



THE
PREVENTIVE
MAINTENANCE
MONTHLY

ISSUE 782 JANUARY 2018



COMBAT VEHICLES

- M119A2/A3 Towed Howitzers, Firing Pin Fix
- M88-Series Recovery Vehicles, Hydraulic Wrench PM
- M88-Series Recovery Vehicles, Stow the Boom
- Stryker, Close AC Inverter Access Door
- M1128 MGS Stryker Gun Tube Pitting
- Stryker, Plug Wheel Drive Assembly Leaks
- Stryker Hub Sight Glass, Fill/Drain Plugs



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- HMMWV Storage Compartment Contents
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- M917A2 Dump Truck Tire and Wheel Assembly Components



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TB 43-PS-782, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all Soldiers assigned to combat and combat support units and all Soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders. The use of product or company names does not constitute endorsement of those products, services or companies by the U.S. Army. The use of non-DoD hyperlinks, along with their content, does not constitute endorsement by DoD or DA. Neither DoD nor DA exercises any editorial control over, and cannot vouch for, content on non-DoD websites.

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STILL
NO CELL
SERVICE.

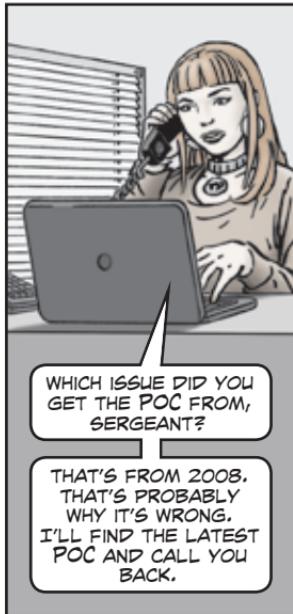
MAN, I KNOW
WHAT MY
NEW YEAR'S
RESOLUTION IS
GOING TO BE.

OH, YEAH.
PREVENTIVE
MAINTENANCE,
EVERY DAY,
**ALL YEAR
LONG!**



Looking for the 2017 Index? See Pages 27-34

Is The Word Still GOLDEN?



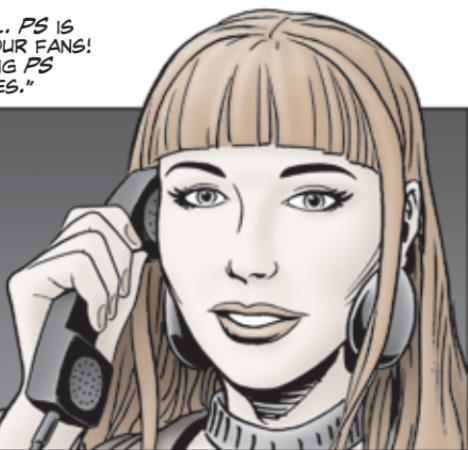
THAT'S FROM 2008.
THAT'S PROBABLY
WHY IT'S WRONG.
I'LL FIND THE LATEST
POC AND CALL YOU
BACK.

ALMOST EVERYONE LIKES GETTING MAIL. *PS* IS NO EXCEPTION. WE LOVE HEARING FROM OUR FANS! BUT NOW AND THEN, WE GET EMAILS CITING *PS* ARTICLES THAT ARE REAL "GOLDEN OLDIES."

HEY, WE'RE FLATTERED THAT YOU KEPT THE INFO FOR SO LONG. BUT REMEMBER, THE ARMY IS CHANGING FASTER THAN EVER. OUR OLDER ARTICLES WERE VALID WHEN THEY RAN, BUT PROCEDURES, PUBLICATIONS AND POCS CHANGE.

SO IF YOU'RE HANGING ONTO OLD *PS* ARTICLES JUST FOR NOSTALGIA'S SAKE, GREAT. BUT IF YOU'RE REFERENCING 'EM FOR TECHNICAL INFO, BE CAREFUL!

IF THERE'S ANY CHANCE SOMETHING MIGHT HAVE CHANGED, THE BEST BET IS TO CHECK YOUR CURRENT TM OR ASK *PS*.



YOU CAN ALSO LOOK FOR NEWER ARTICLES USING OUR SEARCH ENGINE AT:
<https://www.losga.army.mil/psmag/pshome.cfm>

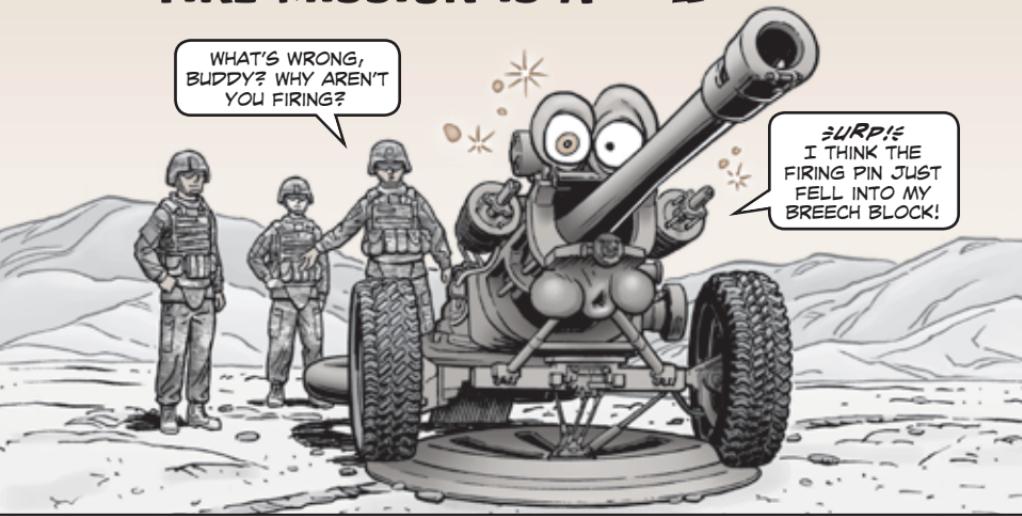
OR ASK US TO DO AN UPDATED ARTICLE ON A SPECIFIC SUBJECT. IT'S EASY! SEND A REQUEST TO:
usarmy.redstone.losga.mbx.psmag@mail.mil

PS COMBAT VEHICLES



- Make Sure Next Fire Mission is a Blast!
- Don't Forget Hydraulic Wrench PM!
- Lower Boom on Hydraulic Problems
- Close Door to AC Inverter Damage
- Watch Out For Gun Tube Pitting!
- Plug Up Leaky Wheel Drive Assembly
- Hub Help

MAKE SURE NEXT FIRE MISSION IS A *BLAST!*



CREWMEN, SOMETIMES BIG PROBLEMS ARE CAUSED BY THE SMALLEST OF THINGS. FOR EXAMPLE, YOUR M119A2/A3 HOWITZER'S FIRING PIN CAN LOOSEN BECAUSE OF SOME TINY, WORN-OUT HEADLESS STRAIGHT PINS.

THAT MEANS YOUR NEXT FIRE MISSION COULD BE A REAL DUD!

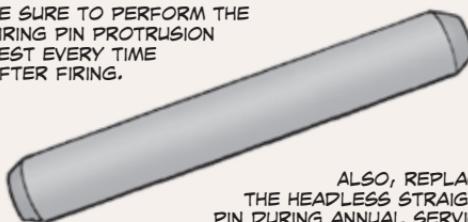
A WORN HEADLESS STRAIGHT PIN, NSN 5315-01-342-0442 FOR THE A2 AND NSN 5315-01-616-3475 FOR THE A3, CAN ALLOW THE FIRING PIN TO SLIP OUT OF POSITION AND FALL INTO THE BREECH BLOCK.

WHEN THAT HAPPENS, IT'S TOUGH TO GET THE FIRING PIN BACK INTO THE RIGHT POSITION. ALSO, THE FIRING MECHANISM CAN'T BE TURNED OR REMOVED AS LONG AS THE FIRING PIN IS OUT OF POSITION.



Loose firing pin can fall into breech block

BE SURE TO PERFORM THE FIRING PIN PROTRUSION TEST EVERY TIME AFTER FIRING.



ALSO, REPLACE THE HEADLESS STRAIGHT PIN DURING ANNUAL SERVICE

YOU'LL FIND INSTRUCTIONS FOR THE FIRING PIN PROTRUSION TEST IN...

...WP 0043 10 OF TM 9-1015-252-10 (SEP 10) FOR THE A2...

...AND WP 100 12 OF TM 9-1015-260-10 (OCT 14) FOR THE A3.

DON'T FORGET HYDRAULIC WRENCH PM!



MECHANICS, LISTEN UP!

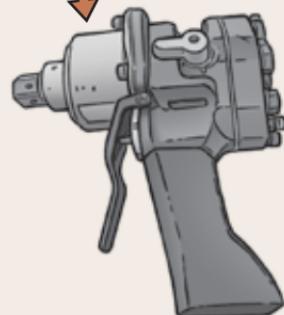
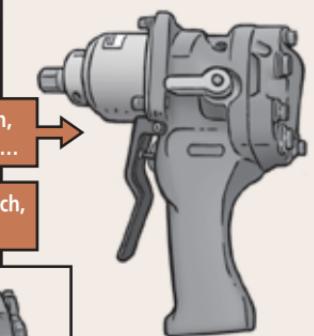
YOUR M88-SERIES RECOVERY VEHICLE'S HYDRAULIC WRENCH NEEDS PREVENTIVE MAINTENANCE JUST LIKE ANY OTHER PIECE OF EQUIPMENT.

THE HYDRAULIC WRENCH PROVIDED WITH YOUR VEHICLE'S COMPONENT OF END ITEM (COEI) CAN GET RUSTED OR CORRODED WITHOUT REGULAR CARE. GOOD PM WILL KEEP IT IN TOP SHAPE, PLUS SAVE YOUR UNIT MONEY AND HEADACHES.

IF YOUR VEHICLE IS **STILL** EQUIPPED WITH THE OLD-STYLE HYDRAULIC WRENCH, NSN 5130-00-790-2284, CHECK OUT TM 9-5130-338-12&P (DEC 97) FOR THE SCOOP ON PM PROCEDURES.

Old-style hydraulic wrench,
NSN 5130-00-790-2284 and...

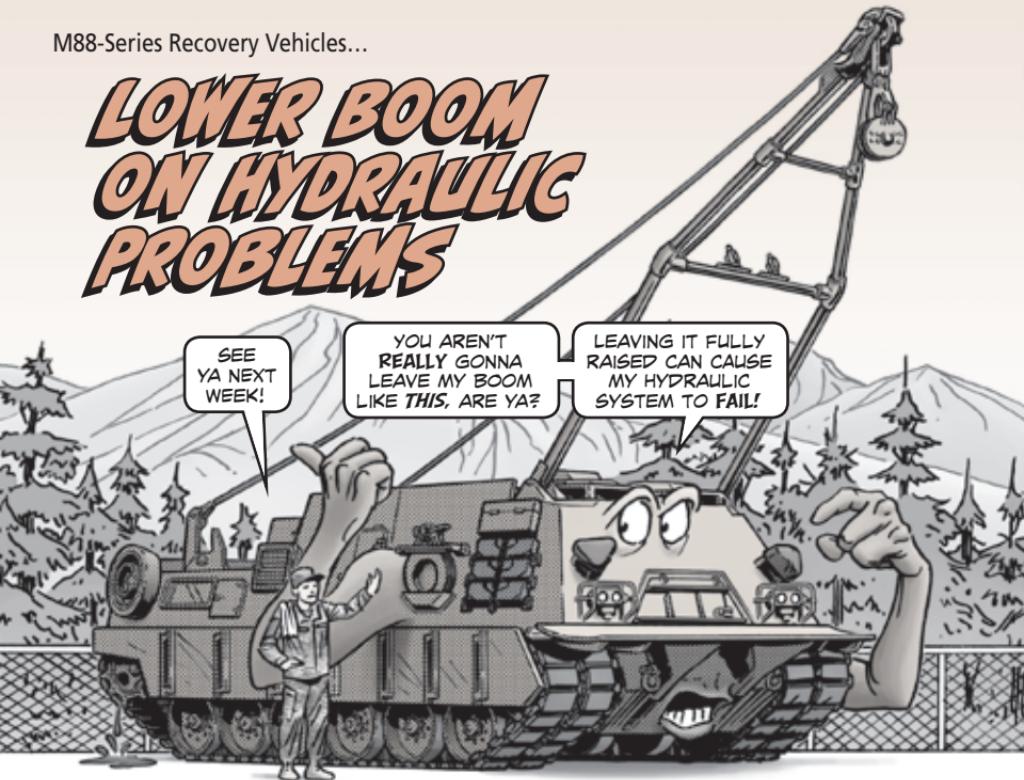
...new-style hydraulic wrench,
NSN 5130-01-471-1328...



...need regular PM to prevent rust and corrosion

THERE ISN'T A TM AVAILABLE FOR THE NEWER HYDRAULIC WRENCH, NSN 5130-01-471-1328. INSTEAD, FOLLOW THE SERVICE RECOMMENDATIONS FOUND IN THE MANUAL THAT'S PROVIDED BY THE MANUFACTURER. IF YOU NEED A COPY OF THE MANUFACTURER'S MANUAL, SEND US AN EMAIL AT: usarmy.redstone.logsa.mbx.psmag@mail.mil

LOWER BOOM ON HYDRAULIC PROBLEMS



Dear Editor,

Leaving the boom up on your M88-series recovery vehicle while parked for an extended period can lead to a big headache—or worse.

If the boom is left up too long, the hydraulic fluid from the lift cylinders drains into its reservoir, leaving behind an air pocket. The next time the boom is lowered, any air pockets can cause the boom to fall suddenly. Equipment that's in the way can get damaged. And Soldiers in the way can be injured or killed!

Always leave the boom in the stowed position when it's not being used. If the boom has been left up for an extended period, follow the steps in the -10 TM to get rid of the air pocket and to keep the hydraulic system from failing. The procedure starts on WP 0078-6 of TM 9-2350-256-10 (Oct 14) and WP 0077-6 of TM 9-2350-292-10 (Sep 14).

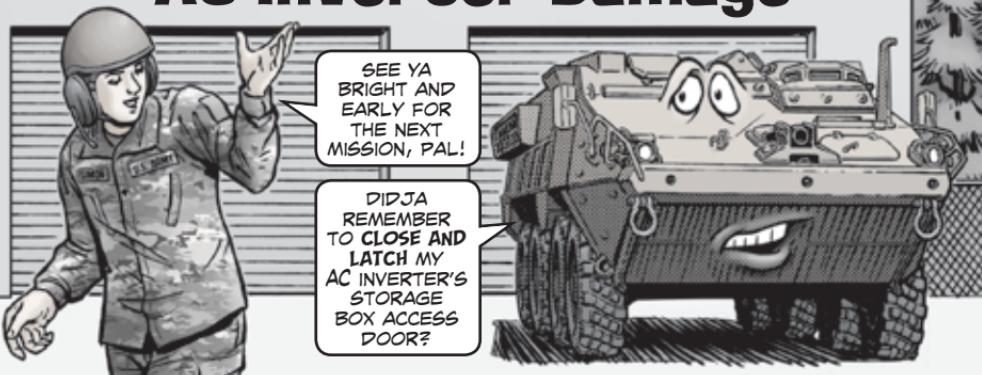
SFC David Sapp
Ft Carson, CO

Editor's note: Thanks for lowering the boom on that boom problem, Sergeant.



Stryker...

