



You can look at it two ways the next time your NCO or maintenance supervisor repeats words you already should have heeded.

Words like, "You should read the TM" or "It's in the TM!"

You can listen and learn ....

Or you can listen with the same old attitude, like the words have lost their mean-

ing. That attitude leads to trouble. How so?

Well, there are operators and unit mechanics that get in a bind when their equipment breaks down. They don't know that troubleshooting procedures in the TM will get 'em up and running. Some don't even know that troubleshooting procedures exist!

What's more frustrating is when support high-tails it to a unit in trouble...only to find the answer or solution was in the -10 or -20 TM all along. Not to mention finding out that the operator or mechanic doesn't have TMs riding with the vehicle or nearby.

Listen, then learn... and read the TMs.







In PS 614, we told you how to take care of Bradley track in the desert. But Bradleys aren't the only vehicles whose track takes a beating.

Heavy loads, non-stop missions, severe temperatures and abrasive sand also take their toll on track for the M1-series tank, M88-series recovery vehicle and M113-series vehicles.

So follow these track inspection and preventive maintenance tips to get the most life possible out of your vehicle's track.

#### **Track Shoe Wear**

Follow the Condition Code F wear guides below from TM 9-2530-200-24, *Standards for Inspection and Classification of Tracks, Track Components and Solidrubber Tires.* 

Condition Code F means the track shoe or pad is repairable if it's replaced **when** it reaches this level of wear. Components and pads worn **beyond** these limits can't be repaired.

Follow these guidelines for component replacement and turn-in. All measurements are in inches.

	Grouser Height	Center Guide Thickness	Pad Thickness	Sprocket Window Thickness	End Connector Thickness	Roadwheel Path Rubber
M1-Series Tanks (T158/T158LL Track)	1/8 to 1/4	1/2 to 5/8 (measured 1 inch from top)	Less than 15/16	N / A	Less than 3/16*	More than 50% missing from both inserts combined, or more than 50% from one insert
M88-Series Recovery Vehicle	Less than 1/2 to metal exposure	1/2 to 5/8 (measured 1 inch from top)	N/A	N / A	1/8 to 3/16	N/A
M113-Series FOV	1/8 to 5/16	1/8 to 1/4	1/8 to 5/16	1 5/8 to 1 11/16**	N/A	N / A

\*M1-series tank end connectors aren't repairable, so there is no Condition Code F rating. Use the connectors until the thickness falls below 3/16 inch. Then replace them. \*\*Sprocket window wear is measured from the front bushing bore.

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#### M113-series FOV:

Off-center pins on M113-series vehicles indicate bushing wear and should be closely watched. If the pin touches the inside surface of the bushing bore, the shoe's no good. Replace it.

Keep close watch on off-center pin nuts... ...but replace shoe if pin nut touches bore

Also, watch for pins that stick out more on one side of the shoe than the other. One of the locking nuts could be loose or missing. The locking nuts are a one-timeuse item, so make sure your mechanic uses a new one if they are loose or damaged.

#### Wheel Inspection

Turn in roadwheels, idler wheels and support rollers that have elongated mounting holes or are bent or out of round.

Here's what else to look for on your tank, recovery vehicle and M113 FOV:

• Weather cracking: If weather cracks extend completely across the tread surface or are deeper than 1/4 inch, the wheel should be replaced and turned in for repair.



• **Chunking:** You should replace and send in for repair **any** wheels that have:

+ Chunking that exceeds 50% of the total tread surface.

+ Any chunking that extends more than 1/2 the width of the wheel.

+ Chunking of 10% or more of the total tread surface that reaches the bonding surface of the rim.

ReplaceLargewheels thatchunks ofhave weatherrubbercrackingmissing?across treadReplacesurfacewheel



• **Tread separation:** Roadwheels, idler wheels, and support rollers that meet the following guidelines should be replaced and turned in for repair:

#### M1-series tanks/M88-series recovery vehicle:

Replace roadwheels and idler wheels with tread separation (each side) that is one inch or wider up to the entire circumference of the wheel.

Replace M88-series vehicle support rollers with tread separation that is 1/2 inch or wider (each side) up to the entire circumference of the roller.

#### M113-series FOV:

Separation of the tread that is 3/4 inch or wider (each side) up to the entire circumference of the roadwheel.

#### **Shocks and Hubs**

Good shock absorbers generate heat during operation. If any of your shocks are cool or only slightly warm to the touch, report 'em. They aren't doing the job and

can cause excessive track wear.

For M1-series tanks, you should also check the shock absorber sight gauges. The indicator ball should be between the middle and top of the sight gauge. If not, or if the oil looks milky from water contamination, report it.

Roadwheel, idler wheel, and support roller hubs should **not** run hot. If they generate excessive heat, it's a good sign that the bearings are failing. Tell your mechanic.

For M1-series tanks, you should also check the roadwheel's oil level at the hub caps. The level should be to the bottom of the hole for the plug. If it's not, or if the oil looks milky from water contamination, report it.

Be careful when checking for hot shocks or hubs. Either one can generate enough heat to burn you.

Use care when checking hub temperature







#### **Sprockets**

Check the drive sprockets on your vehicle for broken teeth, cracks, excessive wear

and loose mounting bolts.

The sprockets on M1series tanks and M88A1 recovery vehicles have wear limit marks. When the wear limit mark is reached, you should reverse or replace the sprocket.

