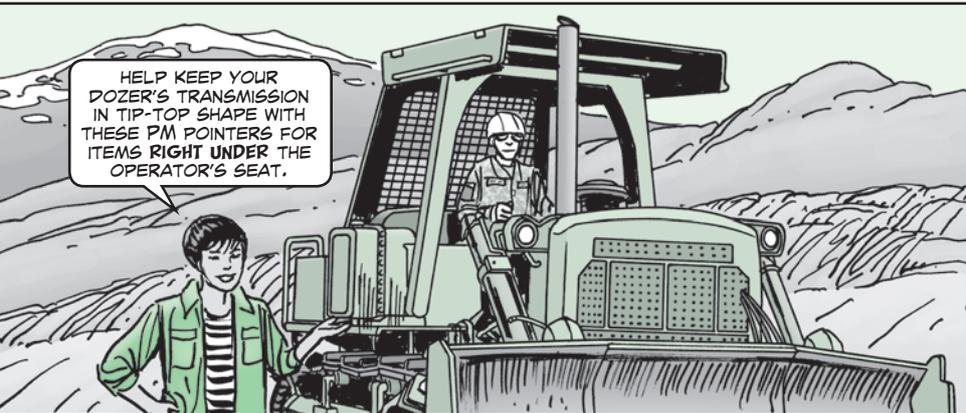
KEEP IT HANDY UNTIL MORE EQUIPMENT IS ADDED TO THE LIST.

Vehicle System	Assembly NSN 2530-01-	Tire NSN 2610-01-	Size
IHMEE (right side)	543-8303	517-5835	14.00R24
IHMEE (left)	543-8304	517-5835	14.00R24
130G armored grader (right)	549-6588	543-4493	13.00x24
130G armored grader (left)	582-3904	543-4493	13.00x24
MW24C scoop loader (right)	581-5782	726-5165	20.50x25
MW24C scoop loader (left)	584-7913	726-5165	20.50x25
CS-563D vibratory roller (non-armored)	572-7187	559-2780	23.1x26
SEE	527-9584	220-6413	12.50R20

What's Under the Seat?



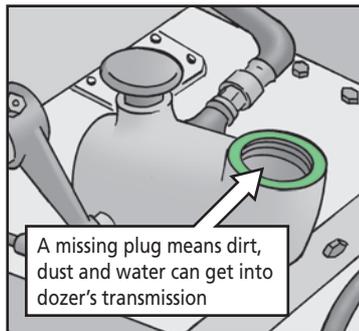
HELP KEEP YOUR DOZER'S TRANSMISSION IN TIP-TOP SHAPE WITH THESE PM POINTERS FOR ITEMS RIGHT UNDER THE OPERATOR'S SEAT.



Snug Filler Plug

Operation at the worksite causes vehicle vibration. Vibration loosens the plug in the transmission's oil filler tube. Once loosened, the plug can fall off. A missing plug means that sand, dust and water can get into the dozer's transmission.

So before the day's run, make sure the plug is snug. Never stuff a rag or anything else in the filler tube if the plug is missing. Instead, have your mechanic replace the plug with NSN 4730-01-249-8409. It's shown as Item 7 in Fig 82 of TM 5-2410-237-24P.

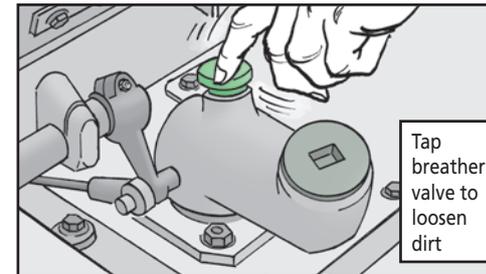


Breather Valve Reminder

A plugged breather valve will KO the dozer's transmission. It usually gets overlooked because of its location under the operator's seat. Two things happen when the valve gets clogged:

- Pressure builds in the transmission and causes seals to blow. When the seals go, lube goes, too. No lube means added friction and gear damage.
- Pressure build-up also creates a vacuum in the transmission. That causes the transmission to stall or lock up. Then you can't move!

So keep the breather valve clean. It's simple to do. Just tap on the valve with your finger to loosen any dirt stuck inside. If the valve won't go down or come back up, have your mechanic replace the valve, NSN 2520-01-164-0077. It's shown as Item 9 in Fig 83 of TM 5-2410-237-24P.



Construction Equipment...

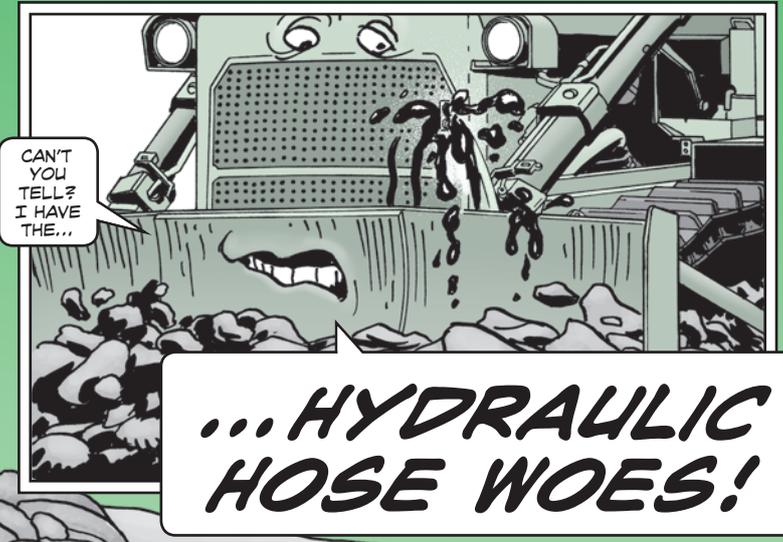
TEAM LISTING INFO

KEEP THESE PHONE NUMBERS AND E-MAILS HANDY WHEN YOU HAVE QUESTIONS OR NEED UP-TO-DATE INFORMATION ON THE ARMY'S CONSTRUCTION EQUIPMENT.