Close Door to AC Inverter Damage

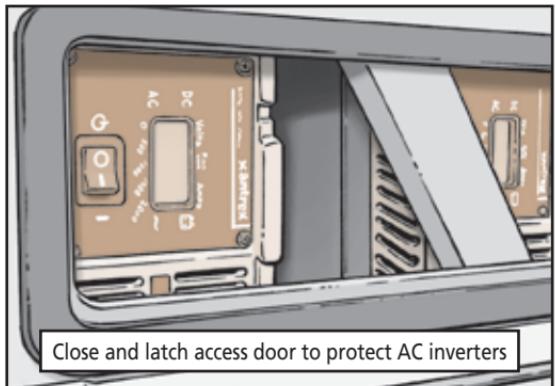


Crewmen, always remember to close and latch your Stryker's AC inverter access door. If you leave the door open, the AC inverter can get damaged.

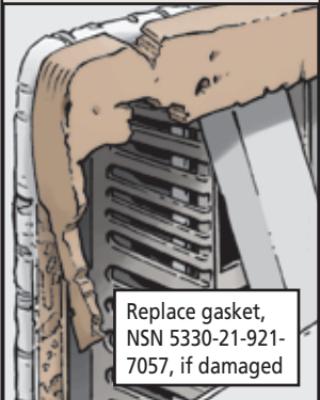
The 120V inverter, NSN 6130-20-000-3771, costs almost \$1,000, and the 230V inverter, NSN 6130-20-000-3784, costs nearly \$1,300.

Leaving the stowage box door open during a mission can lead to a torn or dislodged access door gasket. That opens the door to dirt, dust or water getting into the AC inverter.

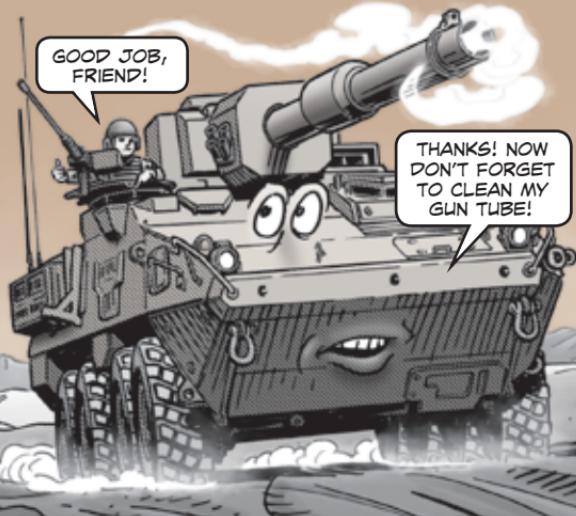
Only open the door when you need access to the AC inverter for maintenance or to power on or off the inverter. Anytime the vehicle will be moving or if the mission's done and your vehicle is parked, close and latch the access door. Also, keep the door closed and latched whenever the vehicle is being cleaned to avoid dirt and water getting inside.



Eyeball the gasket, NSN 5330-21-921-7057, during PMCS and make sure it's in place and making a good seal. Order a new one if it's damaged or unserviceable.



Watch Out For Gun Tube Pitting!



Quite a few Stryker MGS gun tubes have had to be condemned lately because of pitting around the bore evacuator.

Pitting can lead to catastrophic cannon tube failure! Cleaning and lubing those tubes, paying special attention to the evacuator holes, will help prevent gun tube damage, improve combat readiness and keep Soldiers from possibly getting hurt.

Crewmen, after firing the main gun, be sure to service the bore evacuator just like it says in the -10 TMs.

Pay special attention to the O-rings at the front and rear of the bore evacuator. Let your mechanic know right away if the O-rings are damaged or missing.

The instructions for servicing the bore evacuator are in WP 1018 of TM 9-2355-321-10-7 (Sep 16).

Cleaning and lubing gun tube prevents damage



PM DOES
MY GUN TUBE
GOOD!



Stryker...

OH, MAN!
THAT DOES
NOT LOOK
GOOD!

OF COURSE,
IT'S NOT GOOD!
THAT'S A CLASS
III LEAK...AND
NOW I'M NMC!



Plug Up LEAKY Wheel Drive Assembly

CREWMEN,
A LEAKY
WHEEL DRIVE
ASSEMBLY
ACCESS COVER
CAN SIDELINE
YOUR STRYKER
IN A HURRY!

IF THE LEAK GETS TO THE CLASS III
LEVEL, THE ASSEMBLY, NSN 5340-21-
921-5586, CAN BE SEVERELY DAMAGED
AND YOUR VEHICLE IS NMC.

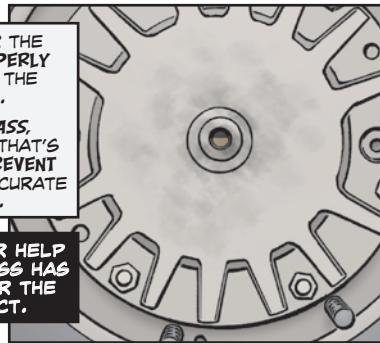
BUT REGULAR PREVENTIVE
MAINTENANCE WILL KEEP
YOUR STRYKER IN THE FIGHT
AND SAVE YOUR UNIT SOME
EXPENSIVE REPAIRS.



CHECK OUT THE -10 FOR THE
SCOOP ON HOW TO PROPERLY
CHECK AND ADD OIL TO THE
WHEEL ASSEMBLIES.

NOTE THAT A SIGHT GLASS,
NSN 6680-21-912-5746, THAT'S
STAINED WITH OIL CAN PREVENT
YOU FROM GETTING AN ACCURATE
OIL LEVEL READING.

ASK YOUR MECHANIC FOR HELP
IF A STAINED SIGHT GLASS HAS
YOU DOUBTING WHETHER THE
OIL LEVEL IS CORRECT.

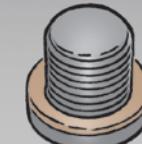


MECHANICS, SERVICE THOSE WHEEL DRIVE
ASSEMBLIES SEMIANNUALLY OR EVERY
12,000 MILES, WHICHEVER COMES FIRST.

REMOVE THE FILL/DRAIN PLUGS
AND REPLACE THEIR GASKETS,
NSN 5330-12-156-4524.

ADD
SYNTHETIC
OIL IF
NEEDED.

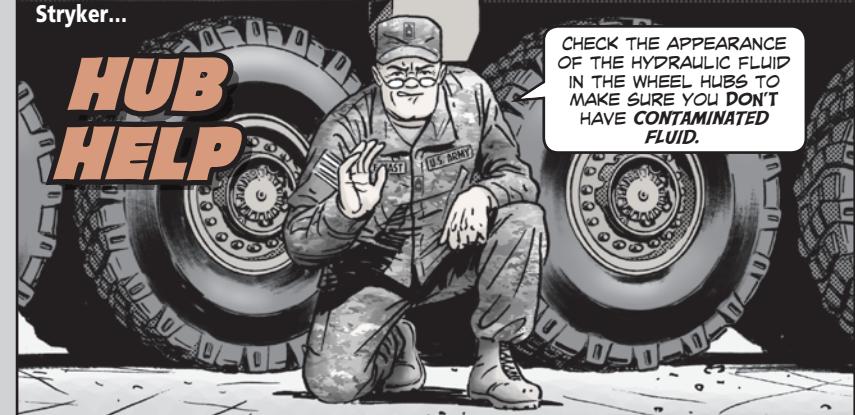
CHECK OUT THE
FULL PROCEDURE
IN TM 9-2355-311-13&P
CIETM 0269 (SEP 16).



Replace gasket and torque to 22-25 lb-ft
when reinstalling drain plugs

Stryker...

HUB HELP



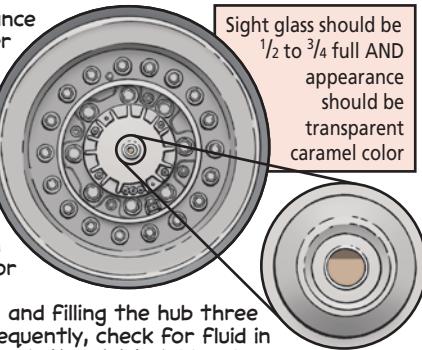
CHECK THE APPEARANCE
OF THE HYDRAULIC FLUID
IN THE WHEEL HUBS TO
MAKE SURE YOU DON'T
HAVE CONTAMINATED
FLUID.

Dear Editor,

PS has pointed out the importance
of regularly checking the Stryker
wheel hubs for the correct
hydraulic fluid level. The hub sight
glass for each wheel should be $\frac{1}{2}$
to $\frac{3}{4}$ full.

But it's also important to
check the appearance of the
fluid. It should be a transparent
caramel color. If it's milky or clear,
the fluid may be contaminated
with water. That could spell trouble for
the wheel hubs.

We get the water out by draining and filling the hub three
times. If contamination happens frequently, check for fluid in
the hull. Drain any fluid out. Also check the eight slobber boxes
(de-aerator tanks) for fluid. Dry them out with low pressure air.



David Potter
SGT Mitchell Parker
Ft Hood, TX

Editor's note: Remember to check
fluid level and appearance, crewmen.

PS TACTICAL VEHICLES

- Follow Bumper Guide Guidelines
- Know What's Under Back Seat
- Rust Busters Tip of the Month
- Tire and Wheel Assembly NSNs?

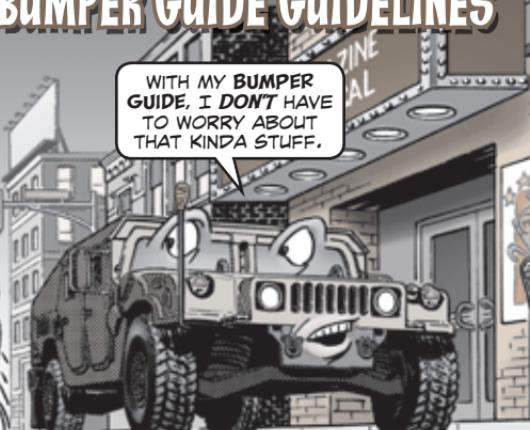


HMMWVs...

FOLLOW BUMPER GUIDE GUIDELINES



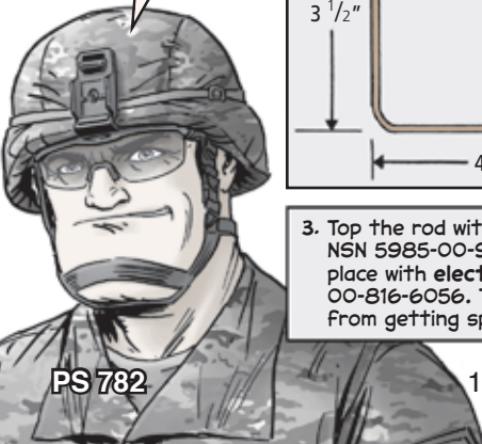
NUTS! I
DIDN'T THINK
THAT FIRE
HYDRANT WAS
SO CLOSE!



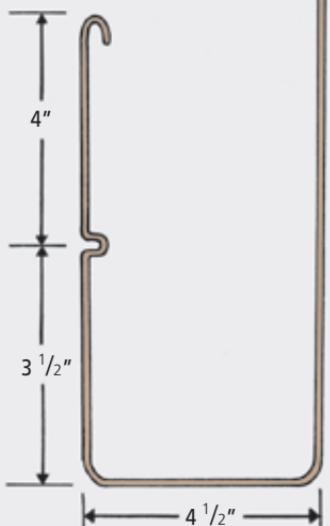
WITH MY BUMPER
GUIDE, I DON'T HAVE
TO WORRY ABOUT
THAT KINDA STUFF.

JUDGING THE RIGHT DISTANCE BETWEEN THE FRONT BUMPER AND AN OBSTACLE (LIKE A CURB OR ANOTHER VEHICLE) IS HARD, ESPECIALLY SINCE YOU CAN'T SEE THE BUMPER!

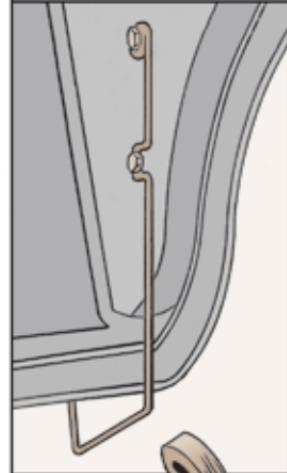
FIX THAT PROBLEM BY ADDING A HOMEMADE BUMPER GUIDE ROD TO THE CURB SIDE OF YOUR VEHICLE. GET YOUR COMMANDER'S OK FIRST, THEN HAVE YOUR MECHANIC MAKE AND INSTALL THE GUIDE ROD LIKE SO...



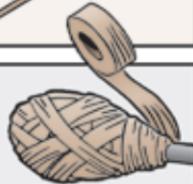
1. Get a 2-ft length of $1/8$ -in welding rod. Bend it like so:



2. Take the nuts off the inside of the right fender reflector. Put the small loops over the screws and install new nuts, NSN 5130-01-152-0598. Torque the nuts to 60 in-lbs.



3. Top the rod with an antenna cap, NSN 5985-00-930-7223. Tape it in place with electrical tape, NSN 5970-00-816-6056. The cap keeps anyone from getting speared by the rod.



KNOW WHAT'S UNDER BACK SEAT

WHERE'S THAT FIRE EXTINGUISHER!?

SERIOUSLY?
THAT'S SOMETHING
YOU **REALLY** NEED
TO KNOW!



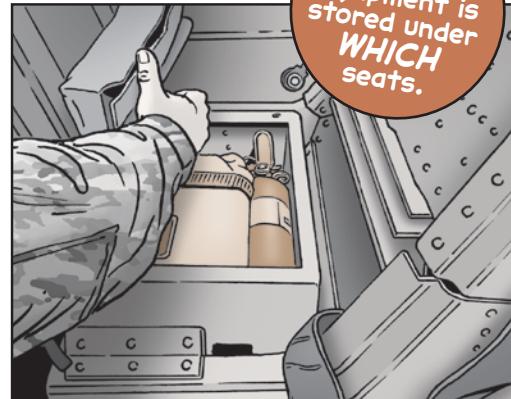
Dear Editor,

Some Soldiers don't realize there's a storage compartment under the HMMWV's rear passenger seat. To get to the compartment, all you have to do is lift up on the back seat cushion.

It's a good idea to make sure all Soldiers know about the compartment because a lot of stuff is stored there.

It's also a good idea to check the compartment when you're in the field for long periods. While in the field at Ft Carson, we discovered that mice felt the compartment was an excellent place to call home.

SPC Tyrone Lymos
Ft Carson, CO



BUT ACTUALLY THERE ARE ALL SORTS OF STORAGE AREAS UNDER THE DIFFERENT HMMWV SEATS AND IT'S A GOOD IDEA TO KNOW WHAT'S STORED WHERE...



ON THE LEGACY VERSION,
HERE ARE WHERE ITEMS ARE STORED:

- Pamphlet assembly bag: under driver's seat
- Jack and tools stowage bag: on right splash shield in jack stowage box
- Tool bag: behind the driver's seat on the M1042 and under the driver's seat on all other versions
- First aid kit: under driver's seat
- Fire extinguisher: under driver's seat
- Jack handle, scissors hand jack and wheel lug wrench: under rear seat in four-door vehicles and under driver's or commander's seat in two-door vehicles

ON THE UP-ARMORED VERSION:

- Pamphlet assembly bag: behind driver's seat
- Jack and tools stowage bag: in footwell area for M1113 and behind the driver's seat for the other models
- Tool bag: behind driver's seat
- Hand combination tool kit: in rear tailgate area on M1151A1; in tunnel in M1152 and M1152A1; in rear footwell in M1165, M1165A1 and M1167; in right side stowage compartment in M997A3
- Fire extinguisher: under driver's seat
- First aid kit: under driver's seat in the M1113, M115A1, M1152, M1152A1 and M997A3; under passenger's seat in M1114, M1165, M1165A1, M1167
- Hydraulic jack: in right rear footwell in M1152 and M1152A1; on cargo floor near tailgate in M1151, M1151A1, M1165, M1165A1 and M1114



Corrosion...