For M113-series vehicles, use the track and sprocket gauge, NSN 5220-01-041-9920, to check for excessive wear. If any part of the sprocket tooth does not extend beyond the gauge, reverse or replace the sprocket.



If your carrier has the new style T130 sprockets, the wear gauge is not needed. These sprockets have wear marks that are used to gauge wear to the teeth.

When replacing or reversing a sprocket, make sure all mating surfaces are clean before reinstalling the parts. Pay special attention to bolts and the surface of the sprocket where the bolt mounts. Dirt between these areas can cause the bolt to loosen or break.

#### Track Tension

Improper track tension will wear out track fast! Track that's too tight cups sprocket teeth and strains shoe pins and end connectors. Track that's too loose gets thrown, damaging roadwheels and support rollers.



#### M1-series tanks:

There are two different style track adjusting links used on the M1-series tank. You'll find the procedures for both starting on Page 3-194 of TM 9-2350-264-10-2, Page 3-107 of TM 9-2350-288-10-2, and Page 3-124 of TM 9-2350-388-10-2.

#### M88A1 recovery vehicle:

1. Let the vehicle roll to a complete stop on firm, level ground.

**2.** Remove any dirt or mud from the outboard end connectors between the first and second support rollers.

**3.** Place a string with a weight on both ends over the first end connector before the No. 1 support roller. Extend the string past the No. 2 support roller and over the next end connector.

**4.** Go to the center end connector between the two support rollers. Measure the distance between the string and the center point of the end connector.



If the measurement is between 3/8 inch and 9/16 inch, no adjustment is needed. A measurement outside that range means the track is either too tight or too loose. Follow the instructions starting on Page 3-21 to adjust the track tension.

#### M88A2 recovery vehicle:

There are two different style track adjusting links used on the M88A2. You'll find the procedures for both starting on Page 0103 00-1 and Page 0104 00-1 of TM 9-2350-292-10.



#### M113-series FOV:

**1.** With the transmission controller in SL (steering lock), let the vehicle roll to a complete stop on firm, level ground. Stop the engine.

**2.** Insert the drive pin punch, NSN 5120-01-006-8847, from your vehicle's BII between the top of the No. 2 roadwheel and the bottom of the track. If the punch can be inserted freely, and the track touches the top of the No. 3 roadwheel, track tension is correct.



If the punch can be inserted freely, but the track does not touch the top of the No. 3 roadwheel, track tension is too tight. Go to step 3.

If the punch cannot be inserted freely, the track is too loose. Go to step 4.

**3.** To loosen track tension, slowly open the bleed valve on the track adjuster to let grease out. Retighten the bleed valve, wipe away excess grease and go back to step 1. If the track adjuster is in as far as it will go and the track is still too tight, add a track shoe and readjust the tension.

4. To tighten track tension, pump in grease through the fitting on the track adjuster.

Do not extend the track adjuster more than 17 inches (measured between the center of the track adjuster mounting screws) or it may buckle during operation. If the track is still too loose, remove a track shoe and readjust the tension.

Track tension can also be checked using the track and sprocket gauge. Instructions start on Page 3-21 of TM 9-2350-261-10 and Page 0091 00-1 of TM 9-2350-277-10.

#### Driving

Be wary of a lack of steering response. That indicates sand is building up between the treads and sprockets or idler wheels. If you allow the buildup to continue, the sand will throw the track.

Try "shaking" the vehicle with the steering or backing up to remove sand buildup. Remove accumulated sand by hand at your next stop.

Make wide, smooth turns instead of sharp, hard turns. That'll eliminate some of the sand accumulation and put less stress on track pads.







# GIVE GPS A TIGHT SEAL

Wistakes you make when installing the gunner's primary sight GPS body will come back to haunt you as leaks, mechanics.

Two mistakes you can avoid are sloppy cleanup before installing the GPS body and using the wrong sealant.

You must clean the turret access lip completely before you install the GPS body. That means using putty knives, dry cleaning solvent and lots of rags. Any residue you leave behind will keep the new compound from sealing properly. That means leaks.

Once the GPS body's in place, fill the area between the lip of the body and the turret roof with sealing compound, NSN 8030-00-753-5005. This sealing compound comes in a special 6-oz cartridge that must be applied with sealant gun, NSN 5120-00-952-3507.

The sealant gun will be added to Appendix E, Tools List, in a future update of the 20-2-4 TMs.

Do not use any other sealer for this job. Silicone sealer, adhesive, gasket cement or gasket sealer **will not** work. Take no shortcuts and there'll be no leaks.

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Use sealant gun to prevent leaks





n order for your Hellfires to be fired up for firing, you must pay attention to PM for the launcher and the missiles. Otherwise, things just go to...well, you know.

The launcher is not a ladder. If you use it to climb up and down on the Apache, you can count on damaged environmental protective cover connectors or a busted SAFE/ARM switch. Keep your feet off the launcher.

A good PMCS check is to turn the SAFE/ARM switch to see if it stays where you set it. If it flops back and forth, someone has stepped on it and you have no way to tell what the switch is set at. Report a busted switch. Of course, sometimes you can't turn the switch at all because corrosion has frozen it. If that is the case, follow the instructions in Para 2.16 in TM 9-1425-475-23&P for cleaning and lubing the switch. If the switch needs to be replaced, see Para 2.51.



You can stop corrosion in general and make taking care of the launcher easier by not leaving it on the Apache when the bird is just sitting for weeks outside. Remove the launcher and store it inside.