Dialing Prefix

Comm.	-(586) 239-XXXX
DSN	273-XXXX
Loaders	3114/3116/3117 DAMI_loaders@conus.army.mil
Paving and Compaction	3097/3098/3099 DAMI_rollers@conus.army.mil
Excavators	3051/3052/3053 DAMI_excavators@conus.army.mil
Dozers, Graders, Concrete Paving, Scrapers and Compressors	3058/3059/3060/3061/3062/3063/3069/3091/3092/3094/ DAMI_compressors@conus.army.mil

Send suggestions, future articles and subscription requests for the "Moving Dirt" newsletter to: DAMI_loaders@conus.army.mil



HYDRAULIC HOSES THAT OPERATE THE DOZER'S BLADE ARE KNOWN TO SPRING A LEAK.



WHEN THAT HAPPENS, THE BLADE WILL MOVE *SLUGGISHLY* OR *NOT AT ALL*.

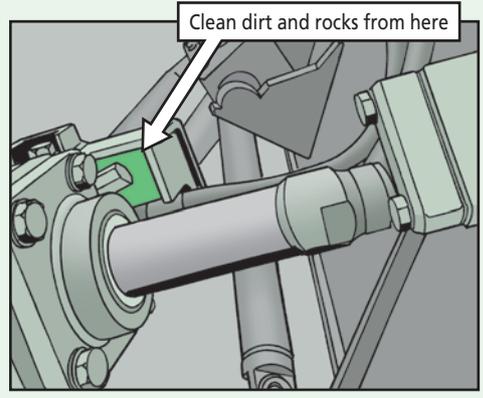
SO, HERE ARE **TWO** AREAS THAT NEED YOUR ATTENTION.

Rock Guard Crud

The rock guard on the dozer blade's tilt cylinder is a haven for mud, small rocks, dirt and sand.

All that crud breaks down the hydraulic hoses inside the rock guard. When hydraulic hoses get in bad shape, they leak. Without hydraulic oil, the blade won't retract, elevate or push dirt forward.

Use a high-pressure water hose on the tilt cylinder's rock guard. You may have to get your mechanic to remove the rock guard so you can get out all that hard-packed crud.



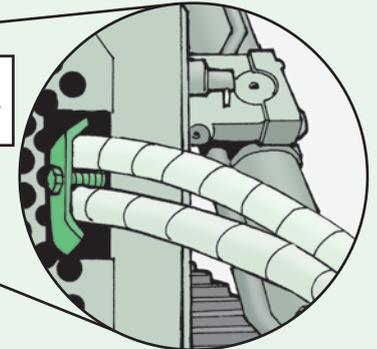
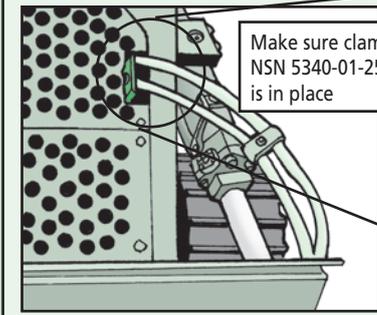
Clamp the Hose

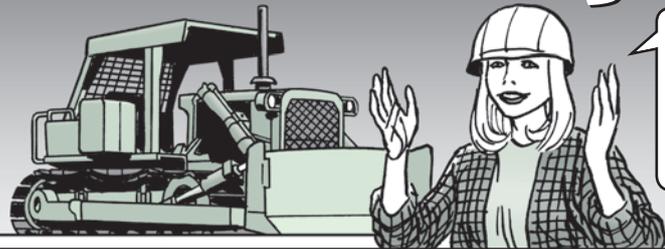
Mechanics, the hydraulic hoses that mount next to the roadside edge of the radiator grill can end up with a raw deal.

There's a clamp that holds these hoses in place. Sometimes the clamp goes missing when the hydraulic lines are replaced, or when the engine is overhauled by support. Without the clamp, the hoses rub against the grill's guard frame when the dozer's blade is raised or lowered.