RUST BUSTERS TIP OF THE MONTH

THE ARMY ESTIMATES THAT 25 PERCENT OF ALL MAINTENANCE COSTS ARE CORROSION RELATED.

THAT MEANS OPERATORS, CREW AND MAINTAINERS NEED TO GO BEYOND GOOD PM AND THE PMCS TABLES TO KEEP THEIR VEHICLES MISSION-READY.

SIMPLE EFFORTS CAN PRODUCE AMAZING RESULTS IN SLOWING CORROSION.

HERE ARE A FEW DOWN-AND-DIRTY TIPS YOU CAN FOLLOW TO HELP ENSURE YOUR EQUIPMENT REMAINS IN GOOD WORKING ORDER. THEY'RE QUICK, EASY AND WON'T COST YOUR UNIT MUCH, BUT CAN SAVE MEGA-DOLLARS IN THE LONG RUN.

- **Cleaning.** Any type of contaminant combined with moisture can lead to corrosion. So when you return from the field, rinse off any dirt, mud, and salt ASAP.

If deployed, you might not have the time or a place to properly wash your vehicle. So at a minimum, make sure you give it a thorough cleaning within five days after you return.



- **Location, location, location.** Where you clean is almost as important as the cleaning itself. Your best bet is a dedicated motor pool wash rack. Make sure there's a good source of pressurized water for proper rinsing and always follow local environmental regulations for water and detergent runoff.
- **Frequency.** How often you clean will depend on the environment, equipment use and storage practices. Follow these guidelines:
 - Clean monthly for routine use of equipment.
 - If your vehicle is based within 1 1/4 miles of saltwater, clean at least every 15 days.
 - Clean as soon as possible after any adverse vehicle use. This includes exposure to mud, saltwater, mold or fungus, use of fire extinguishers, and CBRN contact (but only after proper decontamination procedures).

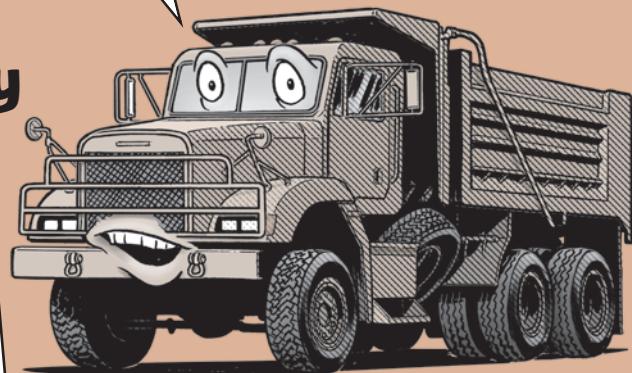
REMEMBER: ALWAYS THOROUGHLY DRY THE VEHICLE AFTER WASHING.

COMING
IN THE NEXT
ISSUE OF PS:
ANOTHER
RUST-BUSTING
TIP!

M917A2 Dump Truck...

Tire and Wheel Assembly NSNs?

Dear Half-Mast,
What are the NSNs for the front and rear tire and wheel assemblies on the M917A2 dump truck? I can't find them anywhere.
Mr. L.W.

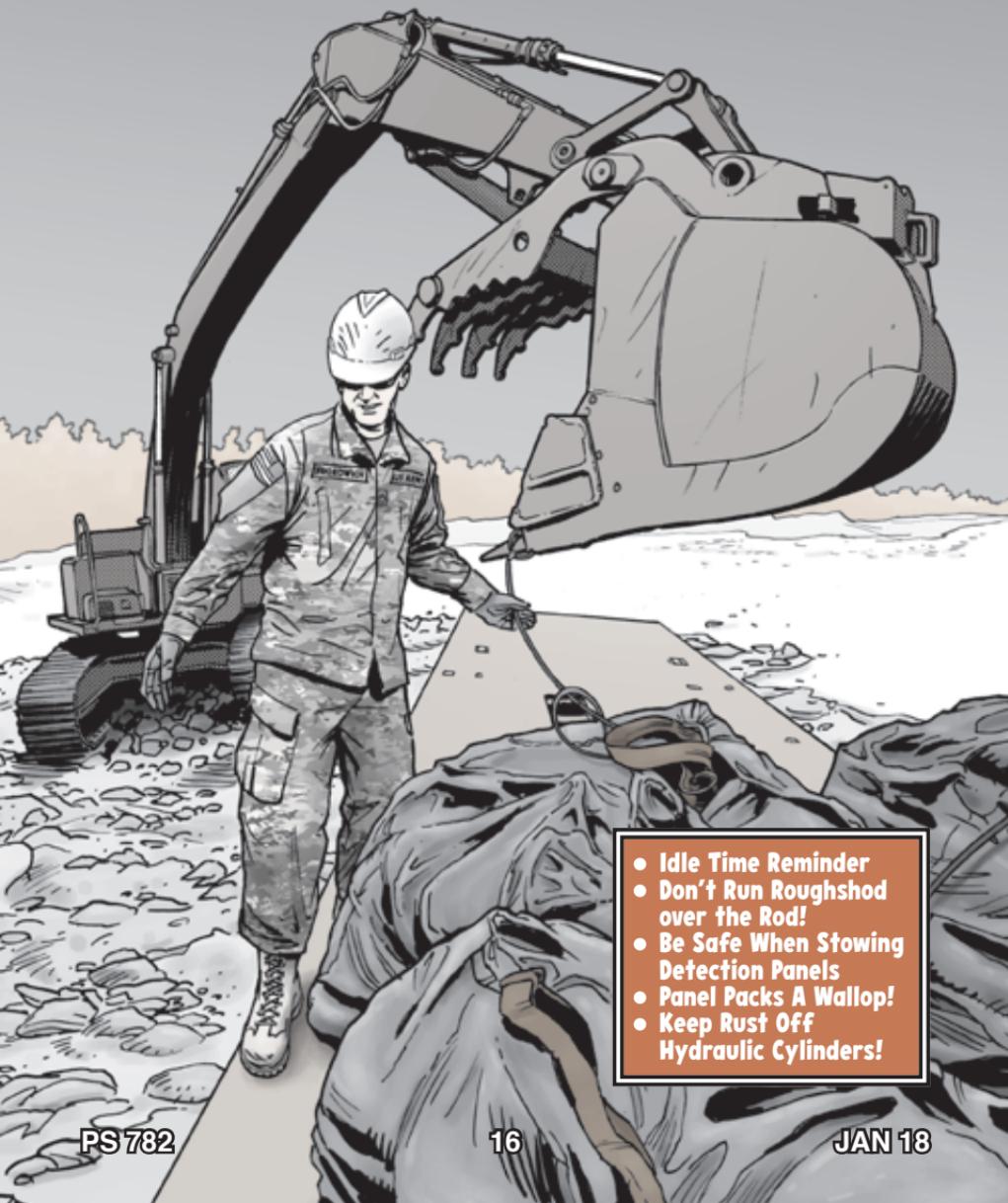


UNFORTUNATELY, SIR, TIRE AND WHEEL ASSEMBLIES AREN'T AVAILABLE FOR THE M917A2 DUMP TRUCK.

UNTIL THEY ARE, YOU'LL HAVE TO BUILD THE ASSEMBLIES FROM THE TIRE AND WHEEL INFORMATION IN FIGS 184 AND 186 OF TM 9-2320-302-24P (FEB 06, W/CH2, AUG 12).

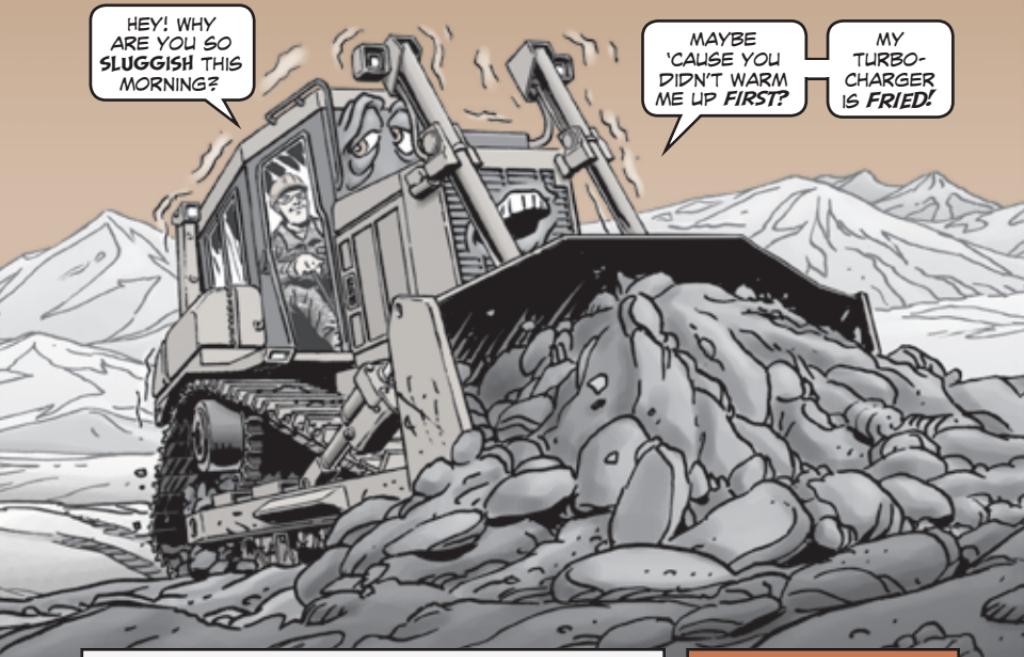
HERE'S WHAT'S LISTED...

Item	NSN
Front tire	2610-01-436-3332
Rear tire	2610-01-436-3334
Front rim	2530-01-518-7626
Rear rim	2530-01-518-6544



- Idle Time Reminder
- Don't Run Roughshod over the Rod!
- Be Safe When Stowing Detection Panels
- Panel Packs A Wallop!
- Keep Rust Off Hydraulic Cylinders!

Idle Time Reminder

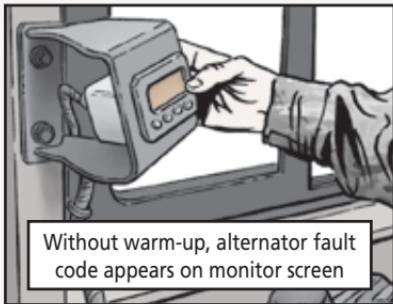


OPERATORS, YOU JUST STARTED YOUR CAT DOZER AND YOU'RE READY TO MOVE SOME DIRT AROUND... RIGHT?

SLOW IT DOWN A SEC!

THE VEHICLE'S TURBOCHARGER PACKS LOTS OF NECESSARY AIR INTO THE ENGINE. BUT BEARING OIL STARVATION KILLS THAT TURBO WHEN YOU START THE ENGINE AND MOVE TO HIGH IDLE BEFORE THE OIL WARMS UP. THE DAMAGE IS JUST AS SEVERE IF YOU SHUT DOWN A HOT ENGINE WITHOUT A COOL-DOWN PERIOD.

YOU'LL KNOW SOMETHING'S UP IF AN ALTERNATOR FAULT CODE APPEARS ON THE VEHICLE'S MONITORING SCREEN WHEN YOU HEAD OUT.



HERE'S THE WAY IT SHOULD WORK:

IMMEDIATELY AFTER START UP, RUN THE ENGINE AT LOW IDLE FOR FIVE MINUTES. THAT GIVES THE OIL TIME TO LUBRICATE PARTS. IT ALSO LETS THE ENGINE WARM UP ENOUGH TO BOIL OFF CONDENSATION CAUSED BY NORMAL ENGINE BREATHING.

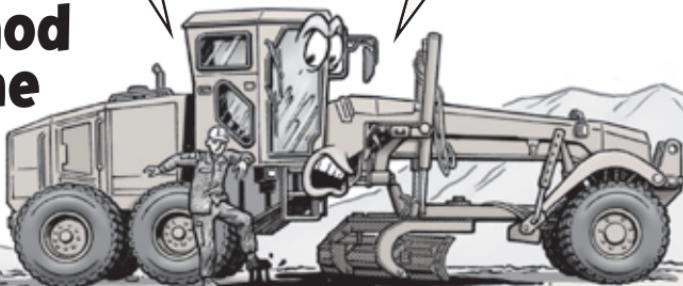
AFTER YOU'VE RUN THE DOZER HARD, IDLE-COOL THE ENGINE FIVE MINUTES BEFORE SHUTDOWN. THE ENGINE NEEDS TO COOL DOWN SLOWLY OR THE SUDDEN RISE IN HEAT CAN CRACK THE BLOCK, WARP THE VALVES AND HEAD, OR BAKE THE OIL UNTIL IT'S NO LONGER SLICK ENOUGH TO LUBE THE BEARINGS.

120M Road Grader...

Don't Run Roughshod over the Rod!

UH-OH! WHAT HAPPENED HERE?

YOUR BIG FEET HAPPENED! YOU SCARRED MY MOLDBOARD SLIDE CYLINDER ROD AND NOW I'VE GOT AN OIL LEAK!



Operators, the 120M road grader's moldboard slide cylinder makes a handy step for getting into the cab. But that doesn't mean you should use it!

Your boot can easily scratch the slide cylinder rod. A scarred rod ruins the cylinder's wiper seal, causing a hydraulic fluid leak when the vehicle's moldboard is moved back-and-forth.

So save costly repairs and downtime. Use the cab steps to get up and down the grader.



M1231 Husky...

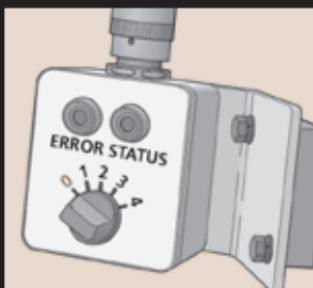
BE SAFE WHEN STOWING DETECTION PANELS

Operators, make sure to follow these steps when placing the M1231 Husky's detection panels in the stowed position.

1. Set the detector head control panel to 0.
2. Wait for the panels to elevate to the up/stowed position and stop completely.
3. Turn the battery isolator switch to OFF.

Just make sure the engine and transmission access doors are completely closed before elevating the vehicle's detection panels. If you forget, the panels get damaged.

By the way, you'll find this information in WP 0016 of TM 9-2355-316-10 (Apr 16).



Set control panel to 0

PANEL PACKS A **WALLOP!**

I WON'T BE DOING MUCH MINE SWEEPING IF YOU'RE NOT CAREFUL OPENING MY STOWAGE BIN ACCESS DOOR!