When you do remove the launcher, check for corrosion on the two suspension lugs that help hold the launcher in place. Clean off any with a wire brush and green pads and then give the lugs a coat of CLP.

Also look for the dust cover on the purge switch. It disappears and without the cover the environmental control system processors are more likely to suffer water damage. You can order more dust covers with NSN 5930-00-064-2455. They're cheap, so keep extras on hand.

Eyeball the launcher rails for end caps, NSN 1055-01-262-1775. They disappear fast. It's a good idea to keep extras on hand. The caps help keep moisture and dirt out of the inside of the rails.

When it does come time for loading missiles, you and a buddy-don't try to do the job yourself-should pick up a missile by its body. If you use a fin as a hand-hold, it can break off. Holding the rear end of the missile can break off the graphite that burns in flight. Keep your fingers off the laser seeker dome, too. Fingerprints can hurt the laser's effectiveness.





The electronics unit (EU) and electronics box (EB) are the electrical nerve center for the MLRS.

If water gets in them, they can short out and suffer expensive damage. Your MLRS fizzles out for firing.

How can you keep the EU and EB OK? Think dry. Do everything you can to keep water out of their boxes. Never use high-pressure hoses above track level. No matter how well you think the EU and EB are waterproofed, they're no match against those hoses.

Before taking your MLRS through the wash rack, cover the EU and EB with plastic. Remember to remove the plastic when you're done.

Leave the lids on the EU and EB. Direct support should be the only ones taking off the lids. When you take off their lids, you ruin the gaskets that keep them water-tight.

Make sure all four bolts that hold the EB to the battery box are in place and are tightly screwed in with correct washers and gaskets. Often the bottom two bolts are forgotten and that can let water in the EB. Help the bolts stay tight by spreading a light coat of silicone sealant. NSN 5330-01-165-2363 on them before you screw them in.

During weekly PMCS, look over both the EU and EB for cracks, holes, and missing screws. Report any problems you spot.

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# **STAYING OUT OF MAGAZINE JAMS**



#### Dear Half-Mast

We have had lots of trouble with our M9 pistol magazines jamming in Iraq. It looks like either the spring is not strong enough or the plastic follower is catching the inside of the magazine well. Can the spring or follower be replaced? Is there any fix for this problem?

CPT D.P.

#### Dear Captain D.P.,

No, the spring or follower can't be replaced. If they're bad, replace the whole magazine, NSN 1005-01-204-4376. A new magazine costs less than \$8.

But there are several things you can do to make sure you're not jammed up by a bad magazine in battle.

First, clean the magazine as described on the next page. Then do the PMCS on each magazine that's listed on Page 2-12 in TM 9-1005-317-10:

• Push the empty magazine in the pistol until it's fully seated. Depress the magazine release button (be ready to catch the magazine). The magazine should fall out. If it doesn't, get rid of it.



• Inspect the magazine for missing or damaged parts. If you spot any problems, get a new magazine.

• Depress the follower with your finger and release it. If the follower doesn't spring back into position, get a new magazine.



**Cleaning** also will help the magazine do its job. Chapter 3 of the -10 TM gives details on dissassembling, cleaning, lubing, and putting the magazine back together. The main thing to remember is to wipe every part of the magazine clean. Wipe ammo clean before you load a magazine. Dirt can cause the magazine to jam. Clean magazines daily if possible.

Normally, you would also give the inside of the magazine a light coat of CLP or LSA. But **don't** do that in the desert. Lubes attract sand, which leads to jamming.

Another **don't** is don't store the magazines loaded. Leaving the magazines loaded for a long time causes the spring to take a permanent set. Then the spring loses it spring and the magazine jams.

Store your magazines in a ziplock bag. That will help them stay clean.





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Cab Covers				Bow and Cover Kits			
Vehicle	NSN 2540-	Color		Vehicle	NSN 2540-	Color	
M939-series	01-417-6379 01-435-4924 01-435-4931	Camouflage Tan White		2 1/2-ton (cargo, fixed side)	00-319-5724 01-438-8791 01-434-6839	Camouflage Tan White	
M44, M39 and M809- series	01-413-3143 01-435-0126 01-435-4933	Camouflage Tan White		2 1/2-ton (cargo, dropside)	00-322-8957 01-434-6864 01-434-6868	Camouflage Tan White	
2 ½-ton extended service program	01-443-7032	Camouflage		2 1/2-ton (cargo, extra-long wheelbase)	00-327-1845 01-434-6851 01-435-4941	Camouflage Tan White	
Cargo Covers			l	5-ton (cargo,	00-121-9082 01-368-9848	Camouflage Tan	
Vehicle	NSN 2540-	Color		dropside)	01-369-1392	White	
M44-series (fixed and dropside)	01-434-0944 01-434-0954 01-438-4922	Camouflage Tan White		5-ton (cargo, fixed side)	00-121-9077 01-423-1968 01-423-1964	Camouflage Tan White	
M44-series (extra-long wheelbase)	01-438-4960 01-438-4927 01-438-4956	Camouflage Tan White		5-ton (cargo, extra-long wheelbase)	00-121-9081 01-365-2936 01-365-2937	Camouflage Tan White	
M39, M809 and M939- series (fixed and dropside)	00-933-8645 01-435-4936 01-424-9440	Camouflage Tan White	5	THIS INFO IS ONLY GOOD FOR SEASONED	145 5 3 2002 -2 -2 -2 52 5		
M39, M809 and M939- series (extra-long wheelbase)	01-434-8725 01-435-4928 01-435-0568	Camouflage Tan White	N. E.	VETERANS LIKE ME, NOT FMTVS!			
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Every good operator knows that good air flow keeps the compactor running like a race horse.