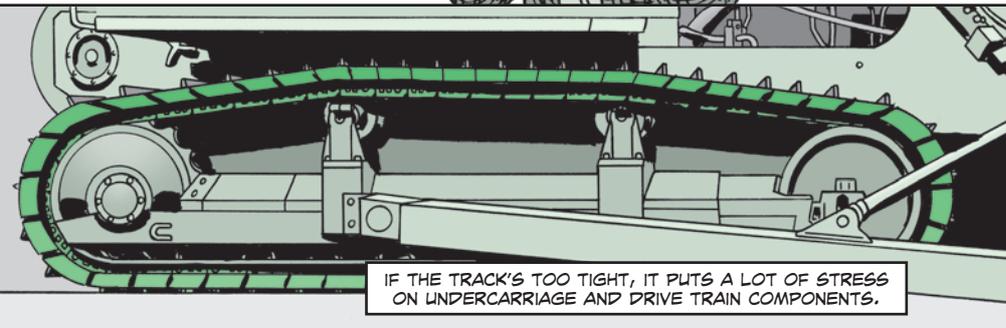
Enough rubbing causes the hoses to spring a leak. That puts the dozer's blade out of commission. Without hydraulic oil, it won't retract, elevate or push dirt forward.

Before the day's run, eyeball the hydraulic hoses where they pass through the radiator grill. The clamp should be snug against the hoses. If it's missing, order a new clamp with NSN 5340-01-258-0942.

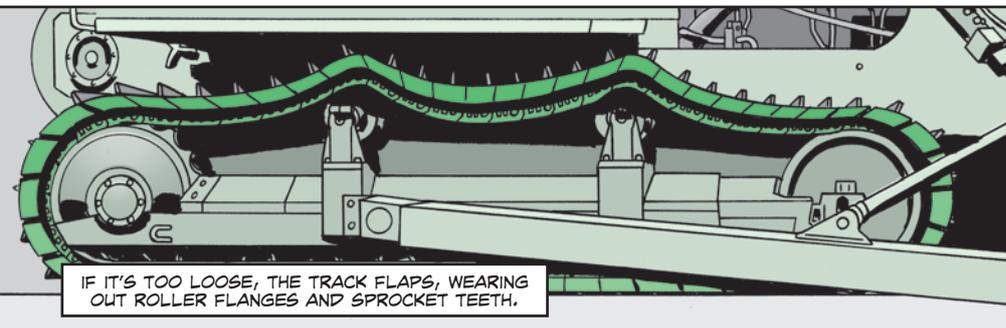




OPERATORS, THE WELL-BEING OF THE D7G DOZER'S UNDERCARRIAGE COMPONENTS HINGES ON GOOD TRACK ADJUSTMENT.



IF THE TRACK'S TOO TIGHT, IT PUTS A LOT OF STRESS ON UNDERCARRIAGE AND DRIVE TRAIN COMPONENTS.



IF IT'S TOO LOOSE, THE TRACK FLAPS, WEARING OUT ROLLER FLANGES AND SPROCKET TEETH.

The amount of sag in your track tells you when to make an adjustment. Measure sag by laying a straight edge across the top of the track from the idler to the front track support roller. If the track sags more than 1 1/2 inches in the middle, it's time for your mechanic to adjust it.

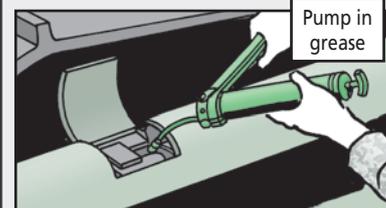


Measure sag here



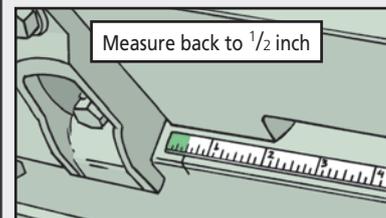
MECHANICS, HERE'S HOW TO DO IT...

1. Make sure the dozer is on level ground.
2. Open the cover to the track adjustment mechanism and connect a grease gun to the lube fitting. Pump in grease until the track idler is as far forward as it will go. At this point, the track will be almost straight between the front carrier roller and the idler.



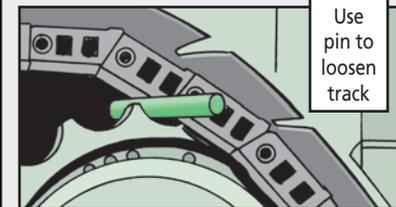
Pump in grease

3. Put a mark on the track roller frame, 1/2 inch behind the rear edge of the idler bearing assembly wear plate.



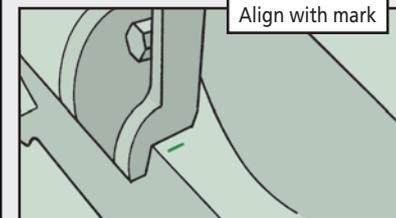
Measure back to 1/2 inch

4. Open the hydraulic relief valve 1/6 turn at a time. You can tell if grease is escaping by watching your track. It'll get loose. Wear eye protection while pumping grease, and never look directly into the relief valve. A shot of high-pressure grease could blind you.
5. Once the track is loose, place a track pin or drawbar pin between the sprocket teeth and the track.



Use pin to loosen track

6. Start your dozer and back it up until the idler backs up 1/2 inch or more. The pin will be at roughly the 12 o'clock position.
7. Close the relief valve. Connect the grease gun and pump in grease until the rear edge of the idler bearing assembly aligns with the mark on the roller frame.



Align with mark



Rules to Doze By

- Slow down, especially in reverse.
- Keep track alignment right on the nose.
- Clean mud and debris from the undercarriage.
- Use rock guards to reduce wear.
- Never spin the track.
- Check for loose or missing hardware. Make sure all hardware is torqued.