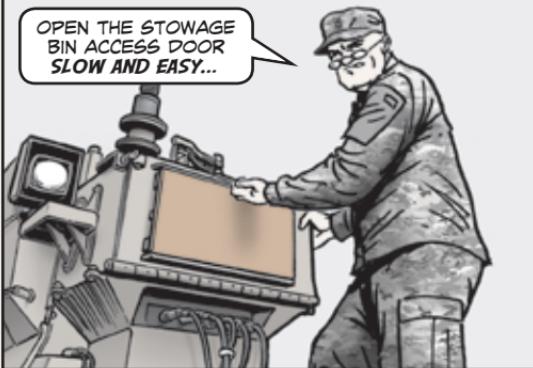


Operators, easy does it when taking off the stowage bin access panel on your M1231 Husky. That's the stowage bin up top, right behind the cab.

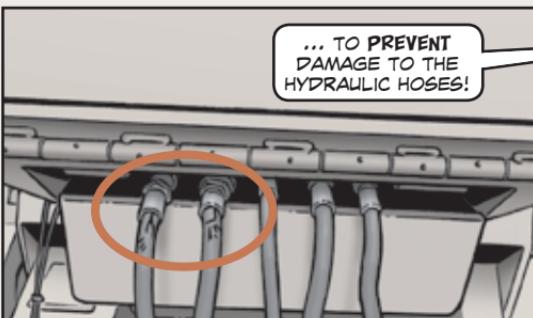
Don't let the panel drop on the hydraulic hose bank just below the stowage bin. The panel's heavy enough to damage the hoses and connectors, creating an oil leak. And if you drop the panel several times over the course of a few days or weeks, the damage can actually go all the way down to the metal braid on the hoses.

That can create a leak bad enough to cause a loss of hydraulic pressure. You won't be doing many mine sweeps if that happens.

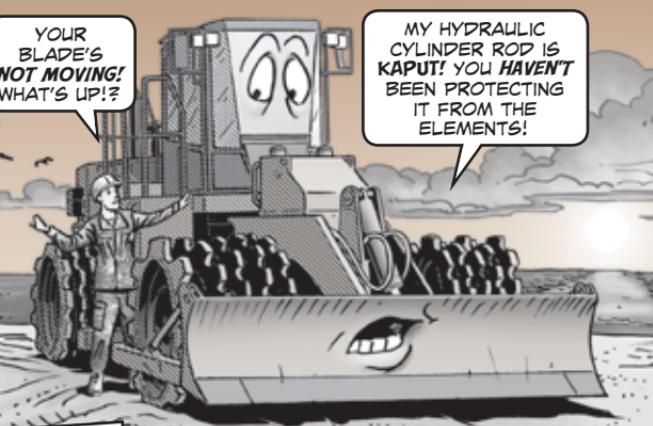
OPEN THE STOWAGE BIN ACCESS DOOR SLOW AND EASY...



... TO PREVENT DAMAGE TO THE HYDRAULIC HOSES!



KEEP RUST OFF HYDRAULIC CYLINDERS!



Dear Half-Mast,

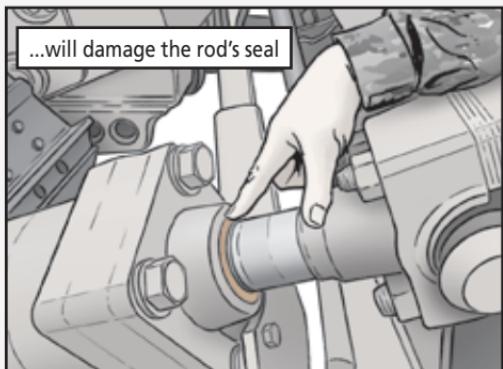
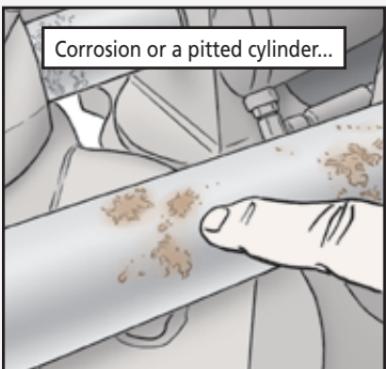
The hydraulic cylinder rods on construction equipment used near salt water environments suffer from constant corrosion problems.

Many of the TMs don't address this issue. What's the best way to protect a vehicle's cylinder rods?

CW3 C.L.L.

HERE ARE A FEW THINGS YOUR OPERATORS WILL WANT TO KEEP IN MIND BEFORE AND AFTER THE DAY'S RUN...

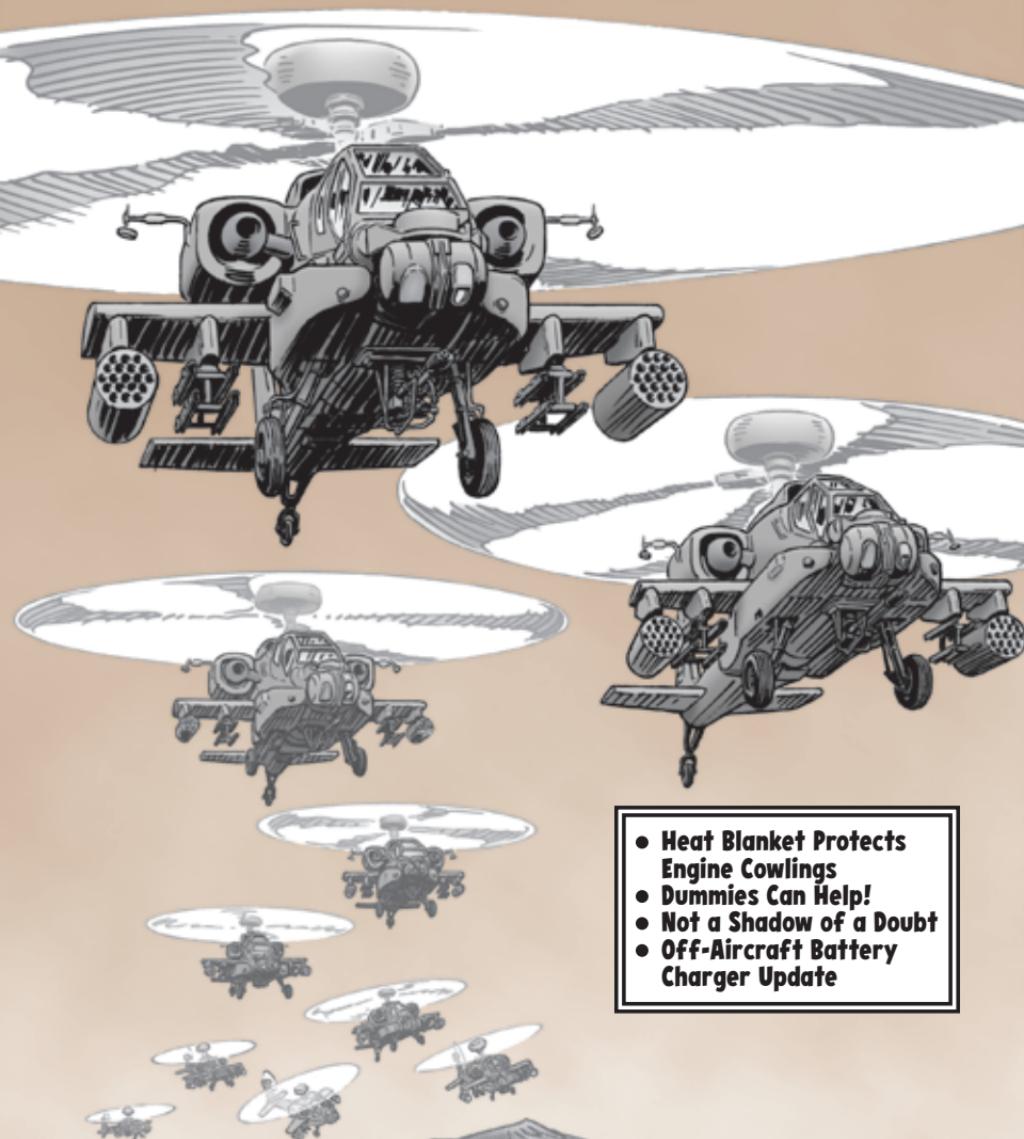
- EYEBALL EXPOSED RODS FOR CORROSION AND PITTING THAT WILL SCRAPE OR DAMAGE THE ROD'S SEAL. A DAMAGED SEAL CAUSES FLUID LEAKS WHICH LEAD TO NMC EQUIPMENT. IF YOU FIND A ROD OR SEAL IN BAD SHAPE, NOTIFY FIELD MAINTENANCE.



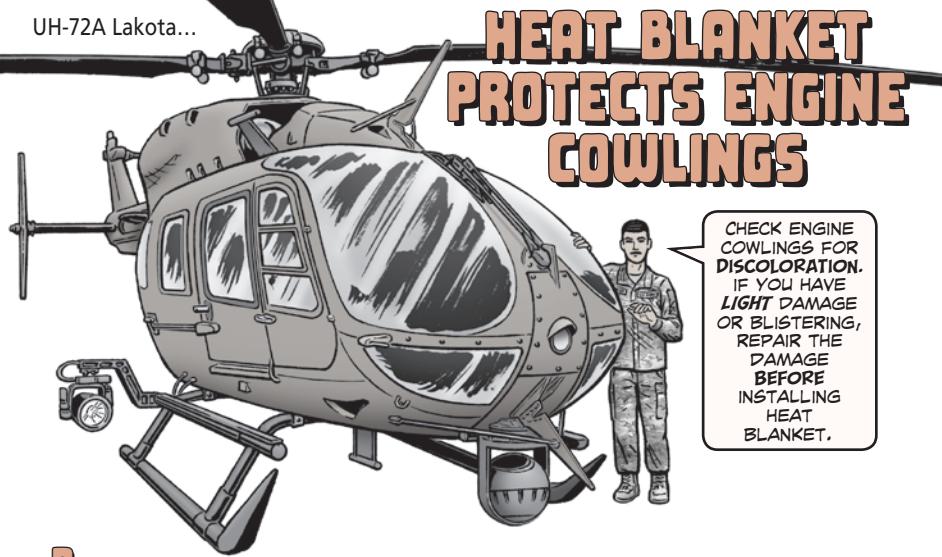
- EXERCISE THE CYLINDERS WEEKLY NO MATTER WHAT THE ENVIRONMENT. MOVING THE CYLINDER BACK-AND-FORTH A FEW TIMES SPREADS A THIN COAT OF PROTECTIVE OIL ON THE ROD.
- COAT THE CYLINDER ROD WITH A LIGHT COAT OF GAA IF THE EQUIPMENT WILL SIT FOR LONGER THAN A MONTH.



PS AVIATION



- Heat Blanket Protects Engine Cowlings
- Dummies Can Help!
- Not a Shadow of a Doubt
- Off-Aircraft Battery Charger Update



CHECK ENGINE COWLING FOR DISCOLORATION. IF YOU HAVE LIGHT DAMAGE OR BLISTERING, REPAIR THE DAMAGE BEFORE INSTALLING HEAT BLANKET.

PILOTS AND MAINTENANCE PERSONNEL, HAVE YOU NOTICED DISCOLORATION OR BLISTERING ON THE INSIDE OF THE LAKOTA'S ENGINE COWLINGS NEAR THE EXHAUST?

THAT DISCOLORATION IS CAUSED BY THE INTENSE HEAT GENERATED DURING PROLONGED HOVERING AND GROUND RUN OPERATIONS. AVOID THAT DAMAGE BY ENSURING THE HEAT PROTECTION BLANKETS ARE PROPERLY INSTALLED ON THE ENGINE COWLING LIKE IT SAYS IN TASK 71-11-00 AND 8-11 OF THE AIRCRAFT MAINTENANCE MANUAL (AMM).

BEFORE INSTALLING THE BLANKETS, REPAIR ANY DAMAGE ACCORDING TO THE AMM. IF THE DAMAGE IS TOO EXTENSIVE AND CAN'T BE REPAIRED AT FIELD LEVEL, THE COWLING **MUST** BE RETURNED TO THE MANUFACTURER FOR DEPOT-LEVEL REPAIR OR REPLACEMENT. THE DEPOT-LEVEL COWLING REPAIR/REPLACEMENT WILL GENERATE AN OVER AND ABOVE COST THAT MUST BE FUNDED BEFORE WORK CAN START.

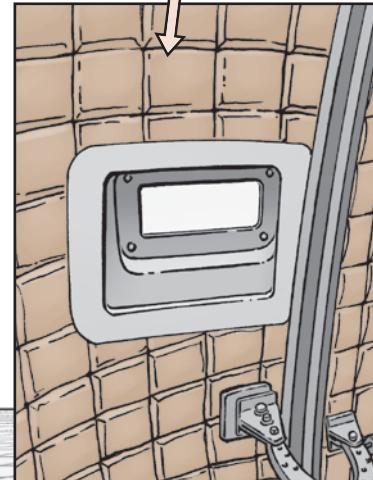


Light cowling damage can be repaired

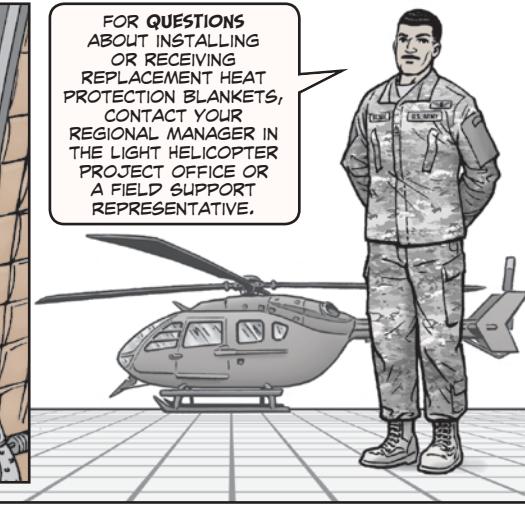


Severe cowling damage can only be repaired by manufacturer

IF YOUR AIRCRAFT GOES IN FOR A MODIFICATION AND THEN IS RETURNED TO YOUR UNIT, ALWAYS CHECK TO MAKE SURE THE HEAT PROTECTION BLANKETS ARE PROPERLY INSTALLED.



FOR QUESTIONS ABOUT INSTALLING OR RECEIVING REPLACEMENT HEAT PROTECTION BLANKETS, CONTACT YOUR REGIONAL MANAGER IN THE LIGHT HELICOPTER PROJECT OFFICE OR A FIELD SUPPORT REPRESENTATIVE.



M230
Automatic
Gun...

DUMMIES CAN HELP!

Dear Editor,

Dummies can help your M230 automatic gun-dummy rounds that is. A dummy test round makes it much easier to do the continuity checks on the entire gun system. But in my work as an armament LAR, I find many units don't have a dummy test round.

Fortunately it's easy to fabricate one. First get a standard M230 dummy round, NSN 1305-01-268-7273. Then follow the directions under "Manufactured Components, Tools, 30mm Continuity Test Round 7-3640726530-1 Manufacture" in IETM 1-1520-Longbow/Apache.

Make one test round for each M230.