Here's a PM reminder to keep in mind while you brush up on TM 5-3805-380-10.

A clean air filter element is crucial, especially in dusty areas. Keep an eye on the air cleaner indicator next to the canister. If the indicator moves from yellow to red, open the canister and pull out the primary air filter.

Use low-pressure air from a nearby tactical vehicle to blow air-30 psi or less-from inside out to loosen dirt and sand from the compactor's primary air filter element. Never bang the filter on a rock or hard surface. Replace the primary air filter element once a year, or after six cleanings.





The secondary filter is inside the primary. When it becomes clogged, replace it. How do you tell if it's clogged? Like this:

Blow

• After installing a clean or new primary filter element, the indicator moves into the red zone when you start the engine or you see black exhaust smoke.

• When you've reset the indicator and it stays in the red zone after installing a new or clean primary filter element. 18

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### **GETTING AN OIL SAMPLE**



Getting an oil sample from the 815F compactor's transmission AOAP valve is a messy job.

Getting the oil to flow evenly into the sample bottle is next to impossible.

Make the job easier by attaching 1/4-in plastic tubing, NSN 4720-00-964-1433, onto the valve's fitting. That way the oil flows through the tubing and directly into the bottle.

And to get it right, start the compactor's engine to pressurize the system. Once the oil starts to flow, flush a small amount of oil from the line to clear out contamination. Then fill the bottle from the valve's tubing.



Effere are two fluid checks that are easy and important to look at before the day's run. **Coolant Level Check** 

Eyeball the engine coolant level before start-up. That's easy because the coolant's sight gauge is in open view on the curb side of the vehicle. next to the radiator.

Coolant low? Open the radiator's filler cap slowly. Add coolant until it fills the sight gauge.

stick. It could save your unit a big repair bill.

Oil expands when it heats up, so readings will change. Check the oil level before you start the engine, when the oil is cold. Make sure the oil level is above the ADD mark on the ENGINE STOPPED side of the dipstick.



Add coolant until it fills sight gauge



There is no approved method to use the ENGINE RUNNING side of the dipstick. If you accidentally add too much oil, shut off the engine, remove the oil fill plug and use an AOAP vampire pump to remove the excess.

## **Fan Pulley Bearing**





Give fan bearing lube during

scheduled services

The fan pulley bearing is snubbed often because it's out of sight or covered with mud.

The grease fitting for the fan pulley bearing is hidden behind the fan blades. That means it's hard to find, even after you've opened the engine access door (curbside) and looked inside.

Without lube, the fan pulley's bearing will seize up. Then the blade stops turning freely, letting the engine and transmission overheat.

Keep the fan bearing lubed. During scheduled services, give the fitting four or five shots of grease.



KEEP THESE PM TIDBITS IN MIND BEFORE THE DAY'S RUN.

> THEY'RE IN TANDEM WITH YOUR GRADER'S MISSION REQUIREMENTS.

#### Air Line Bind

Eyeball the air line that's mounted along the grader's tandems. This air line is part of the vehicle's air brake system.

Look for dents and holes in the air line caused by rocks and gravel. During construction operations, rocks and gravel pile up on the tandem. A large rock thrown on the tandem will dent the air line. Enough of a dent or hole means loss of air pressure for the grader's air brake system and loss of brakes at the worksite!

So look real close for any dents or holes in the air line. It could mean the difference between getting the job done and no brakes at all.

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#### **MAY 04**

#### Make sure the grader is on level ground before you do the tandem oil check shown on Page 2-27 of TM 5-3805-261-10. That way you get an accurate reading. Keep the level between the ADD and FULL marks on the dipstick.

Too much oil in the tandem is just plain wasteful. Not enough oil means the drive wheel components inside the tandem don't get lubricated.

Once you've checked the oil level in the tandem, make sure the vent hole in the dipstick cap is clear. When it's clean, the cap acts as a breather valve for the tandem. Use a paper clip to clean any crud out of the vent hole.

#### **Oil Level**



#### **Dipstick Vent Hole**





AFTER FOLLOWING THE PM IN TM 5-3805-248-148P-1 GO THE EXTRA MILE WITH YOUR 621B SCRAPER BY FOLLOWING THESE TIPS BEFORE HEADING OUT FOR YOUR DAY'S WORK.



#### **Brake Chamber Boot**

The rubber boot that protects the air brake chamber's spring gets worn and torn from rough terrain, heavy use, and the elements. A torn boot lets dust, water and dirt into the chamber, caus-

ing brake failure. So check the boot to see if it's torn away from the chamber. If it is, report it. Your mechanic can replace the boot with NSN 2530-01-065-9104.

> Check brake chamber boot to see if it's worn







#### Oh. Nuts!

Stud nuts that hold the inner wheel assembly together are rarely seen. You have to crawl under the vehicle and look for 'em in the assembly between the rim and axle.



When one nut comes loose, the other nuts are stressed, and can come loose, too. Then the wheel begins to wobble, wallowing out the holes and ruining the wheel. Enough wobble and wallow and the wheel assembly breaks off. It's happened!

So eyeball the nuts visually for tightness. You'll probably need a flashlight to see 'em clearly. Look for shiny spots on the stud's washer and for corrosion around the stud.