ONCE YOUR DOZER IS BACK ON THE JOB, FOLLOW THIS CHECKLIST FOR A LONGER UNDERCARRIAGE LIFE:

SOME RULES FOR THE RUCKSACK!

SOME-TIMES YOU DON'T HAVE MUCH SAY IN THINGS.

TAKE, FOR INSTANCE, THE COMPONENTS OF YOUR MODULAR LIGHTWEIGHT LOAD-CARRYING EQUIPMENT (MOLLE).

YOU NORMALLY DON'T GET TO CHOOSE THE PACKS, POUCHES AND BAGS YOU WEAR ON A GIVEN MISSION.

NOR DO YOU CHOOSE THEIR ARRANGEMENT.

OFTEN, THOSE DECISIONS ARE MADE AT THE COMPANY LEVEL OR HIGHER.

BUT YOU DO HAVE SOME SAY ABOUT A COUPLE OF THINGS...

ONE IS HOW YOU'RE GOING TO HEFT THE MOLLE'S LARGE RUCKSACK ONTO YOUR BACK.

ANOTHER IS HOW YOU'RE GOING TO WEAR THE RUCKSACK AND PACK FRAME.

A full rucksack is a heavy load all by itself. Add a hydration system and a couple of sustainment pouches and you're facing 75 pounds of dead weight. That's too much weight to sling onto your back with one arm. Here's a better way:

Use the buddy system. Ask a friend to help you put on the rucksack. Then return the favor.

A Heavy Load

Use buddy system

While wearing a tightly cinched, padded, rucksack waistbelt, you can reduce the load on your shoulders. Use the load-lifter straps to adjust the pack while you march. You can transfer the weight of the pack from the shoulders to the hips by cinching the 1-in webbing down. You can transfer weight from the hips to the shoulders by adjusting the non-slip buckle to loosen the webbing.

When you're carrying a heavy load, the load-lifter straps let you reduce numbness in your arms by transferring some of the weight to your hips. When your hips get tired, you can shift the weight more to your shoulders.

Where You Wear It



How to Pack It

Pack dense, heavy objects high in the rucksack. Put them as close to your back as possible. The straps that secure the radio inside the ruck are located high and close to your back. That's because the radio's heavy. Never carry heavy objects placed low and away from your back. That can make your muscles tire quickly.

Use This Handy Tie-Down System

Use this tie-down system (bungee cord) when you need to tie down a tent, vehicle tarp, tool box, fuel can or light loads.

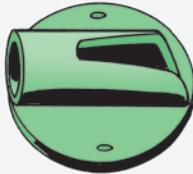
Here's a list of the cord and hardware that's available:

Item	NSN	Size/Qty
Extenders	3990-01-387-3699	50
Hooks	3990-01-387-3702	50
Anchors	3990-01-387-3667	50
Tarp hooks	3990-01-387-3687	50
Cord	4020-01-387-3781	150-ft x 7/16-in
Cord	4020-01-545-0772	200-ft x 3/8-in
Cord	5340-01-545-0838	200-ft x 5/16-in
Cord	4020-01-387-3707	300-ft x 7/16-in
Cord	5340-01-545-0840	400-ft x 5/16-in