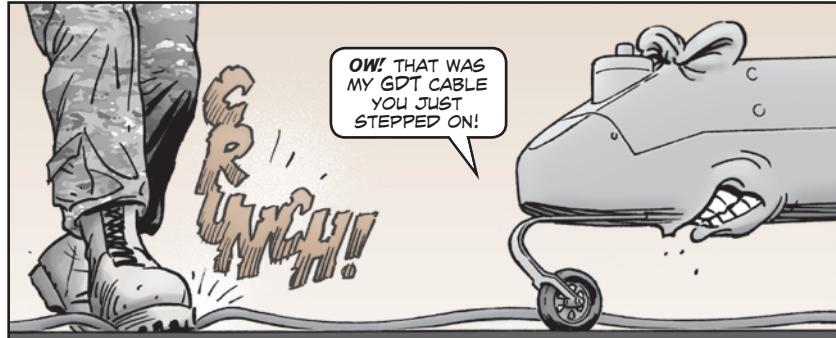
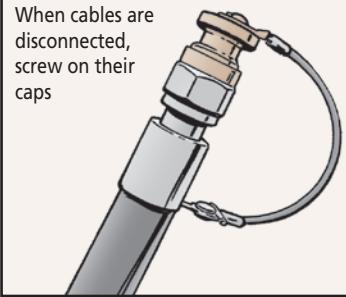
Garry Smith
Ft Hood, TX



NOT A SHADOW OF A DOUBT

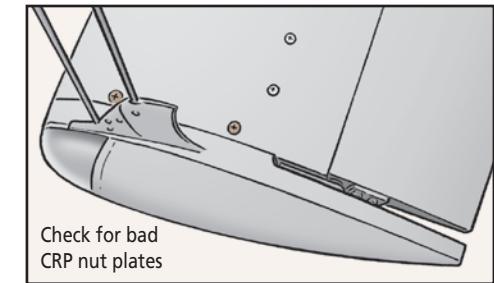
Take care with all the cables, particularly those for the ground data terminal (GDT). Some of the cables can easily be KOed by rough handling, dirt or a big foot. Before connecting cables, check connectors for dirt and sand. Use low-pressure air to blow the RF and power cable connectors clean if necessary. See WP 1343 of DTM 1-1550-1689-23&P for special procedures to clean fiber optic cable connectors. When cables are disconnected, install their dust caps to seal out dirt and sand.

When cables are disconnected, screw on their caps



Use flags and chem lights to mark the location of cables so no one steps on or drives over them. Zip tie cables together so they're easier to see.

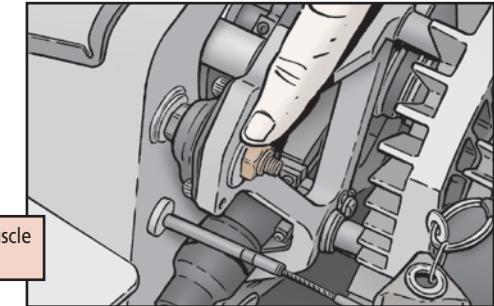
Keep an eye on Comms Relay Package (CRP) nut plates. They sometimes go bad. If you notice when you install a screw onto a nutplate that it's pushed down and away from the Shadow's body, report it. The nut plate may need to be replaced.



Check for bad CRP nut plates

Don't muscle up on the engine locking nuts. If you over-tighten them, the throttle cable settings are thrown off. Install nuts like it says in DTM 1-1550-1689-23&P: Tighten them slightly until the washers no longer turn.

Don't use too much muscle on engine locking nuts



Check oil before every flight and do it on level ground.

Shadows use oil, so they must be topped off before every flight. But make sure to add oil to the reservoir on level ground to avoid an inaccurate reading. That could result in too much or too little oil.



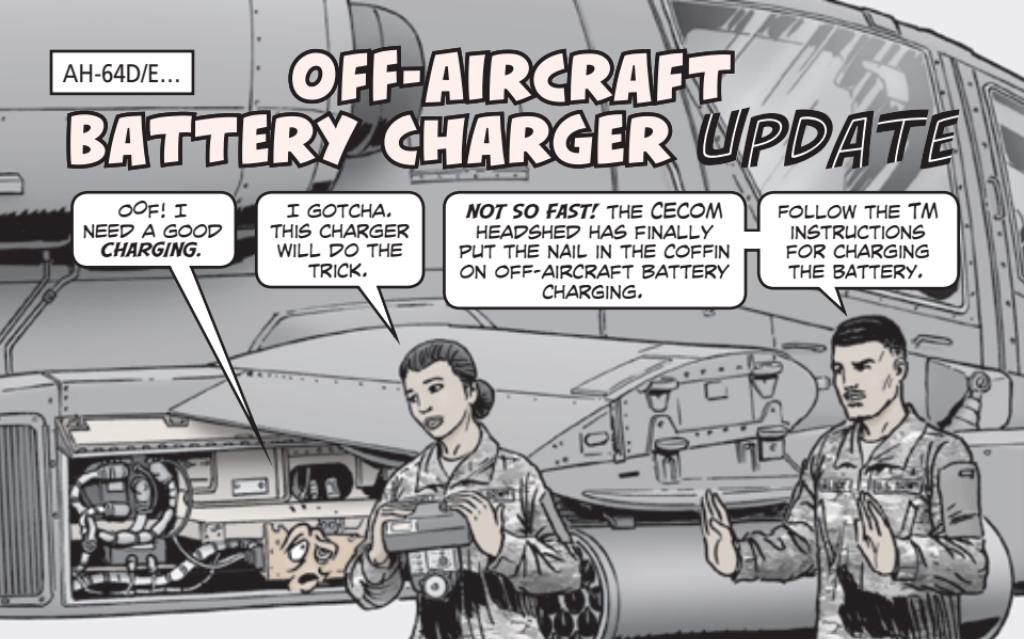
HOLD ON! I NEED TO BE LEVEL IF YOU'RE GONNA CHECK MY OIL.



REMEMBER TO REMOVE THE 2 PSI RELIEF VALVE AFTER FUELING.

IF YOU FORGET, THE FUEL PORT GETS DAMAGED IF THE RELIEF VALVE HITS SOMETHING.

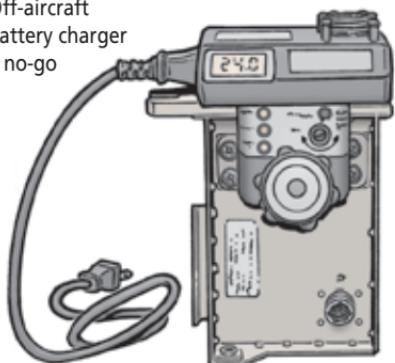
OFF-AIRCRAFT BATTERY CHARGER UPDATE



MECHANICS, PAGE 25 OF PS 732 (NOV 13) SAID CECOM ENGINEERING AND THE MANUFACTURER WOULD EVALUATE THE USE OF THE OFF-AIRCRAFT BATTERY CHARGER, NSN 6130-01-465-2674, FOR THE APACHE.

THE HEADSHED HAS DECIDED THAT USING THE OFF-AIRCRAFT CHARGER IS A **NO-GO**.

Off-aircraft
battery charger
a no-go



ALSO, MAKE A NOTE IF YOU HAVE THIS BATTERY CHARGER THAT THE APACHE PM WILL **NOT** INCLUDE IT IN THE IETM SINCE THERE ARE NO PROCEDURES TO ADDRESS "OFF-AIRCRAFT" CHARGERS.

IF YOUR AIRCRAFT BATTERY, NSN 6140-01-425-7235, IS DRAINED OR DEAD AND IN NEED OF CHARGING, FOLLOW THE GOOD WORD FROM TM 1-1520-LONGBOW/APACHE IN IETM EM 0126 (JUN 16). IT SAYS TO CHARGE THE BATTERY ON THE AIRCRAFT FOR ONE HOUR USING AN AVIATION GROUND POWER UNIT (AGPU).

TO KEEP BATTERY DRAIN FROM BECOMING A PROBLEM, **ALWAYS** MAKE SURE THE AIRCRAFT POWER SWITCHES ARE **TURNED OFF** AFTER COMPLETING MAINTENANCE.

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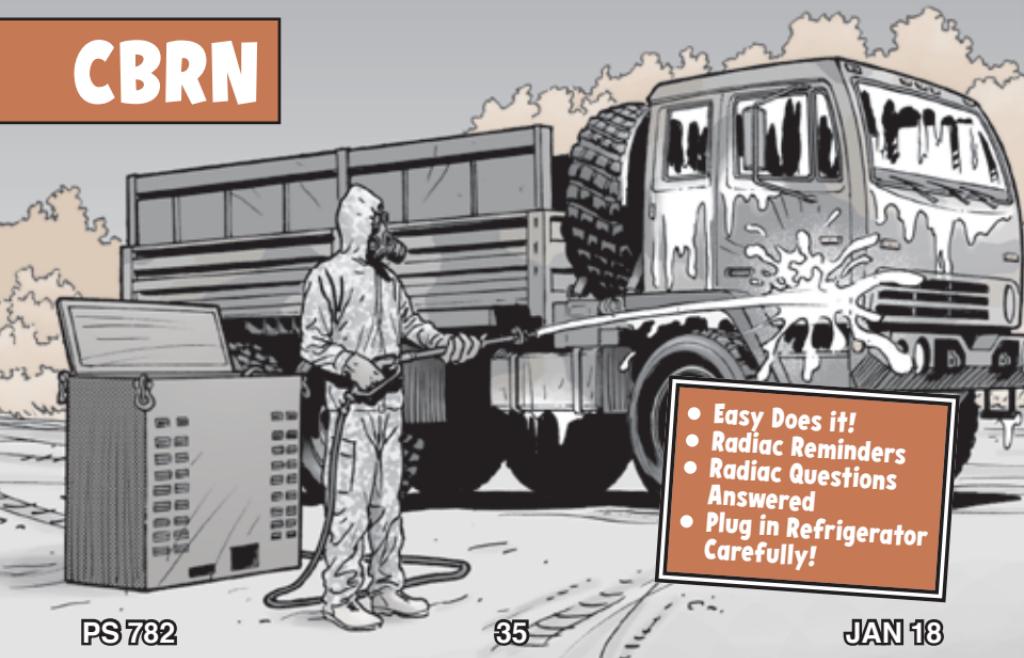
PS SMALL ARMS

- New M249 Buttstock Parts
- M203 Being Replaced by Attrition
- Which MK 19 Do You Have? It Makes a Difference!
- Are Your Racks Secure?
- Is Trigger Pull Test Required?
- Mounting M66 on FMTV A0/A1



CBRN

- Easy Does it!
- Radiac Reminders
- Radiac Questions Answered
- Plug in Refrigerator Carefully!

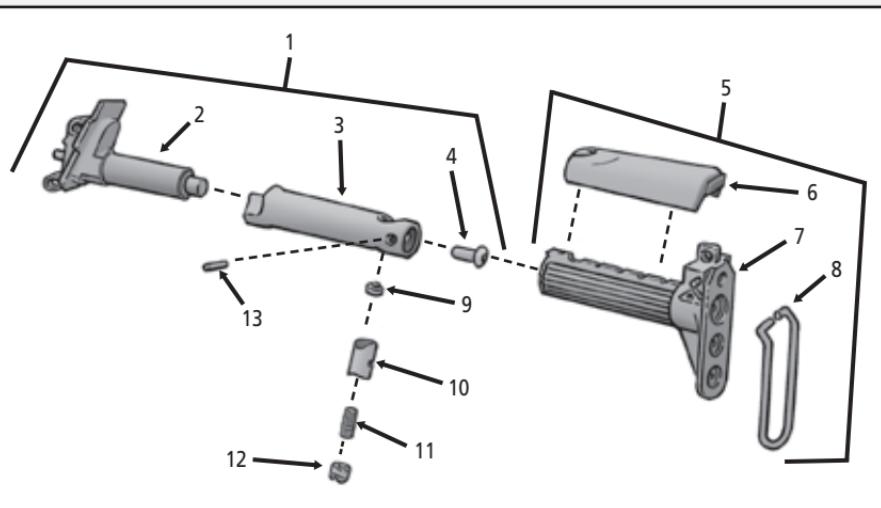


New M249 Buttstock Parts

THE NSNS FOR THE M249 MACHINE GUN BUTTSTOCK'S PARTS HAVE CHANGED. HERE ARE THE NSNS...



Item	Nomenclature	NSN	SMR
1	Backplate assembly	N/A	AFFFF
2	Buffer and backplate	1005-01-306-2700	PAFZZ
3	Inner stock	1005-01-619-4736	PAFZZ
4	Cap screw	5340-01-622-5372	PAFZZ
5	Gun stock	1005-01-576-2492	PAFZZ
6	Cheekrest assembly	1005-01-577-3035	PAFZZ
6	Cheekrest assembly extended	1005-01-591-5779	PAFZZ
7	Buttplate and stock assembly	N/A	XAFZZ
8	Wire rest	1005-01-577-2088	PAFZZ
9	Retaining detent	5340-01-577-3036	PAFZZ
10	Sleeve	5365-01-576-4662	PAFZZ
11	Helical compression spring	5360-01-299-7826	PAFZZ
12	Adjustment detent	5340-01-577-3037	PAFZZ
13	Straight pin	5315-01-366-2977	PAFZZ



SMALL ARMS REPAIRMEN! MAKE A NOTE OF THESE CHANGES IN FIG 4 IN TM 9-1005-201-23&P UNTIL THE TM IS REVISED.

M203 BEING REPLACED BY ATTRITION

I HEAR YOU'VE BEEN REPLACED BY THE M320A1. GUESS I DON'T NEED TO WORRY ABOUT YOU ANYMORE.

WRONG! I MAY BE AROUND FOR SOME TIME. SO IF I BREAK DOWN, YOU NEED TO GET ANOTHER M203 UNTIL THE M320A1S ARE FIELDED TO YOUR UNIT.

THE M320A1 GRENADE LAUNCHER IS REPLACING THE M203-SERIES GRENADE LAUNCHER BY ATTRITION.

THAT MEANS IT MAY BE SOME TIME BEFORE YOU GET M320A1S.

IN THE MEANTIME, IF YOUR M203 CAN'T BE FIXED BECAUSE PARTS AREN'T AVAILABLE, YOU SHOULD TURN IT IN USING THE LEAD MATERIEL INTEGRATOR (LMI) DECISION SUPPORT TOOL (DST) IN LIW:

<https://liw.logs4.army.mil>

YOU WILL RECEIVE EITHER AN M203 FROM ANOTHER UNIT OR AN OVERHAULED M203.

DISPOSITION INSTRUCTIONS AND TRANSPORTATION ACCOUNT CODE (TAC) CODE FUNDING FOR M203 TURN-IN WILL BE PROVIDED BY DST. INSTALLATION PROPERTY BOOK OFFICERS (IPBO) AND UNIT LEVEL MATERIEL INTEGRATORS (MI) CAN ASSIST WITH THE TURN-IN.



QUESTION?

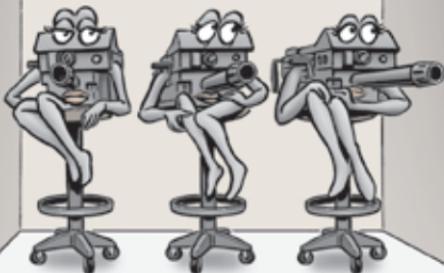
CONTACT VERONICA COOK AT DSN 786-1263, (586) 282-1263 OR EMAIL:
veronica.l.cook4.civ@mail.mil

WELCOME BACK TO
**WHICH
MK 19
Do YOU
Have?**

WHERE THE QUESTION IS *IMPORTANT* BECAUSE
**It Makes a
Difference!**

NOW, SOLDIER, CAN
YOU IDENTIFY WHICH
MK 19 IS WHICH?

AS LONG AS I
CAN REFER TO
THIS, I CAN!