**Torque Talk** Nuts on the scraper's front wheels take different torques.

Too much torque on the planetary gear cover will put the squeeze on the Oring underneath. Then the cover will let oil leak. Low or no oil means the bearings will burn out.

You won't find torque values in the TM, so torque carrier cover stud nuts to 235-295 lb-ft and planetary gear cover nuts to 65-86 lb-ft.



#### **Tire PSI Reminder**

Check the scraper's tire pressure before operation. Front tires get 60 psi and rear tires get 40 psi.

Low air pressure in front tires may cause 'em to slip on the rim, overheat and blow out. Or it could cause the tire-to-rim seal to break and lead to a flat tire.

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When you have a flat front tire, you may lose the driver, that little piece of metal that ties together the final drive and the side ring. Without it, there's no way to deliver power to the wheel.

Replace lost drivers with NSN 2530-01-060-4345



**PS** END







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**MAY 04** 

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IT APPEARS YOU'RE THAT EVEN RIGHT, MAGIC NEEDS GOOD PM. BONNIE. KEEPING EQUIPMENT IN GOOD PM WORKING ORDER ON A DAY-DOESN'T TO-DAY BASIS IS CRITICAL CHANGE. FOR OUR TROOPS. A LOOSE CONNECTION A LITTLE PM OR A RUSTED BOLT CAN MAKE THE DIFFERENCE CAN EVEN MAKE DRIVING A BETWEEN MOVING OR HMMWV FEEL BEING IMMOBILE. LIKE YOU'RE FLYING! THAT'S TRUE, HALF-MAST.

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It's easy to forget about removing the AN/ALQ-144A countermeasure set cover, NSN 5865-01-109-1800, when pre-flighting your Black Hawk, Kiowa Warrior or Apache.

Then when power's applied to the aircraft while the cover's on, extreme heat shrinks or melts the cover to the countermeasure set. Then you have a sticky mess to clean up and your avionics shop won't be too happy.

If any parts of the cover get baked on the countermeasure set mirrors and can't be cleaned off, it will cost your unit \$36 a pop to replace each damaged mirror.

Use the cover to shield the mirrors from direct sunlight and protect them from dirt, grit, dead bugs and soot. But always remove the cover when you power up your bird.

Remember, clean the mirrors before takeoff and after each landing like it says in Chap 4 of TM 11-5865-200-12. That way, the set can continue to protect your bird. PS 618 35 **MAY 04** 



## GRAB THE RIGHT TYPE OF HYDRAULIC FLUID



Mechanics, good judgment comes from experience. Unfortunately, experience usually comes from bad judgment.

When it's time to service your bird's hydraulic pump modules with fluid, like it says in Para 1-3-8 of TM 1-1520-237-23-1, use good judgment. Make sure you know what type of fluid is in your bird's system **before** adding any fluid.

Always use the correct fluid listed in Appendix D, on Page D-14 of TM 1-1520-237-23-9.



For example, if the temperature is below -29°F, always add the petroleum-based fluid to the reservoir and eyeball the reservoir window. When operating at temperatures above -29°F, always add the synthetic fluid.

The problem is that some cans stored in your hangar cabinet look similar, depending on which brand you use. If you have the petroleum based fluid in your bird and you mistakenly mix in the synthetic fluid, that could cause hydraulic system problems.

When synthetic hydraulic fluids contaminate petroleum based fluids and are exposed to certain operating temperatures, carbon deposits form. Additive dropout results when synthetic and petroleum lubricants have been mixed.

Then you have to drain the entire hydraulic system and add the right fluid, depending on the outside temperatures.

When you finish servicing the hydraulic pumps, make sure the selector valve handle is in the capped OFF position. Otherwise, when the pilot starts the bird, the hydraulic system will drain the pump and overflow the reservoirs.

Valve in capped OFF position when done?







#### UH-60A/L/Q...

### Look For



MECHANICS, KEEP LOOKING AROUND BECALISE THERE'S ALWAYS SOMETHING YOU MIGHT HAVE **MISSED** DURING YOUR 10-HOUR/14-DAY BLACK HAWK INSPECTIONS.



For example, don't forget to inspect the viscous dampers like it says in Para 4.1 of TM 1-1520-237-PMS-1.

When it's time to service the tail rotor drive shaft viscous dampers, like it says in Para 1-3-16 of TM 1-1520-237-23-1, check for leaks and make sure you can see the bubble in the fluid of all four dampers.

The bubble should be no more than 1/2-in long. If you can see through the damper tube fluid, you might have a leak problem that may require replacing the viscous damper tube.

When checking for the bubble, use a flashlight to help you see.





If your bird experiences extreme hot and cold temperatures or frequent climate changes, it's really important to keep an eye on the dampers. Not checking them could cause the drive shaft bearings to overheat or seize, or cause drive shaft separation.

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Pirty and corroded contacts on the SINCGARS vehicular antenna mean intermittent or broken traffic. Worse yet, dirt and corrosion can lead to high reflected RF power, which can damage the receiver-transmitter.

Here are a few tips for clean contacts:

• Unhook the RF cable before you begin cleaning. Don't take a chance on getting burned.



• Unscrew the top and bottom antenna elements and clean the contacts with isopropyl alcohol, NSN 6810-01-190-2538, and a soft cloth. Clean the contact on the antenna base the same way.