Extenders, 50-count,
NSN 3990-01-387-3699



Anchors, 50-count,
NSN 3990-01-387-3667



Hooks, 50-count,
NSN 3990-01-387-3702



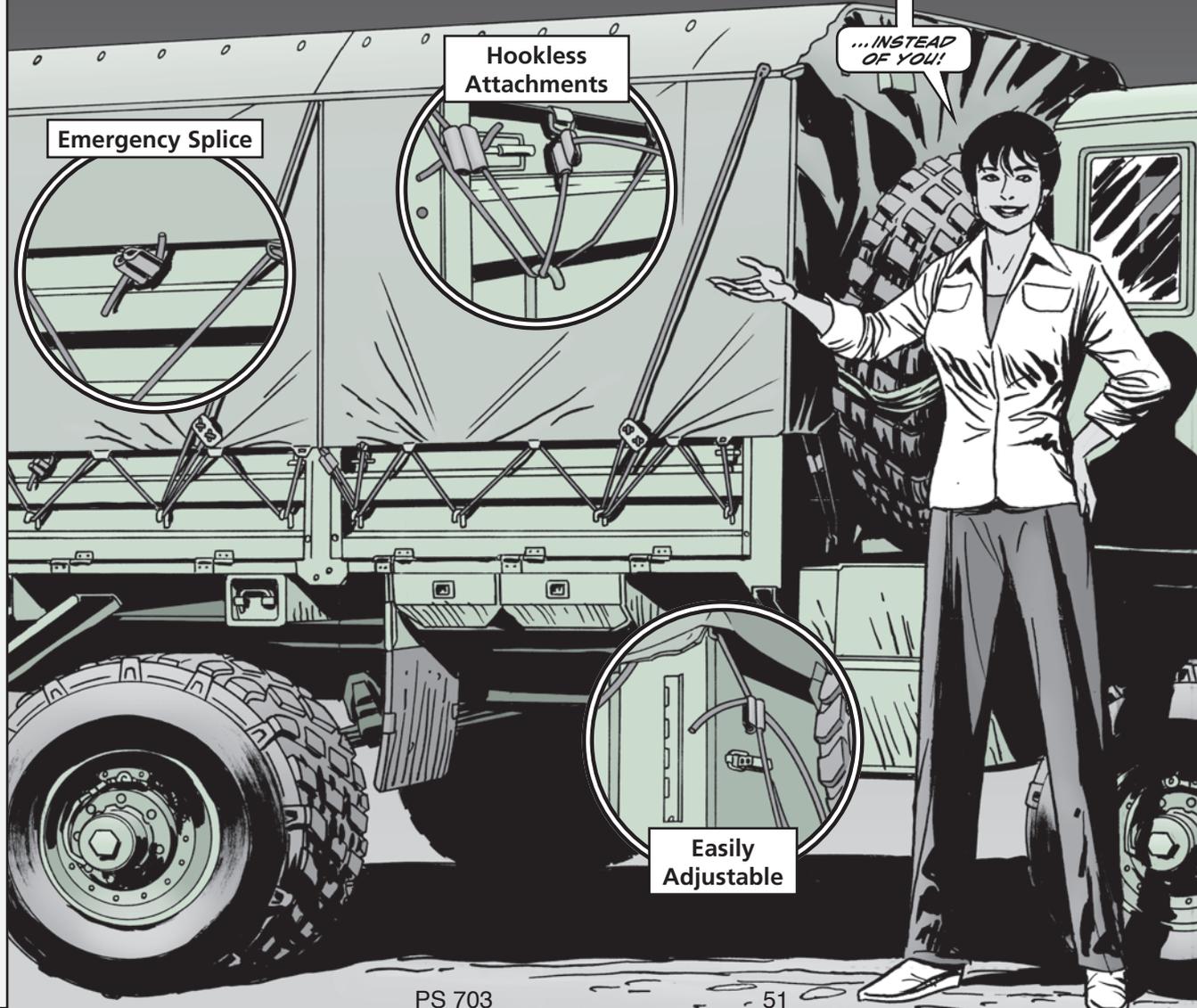
Tarp Hooks, 50-count,
NSN 3990-01-387-3687



The extenders are used to make slip-knots and complete circles where hooks sometimes don't fit. Anchors can be attached permanently where you need them every day.

IT'S EASY TO SEE HOW THIS NEW SYSTEM WILL KEEP YOUR EQUIPMENT TIED UP...

...INSTEAD OF YOU!



Tents...

STEEL-DRIVIN' MAN!



Driving wooden tent pins can drive you to distraction. With time and use, wooden pins fall apart: Wood rots. Points become blunt. Heads get mashed flat and split. Sooner or later you'll haul off and whack that pin hard and blast it to splinters.

The remedy is to make like John Henry and be a steel-driving man. Get some steel pins to anchor your tents. They're not only more durable, but also tough enough to pierce hard, rocky or frozen soil.



HERE ARE A FEW STEEL TENT PINS YOU SHOULD CONSIDER...

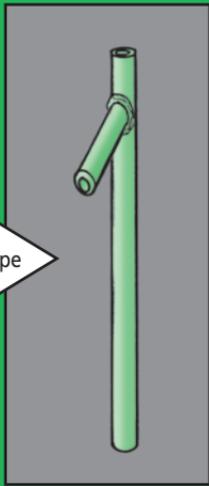
Length in inches	NSN 8430-
12	00-823-7451
12	01-075-4017
18	00-985-7461
24	01-470-9568

Homemade Pins

Pressed for time? Can't wait for your order to arrive? Ask your metal shop to fabricate steel tent pins. They'll need standard steel pipe about 1 1/2 inches in diameter. The pipe must have at least 1/4-in walls to withstand pounding from a sledge or 4-lb hammer.

Make a tent pin out of steel pipe

Cut the pipe into 2-ft lengths and 4-in lengths. Weld a 4-in piece to a 2-ft piece, about four inches down from the top. Weld them so that they form a 45° angle. That way, you can hook a guyline on the pin and it won't slide off.



HERE'S AN LIA WEBSITE WORTH A LOOK!

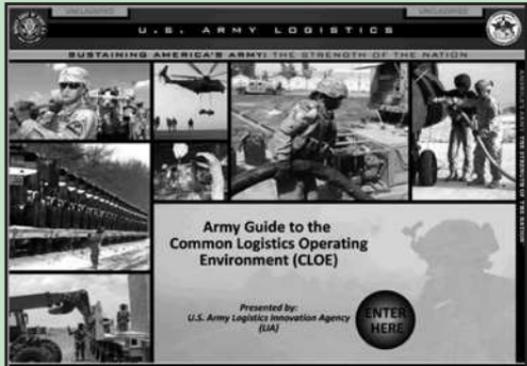


Dear Editor,

There isn't much information out there on the Common Logistics Operating Environment (CLOE), even though many Soldiers have heard about it. While it applies mostly to higher Army levels and the Army acquisition community, it may be of interest to a wider audience.