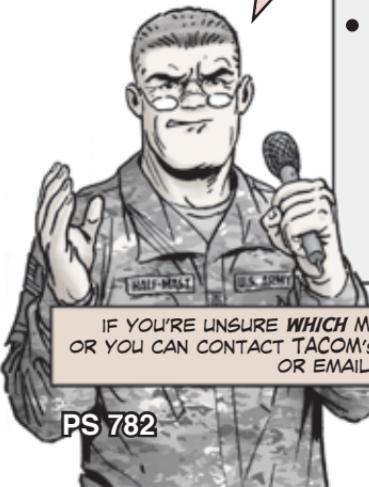


THERE ARE SEVERAL
MK 19 MODELS IN THE
FIELD. UNITS NEED TO
KNOW WHICH MODELS
THEY HAVE SO THEY
CAN CORRECTLY
RECORD THEM IN THE
PROPERTY BOOKS.

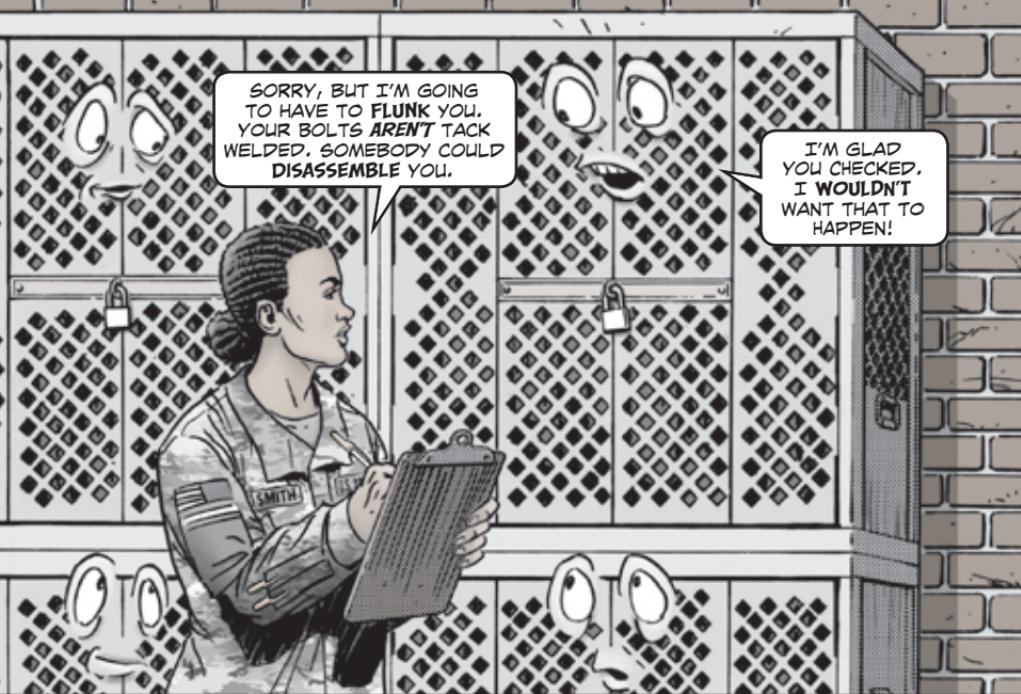
HERE'S THE LOWDOWN...

- MK 19 MOD 3, NSN 1010-01-126-9063, is the basic model
- MK 19 MOD 3 with an adjustable sight bracket resulted from MWO 9-1010-230-50-1. Its NSN is 1010-01-490-9697. The sight bracket was added to the right side of the receiver.
- MK 19 MOD 4, NSN 1010-01-362-6513, was added in 2013. It's used with the M1117 armored security vehicle (ASV). Unit MTOEs have probably not been updated to include the MOD 4. Property book officers are authorized to add the MOD 4. The MOD 4's data plate and item unique identification (IUID) will be updated when the MK 19 is sent for overhaul. The MOD 4 does not have its own TM yet. Order spare parts for it through DLA. They are listed in TM 9-1010-230-23&P.

IF YOU'RE UNSURE WHICH MK 19 YOU HAVE, CONTACT YOUR LOCAL TACOM LAR,
OR YOU CAN CONTACT TACOM'S WAYNE WAROWAY AT DSN 786-1254, (586) 282-1254,
OR EMAIL: wayne.d.waroway.civ@mail.mil



ARE YOUR RACKS SECURE?



Dear Editor,

As part of the Army Award For Maintenance Excellence competition, I've evaluated more than 38 organizations during the last year. In too many cases, I found units weren't meeting the requirements for securing small arms called out in Para 4-2 in AR 190-11, *Physical Security*.

If a weapons rack weighs less than 500 pounds, it must be secured to the building or to other racks so that the combined weight is more than 500 pounds.

Chains must be made of hardened steel that is at least $\frac{5}{16}$ -in thick with straight links. The chains must be secured with padlocks.

Any bolts or machine screws must have a minimum diameter of $\frac{3}{8}$ inch and must be tack welded, brazed or peened to prevent easy removal. This is the rule I see violated most often.

Physical security inspectors need to make a point to check for these things when they go through arms rooms.

Please spread the word.

SFC Dustin Forgey
Ft Lee, VA

Editor's note: We'll be glad to, Sergeant.

M9 Pistol...

IS TRIGGER PULL TEST REQUIRED?

THAT DOES IT! YOU'RE GOOD FOR ANOTHER YEAR!

WAIT, DOC! YOU'RE S'POSED TO DO THE TRIGGER PULL TEST. IT'S MANDATORY!

RIGHT YOU ARE! OK, TURN YOUR HEAD AND COUGH.

Dear Half-Mast,

PS 703 (Jun 11) said a trigger pull test is required for the M9 pistol, but there's still nothing in TM 9-1005-317-23&P saying that. Is the test required?

CW2 M.E.

Dear Chief,

Yes, the pull test is required. Your small arms repairman can 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 least it should be done annually.

Half-Mast

Mounting M66 on FMTV AO/A1

WE'VE GOT AN NSN CHANGE FOR THE M66 RING MOUNTING KIT FOR THE FMTV AO/A1.



Dear Editor,

Pages 27-35 in PS 773 (Apr 17) said to mount the M66 ring mount on the FMTV AO/A1 cab with ring mounting kit, NSN 1005-01-381-5431. Unfortunately, that NSN now has an AAC code of V, which means it's a terminal item.

Units should instead order NSN 2540-01-570-2405. And be prepared for sticker shock. Right now the kit costs close to \$27,000.

By the way, TM 9-1005-451-13&P is the new TM for the M66.

Ricardo Iriarte
Eugene Szumski
Wilkes-Barre, PA

Editor's note: Thanks for the update, Eugene and Ricardo. Hopefully, the price will drop soon.

EASY DOES IT!

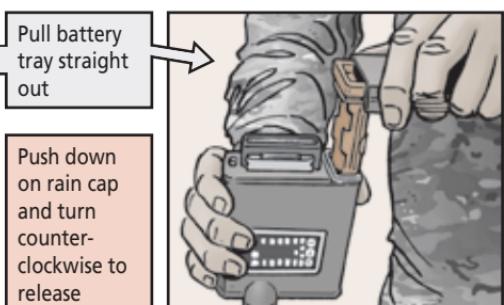


Easy does it when you remove the joint chemical agent detector (JCAD) battery tray and the rain cap. Forcing them leaves you with an NMC JCAD.

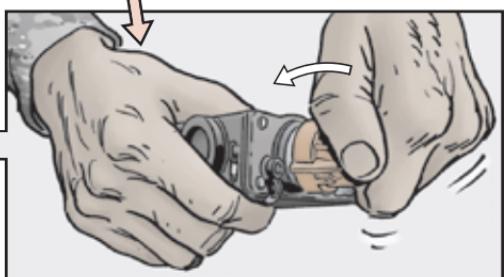
To remove the battery tray, pull the locking cover to the side, away from the body of the detector, to unlock it.



Then pull the tray away from the detector. If you pull the tray without unlocking it, it'll break.



To remove the rain cap, rotate the rain cap counterclockwise so that pointer on the rain cap aligns with the ON raised mark on the top of the detector.



Press down lightly on the rain cap and rotate counterclockwise until the rain cap pops up. Lift the rain cap to remove it. It should come right off. If it doesn't, something's wrong. **Don't** twist the cap back and forth. That can break it and your JCAD is NMC.

Radiacmeters....

RADIAC REMINDERS

SHHH!



THERE ARE
TWO ISSUES WITH
RADIACMETERS THAT
CBRN SPECIALISTS
NEED TO BE
REMINDED OF.



AN/UDR-13

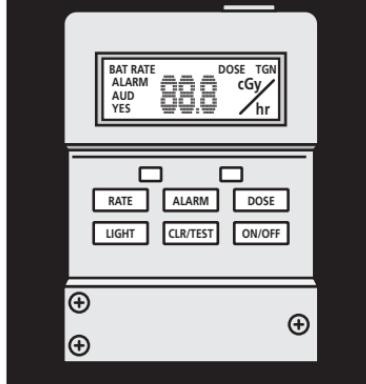
A software problem is causing some AN/UDR-13s to beep. You don't want beeping in a combat situation.

Weed out beepers like this: Turn in all -13s with serial numbers from 6800C to 32855C. But don't turn in any that have an "F" at the beginning of the serial number. Those have been repaired and are good to go.

Test all other -13s for beeping. Turn them on away from a radiation source and let them run for at least 20 minutes. Make sure the audio indicator is turned on. If any beep, turn them in and requisition a replacement from depot.

For more info, contact CECOM's Chrisie Longo DSN 648-1375, (443) 395-1375, or email: chrisie.a.longo.civ@mail.mil

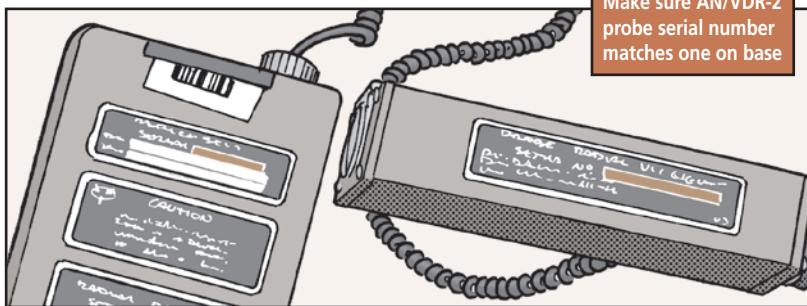
Test all AN/UDR-13s for beeping



AN/VDR-2

When your AN/VDR-2s come back from calibration, make sure the serial number of the probe matches that of the base. Sometimes they get switched and that can make trouble for property book accounting. And sometimes the probe has been replaced. This will be noted in the DA Form 7372.

Make sure AN/VDR-2 probe serial number matches one on base



RADIAC QUESTIONS ANSWERED

HALF-MAST, WE HAVE A FEW RADIAC QUESTIONS WE HOPE YOU CAN HELP WITH!

WE'VE GOT RADIAC ANSWERS.
BOTH THE QUESTIONS AND THE ANSWERS ARE ON THE NEXT PAGE.



PS MORE

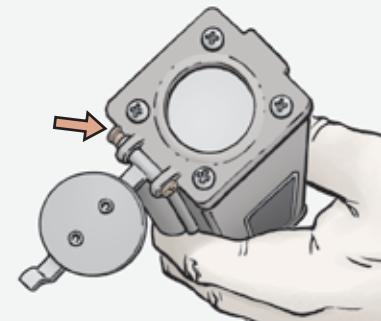
Q: On the AN/VDR-2, the screw that secures the beta shield is constantly coming out. The beta shield falls off and disappears. Can we replace the beta shield at unit level? We can't find the parts in the TM.

A:

IF THE AN/VDR-2'S BETA SHIELD COMES OFF, THE ONLY FIX IS TO SEND IT TO THE NEXT HIGHER MAINTENANCE.

CBRN SPECIALISTS CAN AVOID THAT BY TIGHTENING THE BETA SHIELD'S SCREW BEFORE THE AN/VDR-2 LEAVES THE CBRN ROOM AND TELLING OPERATORS TO PERIODICALLY CHECK FOR A LOOSE SCREW IN THE FIELD.

Make sure beta shield screw is tight before AN/VDR-2 leaves the CBRN room



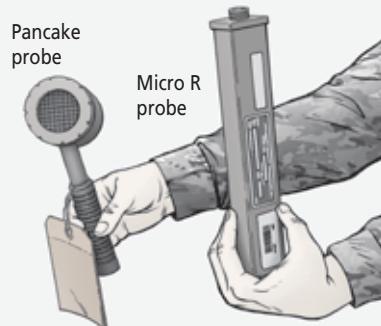
Q: On the AN/PDR-77, is TMDE supposed to be calibrating the beta pancake and the micro R probe? We can't find any mention of this in the TM and TMDE doesn't show much enthusiasm for checking them out.

A:

TMDE WON'T CALIBRATE THE AN/PDR-77'S PANCAKE OR MICRO R PROBE UNLESS A UNIT SPECIFICALLY REQUESTS AND JUSTIFIES IT IN WRITING. FOR MORE INFORMATION, SEE SECT 6.a(3)(b) IN TB 43-180, CALIBRATION AND REPAIR REQUIREMENTS FOR THE MAINTENANCE OF ARMY MATERIEL.

TMDE doesn't calibrate beta pancake and micro R probe unless requested in writing

Pancake probe

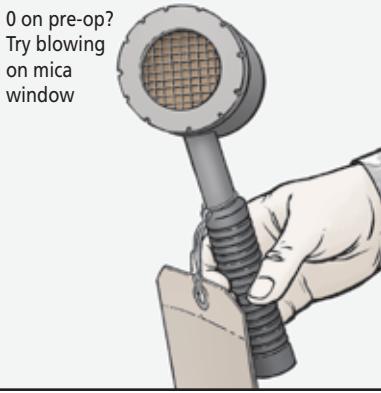


Q: Should we get a 0 or 9 on the preop test for the AN/PDR-77? Especially with the pancake probe, we rarely get a 9.

A:

THE PRE-OP TEST FOR THE AN/PDR-77, SHOULD ALWAYS PRODUCE A FLASHING 9. A 0 MEANS FAILURE. IF THE PANCAKE PROBE TEST IS YIELDING 0, GENTLY BLOW ON THE SURFACE OF THE MICA WINDOW. IF YOU HEAR A FLUTTERING SOUND, THE PROBE'S FILL GAS HAS ESCAPED. THIS IS A COMMON PROBLEM. BUT ANY TIME YOU GET 0s WITH ANY OF THE PROBES, YOU SHOULD TURN IN YOUR AN/PDR-77 TO TMDE. SOMETHING IS WRONG, USUALLY A DEFECTIVE BATTERY CABLE.

0 on pre-op?
Try blowing on mica window



M159 CBRN,
DR SKO...

Plug in Refrigerator CAREFULLY!

WHAT JUST
HAPPENED?

YOU PLUGGED
IN MY HMC-
MIL-1 FRIDGE'S
POWER CABLE TO
THE VDC PORT
INSTEAD OF THE
VAC PORT.

YOU GOT
ZAPPED!

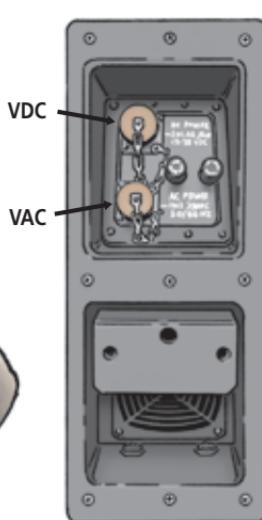
THE ENVIRONMENTAL HMC-MIL-1 REFRIGERATOR/FREEZER FOR THE M159 CBRN DISMOUNTED RECONNAISSANCE SETS, KITS AND OUTFITS (DR SKO) CAN BE REMOVED AND OPERATED REMOTELY.