• Clean stubborn dirt and corrosion off the top element contact with 550 cord, NSN 4020-00-014-6699. Loop the cord once around the contact and pull it back and forth to clean out the ridges. Then wipe it down with isopropyl alcohol.

• After cleaning, apply a light coat of silicone compound, NSN 6850-00-177-5094, on the top and bottom element contacts. That'll help protect against corrosion. • If you remove just the top element for any length of time, put a piece of electrical tape over the opening of the bottom element to keep out dirt and moisture. If you remove the bottom element, put a rubber dust cap, NSN 5340-01-316-0883, over the antenna base's contact to keep it clean and dry.



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#### SINCGARS ASIP...

# BA-5390/U GIVES YOU A CHOICE



You now have a choice between the BA-5590/U, NSN 6135-01-438-9450, and the BA-5390/U, NSN 6135-01-501-0833, for non-vehicle power to your SINCGARS ASIP radio and other applications that use the BA-5590/U.

The new BA-5390/U has some advantages over the old BA-5590/U.

One, it lasts longer. You'll get about 15 more hours of battery life. And, of course, the more battery life, the fewer batteries you'll need to carry on your mission.

Two, the BA-5390/U is a lithium manganese dioxide battery, which means there is a reduced possibility of it violently venting.

The new battery is a bit heavier—6 ounces more than the old one. And it's also more expensive—now about \$20 more per battery. However, it's still a good deal if it means carrying one battery instead of two.



So, take a good look at your mission and how you use the SINCGARS ASIP. Match your battery needs to your mission and be glad you now have a choice.







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What do you do when you're eyeballing the maintenance done on a HMWWV and the mech you need to "instruct" is at the other end of the motor pool?

Well, an old-Army sergeant could just yell, "Smith, get over here!" and be heard a mile away. But you're a part of the new Army. You need a hand-held squad radio, and the latest and greatest is the AN/PRC-127EF, NSN 5820-01-509-9053. With it you can just whisper, "Smith, get over here."

This EF model is replacing the AN/PRC-127A. It's digital, secure voice, APCO P25 CAI standard with smartnetII/smartzone trunking and can be programed for more than 250 channels! It's also land mobile radio compliant and meets VHF band requirements. The same can't be said for the A model!

The AN/PRC-127EF uses a rechargeable battery so you'll need to order battery charger, NSN 6130-01-509-9224, too. That charger has one docking station. For a multi-unit charger, use NSN 6130-01-509-9216.

In addition to motor pool use, these squad radios are good for MP units, engineer construction areas, base defense programs and convoys. Use the 127A until it becomes unserviceable and then send it to DRMO.

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PS 618

AB-1373/TRC Antenna...



**Z** f you need the flat belt, (NSN 3030-01-349-9231, Item 2, Fig 6 of TM 11-5985-394-23P), that is part of the winch assembly of the AB-1373/TRC antenna, order it and you'll get it.



What's odd about that? Well, you may have ordered it before and gotten a V-belt instead!

Why the mixup?

No one is taking credit, but the problem seems to be solved. The right belt for that NSN is now being sent out the supply door.

So, if you need the belt, order it and get your winch assembly back on line. (If you still get a V-belt, find a use for it! And let us know.)

# **AN/PRC-112 ATTENTION NEEDED**



#### AN/TRC-190(V)3...

# **TGMD Fuse Holder NSN**



#### Dear Editor,

We've had a problem getting the fuse holder, NSN 5920-00-926-7517, for the transmission group multiplexer/demultiplexer (TGMD) in our AN/TRC-190(V)3 line of sight (LOS) shelter.

The fuse holder has an acquisition advice code of "Y", which means further procurement is not authorized. We found a substitute that works. It's NSN 5920-00-740-0017.



SFC Steven Coleman 122d Sig Bn, Camp Casey, Korea

### From the desk of the Editor

For our Marine readers, NSN 5920-00-740-0017 is coded "V", which means there is current stock but future procurement is not authorized. FED LOG tells Marines to use NSN 5920-00-926-7517 when supply is exhausted. But like the Army, that NSN is coded "Y" for Marines. An alternative NSN that is coded "D" is NSN 5920-00-887-6514. It works, but does not have a lamp on the fuse holder cap like the other fuse holders.

PS 618

M40/M42-Series Masks...

### Don't Screw Up Lens Carrier

NBC NCOs try to install the carrier without first loosening the set screws so they don't stick out. Then when the carrier is slid into place, the screws cut a divot in the black plastic mount and eventually the mount breaks.

To install the lens carrier, first loosen the set screws until they're flush with the carrier mount block. Align the mount block with the groove of the mount frame and slide the carrier into place.

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







### TUO-JOINT PUTS MASK OUT



**S**ome soldiers think they can get their masks really clean by turning them insideout to clean the insides. That does make for easier cleaning, but it also damages the mask. So you end up with a very clean mask that may be worthless.

Cleaning your M40/M42 mask is pretty simple, so keep it simple. Remove the hood, outserts, outlet valve cover and canister. Dip cheesecloth in clean water mixed with the liquid soap your NBC NCO should have on hand. Wring the cloth almost dry. Use the cloth to clean out all dirt inside and outside the facepiece. If necessary, use the soft brush that's part of the cleaning kit. If grease or oil are on the facepiece, clean it off with isopropyl alcohol.