The Army G-4's Logistics Innovation Agency (LIA) has published an excellent website with the details:

<https://lia.army.mil/cloe/>



Joe Lewis
Technical Advisor
Army Test & Evaluation Command
APG, MD

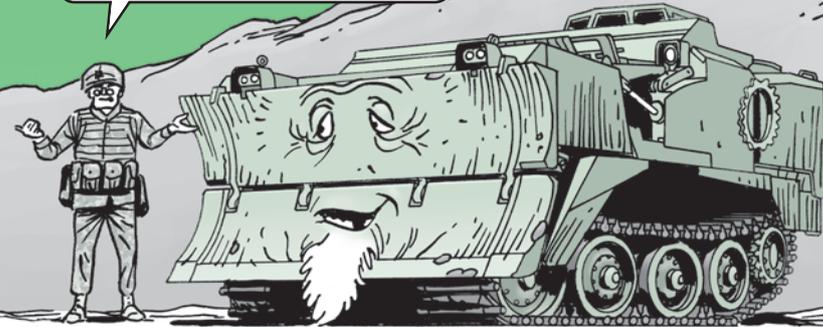
Editor's note: Thanks for the lead, Mr. Lewis. Readers, LIA's website also has a downloadable glossary of logistics terms, with hotlinks to Army policies and publications.



UTAP Solves Equipment Mysteries

WHETHER YOUR EQUIPMENT IS STATE-OF-THE-ART AND FIELDIED THIS YEAR...

...OR A STURDY OLD-TIMER THAT STILL PULLS ITS WEIGHT IN THE FIELD, UTAP HAS WHAT YOU NEED TO KEEP THEM BOTH IN SHAPE.



DOES YOUR UNIT HAVE A PIECE OF EQUIPMENT THAT YOU'VE NEVER USED?



NOW YOU CAN GET TRAINED ON IT!



THE UNIT TRAINING ASSISTANCE PROGRAM (UTAP) AT TACOM LIFE CYCLE MANAGEMENT COMMAND HOLDS THE MASTER KEY TO YOUR TACOM-MANAGED EQUIPMENT.



UTAP HOSTS A HELPFUL WEB-BASED LIBRARY FOR TACOM-SPONSORED TRAINING MATERIALS.



At the UTAP website, you'll find the training materials you need if you receive a TACOM-managed piece of equipment. These are the same new equipment training packages that are developed whenever TACOM fields a new system.

The training packages usually include the programs of instruction, instructor/student guides and slideshow presentations for the associated lesson plans. There is also material on individual items like engines and transmissions.

The UTAP website includes instructional videos that you can download or watch right there. Some examples of recent video titles are *Absorbed Glass Mat and Lead-Acid Batteries*, *Automotive Air Conditioning System Fundamentals*, the *Gunner's Restraint System* (referenced in the latest SOUM 10-022 on GRS), and the *Maintenance Support Device V2 (MSDV2)*.

UTAP's guidance for old equipment is an extra bonus. So even if your unit has inherited an old M9 ACE and you want to learn how to operate or maintain it, you can still find out how.

Best of all, you don't have to wonder if UTAP's info is good. All of the training materials on the website have been approved by the associated program managers (PMs) or system acquisition managers.

Most of the training material is updated annually, unless it's a piece of equipment that is modified more frequently. For example, PM MRAP updates their material monthly, especially safety information releases. When they field an MRAP, they give the UTAP website address to the units so Soldiers can always reach back and grab the most current training materials!

Now it's time to grab your CAC and check it out:

<https://utap.army.mil>

You can also sign in to AKO and visit:

<https://www.us.army.mil/suite/page/601667>

IF YOU CAN'T FIND WHAT YOU'RE LOOKING FOR AT THE UTAP WEBSITE, HAVE QUESTIONS OR NEED ASSISTANCE, CHOOSE THE CUSTOMER ASSISTANCE TAB, OR EMAIL:

dami_utap@conus.army.mil
OR, CALL DSN 786-4276,
(536) 282-4276.



DTB Helps Units LEAP Deployment Hurdles



If you're part of a deployed or deploying unit, one of the biggest challenges can be getting supplies and equipment in the field.

To help you and your unit successfully complete the mission, the Defense Logistics Agency (DLA) publishes the Deployment Tool Book (DTB) and updates it daily.

DTB GIVES YOU NSN-LEVEL DETAIL FOR CRITICAL SUPPLIES AND EQUIPMENT.

YOU CAN USE DTB TO GET UP-TO-DATE INFORMATION ON THE FOLLOWING CLASSES OF SUPPLY...



- Subsistence
- Individual equipment
- Petroleum, oils and lubricants
- Construction
- Personal demand items
- Medical
- Repair parts

The DTB covers troop support commodities and bulk fuel contract data. Coverage of these commodities will be enhanced with land, aviation and maritime supply chain information being added over time. However, ammunition and major end items such as tanks are not currently planned for DTB.

DTB also has points of contact for DLA liaison officers at the global combatant commands; customer service representatives at the major subordinate commands; and DLA's commodity managers, prime vendors, and regional commands.