THE PROBLEM COMES WHEN OPERATORS REINSTALL THE REFRIGERATOR/FREEZER IN THE QUAD-CON/ CONTAINER. IF YOU ACCIDENTALLY PLUG IN THE REFRIGERATOR/FREEZER'S POWER CABLE TO THE VDC PORT INSTEAD OF THE VAC PORT, YOU CAN DAMAGE NOT ONLY THE REFRIGERATOR/FREEZER BUT ALSO RISK ELECTROCUTION.

IT'S EASY TO MAKE THE MISTAKE BECAUSE ONCE THE REFRIGERATOR/FREEZER IS POSITIONED IN THE QUAD-CON/ CONTAINER YOU CAN'T SEE THE VDC AND VAC PORTS.

YOU MUST CONNECT THE POWER CABLE BY FEEL.

JUST REMEMBER THE VAC PORT IS THE BOTTOM ONE.



Plug refrigerator/freezer
in VAC port, not VDC



SOLDIER SUPPORT

- Get a Charge out of Recharging!



Convector Space Heater...

Get a CHARGE out OF RECHARGING!

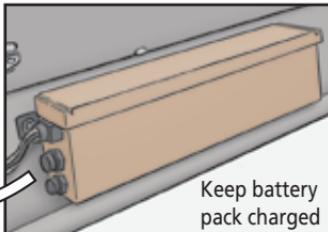
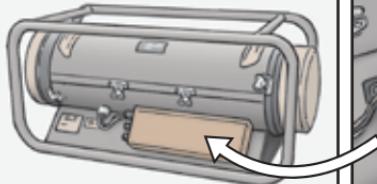
WINTER IS COMING.

ARE THE BATTERY PACKS IN YOUR CONVECTIVE SPACE HEATERS CHARGED AND READY?

WINNERS, EVERY SIX MONTHS YOU NEED TO RECHARGE THE BATTERY PACK, NSN 4520-01-493-2796, IN YOUR 35,000-BTU AND 60,000-BTU CONVECTIVE SPACE HEATERS.

A DISCHARGED BATTERY PACK THAT SITS AROUND FOR A LONG TIME MAY BE IMPOSSIBLE TO RECHARGE, AND REPLACING THE PACK COSTS MORE THAN \$850.

WHEN YOU OPERATE THE CONVECTIVE SPACE HEATER, THE BATTERY PACK GETS RECHARGED BY THE THERMO-ELECTRIC GENERATOR (TEG) ON THE HEATER.



Keep battery pack charged

THAT'S FINE DURING COLDER MONTHS WHEN THE HEATER'S RUNNING A LOT.

BUT IT'S A DIFFERENT STORY DURING WARMER MONTHS WHEN THE HEATER SITS IDLE FOR A LONG TIME.

THAT'S WHEN THE PACK TYPICALLY GOES UNCHARGED.

Battery Pack Recharging Methods

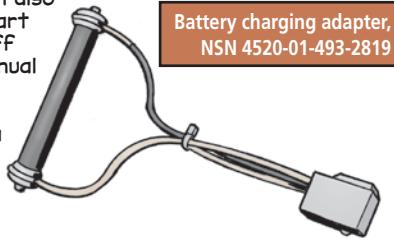


1. During heater operation. As mentioned before, you can recharge the battery pack by operating the heater. It usually takes about 30 minutes. If the pack is deeply discharged, or if you're recharging in cold weather, it will take longer.

2. Standard automotive tool set (SATS). The SATS 12V battery charger, NSN 6130-01-500-3401, will recharge the heater's battery pack.

3. Commercial battery charger. You can also use a commercial 12V smart charger. A smart charger is one that automatically shuts off when charging is complete. Don't use a manual charger, though. It could overcharge the pack and make it unserviceable.

All convective space heaters come with a **battery charging adapter**, NSN 4520-01-493-2810, that must be used with a commercial or SATS 12V battery charger. The adapter is a component of end item.

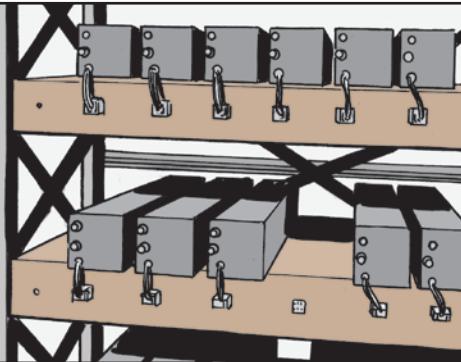


4. NATO charging system. The NATO charging system, NSN 4520-01-533-0607, lets you charge the pack by connecting it to any vehicle outfitted with a 24V NATO adapter. The charging system can be attached to any 24V NATO slave receptacle. The charging system's battery connector fits onto the pack's connector.

The NATO charging system is an additional authorized list item. It's a complete charging system, not just a jumper cable. When the system is attached to the heater's battery pack and DC power, a small LED blinks to indicate that the pack is charging. When the pack is fully charged, the LED stops blinking and stays lit. The charging system can't be hooked up incorrectly and won't drain the vehicle battery below 18V.

5. Series battery charger rack. The charger rack is used for bench charging the battery packs. The rack has three charging trays that allow you to charge a total of 18 packs at one time.

The rack isn't in the Army supply system. It's a commercial item available through HDT Global. The HDT part number is 301-H003005. To order, call HDT Global at (800) 977-3647, or email: sales@hdtglobal.com



Battery Pack Charging Tips

- Keep the pack fully charged. The convective space heater battery pack works just like a vehicle battery. The heater uses the pack to start itself. Then, during operation, the heater recharges the pack. If the pack becomes discharged, recharge it right away. Storing a discharged pack will shorten its life and degrade performance. Later, you may not be able to recharge it. Charge the pack every six months while it's in storage.
- Under normal conditions, a pack that's been recently discharged can usually be recharged in about an hour or two. It will take longer if the air is cold (20°F or less).
- Use a 110VAC to 12VDC commercial smart charger. You can also use the NATO charging system. Attach the charger to the pack like it says in TM 10-4520-262-12&P (35K BTU) and TM 10-4520-264-12&P (60K BTU). When recharging the pack under normal conditions, check the pack's standing voltage with a multimeter every 30 minutes.
- When charging the pack in a deeply discharged condition (less than 11.5V), it will usually take about 24 hours to recharge. Use a commercial 12V smart charger. Attach the charger to the pack like it says in the TMs and start charging. Every four hours, check the pack's standing voltage with a multimeter to find out if it's fully charged.

NOTE: While checking voltage, also check battery temperature. If the battery is warm, allow it to cool for one hour before continuing to charge.

Battery Pack's Standing Voltage

TO CHECK THE STANDING VOLTAGE, DISCONNECT THE PACK FROM THE CHARGER. THEN...

...LET IT STAND DISCONNECTED FOR 30 MINUTES. THEN CHECK THE VOLTAGE WITH A MULTIMETER.

IF THE STANDING VOLTAGE IS NOT AT 100 PERCENT OF CHARGE, RECONNECT THE PACK TO THE CHARGER AND CONTINUE CHARGING.

IF, AFTER CHARGING THE PACK, THE STANDING VOLTAGE WILL NOT STABILIZE, THE BATTERY PACK ISN'T WORKING.

THIS TABLE RELATES BATTERY PACK STANDING VOLTAGE TO THE PERCENT OF CHARGE IN THE PACK.

Voltage Reading	Percent of Charge in Pack
12.4 - 12.5	80
12.5 - 12.6	90
12.6 - 12.7	100

IN OTHER WORDS, IF THE MULTIMETER READS THE VOLTAGE BETWEEN 12.4V AND 12.5V, IT MEANS THE PACK IS 80 PERCENT CHARGED.

PS COMMUNICATIONS

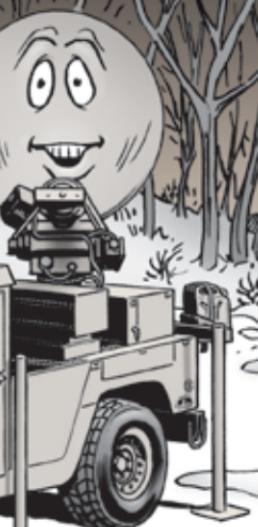
- Maintenance Help is Online
- Know the Rules of the Road
- New Purging Procedure



MAINTENANCE HELP IS ONLINE

DO YOU NEED
MAINTENANCE HELP?

GO ONLINE TO THE
ALPS WEBSITE!



Dear Editor,

I've noticed some issues when it comes to the Army's signal systems maintenance program. In particular, maintenance of the AN/TSC-154A Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T). Soldiers are unaware of the Acquisition Logistics Performance Scorecard (ALPS) website and its ability to help them maintain their systems.

ALPS is a web-enabled, high technology tool that improves overall system asset availability by enhancing the efficiency and effectiveness of asset management and repair tracking. It helps relieve the administrative burden while also reducing costs for fielding and maintenance, both for the Army and the contractor depot. ALPS simplifies communications between the Soldier, PM and the contractor depot responsible for repair, replacement and return of defective parts.

To access ALPS, you must have a CAC-enabled computer and an active account. Go to:

[https://www.kc.army.mil/
ALPS.Net/Default.aspx](https://www.kc.army.mil/ALPS.Net/Default.aspx)

For initial access to the system, contact the ALPS Warranty Manager, Cyril Chupko, at (443) 395-7118 or by email:

cyril.s.chupko.ctr@mail.mil

Or contact the System Administrator, Jacqueline Aaron, at (443) 395-7131 or email:

jacqueline.aaron.ctr@mail.mil

CW2 Kel Williams
Schofield Barracks, HI

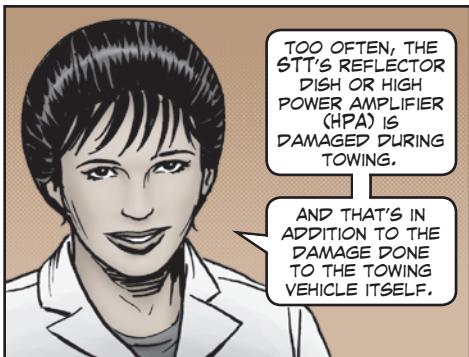
GOOD
INFORMATION,
CHIEF. THANKS
FOR YOUR
HELP!



Know the Rules of the Road



FOR YOUR WARFIGHTER INFORMATION NETWORK-TACTICAL'S (WIN-T) SATELLITE TRANSPORTABLE TERMINAL (STT) TO DO ITS JOB, YOU'VE GOT TO FOLLOW THE RULES OF THE ROAD WHEN TRANSPORTING IT TO THE FIELD.



MOST STT DAMAGE CAN ONLY BE REPAIRED AT SUSTAINMENT LEVEL.

THAT'S NOT ONLY EXPENSIVE, BUT IT MEANS A LOT OF DOWNTIME FOR THESE REPORTABLE SYSTEMS.

KEEP YOUR SYSTEM **UP AND RUNNING** BY FOLLOWING THE TOWING INFORMATION IN EACH OF THE STT TMs:

STT	STT Lot	TM	Work Package for Movement
AN/TSC-167v1 and v2	STT Lot 9	TM 11-5895-1869-13&P-1	WP 0074, 0075 and 0101
AN/TSC-185v1 and v2	STT Lot 10	TM 11-5895-1868-13&P	WP 0020 and 0043
AN/TSC-185v3	STT+	TB 11-5999-206-13	See STT Lot 10 for towing
AN/TSC-202	STT-HP	TM 11-5895-1957-13&P-1 TM 11-5895-1957-13&P-2	WP 0054
AN/TSC-208	STT-HP	TM 11-5895-2010-13	WP 0052

Additional Tips

HERE ARE TWO MORE TIPS FOR TOWING AN STT...

- **Tactical Communication Node (TCN) protection.** When towing an STT with a heavy TCN, make sure the rear door of the shelter is properly secured. If it swings open during towing, the door can damage the STT's reflector dish.
- **HMMWV towing.** If you're using a HMMWV as the towing vehicle, make sure the cargo bed is free of anything that can snag or interfere with the STT's full range of motion.

QUESTIONS ABOUT TOWING YOUR STT?

SEND AN EMAIL TO:
usarmy.apg.peo-c3t.mbx.pao-peoc3t@mail.mil

AN/TAS-8(V)1, (V)2 LRAS3...

New Purging Procedure

HEY, PS SAYS THERE'S A NEW PURGING PROCEDURE FOR YOU.



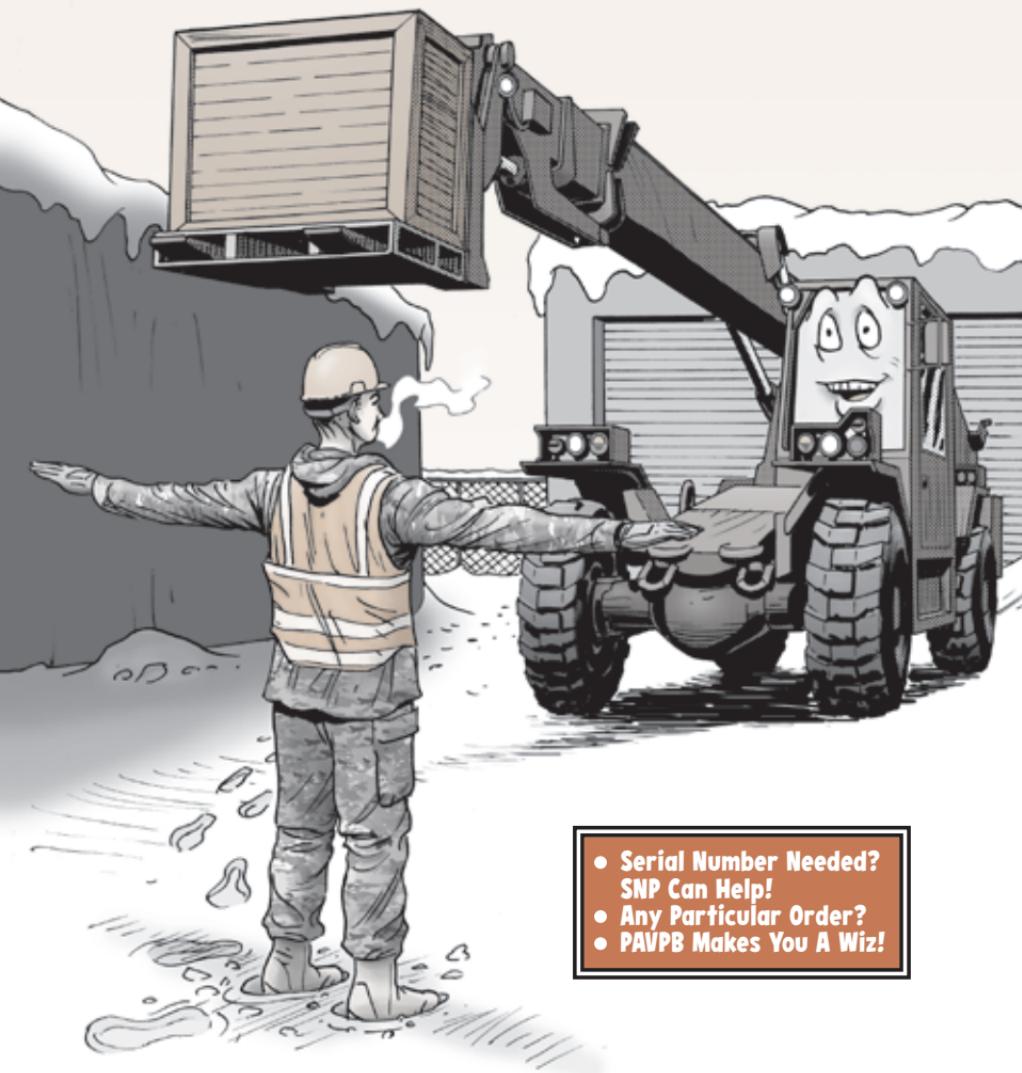
Dear Editor,

We came up with a new purging procedure for the Long Range Advanced Scout Surveillance System (LRAS3) that replaces the one in Para 2-22.2 in TM 11-5855-310-30&P. It has been approved for the next TM revision, but we thought PS could let the field know now.