PS 618

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#### Dear Editor,

Through our work keeping the Foxes running for the Chemical School at Ft Leonard Wood, we've developed three ways to keep your Fox healthy:

• When you remove the engine, it's hard to pull it out without bumping the air conditioner condensers. It doesn't take much of a bump to poke a hole in the condensers. Then the coolant leaks out.

upper corner

We protect the condensers with two covers we make from 24x21-in plywood. Anything fairly sturdy will work. Drill holes in both upper corners of the plywood. Loop wire or twine through each hole and secure it. Put the wire over the handles to the engine access panels so that the plywood covers the condensers. Since we started using these covers, we haven't had a single punctured condenser.





• The fire extinguisher mounted just inside the rear door is in a bad position. It catches on clothing and equipment and gets knocked to the floor. We had a few instances where it actually went off.

We solved the problem by moving the fire extinguisher farther back in the vehicle and mounting it where the marking bases go.

• If you leave the Fox completely closed up for long periods, condensation forms inside the vehicle and soon you've got a mildew mess.

Most units prevent that by leaving the glove port door open. Trouble with that is that if you forget to close the glove port door before you open the rear door, you break the proximity switches or damage the rear door.

A better way to prevent condensation is to leave the material access port open. If you open the rear door while the access port's open, nothing is damaged.

Keith Donnelly Charlie Lewis Ft Leonard Wood, MO



From the desk of the Editor Good job, guys. Your suggestions will help Foxes stay on the hunt for chemical threats.

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**MAY 04** 

PS 618

## ELECTRONIC TRANSFER OF ULLS-A DA FORM 2410



Forwarding DA Form 2410 info to the Aviation and Missile Command is now easier for Army aviation ULLS-A users. The mandatory weekly report is now emailed to:

automatedtammsa@redstone.army.mil

The process of preparing the 2410 as an email attachment is best done from a Quality Control (QC) workstation.

- 1. Access the HISTORICAL PROCESS (L) from the main menu.
- 2. Select (D) PRINT/REPRINT/PURGE 2410.
- 3. From the four options select WRITE ACTIVE 2410 LOG TO DISK.

- If no new components have been installed or removed, a report will be written to disk and an error message will appear with this message: UNABLE TO LOCATE FILE FOR COPYING: 2410LOG.ASC. Do not email this message to AMCOM.

- If the file is found, it will be written using the unit's UIC followed by a 2-digit number and a file extension ".001" in ASCII text.

- Create an email message and make the subject line read: ULLS-A DATA.
- Attach the ASCII file and send it to AMCOM.



#### Special Requirements and the 2410

For components that are repaired at AVUM, AVIM, or special repair activities, or for one-time repairs, units will manually complete all required entries on the 2410 Copy 2 and mail them to: Commander

#### U.S. Aviation and Missile Command AMSAM-MMC-MA-NM 5300 Martin Road Redstone Arsenal, AL 35898-5000

Components that are manually managed on DA Form 2408-16 or 2408-16-1 (such as an APU, OH-58D side beams/ traverse roof beams/corner mounts/ restraint spring assemblies, AN/ALQ-144(V), and -714A engines) will be reported using a hard copy DA Form 2410 with copies 1-3, IAW DA PAM 738-751.

Components that are returned to a repair facility, depot or supply system will have paper copies of DA Form 2410 copies 2 and 3 along with other applicable historical records attached to the component.

For more info, call DSN 746-5564 or 6696.

PS 618

### PS Magazine More Accessible



A few years ago the PS Magazine staff made the magazine more accessible by opening an Internet web page at:

#### http://www.logsa.army.mil/ psmag/psonline.htm

Recently it became clear that users found it difficult to save or email an individual article. That's been fixed.

From PS 611 (Oct 03) on, each article has a link: "To get a copy of this article to send someone, click here." That click loads just that article.

#### Saving an Article

In the PDF menu bar, click on SAVE A COPY, choose your drive and folder, note the name of the article or change it, and click SAVE. It's done.

#### Email a Copy or URL

In the PDF menu bar, click on EMAIL and make a choice between sending just the URL link or a copy of the article. Fill in the email address, click SEND, and you're done.

That's it! Short, simple, easy. It does not get any better than that. Until we make another improvement, that is.

PS 618

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#### Forms...

# NEATNESS



#### Dear Half-Mast:

What directive specifically states that all entries on the DA Form 2407 will be legible? As a quality assurance evaluator, I'm finding forms each day that are *not* legible. The people filling out the forms keep saying that there is nothing in DA Pam 738-750 saying the forms must be legible. Also, people should remember to press hard when filling out forms with multiple copies so all copies are legible. I remember reading in the pam that the forms are no good unless the entries are readable. They do not realize that the 2407 is the key to a maintenance process. If you can provide me with a directive to quote I would be most grateful.

Edward L. Berkley Ft Bragg, NC

"The forms are no good unless the information is readable, correct, and complete." DA PAM 738-750, 1 Aug 94

# **COUNTS!**



#### Mr. Berkley:

You are right! It is just common sense. If a form needs to be filled out it is meant to communicate accurate information. Illegibility makes communication impossible. DA Pam 738-750, Functional Users Manual for The Army Maintenance Management System (TAMMS), does require legibility on <u>all</u> its forms (not just the DA Form 2407). DA Pam 738-750, 1 Aug 94, Paragraph 1-6c states:

### c. The forms are no good unless the information is readable, correct, and complete.

Although you wrote in about a specific form, your situation is a good opportunity to remind our readers to not waste time by filling out forms that aren't readable. Just a few more moments taken to carefully fill in information goes a long ways toward getting the work done on the other end, without delay, the first time.