How to Access DTB

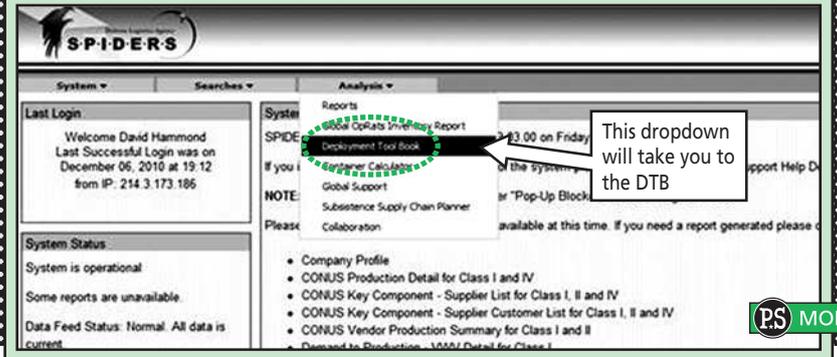
THE CURRENT ELECTRONIC VERSION OF DTB IS FOUND IN THE SUPPORT PLANNING INTEGRATED DATA ENTERPRISE READINESS SYSTEM (SPIDERS):

<https://spiders.dla.mil/>



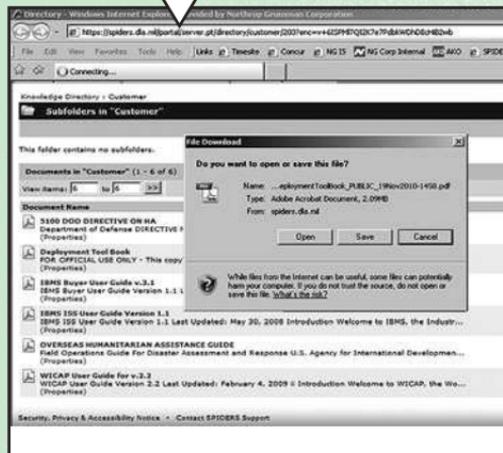
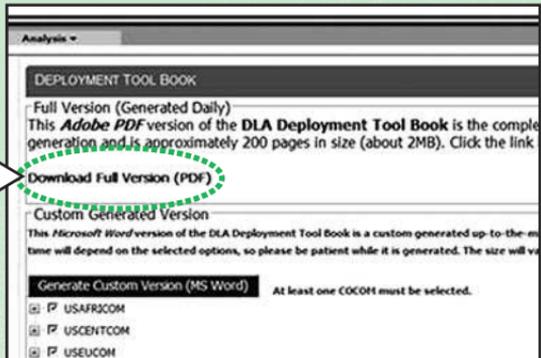
DTB Registration

1. From the home page, click on User Registration and follow instructions for obtaining a customer user account. You'll need to use your CAC.
2. After obtaining the User ID and password, sign in and select the DLA Deployment Tool Book link. The link is located on the left-side menu of the customer home page. Since DTB pulls from the SPIDERS database, you'll always get the most current data. (Hot Tip—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 DTB as a PDF or as an MS Word document in a customized version based on the parameters you set.

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



SEND RECOMMENDATIONS FOR DTB CHANGES, ADDITIONS OR DELETIONS TO:
deploymenttoolbook@dla.mil



Penetrating Fluid NSNs

Got a part, nut, screw or hinge that's rusted in place? A few drops of penetrating fluid will get it moving in no time. NSN 6850-00-973-9091 brings a box of 12 10-oz spray cans. Get a box of 24 16-oz bottles with NSN 6850-00-508-0076.

Self-sealing Bag NSNs

NEED SOME SELF-SEALING PLASTIC BAGS TO HOLD AND PROTECT SMALL PARTS AND OTHER ITEMS?

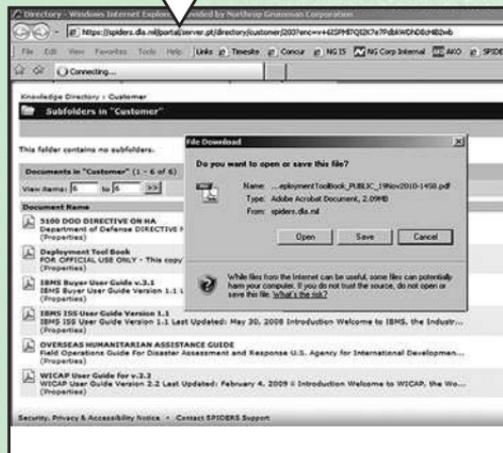
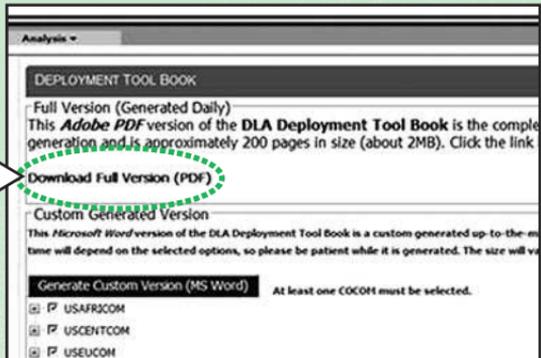
ORDER FROM THIS LIST...



NSN 8105-00-837-	Size (inches)	Qty
7753	4x4	1,000
7754	6x6	1,000
7755	8x8	1,000
7756	11x10½	500
7757	12x12	500

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Step into the Portal of Power!

THE PORTAL CAN TAKE YOU TO RECENTLY PUBLISHED PRODUCTS LIKE TC 4-11.46, CONVOY PROTECTION PLATFORM GUNNERY (APR 10).

THAT TC HAS THE FIRST ARMY-WIDE STANDARDIZED TABLE FOR A GUNNERY TRAINING PROGRAM FOR SUSTAINMENT UNITS.