CW2 Willie Trappier
Ft Hood, TX

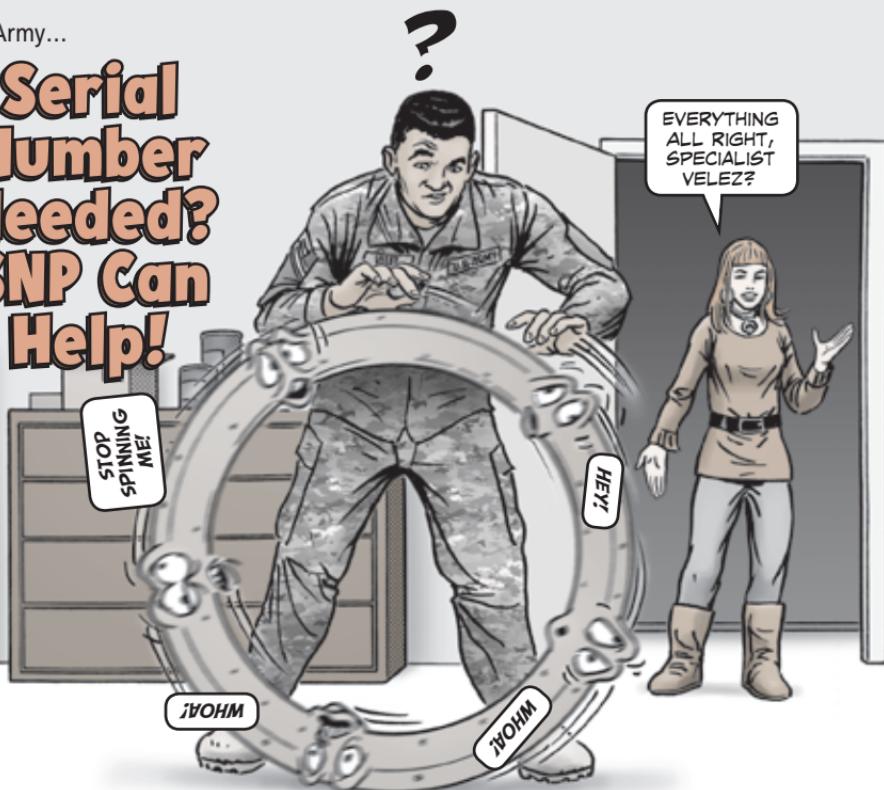
Editor's note: Sure thing, Chief. The procedure is too long to include in PS, but we'll be glad to furnish units a copy. Just email:

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



- Serial Number Needed?
SNP Can Help!
- Any Particular Order?
- PAVPB Makes You A Wiz!

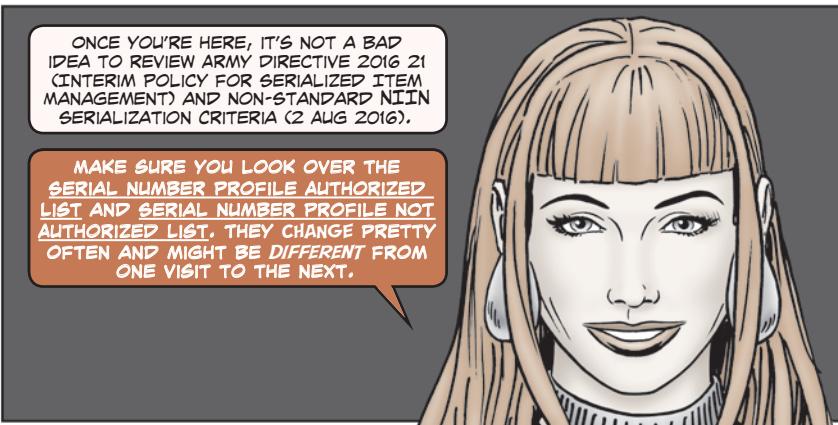
Serial Number Needed? SNP Can Help!



THE FIRST THING WE
NEED TO DO IS GO
TO THE GCSS-ARMY
WEBSITE:
<http://gcss.army.mil/>



CLICK ON THE PRODUCT SUPPORT ICON AND LOOK UNDER THE SERIALIZED ITEM MANAGEMENT (SIM) HEADER.



NOW YOU'RE READY TO REQUEST A SERIAL NUMBER PROFILE (SNP). CLICK [SERIAL NUMBER PROFILE REQUEST FORM](#) AND FILL OUT ALL OF THE FORM'S MANDATORY FIELDS.

F	G	H
Serialized Item Management (SIM)		
Serial Number Profile (SNP) Request Form		
Profile Not Authorized List", and submitted for number Profile addition using the Sustainment System or 8345 as it has already been determined the		
Mandatory	Mandatory	Mandatory
Source of	End Item Code	Cost

form must be submitted to the GCSS-Army Help Desk and accompany a user's Service Request for a Serial Number Profile addition using the Sustainment System or 8345 as it has already been determined they

Use Only	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Opt.
	Material NIIN(s)	Nomenclature/ Material Description	Supply Category Material Code	FSC Code	Source of Supply (SOS)	End Item Code	Cost



AFTER YOU FINISH ALL OF THAT, SUBMIT YOUR COMPLETED FORM TO THE GCSS-ARMY HELP DESK.

IF YOU'RE NEW TO THE HELP DESK, YOU'LL FIRST NEED TO COMPLETE A REGISTRATION FORM AT: <https://s4if.lee.army.mil>



PS END

MSD...

ANY PARTICULAR ORDER?



Dear Half-Mast,

We're getting ready to install the Electronic Maintenance System - Next Generation (EMS-NG) Viewer on our maintenance support device (MSD). Does it matter what order the software is installed?

SGT J.G.

Dear Sergeant,

Yes, order of installation does matter. Using the right order ensures the MSD is properly configured and makes your job easier.

If you have the newer version of the MSD's emergency recovery disk (ERD), install it first. The ERD will erase the MSD.

After you install the ERD, install any ERD supplemental software disc (SSD) needed. You want the latest Test, Measurement, & Diagnostic Equipment (TMDE) Diagnostic Software on the MSD before you install EMS.

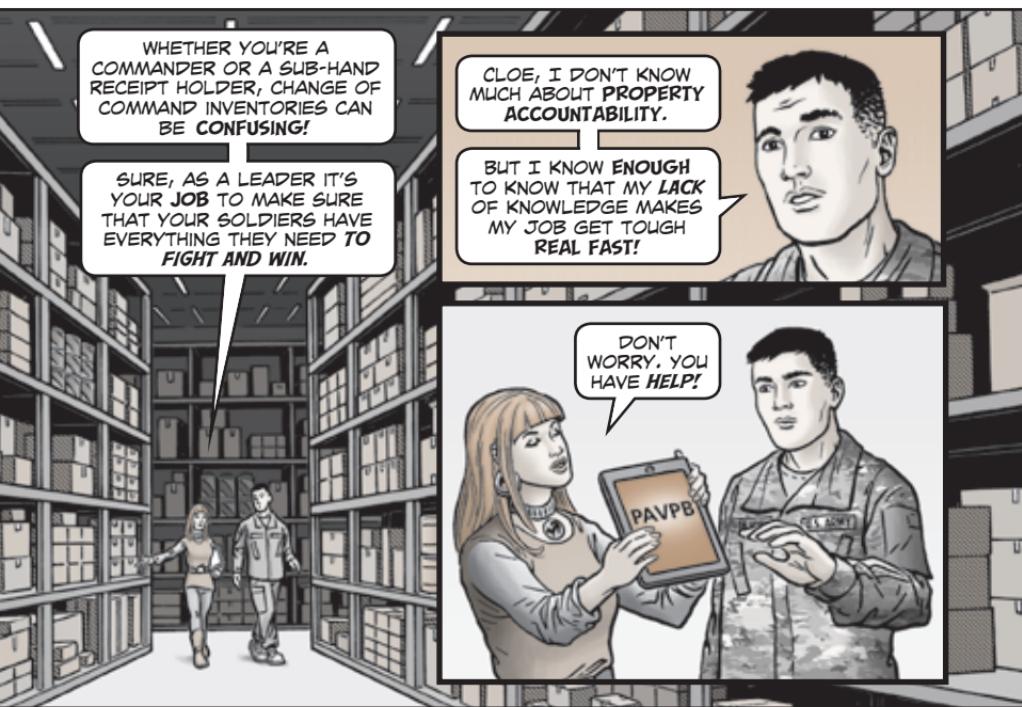
Next up, install the EMS-NG viewer and last, but not least, install the Autonomous Diagnostic Manager (ADM). So check with the MSD/ICE helpdesk for the latest versions at (877) 564-1137.

Note: EMS is only tested with government approved Army Gold Master (AGM) software, so introduction of third party software (i.e., CAT, ET or Allison Doc) can create errors.

If you have any questions, email the software helpdesk at
support@ems-helpdesk.com

Half-Mast

PAVPB Makes You A Wiz!



The Army Quartermaster School at Ft Lee has developed the Property Accountability Virtual Playbook (PAVPB). The PAVPB is an online interactive 3D training program designed to teach property accountability by showing the right way to conduct a change of command inventory.

The PAVPB walks you through a virtual inventory using a Stryker, an M-1 series tank and three different small arms. It explains the roles of the commissioned officers, warrants and NCOs for every part of the process, including before-, during-, and after-inventory.

A proper change of command inventory is vital because it forms the baseline inventory for all types of inventories to including cyclic and sensitive item inventories. It's also one of the few times the company commander is fully dedicated to property accountability for all the gear in his unit.

The PAVPB provides you a great resource that improves property accountability training while promoting Army readiness.

Access the PAVPB at: <http://www.cascom.army.mil/index.htm>

Questions? Contact CPT Matthew Johnson at DSN 687-3725, (804) 734-3725 or by email at: matthew.j.johnson182.mil@mail.mil

RING IN THE NEW YEAR WITH...

Connie's POST SCRIPTS

LINSEED OIL PRESERVES DECKS

Constant exposure to the elements leads to dry, cracked and splintered wood decking on semitrailers. Prevent that damage by applying a light coat of linseed oil to the decking as needed. NSN 8010-00-152-3245 brings a gallon of linseed oil and NSN 8010-00-684-8789 gets five gallons. A 55-gal drum comes with NSN 8010-00-242-6114.

THE BEST WAY TO SEE IN THE DARK

Check out these handy helmet mount training videos. They'll show you step-by-step ways to configure the advanced combat helmet and enhanced combat helmet to work with various night vision devices and goggles:

https://www.youtube.com/playlist?list=PLgoiDXbvQaiXikagMShmSf-yRZL_NazFz

ATLAS Forklift Fuel Filter

The ATLAS forklift's fuel filter, NSN 2910-00-238-0033, is no longer available. Instead, order the fuel filter assembly, NSN 2910-00-401-4189. This NSN includes filter and water separator. We'll let you know when the filter is available again separately.

M400T, M400W Cab Door Assembly NSN

Get a new door assembly for your M400T or M400W compact skid loader with NSN 2510-01-593-8321 (PN 87491303). PN 87724851, which is shown as Item 36 in Fig 66 of TM 5-3805-292-23P (Mar 10), crosses to the wrong NSN.

GOT COLD WEATHER EQUIPMENT COVERED?

A new TM is available for Cold Weather Equipment (CWE) for Force Provider Expeditionary. TM 10-5419-213-13&P (Jun 17) covers the green set, NSN 5419-01-580-6932, and the tan, NSN 5419-01-581-2258. CWE is a collection of military and commercial equipment, including heat trace sleeves for waste/water hoses, water bladder heaters and tent heaters, which can sustain an FPE camp of up to 150 personnel in temps as low as -15°F. Download it at:

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

New Command Post Tablet TMs

ATTENTION UNITS!



THE JOINT BATTLE COMMAND-PLATFORM (JBC-P) AND JOINT CAPABILITIES RELEASE (JCR) COMMAND POST TABLET TMS ARE AVAILABLE.

THEY COVER THE AN/GYK-62H, JBC-P COMMAND POST TABLET, NSN 7010-01-626-9912...

...AND THE AN/GYK-62J, JCR COMMAND POST TABLET, NSN 7010-01-645-7637.

THE NEW TMS • TM 11-7010-586-10 (Aug 17)
INCLUDE: • TM 11-7010-586-23&P (Aug 17)

NOTE: THESE TMS ARE RESTRICTED. TO VIEW, YOU MUST LOG IN TO THE LOGISTICS INFORMATION WAREHOUSE WITH YOUR CAC AT: <https://liw.losga.army.mil/>
THEN CHOOSE THE "ETM/IETM" ICON AND SEARCH FOR THE TMS.

M149A2 Brake Hose Assembly NSN

To get the correct brake hose assemblies for the M149A2 water trailers, order NSN 4720-01-031-4387 (128" hose) for the right hand and NSN 4720-01-031-4386 (110" hose) for the left hand. The hose assemblies shown as Item 3 in Fig 10 of TM 9-2330-267-13&P (Dec 15) are too short. Make a note of this correction until the TM is updated.

M88A2 GROUND HOP KIT

Need a ground hop kit for your M88A2 recovery vehicle? There's not a single NSN for the kit. You'll need to order the following components individually:

Component	NSN
Engine starter kit	2920-01-421-7066
Air filtration kit	2815-01-334-3270

If you want to ground hop without the engine fans, you'll need two spacer sleeves, NSN 5365-00-795-7952.

M870A1 Wood Decking Kit

Get a complete wood decking kit, minus the hardware, for your M870A1 40-ton lowbed semitrailer with NSN 5510-01-540-5724. Or you can order cut-to-fit purple-heart wood by the board foot with NSN 5510-01-454-8568. That comes in handy if you only need to replace a few boards. You'll need carbide-tipped blades and drill bits to prepare it.

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

**Start with
an empty
hand wipe
container...**

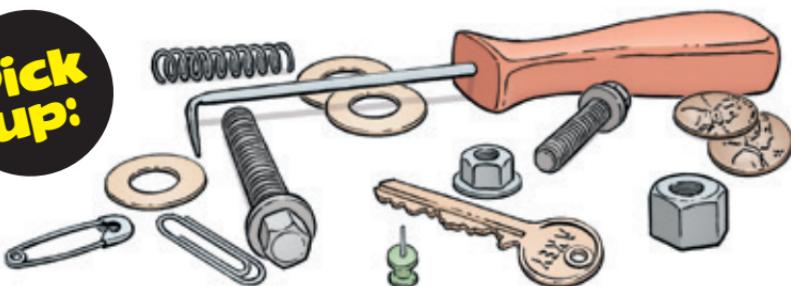


**...add
a little
yellow,
red and
white paint...**



...and you've got yourself a

FOD Can



**Don't let this stuff bring
down your bird. Pick it up!**