"Make your forms communicate clearly, legibly, accurately... the first time, every time!"





The belt and suspenders support carriers for ammo, field dressing, compass, canteen and entrenching tool.

Item	NSN 8465-	
Suspenders	00-001-6471	
Belt (large)	01-322-1966	
Belt (medium)	01-322-1965	
Entrenching tool carrier	00-001-6474	
First aid/compass case	00-935-6814	
Canteen cover	00-860-0256	
Small arms ammo case	00-001-6482	
Field pack (medium, without liners)	01-253-5335	
Field pack (large, without liners)	01-019-9103	
There pack (large, without inters,	01 013 5105	1



Replace sliding belt keepers with NSN 5340-00-753-5581, the female belt fastener with NSN 8315-01-287-0604 and the male fastener with NSN 8315-01-287-0603.

The suspenders strap fastener loop comes with NSN 5340-01-062-6751.

Replace "keepers with slide" on the small arms ammo case, the first aid/compass case, the canteen cover and the entrenching tool carrier with NSN 5340-00-753-5580.







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**MAY 04** 



#### **Listen Carefully**

Now, listen carefully, because your hearing depends on it. Everyday noise from engines, compressors, jackhammers, shop equipment, power generators and artillery fire injures your hearing over time. Even if the noise doesn't seem loud, it can cause harm. The loss is painless, gradual. By the time you realize you're losing

your hearing, the damage has been done.

If you work in a noisy area or your TM directs you to wear hearing protection, then wear earplugs or noise muffs.

Your safety office or preventive medicine people can test your workplace for dangerous noise levels and tell you what kind of hearing protection to use.



#### It Depends on the Decibels

For steady-state noise of 85 to 103 decibels, you must wear single hearing protection, either earplugs or noise muffs. Noise from 104 to 108 decibels requires double hearing protection. That's when you wear earplugs in combination with noise muffs or a helmet designed to reduce noise. Noise greater than 108 decibels not only requires you to wear double protection but also to limit your time exposed to noise. Ask your medical folks for details.



#### **Types of Hearing Protection**

Common types of hearing protection include earplugs and noise muffs. The Army is now discouraging the use of ear canal caps to protect your hearing. They're not as effective in cutting out noise as earplugs or noise muffs.

Foam earplugs are disposable and do not require fitting by medically trained personnel. NSN 6515-00-137-6345 brings 200 individually wrapped pairs. They come in a dispenser box with an adhesive back that makes it easy to stick the box to a wall or door in your work area.

Foam earplugs

are disposable

..and

flange

plugs

quadruple

Medical people fit triple flange...

Your medical people must fit you with triple flange or quad flange earplugs. They are issued with a carrying case that can also be used with foam plugs. Get extra cases with NSN 6515-01-100-1674.

Noise muffs, NSN 4240-00-022-2946, are considered safety items. You can buy them through regular supply channels or from commercial sources.

To learn more about hearing protectors, see Chapter 6 of DA Pam 40-501, *Hearing Conservation Program*. There you'll find information on protector use and requirements, NSNs, ordering products, noise exposure limits and more.

Another good source of information is the hearing conservation program on the US Army Center for Health Promotion and Preventive Medicine web site at:

http://chppm-www.apgea.army.mil/ hcp/devices.aspx





#### TIRE/WHEEL ASSEMBLIES IN SWA

Tank-automotive and Armaments Command has expanded stockage of mounted tire and wheel assemblies, assigning 39 NSNs for those assemblies used on light, medium and heavy tactical vehicles. Additionally, TACOM has shipped more than 5,000 assemblies to SWA for HMMWVs, HEMTTs, FMTVs, PLS/HETs, M915 line haul tractors and M939-series 5ton fleets. A complete listing of NSNs, item managers and prices are located at TACOM's AEPS website:

https://aeps2.ria.army.mil/commodity/tire\_wheel-assy-item-mgr.xls The SMR code for the assemblies is PCOHH. The stacked items can be installed, replaced or used by org/unit level, but GS is the lowest level that can do complete repair and determine disposition action on an unserviceable item. As supplies increase, units within SWA will be able to update their SARSS boxes to forward unserviceable assemblies for repair to the AMC Forward Repair Activity in Balad, Iraq. Address questions to Marleen Fiantaco, DSN 786-7551, commercial (586) 574-7551, email fiantacom@tacom.army.mil

#### M992A2 Conveyor Removal

That old and often broken-down conveyor system on your M992A2 ammo carrier is no longer required. In fact, you can get rid of it. Instructions for removing the conveyor are found in TB 43-0001-62-03-2 (Jun 03). See your TACOM LAR or write to Half-Mast for a copy.

#### **M1A1 Infrared Viewer**

Page B-3 in TM 9-2350-264-10-2 (Mar 03) lists the AN/VAS-5A infrared viewer, NSN 5855-01-475-9446, as a Component of End Item for the M1A1 tank. This item is for Marine Corps use only and is not authorized for Army tanks. Any Army requisitions for this item will be rejected.

#### **S-KW GENERATOR APU OIL FILTER**

Use NSN 2940-12-342-1512 to get a new oil filter for the MEP-952B 5-KW diesel generator used on your M577- and M1068-series command post carriers. Just remove the **E** from the end of the part number (Item 15 in Fig G-19 in TM 9-6115-664-13&P) and it will cross on FED LOG.

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

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

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