BE SURE TO ADD THE PORTAL TO YOUR "FAVORITES" LIST!

Wouldn't it be great if you could find all of the training, doctrine and force design information your unit needs in one place? Well, now you can!

The Combined Arms Support Command (CASCOM) has created the Sustainment Unit One Stop portal. It functions like a powerful directory to help you find essential sustainment and logistics unit resources. Instead of sorting through multiple websites to get the information you need, now you can leap through one portal and zip out to a universe full of knowledge.

The portal serves as a stepping stone to unit-focused pages for theater sustainment commands, expeditionary sustainment commands, sustainment brigades, combat sustainment support battalions, brigade support battalions and aviation support battalions. It also covers quartermaster, ordnance and transportation units.

Be sure to check out the portal's links to useful logistics estimation tools, such as the Operational Logistics Planner and Logistics Estimation Worksheet. You'll also find other links to knowledge-sharing sites like the Army Training Network and the Sustainment Knowledge Network.



Connie's POST SCRIPTS

PS

HERE'S TO
GO MORE!



M1A2 SEP TARP FOR CROWS

Tankers, once the CROWS (common remotely-operated weapon station) has been added to your M1A2 SEP tank, one tarp just isn't big enough to cover the tank anymore. A second tarp is being added to the BII (WP 0555) in a future update to TM 9-2350-388-10-3. But until then, you'll need to order a second tarp yourself. Get the tarp with NSN 8340-00-841-6456 (olive drab) or NSN 2540-01-330-8062 (tan).

M-ATV WINDOW SEALANT

The Sikaflex® 221 adhesive sealant needed to install the windows on MRAP M-ATVs comes with NSN 8040-01-566-0125. Make a note until this NSN is added to the vehicle's technical manuals.

HGU-56P Chin Strap

The aircrew integrated helmet system's (AIHS) quick-release retention assembly can be ordered with NSN 8415-01-558-1082. But, if you just need the chin strap, use NSN 8415-01-558-3127. The chin pad comes with NSN 8475-01-434-0707.

CECOM CA Reject Notes Online Only

If you turn in a requisition to CECOM and get a CA reject, you will need to go online to view the CA note. The CA note tells you what further action is needed. CECOM no longer sends out CA reject notes by mail. Go to:

<https://lrc3.apg.army.mil/canotes/>

The notes can be accessed by NIIN or document number. Use your AKO user name and password to log in.

M917A1 Dump Truck Switch

Need a thermostatic switch for the transmission control heater on your M917A1 dump truck? Order a new switch with NSN 5930-01-096-7814. This NSN replaces the parts info shown as Item 17 in Fig 298 of TM 9-2320-273-24P (Feb 90).

AEPS Retiring, Applications Moving

The Army Electronic Product Support (AEPS) system will retire on June 30, 2011. Find information about terminated or redirected AEPS applications here:

<https://www.ilsc.army.mil/TULSA/>

The main replacement for AEPS is the TACOM-Unique Logistics Support Applications (TULSA). As each application migrates from AEPS to TULSA or to other websites, links will be updated. You will need your CAC to access TULSA:

<https://tulsa.tacom.army.mil>

For more information, contact Ray Rivero at DSN 786-1985, (586) 282-1985 or email:

ray.rivero@us.army.mil

RG31 MRAP Transmission Fluid

Use only TES-295 transmission fluid in the RG31 MRAP FOVs. Here's what is available:

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

Do not mix other types of fluids, like Dextron III or IV, in the RG31's transmission. That causes unnecessary wear-and-tear and performance problems.

M969A2 Fuel Tanker Engine

Need a new pump engine for your M969A2 fuel tanker? NSN 2815-01-471-4411 brings the 12-volt Lombardini engine that you have to install. The installation kit comes with NSN 2815-01-459-0006. Make a note until the NSNs are added to your TM.

HMMWV Front Clearance Indicator Light

Item 1 in Fig 61 of TM 9-2320-387-24P lists NSN 6220-01-418-4044 for the front clearance indicator light on your up-armored HMMWV, but that's wrong. Use NSN 6220-01-418-4404 to get the right light.

Up-Armored HMMWV Springs

Get a front spring for the M1114, M1151A1, M1152A1, M1165A1 and M1167 HMMWVs by ordering NSN 5360-01-457-8029. Use NSN 5360-01-524-6029 to get a rear spring for the M1151/A1, M1152/A1, M1165/A1 and M1167 HMMWVs. NSN 5360-01-457-8018 brings a rear spring for the M1114. Make a note until these NSNs are added to TM 9-2320-387-24P.

TROUBLE ACCESSING TECH PUBS?

There is an interface problem between Adobe Reader X® and Internet Explorer 7® (IE 7®) that disrupts the opening of large PDF files for PS Magazine and other technical manuals/bulletins. Because Adobe Reader X® is part of the Army Gold Master it's not possible to remove it and reload Adobe Reader 9®.

LOGSA has contacted Adobe® and they are looking into the problem.

There are two working solutions. First, use the Firefox® Internet browser to access the PDFs. Second, when using IE 7®, instead of trying to "OPEN" the PDF, "SAVE" it to your computer instead. That seems to get the file with little delay. It does, however, strip out the internal links. But, you'll have the publication to use.

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

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Issue 703

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TB 43-PS-703

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